

Error List



60887159_01

JetMove 3000
Servo Amplifier

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Translation of the german original User Manual

Revision	1.01
Date of issue	3/24/2025

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1 Error 1-x – runtime error

1.1 Error 1-0 (emergency code 100007h)

Error

Unknown runtime error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"><li>– Try switching to a different version of the device firmware.<li>– Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2 Error 2-x – parameter list error

2.1 Error 2-0 (emergency code 631007h)

Error

Unknown error in the parameter list.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.2 Error 2-1 (emergency code 631007h)

Error

Failed to initialize parameters.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.3 Error 2-2 (emergency code 631007h)

Error

Failed to initialize parameter base.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.4 Error 2-3 (emergency code 553007h)

Error

Failed to initialize OEM parameters.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.5 Error 2-4 (emergency code 553007h)

Error

Failed to back-up device settings.

Remedy

Cause	Recommended remedial actions
An unexpected error in the file system has occurred.	<ul style="list-style-type: none"> – Report this error to your service partner.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.6 Error 2-5 (emergency code 631007h)

Error

Failed to add new parameter.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.7 Error 2-6 (emergency code 631007h)

Error

Parameter check failed.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.8 Error 2-7 (emergency code 631007h)

Error

Attempt to register multiple parameters with the same ID.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.9 Error 2-8 (emergency code 553007h)

Error

Failed to initialize output stage parameters.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

2.10 Error 2-9 (emergency code 631007h)

Error

Error during flash file access.

Remedy

Cause	Recommended remedial actions
An unexpected error in the file system has occurred.	<ul style="list-style-type: none"> – Report this error to your service partner.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

3 Error 3-x – object list error

3.1 Error 3-0 (emergency code 100007h)

Error

General error while generating the object list.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

3.2 Error 3-1 (emergency code 100007h)

Error

Error while generating the object list.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

4 Error 4-x – EtherCAT® error

Info

EtherCAT®

EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

4.1 Error 4-0 (emergency code 810004h)

Error

General EtherCAT® error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

4.2 Error 4-1 (emergency code 810004h)

Error

Error in the Sync Manager configuration.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

4.3 Error 4-2 (emergency code 810004h)

Error

Sync Manager watchdog expired.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

4.4 Error 4-3 (emergency code 810004h)

Error

Sync Manager event missed.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

4.5 Error 4-4 (emergency code 810004h)

Error

Synchronization accuracy is outside the set limits.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

4.6 Error 4-5 (emergency code A00004h)

Error

Failed to change from *PreOperational* to *SafeOperational* state.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

4.7 Error 4-6 (emergency code A00104h)

Error

Failed to change from *SafeOperational* to *Operational* state.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

4.8 Error 4-7 (emergency code 810004h)**Error**

Overflow in the mailbox TX transfer queue.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

4.9 Error 4-8 (emergency code 810004h)**Error**

NetX returns hardware access error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

4.10 Error 4-9 (emergency code 810004h)**Error**

The value of an RxPdo parameter is outside the permissible range.

Remedy

Cause	Recommended remedial actions
PLC program	<ul style="list-style-type: none"> – Check the PLC program against the minimum and maximum values defined in the parameter list.

5 Error 5-x – Ethernet error

5.1 Error 5-0 (emergency code FF0007h)

Error

General Ethernet error.

Remedy

Cause	Recommended remedial actions
An error occurred in the device's Ethernet/EoE connection. The connection has likely stopped working.	<ul style="list-style-type: none"> – Reboot the application (24 V reset). – Check the Ethernet over EtherCAT® (EoE) settings on the master.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

5.2 Error 5-1 (emergency code FF0007h)

Error

Error while initializing the hardware.

Remedy

Cause	Recommended remedial actions
An error occurred in the device's Ethernet/EoE connection. The connection has likely stopped working.	<ul style="list-style-type: none"> – Reboot the application (24 V reset). – Check the Ethernet over EtherCAT® (EoE) settings on the master.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

5.3 Error 5-2 (emergency code FF0007h)

Error

Overflow in the receiving buffer of the Ethernet controller.

Remedy

Cause	Recommended remedial actions
An error occurred in the device's Ethernet/EoE connection. The connection has likely stopped working.	<ul style="list-style-type: none"> – Reboot the application (24 V reset). – Check the Ethernet over EtherCAT® (EoE) settings on the master.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

5.4 Error 5-3 (emergency code FF0007h)

Error

Overflow in the transmit buffer of the Ethernet controller.

Remedy

Cause	Recommended remedial actions
An error occurred in the device's Ethernet/EoE connection. The connection has likely stopped working.	<ul style="list-style-type: none"><li>– Reboot the application (24 V reset).<li>– Check the Ethernet over EtherCAT® (EoE) settings on the master.
This may be a hardware issue.	<ul style="list-style-type: none"><li>– If other measures fail to remedy the problem, replace the axis module.

6 Error 6-x – fatal error

6.1 Error 6-0 (emergency code 500007h)

Error

Unknown fatal error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

6.2 Error 6-1 (emergency code 500007h)

Error

Failed to load firmware (drive control system).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

6.3 Error 6-2 (emergency code 500007h)

Error

Axis controller failed to start.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

6.4 Error 6-3 (emergency code 500007h)

Error

The axis controller is not responding.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

6.5 Error 6-4 (emergency code 500007h)

Error

Incorrect computation in the axis controller.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

6.6 Error 6-5 (emergency code 630F07h)

Error

Failed to access production data.

Remedy

Cause	Recommended remedial actions
An unexpected error in the file system has occurred.	<ul style="list-style-type: none"> – Report this error to your service partner.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

6.7 Error 6-6 (emergency code FF0107h)

Error

Failed to identify hardware.

Remedy

Cause	Recommended remedial actions
Incorrect connection of the encoder cables.	– Check the encoder cabling. Pins 12 and 13 must not be connected to the <i>Sense +/-</i> signals.
This is likely a software issue.	– Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

6.8 Error 6-7 (emergency code 630707h)**Error**

Error in the central supply unit.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	– Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the supply unit.	– If other measures fail to remedy the problem, replace the supply unit.

6.9 Error 6-8 (emergency code 630F07h)**Error**

Failed to access production data (part number).

Remedy

Cause	Recommended remedial actions
An unexpected error in the file system has occurred.	– Report this error to your service partner.
This is likely a software issue.	– Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

7 Error 7-x – parameter error

7.1 Error 7-0 (emergency code 632007h)

Error

Unknown error during initialization.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

7.2 Error 7-1 (emergency code 632007h)

Error

Error while initializing the sync unit.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

7.3 Error 7-2 (emergency code 632007h)

Error

Failed to configure sigma/delta converter.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

7.4 Error 7-3 (emergency code 632007h)

Error

Error while initializing the control structure.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

7.5 Error 7-4 (emergency code 632007h)

Error

Selected switching frequency is not allowed.

Remedy

Cause	Recommended remedial actions
The currently enabled switching frequency is not allowed (<i>PWM frequency</i> parameter).	<ul style="list-style-type: none"> – Change the setting.

7.6 Error 7-5 (emergency code 632001h)

Error

Error while initializing current monitoring.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

7.7 Error 7-6 (emergency code 632001h)

Error

Error while initializing I²t current monitoring.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

7.8 Error 7-7 (emergency code 632007h)

Error

Timeout exceeded in the *Control Mode* parameter.

Remedy

Cause	Recommended remedial actions
Unexpected error.	– Report this error to your service partner.

7.9 Error 7-8 (emergency code 632007h)**Error**

Error while initializing the standardization parameters.

Remedy

Cause	Recommended remedial actions
The result of an internal calculation is exceeding 32 bits (4294967296).	– Simplify the values of the <i>gear ratio</i> and/or <i>feed constant</i> parameters.

7.10 Error 7-9 (emergency code 632007h)**Error**

Error in math library.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

7.11 Error 7-11 (emergency code 632007h)**Error**

Excessive voltage level.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

7.12 Error 7-12 (emergency code 632007h)**Error**

Commutation error

Remedy

Cause	Recommended remedial actions
Auto-commutation may not be working properly.	<ul style="list-style-type: none"> – Check the encoder speed and direction as well as the pole pair number of the motor. – Check the auto-commutation parameters. – Scope the numbers 24, 25, 21, 1009.

7.13 Error 7-13 (emergency code 632007h)**Error**

State observer error.

Remedy

Cause	Recommended remedial actions
Mass inertia is zero.	<ul style="list-style-type: none"> – Define a value for mass inertia or start the speed controller optimization function.

7.14 Error 7-14 (emergency code 632007h)**Error**

Output stage data error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

7.15 Error 7-15 (emergency code 632007h)**Error**

Sampling interval is not allowed.

Remedy

Cause	Recommended remedial actions
Sampling interval of the interpolation is not allowed.	<ul style="list-style-type: none"> – Report this error to your service partner.

7.16 Error 7-16 (emergency code 632007h)**Error**

Error during autotuning/identification.

Remedy

Cause	Recommended remedial actions
Error during autotuning/identification.	<ul style="list-style-type: none"> – Read the details and device message log. – Prior to enabling the feature, ensure that the axis is ready to be switched on. – Use an alternative feature.

7.17 Error 7-17 (emergency code 632007h)

Error

Error while initializing compensation table 0.

Remedy

Cause	Recommended remedial actions
Error while initializing compensation table 0.	<ul style="list-style-type: none"> – Check the parameter data set for compensation table 1.

7.18 Error 7-18 (emergency code 632007h)

Error

Error while initializing compensation table 1.

Remedy

Cause	Recommended remedial actions
Error while initializing compensation table 1.	<ul style="list-style-type: none"> – Check the parameter data set for compensation table 2.

7.19 Error 7-19 (emergency code 632007h)

Error

Speed limit of 600 Hz was exceeded.

7.20 Error 7-20 (emergency code 632007h)

Error

VSU hardware does not support the selected features.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

7.21 Error 7-21 (emergency code 632007h)

Error

Error while initializing the modulo parameters.

Remedy

Cause	Recommended remedial actions
Error while initializing the modulo parameters.	– Check the limits of modulo positions.

7.22 Error 7-22 (emergency code 730007h)

Error

The position encoder must not use MTBase and overflow compensation simultaneously.

Remedy

Cause	Recommended remedial actions
The position encoder uses MTBase and overflow compensation simultaneously.	– Refer to the Online Help.

8 Error 8-x – encoder error during initialization

8.1 Error 8-0 (emergency code 730007h)

Error

General encoder error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

8.2 Error 8-11 (emergency code 730007h)

Error

Failed to determine encoder offset.

Remedy

Cause	Recommended remedial actions
Auto-commutation may not be working properly.	<ul style="list-style-type: none"> – Check the encoder speed and direction as well as the pole pair number of the motor. – Check the auto-commutation parameters. – Scope the numbers 24, 25, 21, 1009.

8.3 Error 8-12 (emergency code 730007h)

Error

The motor has been replaced by another type.

Remedy

Cause	Recommended remedial actions
The motor has been replaced by another type.	<ul style="list-style-type: none"> – Acknowledge the error and adjust the parameter in the application.

8.4 Error 8-13 (emergency code 730007h)

Error

The motor has been replaced by an unknown type.

Remedy

Cause	Recommended remedial actions
The motor has been replaced by an unknown type.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

8.5 Error 8-14 (emergency code 730007h)

Error

Encoder #1: Cannot acquire position.

Remedy

Cause	Recommended remedial actions
The motor is moving.	<ul style="list-style-type: none"> – Stop the motor mechanically and acknowledge the error.

8.6 Error 8-15 (emergency code 730007h)

Error

The position transducer has no distance-coded zero pulses.

Remedy

Cause	Recommended remedial actions
No distance-coded zero pulses have been set.	<ul style="list-style-type: none"> – Report this error to your service partner.

8.7 Error 8-20 (emergency code 751007h)

Error

Encoder: SSI error.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.8 Error 8-30 (emergency code 751007h)

Error

Error in the EnDat protocol.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.9 Error 8-42 (emergency code 751007h)

Error

Hiperface protocol error.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.10 Error 8-50 (emergency code 730007h)

Error

Internal communication error at the encoder interface, channel 1.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

8.11 Error 8-51 (emergency code 730007h)

Error

Internal communication error at the encoder interface, channel 2.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

8.12 Error 8-52 (emergency code 730007h)

Error

Internal communication error at the encoder interface, channel 3.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

8.13 Error 8-53 (emergency code 730007h)

Error

Internal communication error at the encoder interface, channel 4.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

8.14 Error 8-60 (emergency code 230507h)

Error

Encoder channel 1 (CH1): Ambiguous A/B track signals.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.15 Error 8-61 (emergency code 230607h)

Error

Encoder channel 2 (CH2): Ambiguous A/B track signals.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.16 Error 8-70 (emergency code 730007h)

Error

Encoder #1: Gear ratio error.

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

8.17 Error 8-71 (emergency code 730007h)**Error**

Encoder #2: Gear ratio error.

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

8.18 Error 8-72 (emergency code 730007h)**Error**

Encoder #3: Gear ratio error.

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

8.19 Error 8-73 (emergency code 730007h)**Error**

Encoder #4: Gear ratio error.

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

8.20 Error 8-74 (emergency code 730007h)**Error**

EtherCAT® encoder #1: Gear ratio error.

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

8.21 Error 8-75 (emergency code 730007h)**Error**

EtherCAT® encoder #2: Gear ratio error.

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

8.22 Error 8-76 (emergency code 730007h)

Error

EtherCAT® encoder #3: Gear ratio error.

Remedy

Cause	Recommended remedial actions
Gear ratio error.	<ul style="list-style-type: none"> – Check the gear ratio settings of this encoder.

8.23 Error 8-80 (emergency code 730007h)

Error

Encoder #1: Error while computing (absolute) position.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.24 Error 8-81 (emergency code 730007h)

Error

Encoder #2: Error while computing (absolute) position.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.25 Error 8-82 (emergency code 730007h)

Error

Encoder #3: Error while computing (absolute) position.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.26 Error 8-83 (emergency code 730007h)

Error

Encoder #4: Error while computing (absolute) position.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.27 Error 8-84 (emergency code 730007h)

Error

EtherCAT® encoder #1: Error while computing (absolute) position.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.28 Error 8-85 (emergency code 730007h)

Error

EtherCAT® encoder #2: Error while computing (absolute) position.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.29 Error 8-86 (emergency code 730007h)

Error

EtherCAT® encoder #3: Error while computing (absolute) position.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.30 Error 8-90 (emergency code 230507h)

Error

Encoder #1 has lost connection.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.31 Error 8-91 (emergency code 230607h)

Error

Encoder #2 has lost connection.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.32 Error 8-92 (emergency code 730007h)

Error

Encoder #3 has lost connection.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.33 Error 8-94 (emergency code 730007h)

Error

EtherCAT® encoder #1: Status bit deleted.

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

8.34 Error 8-95 (emergency code 730007h)

Error

EtherCAT® encoder #2: Status bit deleted.

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

8.35 Error 8-96 (emergency code 730007h)

Error

EtherCAT® encoder #3: Status bit deleted.

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

8.36 Error 8-100 (emergency code 230507h)

Error

Encoder #1: TTL error.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

8.37 Error 8-101 (emergency code 230607h)

Error

Encoder #2: TTL error.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

8.38 Error 8-110 (emergency code 730007h)

Error

Hardware does not support encoder #1.

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

8.39 Error 8-111 (emergency code 730007h)

Error

Hardware does not support encoder #2.

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

8.40 Error 8-112 (emergency code 730007h)

Error

Hardware does not support encoder #3.

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.

Cause	Recommended remedial actions
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

8.41 Error 8-124 (emergency code 730007h)

Error

EtherCAT® encoder #1 is being used by another axis.

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

8.42 Error 8-125 (emergency code 730007h)

Error

EtherCAT® encoder #2 is being used by another axis.

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

8.43 Error 8-134 (emergency code 730007h)

Error

EtherCAT® encoder #1 error: The bit number of the EtherCAT® encoder may be wrong.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

8.44 Error 8-135 (emergency code 730007h)

Error

EtherCAT® encoder #2 error: The bit number of the EtherCAT® encoder may be wrong.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

8.45 Error 8-136 (emergency code 730007h)

Error

EtherCAT® encoder #3 error: The bit number of the EtherCAT® encoder may be wrong.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

8.46 Error 8-140 (emergency code 730007h)

Error

Encoder #1: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Report this error to your service partner.

8.47 Error 8-141 (emergency code 730007h)

Error

Encoder #2: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Report this error to your service partner.

8.48 Error 8-142 (emergency code 730007h)

Error

Encoder #3: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

8.49 Error 8-143 (emergency code 730007h)

Error

Encoder #4: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

8.50 Error 8-144 (emergency code 730007h)

Error

EtherCAT® encoder #1: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

8.51 Error 8-145 (emergency code 730007h)

Error

EtherCAT® encoder #2: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

8.52 Error 8-146 (emergency code 730007h)

Error

EtherCAT® encoder #3: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Report this error to your service partner.

8.53 Error 8-150 (emergency code 730007h)

Error

Encoder #1: Invalid back-up information.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.54 Error 8-151 (emergency code 730007h)

Error

Encoder #2: Invalid back-up information.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.55 Error 8-152 (emergency code 730007h)

Error

Encoder #3: Invalid back-up information.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.56 Error 8-153 (emergency code 730007h)

Error

Encoder #4: Invalid backup position.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.57 Error 8-154 (emergency code 730007h)

Error

EtherCAT® encoder #1: Invalid back-up position.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.58 Error 8-155 (emergency code 730007h)

Error

EtherCAT® encoder #2: Invalid back-up position.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.59 Error 8-156 (emergency code 730007h)

Error

EtherCAT® encoder #3: Invalid back-up position.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.60 Error 8-160 (emergency code 730007h)

Error

Encoder #1: Position out of range; motor was moved.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.61 Error 8-161 (emergency code 730007h)

Error

Encoder #2: Position out of range; motor was moved.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.62 Error 8-162 (emergency code 730007h)

Error

Encoder #3: Position out of range; motor was moved.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.63 Error 8-163 (emergency code 730007h)

Error

Encoder #4: Position out of range; motor was moved.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.64 Error 8-164 (emergency code 730007h)

Error

EtherCAT® encoder #1: Position out of range; motor was moved.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.65 Error 8-165 (emergency code 730007h)

Error

EtherCAT® encoder #2: Position out of range; motor was moved.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.66 Error 8-166 (emergency code 730007h)**Error**

EtherCAT® encoder #3: Position out of range; motor was moved.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.67 Error 8-170 (emergency code 730007h)**Error**

Encoder #1: Different serial number; motor was replaced.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

8.68 Error 8-171 (emergency code 730007h)**Error**

Encoder #2: Different serial number; motor was replaced.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

8.69 Error 8-172 (emergency code 730007h)**Error**

Encoder #3: Different serial number; motor was replaced.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

8.70 Error 8-173 (emergency code 730007h)

Error

Encoder #4: Different serial number; motor was replaced.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

8.71 Error 8-174 (emergency code 730007h)

Error

EtherCAT® encoder #1: Different serial number; motor was replaced.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

8.72 Error 8-175 (emergency code 730007h)

Error

EtherCAT® encoder #2: Different serial number; motor was replaced.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

8.73 Error 8-176 (emergency code 730007h)

Error

EtherCAT® encoder #3: Different serial number; motor was replaced.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

8.74 Error 8-180 (emergency code 751007h)

Error

Encoder #1: Hiperface DSL error.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Imprecise installation of the hiperface DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type l16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.75 Error 8-182 (emergency code FF0B07h)

Error

Encoder #3: Hiperface DSL error.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Imprecise installation of the hiperface DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type l16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.76 Error 8-210 (emergency code 230507h)

Error

SD encoder error.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Imprecise installation of the hiper-face DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type I16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.77 Error 8-220 (emergency code 730007h)

Error

Encoder #1: Insufficient battery voltage; multiturn position was lost.

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

8.78 Error 8-221 (emergency code 730007h)

Error

Encoder #2: Insufficient battery voltage; multiturn position was lost.

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

8.79 Error 8-222 (emergency code 730007h)

Error

Encoder #3: Insufficient battery voltage; multiturn position was lost.

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

8.80 Error 8-230 (emergency code 230507h)

Error

Encoder #1: SmartAbs encoder error.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.81 Error 8-240 (emergency code 730007h)

Error

Encoder #1: Parameter error.

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

8.82 Error 8-241 (emergency code 730007h)**Error**

Encoder #2: Parameter error.

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

8.83 Error 8-242 (emergency code 730007h)**Error**

Encoder #3: Parameter error.

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

8.84 Error 8-243 (emergency code 730007h)**Error**

Encoder #4: Parameter error.

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

8.85 Error 8-250 (emergency code 751007h)**Error**

Encoder #1: BISS protocol error.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

8.86 Error 8-260 (emergency code 730007h)

Error

Encoder #1: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.87 Error 8-261 (emergency code 730007h)

Error

Encoder #2: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.88 Error 8-262 (emergency code 730007h)

Error

Encoder #3: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.89 Error 8-263 (emergency code 730007h)

Error

Encoder #4: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.90 Error 8-264 (emergency code 730007h)

Error

EtherCAT® encoder #1: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.91 Error 8-265 (emergency code 730007h)

Error

EtherCAT® encoder #2: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

8.92 Error 8-266 (emergency code 730007h)

Error

EtherCAT® encoder #3: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

9 Error 9-x – timing error

9.1 Error 9-0 (emergency code 610007h)

Error

Unknown timing error.

Remedy

Cause	Recommended remedial actions
Excessive computational load in time-critical task of axis module.	<ul style="list-style-type: none"> – If possible, reduce the number of mapped parameters. – Disable additional encoder systems or features of the controller or motion control system.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

9.2 Error 9-1 (emergency code 610007h)

Error

DMA timing error.

Remedy

Cause	Recommended remedial actions
Excessive computational load in time-critical task of axis module.	<ul style="list-style-type: none"> – If possible, reduce the number of mapped parameters. – Disable additional encoder systems or features of the controller or motion control system.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

9.3 Error 9-2 (emergency code 610007h)

Error

Timing error in the task sequence.

Remedy

Cause	Recommended remedial actions
Excessive computational load in time-critical task of axis module.	<ul style="list-style-type: none"> – If possible, reduce the number of mapped parameters. – Disable additional encoder systems or features of the controller or motion control system.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

9.4 Error 9-3 (emergency code 610007h)

Error

Internal state synchronization error.

Remedy

Cause	Recommended remedial actions
Excessive computational load in time-critical task of axis module.	<ul style="list-style-type: none"> – If possible, reduce the number of mapped parameters. – Disable additional encoder systems or features of the controller or motion control system.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

9.5 Error 9-4 (emergency code 610007h)

Error

Internal access error.

Remedy

Cause	Recommended remedial actions
Excessive computational load in time-critical task of axis module.	<ul style="list-style-type: none"> – If possible, reduce the number of mapped parameters. – Disable additional encoder systems or features of the controller or motion control system.

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

9.6 Error 9-5 (emergency code 610007h)

Error

Timing error of the motion task.

Remedy

Cause	Recommended remedial actions
Excessive computational load in time-critical task of axis module.	<ul style="list-style-type: none"> – If possible, reduce the number of mapped parameters. – Disable additional encoder systems or features of the controller or motion control system.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

9.7 Error 9-6 (emergency code 610007h)

Error

Timing error during slow tasks.

Remedy

Cause	Recommended remedial actions
Excessive computational load in time-critical task of axis module.	<ul style="list-style-type: none"> – If possible, reduce the number of mapped parameters. – Disable additional encoder systems or features of the controller or motion control system.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

10 Error 10-x – overcurrent

10.1 Error 10-0 (emergency code 221101h)

Error

General overcurrent.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

10.2 Error 10-1 (emergency code 221101h)

Error

Hardware overcurrent was detected.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

10.3 Error 10-2 (emergency code 221201h)

Error

Software overcurrent was detected.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

10.4 Error 10-3 (emergency code 221101h)

Error

Hardware overcurrent was detected (alternative measuring point).

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – Connect the motor and the power cable to a different axis. If the error persists on different axes, try replacing the motor and cabling. – If other measures fail to remedy the problem, replace the axis module.

10.5 Error 10-4 (emergency code 221201h)

Error

DC overcurrent was detected.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

10.6 Error 10-6 (emergency code 221201h)

Error

Output stage: I²T limit in the high overload range was exceeded.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

10.7 Error 10-7 (emergency code 221201h)

Error

Actual current is exceeding the motor's maximum current.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

10.8 Error 10-8 (emergency code FF0D01h)

Error

Wire break at the motor was detected.

Remedy

Cause	Recommended remedial actions
A break of the motor connection cable was detected.	<ul style="list-style-type: none"> – Check the connection.

10.9 Error 10-9 (emergency code 221201h)

Error

Excessive total current $u+v+w$; possible short circuit to ground.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

11 Error 11-x – I²T output stage

11.1 Error 11-0 (emergency code 222101h)

Error

I²T limit exceeded (device protection).

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the axis module.	<ul style="list-style-type: none"> – Reduce the load or consider using a higher rated axis module.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.

11.2 Error 11-1 (emergency code 222101h)

Error

I²T limit exceeded (device protection).

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the axis module.	<ul style="list-style-type: none"> – Reduce the load or consider using a higher rated axis module.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.

12 Error 12-x – I²T motor

12.1 Error 12-0 (emergency code 222201h)

Error

I²T limit exceeded (motor protection).

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.

12.2 Error 12-1 (emergency code 222201h)

Error

I²T limit exceeded (motor protection).

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.

12.3 Error 12-2 (emergency code 222201h)

Error

I²T monitoring: Require motor temperature source.

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.

12.4 Error 12-3 (emergency code 222201h)

Error

Thermal model: Motor overload was detected.

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.

13 Error 13-x – motion control

13.1 Error 13-0 (emergency code FF0207h)

Error

General motion control error.

Remedy

Cause	Recommended remedial actions
General error.	– Acknowledge the error and re-start.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

13.2 Error 13-1 (emergency code FF0207h)

Error

Stack overflow; too many set points written.

Remedy

Cause	Recommended remedial actions
Stack overflow.	– Check the master's PLC program.

13.3 Error 13-2 (emergency code 861207h)

Error

The software limit switch was overrun.

Remedy

Cause	Recommended remedial actions
The new command in the profile mode would violate the software limit switches. The command is inhibited.	– Check the position limit settings and set points.

13.4 Error 13-3 (emergency code 861207h)

Error

Failed to move axis to target position: Distance exceeding maximum.

Remedy

Cause	Recommended remedial actions
Failed to reach position.	<ul style="list-style-type: none"> – Check the auto-commutation setting. Consider using a method with minimized movement. – Increase the value for the <i>tracking error limit</i> parameter.

13.5 Error 13-4 (emergency code 861207h)

Error

Failed to move axis to target position: Distance exceeding maximum.

Remedy

Cause	Recommended remedial actions
Auto-commutation may not be working properly.	<ul style="list-style-type: none"> – Check the encoder speed and direction as well as the pole pair number of the motor. – Check the auto-commutation parameters. – Scope the numbers 24, 25, 21, 1009.
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.

13.6 Error 13-5 (emergency code 861207h)

Error

An SSP sequence must not end on 'change on setpoint'.

Remedy

Cause	Recommended remedial actions
Wrong SSP sequence.	<ul style="list-style-type: none"> – Report this error to your service partner.

14 Error 14-x – overvoltage error

14.1 Error 14-0 (emergency code 321002h)

Error

Overvoltage was detected.

Remedy

Cause	Recommended remedial actions
Overvoltage was detected.	<ul style="list-style-type: none"> – Check the actual mains voltage. – Overvoltage can be caused by a decelerating axis that may have a high inertia (feedback). Reduce the deceleration ramp. – Consider using a brake resistor with higher power rating. If the supply unit has an internal brake resistor contact your service partner.

14.2 Error 14-1 (emergency code 321002h)

Error

Overvoltage at the axis controller was detected.

Remedy

Cause	Recommended remedial actions
Overvoltage was detected.	<ul style="list-style-type: none"> – Check the actual mains voltage. – Overvoltage can be caused by a decelerating axis that may have a high inertia (feedback). Reduce the deceleration ramp. – Consider using a brake resistor with higher power rating. If the supply unit has an internal brake resistor contact your service partner.

14.3 Error 14-2 (emergency code 225002h)

Error

Link voltage out of nominal range.

Remedy

Cause	Recommended remedial actions
The axis module seems to be defective.	– Switch off power supply and replace the device.
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

15 Error 15-x – undervoltage error

15.1 Error 15-0 (emergency code 322002h)

Error

Undervoltage was detected.

Remedy

Cause	Recommended remedial actions
Undervoltage has occurred in the drive while the axis was switched on.	<ul style="list-style-type: none"> – Check if the power supply has been switched off. – Check the actual mains voltage. – Ensure that the mains is stable under load.

15.2 Error 15-1 (emergency code 322002h)

Error

Undervoltage at the axis controller was detected.

Remedy

Cause	Recommended remedial actions
Undervoltage has occurred in the drive while the axis was switched on.	<ul style="list-style-type: none"> – Check if the power supply has been switched off. – Check the actual mains voltage. – Ensure that the mains is stable under load.

16 Error 16-x – Speed tracking error

16.1 Error 16-0 (emergency code 840007h)

Error

Speed limit exceeded.

Remedy

Cause	Recommended remedial actions
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

16.2 Error 16-1 (emergency code 840007h)

Error

Max. speed difference was detected.

Remedy

Cause	Recommended remedial actions
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

16.3 Error 16-2 (emergency code 840007h)

Error

Maximum speed exceeded.

Remedy

Cause	Recommended remedial actions
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

16.4 Error 16-3 (emergency code 840007h)

Error

Gantry operation: Speed difference between coupled axes exceeded maximum.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the yaw control parameters set for gantry mode.
Mechanical seize-up.	<ul style="list-style-type: none"> – Ensure that the mechanics can move freely.
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.

Cause	Recommended remedial actions
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

17 Error 17-x – position lag error

17.1 Error 17-0 (emergency code 861107h)

Error

Maximum position lag detected. Position lag error exceeding maximum. This limit is typically defined based on the process requirements.

Remedy

Cause	Recommended remedial actions
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

17.2 Error 17-1 (emergency code 861107h)

Error

Maximum position lag detected. Position lag error exceeding maximum. This limit is typically defined based on the process requirements.

Remedy

Cause	Recommended remedial actions
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

17.3 Error 17-2 (emergency code 861107h)

Error

Gantry operation: Position difference between coupled axes exceeded maximum.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the yaw control parameters set for gantry mode.
Mechanical seize-up.	<ul style="list-style-type: none"> – Ensure that the mechanics can move freely.
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

18 Error 18-x – temperature error

18.1 Error 18-0 (emergency code 421003h)

Error

Overtemperature was detected.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce the output power and/or switching frequency. – This error may also be caused by another axis of the device.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

18.2 Error 18-1 (emergency code 421003h)

Error

Interior temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce the output power and/or switching frequency. – This error may also be caused by another axis of the device.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

18.3 Error 18-2 (emergency code 421003h)

Error

The temperature of the output stage exceeded the maximum.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce the output power and/or switching frequency. – This error may also be caused by another axis of the device.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

19 Error 19-x – cross communication error

19.1 Error 19-0 (emergency code FF0307h)

Error

Error in the manufacturer-specific cross communication (X-COM).

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

19.2 Error 19-1 (emergency code FF0307h)

Error

Cross communication (X-COM): enumeration error.

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

19.3 Error 19-2 (emergency code FF0307h)

Error

Cross communication (X-COM): hardware error.

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

19.4 Error 19-3 (emergency code FF0307h)

Error

Supply unit firmware loader error.

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

20 Error 20-x – common system error

20.1 Error 20-0 (emergency code FF0407h)

Error

An unspecified IO error occurred.

Remedy

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

20.2 Error 20-1 (emergency code FF0407h)

Error

Output stage controller: Framing error.

Remedy

Cause	Recommended remedial actions
The 24 V power supply went off.	<ul style="list-style-type: none"> – Check the 24 V power supply for outages.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

20.3 Error 20-2 (emergency code FF0407h)

Error

Output stage controller: Checksum error

Remedy

Cause	Recommended remedial actions
The 24 V power supply went off.	<ul style="list-style-type: none"> – Check the 24 V power supply for outages.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

20.4 Error 20-3 (emergency code FF0407h)

Error

Output stage controller: I/O error

Remedy

Cause	Recommended remedial actions
The 24 V power supply went off.	<ul style="list-style-type: none"> – Check the 24 V power supply for outages.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

20.5 Error 20-4 (emergency code 630C07h)

Error

Failed to initialize output stage parameters.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

20.6 Error 20-5 (emergency code 630D07h)

Error

Failed to initialize supply unit's parameters.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> <li>– Try switching to a different version of the device firmware. <li>– Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

21 Error 21-x – holding brake

21.1 Error 21-0 (emergency code FF0507h)

Error

Unspecified motor brake error.

Remedy

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

21.2 Error 21-1 (emergency code FF0507h)

Error

Wire break on the motor brake was detected.

Remedy

Cause	Recommended remedial actions
A wire break has been diagnosed on the motor brake.	<ul style="list-style-type: none"> – Check the motor brake cabling.

21.3 Error 21-2 (emergency code FF0507h)

Error

Failure to release motor brake, though requested.

Remedy

Cause	Recommended remedial actions
Release time of the brake is insufficient.	<ul style="list-style-type: none"> – Increase the brake release time.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

21.4 Error 21-3 (emergency code FF0507h)

Error

Brake test: current limit reached.

Remedy

Cause	Recommended remedial actions
The drive's current limit is set too low.	– Where possible, increase the drive's current limit. Consider reducing the switching frequency.

21.5 Error 21-4 (emergency code FF0507h)

Error

Brake test: Torque limit reached.

Remedy

Cause	Recommended remedial actions
The drive's torque limit is set too low.	– Where possible, increase the drive's torque limit.

21.6 Error 21-5 (emergency code FF0507h)

Error

User aborted brake test.

21.7 Error 21-6 (emergency code FF0507h)

Error

Brake test: Incorrect mode.

21.8 Error 21-7 (emergency code FF0507h)

Error

Brake test: no direction was defined.

21.9 Error 21-8 (emergency code FF0507h)

Error

Brake test: Time-out during bed-in procedure.

21.10 Error 21-9 (emergency code FF0507h)

Error

Brake test: The output stage was deactivated.

21.11 Error 21-10 (emergency code FF0507h)

Error

Brake test: SBT failed.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the safe brake test settings, including both the functional settings and the SafePLC program.

21.12 Error 21-11 (emergency code FF0507h)

Error

Brake test: no rated torque was defined.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the safe brake test settings, including both the functional settings and the SafePLC program.

22 Error 22-x – encoder error during cyclic operation

22.1 Error 22-0 (emergency code 730007h)

Error

General encoder error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

22.2 Error 22-11 (emergency code 730007h)

Error

Failed to determine encoder offset (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Auto-commutation may not be working properly.	<ul style="list-style-type: none"> – Check the encoder speed and direction as well as the pole pair number of the motor. – Check the auto-commutation parameters. – Scope the numbers 24, 25, 21, 1009.

22.3 Error 22-12 (emergency code 730007h)

Error

Motor has been replaced by another type (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The motor has been replaced by another type.	<ul style="list-style-type: none"> – Acknowledge the error and adjust the parameter in the application.

22.4 Error 22-13 (emergency code 730007h)

Error

Motor has been replaced by an unknown type (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The motor has been replaced by an unknown type.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

22.5 Error 22-14 (emergency code 730007h)**Error**

Encoder #1: Cannot acquire position.

Remedy

Cause	Recommended remedial actions
The motor is moving.	<ul style="list-style-type: none"> – Stop the motor mechanically and acknowledge the error.

22.6 Error 22-15 (emergency code 730007h)**Error**

Position transducer has no distance-coded zero pulses (encoder error during operation).

Remedy

Cause	Recommended remedial actions
No distance-coded zero pulses have been set.	<ul style="list-style-type: none"> – Report this error to your service partner.

22.7 Error 22-20 (emergency code 751007h)**Error**

Encoder: SSI error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.8 Error 22-30 (emergency code 751007h)

Error

EnDat protocol error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.9 Error 22-42 (emergency code 751007h)

Error

Error in the hipurface protocol (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.10 Error 22-50 (emergency code 730007h)

Error

Internal communication error at the encoder interface, channel 1 (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

22.11 Error 22-51 (emergency code 730007h)

Error

Internal communication error at the encoder interface, channel 2 (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

22.12 Error 22-52 (emergency code 730007h)

Error

Internal communication error at the encoder interface, channel 3 (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

22.13 Error 22-60 (emergency code 230507h)

Error

Encoder channel 1 (CH1): Ambiguous A/B track signals; likely an EMC issue (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.14 Error 22-61 (emergency code 230607h)

Error

Encoder channel 2 (CH2): Ambiguous A/B track signals; likely an EMC issue (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.15 Error 22-70 (emergency code 730007h)

Error

Encoder #1: Gear ratio error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	<ul style="list-style-type: none"> – Check the gear ratio settings of this encoder.

22.16 Error 22-71 (emergency code 730007h)

Error

Encoder #2: Gear ratio error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	<ul style="list-style-type: none"> – Check the gear ratio settings of this encoder.

22.17 Error 22-72 (emergency code 730007h)

Error

Encoder #3: Gear ratio error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	<ul style="list-style-type: none"> – Check the gear ratio settings of this encoder.

22.18 Error 22-73 (emergency code 730007h)

Error

Encoder #4: Gear ratio error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	<ul style="list-style-type: none"> – Check the gear ratio settings of this encoder.

22.19 Error 22-74 (emergency code 730007h)

Error

EtherCAT® encoder #1: Gear ratio error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

22.20 Error 22-75 (emergency code 730007h)

Error

EtherCAT® encoder #2: Gear ratio error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

22.21 Error 22-76 (emergency code 730007h)

Error

EtherCAT® encoder #3: Gear ratio error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

22.22 Error 22-80 (emergency code 730007h)

Error

Encoder #1: Error while computing (absolute) position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	– Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.23 Error 22-81 (emergency code 730007h)

Error

Encoder #2: Error while computing (absolute) position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.24 Error 22-82 (emergency code 730007h)

Error

Encoder #3: Error while computing (absolute) position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.25 Error 22-83 (emergency code 730007h)

Error

Encoder #4: Error while computing (absolute) position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.26 Error 22-84 (emergency code 730007h)

Error

EtherCAT® encoder #1: Error while computing (absolute) position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.27 Error 22-85 (emergency code 730007h)

Error

EtherCAT® encoder #2: Error while computing (absolute) position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.28 Error 22-86 (emergency code 730007h)

Error

EtherCAT® encoder #3: Error while computing (absolute) position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.29 Error 22-90 (emergency code 230507h)

Error

Encoder #1 has lost connection (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.30 Error 22-91 (emergency code 230607h)

Error

Encoder #2 hast lost connection (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.31 Error 22-92 (emergency code 730007h)

Error

Encoder #3 hast lost connection (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
Analog encoder: Amplitude check failed.	<ul style="list-style-type: none"> – Scope the encoder signals and check the amplitudes against the <i>EncObsMin</i> parameter. – Where short-term failures are acceptable, use the <i>EncObsTf</i> parameter to filter the amplitude check. This filter does not affect encoder performance. However, signal quality is likely to be poor in the event of a failure. – Refer to the error details for further information.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.32 Error 22-94 (emergency code 730007h)

Error

EtherCAT® encoder #1: Status bit deleted (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

22.33 Error 22-96 (emergency code 730007h)

Error

EtherCAT® encoder #3: Status bit deleted (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

22.34 Error 22-100 (emergency code 230507h)

Error

Encoder #1: TTL error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

22.35 Error 22-101 (emergency code 230607h)

Error

Encoder #2: TTL error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

22.36 Error 22-110 (emergency code 730007h)

Error

Hardware does not support encoder #1 (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

22.37 Error 22-111 (emergency code 730007h)

Error

Hardware does not support encoder #2 (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

22.38 Error 22-112 (emergency code 730007h)

Error

Hardware does not support encoder #3 (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

22.39 Error 22-124 (emergency code 730007h)

Error

EtherCAT® encoder #1 is being used by another axis (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

22.40 Error 22-125 (emergency code 730007h)

Error

EtherCAT® encoder #2 is being used by another axis (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

22.41 Error 22-126 (emergency code 730007h)

Error

EtherCAT® encoder #3 is being used by another axis (encoder error during operation).

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

22.42 Error 22-134 (emergency code 730007h)

Error

EtherCAT® encoder #1 error: Bit number of EtherCAT® encoder may be wrong (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

22.43 Error 22-135 (emergency code 730007h)

Error

EtherCAT® encoder #2 error: Bit number of EtherCAT® encoder may be wrong (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

22.44 Error 22-136 (emergency code 730007h)

Error

EtherCAT® encoder #3 error: Bit number of EtherCAT® encoder may be wrong (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

22.45 Error 22-140 (emergency code 730007h)

Error

Encoder #1: Absolute encoder simulation: Failed to initialize (encoder error during operation). Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Report this error to your service partner.

22.46 Error 22-141 (emergency code 730007h)

Error

Encoder #2: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

22.47 Error 22-142 (emergency code 730007h)

Error

Encoder #3: Absolute encoder simulation: Failed to initialize (encoder error during operation). Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

22.48 Error 22-143 (emergency code 730007h)

Error

Encoder #4: Absolute encoder simulation: Failed to initialize (encoder error during operation). Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

22.49 Error 22-144 (emergency code 730007h)

Error

EtherCAT® encoder #1: Absolute encoder simulation: Failed to initialize (encoder error during operation). Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

22.50 Error 22-145 (emergency code 730007h)

Error

EtherCAT® encoder #2: Absolute encoder simulation: Failed to initialize (encoder error during operation). Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Report this error to your service partner.

22.51 Error 22-146 (emergency code 730007h)

Error

EtherCAT® encoder #3: Absolute encoder simulation: Failed to initialize (encoder error during operation). Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Report this error to your service partner.

22.52 Error 22-150 (emergency code 730007h)

Error

Encoder #1: Invalid back-up information (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.53 Error 22-151 (emergency code 730007h)

Error

Encoder #2: Invalid back-up information (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.54 Error 22-152 (emergency code 730007h)

Error

Encoder #3: Invalid back-up information (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.55 Error 22-153 (emergency code 730007h)

Error

Encoder #4: Invalid back-up position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.56 Error 22-154 (emergency code 730007h)

Error

EtherCAT® encoder #1: Invalid back-up position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.57 Error 22-155 (emergency code 730007h)

Error

EtherCAT® encoder #2: Invalid back-up position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.58 Error 22-156 (emergency code 730007h)

Error

EtherCAT® encoder #3: Invalid back-up position (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.59 Error 22-160 (emergency code 730007h)**Error**

Encoder #1: Position out of range, motor was moved (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.60 Error 22-161 (emergency code 730007h)**Error**

Encoder #2: Position out of range, motor was moved (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.61 Error 22-162 (emergency code 730007h)**Error**

Encoder #3: Position out of range, motor was moved (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.62 Error 22-163 (emergency code 730007h)**Error**

Encoder #4: Position out of range, motor was moved (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.63 Error 22-164 (emergency code 730007h)

Error

EtherCAT® encoder #1: Position out of range, motor was moved (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.64 Error 22-165 (emergency code 730007h)

Error

EtherCAT® encoder #2: Position out of range, motor was moved (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.65 Error 22-166 (emergency code 730007h)

Error

EtherCAT® encoder #3: Position out of range, motor was moved (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.66 Error 22-170 (emergency code 730007h)

Error

Encoder #1: Different serial number, motor was replaced (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

22.67 Error 22-171 (emergency code 730007h)

Error

Encoder #2: Different serial number, motor was replaced (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

22.68 Error 22-172 (emergency code 730007h)

Error

Encoder #3: Different serial number, motor was replaced (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

22.69 Error 22-173 (emergency code 730007h)

Error

Encoder #4: Different serial number, motor was replaced (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

22.70 Error 22-174 (emergency code 730007h)

Error

EtherCAT® encoder #1: Different serial number, motor was replaced (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

22.71 Error 22-175 (emergency code 730007h)

Error

EtherCAT® encoder #2: Different serial number, motor was replaced (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

22.72 Error 22-176 (emergency code 730007h)**Error**

EtherCAT® encoder #3: Different serial number, motor was replaced (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

22.73 Error 22-180 (emergency code 751007h)**Error**

Encoder #1: Hiperface DSL error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
Imprecise installation of the hiperface DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type I16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.74 Error 22-182 (emergency code FF0B07h)**Error**

Encoder #3: Hiperface DSL error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
Imprecise installation of the hiper-face DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type I16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.75 Error 22-210 (emergency code 230507h)

Error

SD encoder error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
Imprecise installation of the hiper-face DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type I16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.76 Error 22-220 (emergency code 730007h)

Error

Encoder #1: Insufficient battery voltage, multiturn position is lost (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

22.77 Error 22-221 (emergency code 730007h)

Error

Encoder #2: Insufficient battery voltage, multiturn position is lost (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

22.78 Error 22-222 (emergency code 730007h)

Error

Encoder #3: Insufficient battery voltage, multiturn position is lost (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

22.79 Error 22-230 (emergency code 230507h)

Error

Encoder #1: SmartAbs encoder error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.80 Error 22-240 (emergency code 730007h)

Error

Encoder #1: Parameter error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Parameter error	<ul style="list-style-type: none"> – Check the parameter set.

22.81 Error 22-241 (emergency code 730007h)

Error

Encoder #2: Parameter error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Parameter error	<ul style="list-style-type: none"> – Check the parameter set.

22.82 Error 22-242 (emergency code 730007h)

Error

Encoder #3: Parameter error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

22.83 Error 22-243 (emergency code 730007h)

Error

Encoder #4: Parameter error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

22.84 Error 22-250 (emergency code 751007h)

Error

Encoder #1: BISS protocol error (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

22.85 Error 22-260 (emergency code 730007h)

Error

Encoder #1: Voltage loss during operation (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.86 Error 22-261 (emergency code 730007h)**Error**

Encoder #2: Voltage loss during operation (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.87 Error 22-262 (emergency code 730007h)**Error**

Encoder #3: Voltage loss during operation (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.88 Error 22-263 (emergency code 730007h)**Error**

Encoder #4: Voltage loss during operation (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.89 Error 22-264 (emergency code 730007h)**Error**

EtherCAT® encoder #1: Voltage loss during operation (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

22.90 Error 22-265 (emergency code 730007h)

Error

EtherCAT® encoder #2: Voltage loss during operation (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. <li>– Report this error to your service partner.

22.91 Error 22-266 (emergency code 730007h)

Error

EtherCAT® encoder #3: Voltage loss during operation (encoder error during operation).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. <li>– Report this error to your service partner.

23 Error 23-x – machine referencing

23.1 Error 23-0 (emergency code FF0607h)

Error

Unspecified machine referencing error.

Remedy

Cause	Recommended remedial actions
Digital input issue.	<ul style="list-style-type: none"> – Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

23.2 Error 23-1 (emergency code FF0707h)

Error

Machine referencing error: Hardware limit switch mix-up.

Remedy

Cause	Recommended remedial actions
Digital input issue.	<ul style="list-style-type: none"> – Check the limit switches. – Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

23.3 Error 23-2 (emergency code FF0607h)

Error

Machine referencing error: An unexpected reference switch event has occurred.

Remedy

Cause	Recommended remedial actions
Digital input issue.	<ul style="list-style-type: none"> – Check the reference cam. – Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

23.4 Error 23-3 (emergency code FF0700h)

Error

Machine referencing error: Unexpected limit switch event.

Remedy

Cause	Recommended remedial actions
Digital input issue.	<ul style="list-style-type: none"> – Check the limit switches. – Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

23.5 Error 23-4 (emergency code FF0607h)

Error

Machine referencing error: Unknown homing method.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Use a different machine referencing method.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

23.6 Error 23-5 (emergency code FF0607h)

Error

Machine referencing error: The homing method is not defined in the motion profile.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Use a different machine referencing method.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

23.7 Error 23-6 (emergency code FF0607h)

Error

Machine referencing error: Drive not ready, motor is not in standstill.

Remedy

Cause	Recommended remedial actions
The motor is not in standstill.	– Stop the motor. Check the standstill window (section Position Limit).

23.8 Error 23-7 (emergency code FF0607h)

Error

Machine referencing error: Drive not in *Operational* state or motor is not in standstill.

Remedy

Cause	Recommended remedial actions
The motor is not in standstill.	– Stop the motor and switch on feedback control. Check the standstill window (section Position Limit).

23.9 Error 23-8 (emergency code FF0607h)

Error

Machine referencing error: Drive not ready, wrong control mode.

Remedy

Cause	Recommended remedial actions
Wrong control mode.	– To reference the machine, switch to Position Control mode.

23.10 Error 23-9 (emergency code FF0607h)

Error

Machine referencing error: Failed to initialize encoder. Referencing during device boot-up was aborted due to an internal error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

23.11 Error 23-10 (emergency code FF0607h)

Error

Machine referencing error: Travel distance during referencing exceeded maximum.

Remedy

Cause	Recommended remedial actions
Failed to reach zero pulse within the set distance limits.	<ul style="list-style-type: none"> – Check the encoder's zero pulse and the <i>Maximum Distance</i> parameter. – Check the encoder for proper functioning.

23.12 Error 23-11 (emergency code FF0607h)**Error**

Machine referencing error: Failed to recover stored absolute position.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

23.13 Error 23-12 (emergency code FF0607h)**Error**

Machine referencing error: Invalid back-up position.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

23.14 Error 23-13 (emergency code FF0607h)**Error**

Machine referencing error: Failed to apply the changed settings when initializing the encoder.

Remedy

Cause	Recommended remedial actions
Failed to apply the changed settings when initializing the encoder.	<ul style="list-style-type: none"> – Initialize the encoder first.

24 Error 24-x – supply unit 1 error

24.1 Error 24-0 (emergency code FF0807h)

Error

Supply unit: undefined error.

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

24.2 Error 24-1 (emergency code FF0807h)

Error

Supply unit: Fast channel error.

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

24.3 Error 24-2 (emergency code FF0807h)

Error

Supply unit: Mains voltage exceeding chopper limit.

Remedy

Cause	Recommended remedial actions
The rated voltage is too high.	<ul style="list-style-type: none"> – Check the rated voltage and mains connection.

24.4 Error 24-5 (emergency code FF0807h)

Error

Supply unit: Cross-communication error.

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

24.5 Error 24-7 (emergency code FF0807h)

Error

Supply unit: Error in 24 V switching power supply unit.

Remedy

Cause	Recommended remedial actions
Communication to the 24 V supply circuit is missing.	<ul style="list-style-type: none"> – Check whether the supply unit includes a 24 V supply. – Check the parameter 702.5.
An error in the 24 V supply was reported.	<ul style="list-style-type: none"> – Check the source of the 24 V supply. – Perform a precise voltage measurement and check the reading against the limits in the User Manual. – Check the voltage upon system power-up. Check the voltage in specific situations, in particular when releasing the motor brakes.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

Cause	Recommended remedial actions
This may be a hardware issue of the supply unit.	– If other measures fail to remedy the problem, replace the supply unit.

24.6 Error 24-14 (emergency code FF0807h)

Error

DC link symmetry error of axis module.

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	– Check the connected axis modules for errors.
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

24.7 Error 24-15 (emergency code FF0807h)

Error

Supply unit: Internal error.

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	– Check the connected axis modules for errors.
This is likely a software issue.	– Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the supply unit.	– If other measures fail to remedy the problem, replace the supply unit.

24.8 Error 24-16 (emergency code FF0807h)

Error

Supply unit: Overvoltage in the DC link.

Remedy

Cause	Recommended remedial actions
Overvoltage was detected.	– Check the actual mains voltage. – Overvoltage can be caused by a decelerating axis that may have a high inertia (feedback). Reduce the deceleration ramp. – Consider using an brake resistor with higher power rating. If the supply unit has an internal brake resistor contact your service partner.

24.9 Error 24-24 (emergency code FF0807h)

Error

Supply unit: Overcurrent in the brake resistor.

Remedy

Cause	Recommended remedial actions
Overcurrent in the brake resistor was detected.	– Check the brake resistor. Use a brake resistor with higher Ohm value.

24.10 Error 24-25 (emergency code FF0807h)**Error**

Supply unit: During power-up, mains phase L1 or L2 was lost for longer than 20 ms.

Remedy

Cause	Recommended remedial actions
All three phases must be connected during pre-load.	– Check the power button.

24.11 Error 24-27 (emergency code FF0807h)**Error**

Supply unit: Mains undervoltage.

Remedy

Cause	Recommended remedial actions
Undervoltage in the mains.	– Check the mains connection.

24.12 Error 24-28 (emergency code FF0807h)**Error**

Supply unit: Rectifier overload.

Remedy

Cause	Recommended remedial actions
The computed rectifier temperature is exceeding the limits.	– Reduce peak current.

24.13 Error 24-29 (emergency code FF0807h)**Error**

DC link symmetry error of supply unit.

Remedy

Cause	Recommended remedial actions
The supply unit seems to be defective.	– Switch off power supply and replace the device.
This may be a hardware issue of the supply unit.	– If other measures fail to remedy the problem, replace the supply unit.

24.14 Error 24-30 (emergency code FF0807h)

Error

Supply unit: Short circuit in the brake transistor or DC link detected.

Remedy

Cause	Recommended remedial actions
Short circuit in the brake transistor or DC link was detected.	<ul style="list-style-type: none"> – Check the DC link load. – Check the DC link connection for short circuit.

24.15 Error 24-31 (emergency code FF0807h)

Error

Supply unit: Ground fault was detected.

Remedy

Cause	Recommended remedial actions
Ground fault was detected.	<ul style="list-style-type: none"> – Check the DC link for correct wiring. – Check all motors for correct wiring.

24.16 Error 24-32 (emergency code FF0807h)

Error

Supply unit: Short circuit in the load IGBT detected.

Remedy

Cause	Recommended remedial actions
This may be a brake resistor issue.	– Check the brake resistor. Use a brake resistor with lower Ohm value.
This may be a hardware issue of the supply unit.	– If other measures fail to remedy the problem, replace the supply unit.

24.17 Error 24-33 (emergency code FF0807h)

Error

Supply unit: Brake resistor is not connected.

Remedy

Cause	Recommended remedial actions
This may be a brake resistor issue.	– Check the brake resistor. Use a brake resistor with lower Ohm value.

24.18 Error 24-34 (emergency code FF0807h)

Error

Supply unit: Internal temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce the output power of the entire axis group.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

24.19 Error 24-35 (emergency code FF0807h)**Error**

Supply unit: Heat sink temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce the output power of the entire axis group.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

24.20 Error 24-36 (emergency code FF0807h)**Error**

Supply unit: Brake resistor P*t monitoring was triggered.

Remedy

Cause	Recommended remedial actions
Excessive load is applied on the brake resistor.	<ul style="list-style-type: none"> – Reduce the deceleration ramps in the axis group, especially for axes with large masses. – Check the settings of the brake transistor monitoring.

24.21 Error 24-37 (emergency code FF0807h)**Error**

Supply unit: 24 V supply: Internal temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce power consumption at the 24 V supply. – Reduce the output power of the entire axis group.

24.22 Error 24-41 (emergency code FF0807h)**Error**

Supply unit: 24 V supply overload.

Remedy

Cause	Recommended remedial actions
Overload of the supply unit's 24 V power supply.	<ul style="list-style-type: none"> – Check power consumption at the 24 V supply for peak loads.

24.23 Error 24-44 (emergency code FF0807h)**Error**

Supply unit: 24 V supply: Heat sink temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce power consumption at the 24 V supply. – Reduce the output power of the entire axis group.

24.24 Error 24-45 (emergency code FF0807h)**Error**

Supply unit: The temperature switch of the brake resistor has tripped.

Remedy

Cause	Recommended remedial actions
Excessive load is applied on the brake resistor.	<ul style="list-style-type: none"> – Reduce the deceleration ramps in the axis group, especially for axes with large masses. – Check the settings of the brake transistor monitoring.

24.25 Error 24-49 (emergency code FF0807h)**Error**

Supply unit: DC link overload.

Remedy

Cause	Recommended remedial actions
DC link current in the entire system exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

24.26 Error 24-52 (emergency code FF0807h)**Error**

Supply unit: Fast shut-off was detected.

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

24.27 Error 24-53 (emergency code FF0807h)**Error**

Supply unit: Chopper current exceeding minimum.

Remedy

Cause	Recommended remedial actions
The system requires a brake resistor that is connected to the supply unit.	<ul style="list-style-type: none"> – Review the User Manual for permissible resistance values. – Check the brake resistor cabling.

24.28 Error 24-54 (emergency code FF0807h)**Error**

Supply unit: Chopper resistance value out of range.

Remedy

Cause	Recommended remedial actions
The system requires a brake resistor that is connected to the supply unit.	<ul style="list-style-type: none"> – Review the User Manual for permissible resistance values. – Check the brake resistor cabling.

24.29 Error 24-55 (emergency code FF0807h)**Error**

Supply unit: Line reactor temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
The temperature switch of line reactor tripped.	<ul style="list-style-type: none"> – Check the settings of temperature switch evaluation.
DC link current in the entire system exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

25 Error 25-x – motor temperature

25.1 Error 25-0 (emergency code FF0903h)

Error

Motor temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.
The motor temperature is too high.	<ul style="list-style-type: none"> – Check the motor temperature, and thermal sensor's the resistance value (PTC thermal sensors do not report the motor temperature). Where the values are not plausible, check the cabling and the sensor type. – If you are not using a system motor, ask the manufacturer whether the motor is designed to withstand higher temperatures.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

25.2 Error 25-1 (emergency code FF0903h)

Error

Motor temperature has reached maximum.

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.

Cause	Recommended remedial actions
The motor temperature is too high.	<ul style="list-style-type: none"> – Check the motor temperature, and thermal sensor's the resistance value (PTC thermal sensors do not report the motor temperature). Where the values are not plausible, check the cabling and the sensor type. – If you are not using a system motor, ask the manufacturer whether the motor is designed to withstand higher temperatures.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

25.3 Error 25-2 (emergency code FF0903h)

Error

Motor temperature exceeding maximum (PTC/TSS).

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.
The motor temperature is too high.	<ul style="list-style-type: none"> – Check the motor temperature, and thermal sensor's the resistance value (PTC thermal sensors do not report the motor temperature). Where the values are not plausible, check the cabling and the sensor type. – If you are not using a system motor, ask the manufacturer whether the motor is designed to withstand higher temperatures.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

25.4 Error 25-3 (emergency code FF0903h)

Error

PTC/TSS short circuit detected.

Remedy

Cause	Recommended remedial actions
A short circuit was detected in the motor thermal sensor (PTC/TSS).	<ul style="list-style-type: none"> – Check the cabling. – Consider using the 'PTC w/o short circuit monitoring' setting.
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.
The motor temperature is too high.	<ul style="list-style-type: none"> – Check the motor temperature, and thermal sensor's the resistance value (PTC thermal sensors do not report the motor temperature). Where the values are not plausible, check the cabling and the sensor type. – If you are not using a system motor, ask the manufacturer whether the motor is designed to withstand higher temperatures.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

25.5 Error 25-4 (emergency code FF0903h)

Error

Encoder temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
The long-term RMS current value is too high for the motor.	<ul style="list-style-type: none"> – Let the motor cool down. – Reduce the load or consider using a higher rated motor. Check the motor protection settings against the motor specifications sheet.

Cause	Recommended remedial actions
The motor temperature is too high.	<ul style="list-style-type: none"> – Check the motor temperature, and thermal sensor's the resistance value (PTC thermal sensors do not report the motor temperature). Where the values are not plausible, check the cabling and the sensor type. – If you are not using a system motor, ask the manufacturer whether the motor is designed to withstand higher temperatures.
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

25.6 Error 25-5 (emergency code FF0903h)

Error

Motor temperature source is unavailable or disabled.

Remedy

Cause	Recommended remedial actions
Motor temperature source is unavailable or disabled.	<ul style="list-style-type: none"> – Check the settings of the motor protection parameters.

26 Error 26-x – calibration

26.1 Error 26-0 (emergency code 100007h)

Error

Error during calibration. This is should not occur during operation.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

26.2 Error 26-1 (emergency code 100007h)

Error

Error during AFE calibration. This is should not occur during operation.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

27 Error 27-x – hardware limit switch

27.1 Error 27-0 (emergency code FF0707h)

Error

An unspecified error of the hardware limit switches has occurred.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	<ul style="list-style-type: none"> – Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Digital input issue.	<ul style="list-style-type: none"> – Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

27.2 Error 27-1 (emergency code FF0707h)

Error

Hardware limit switch mix-up.

Remedy

Cause	Recommended remedial actions
Hardware limit switch mix-up.	<ul style="list-style-type: none"> – Check the direction of movement and the limit switch allocation.
An internal position limit was set.	<ul style="list-style-type: none"> – Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Digital input issue.	<ul style="list-style-type: none"> – Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

27.3 Error 27-2 (emergency code FF0707h)

Error

Positive hardware limit switch (LSW_P) was hit.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	– Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Digital input issue.	– Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

27.4 Error 27-3 (emergency code FF0707h)**Error**

Negative hardware limit switch (LSW_N) was hit.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	– Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Digital input issue.	– Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

28 Error 28-x – position limit

28.1 Error 28-0 (emergency code 861207h)

Error

Unknown position limit error.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	<ul style="list-style-type: none"> – Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Digital input issue.	<ul style="list-style-type: none"> – Check the 24 V IO cabling, function assignment and inversion parameters. Check the connected switches for bouncing. Consider using the input filter.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

28.2 Error 28-1 (emergency code 861207h)

Error

The negative software limit switch was hit.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	<ul style="list-style-type: none"> – Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

28.3 Error 28-2 (emergency code 861207h)

Error

The positive software limit switch was hit.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	<ul style="list-style-type: none"> – Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.

Cause	Recommended remedial actions
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

28.4 Error 28-3 (emergency code 861207h)

Error

Software limit overrun.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	<ul style="list-style-type: none"> – Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

28.5 Error 28-4 (emergency code 861207h)

Error

Position set point out of nominal range.

Remedy

Cause	Recommended remedial actions
An internal position limit was set.	<ul style="list-style-type: none"> – Check the factor group settings and the set position. Make a scope record to find out whether position control is overshooting.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

29 Error 29-x – setpoint violation

29.1 Error 29-0 (emergency code 861207h)

Error

Unknown drive locking error.

Remedy

Cause	Recommended remedial actions
The setpoint violates a rotational direction lock or a (software) limit switch.	<ul style="list-style-type: none"> – Check the setpoints. If the axis is in <i>Cyclic Synchronous Mode</i>, make a scope record. – Check the factor group settings. – Check the control mode.

29.2 Error 29-1 (emergency code 861207h)

Error

New setpoint violates the lock or travel range (end switch).

Remedy

Cause	Recommended remedial actions
The setpoint violates a rotational direction lock or a (software) limit switch.	<ul style="list-style-type: none"> – Check the setpoints. If the axis is in <i>Cyclic Synchronous Mode</i>, make a scope record. – Check the factor group settings. – Check the control mode.

29.3 Error 29-2 (emergency code 861207h)

Error

Motion is locked in positive and (!) negative direction.

Remedy

Cause	Recommended remedial actions
Plausibility error.	<ul style="list-style-type: none"> – Check the Plausibility of the limit switches and/or software limits.
The setpoint violates a rotational direction lock or a (software) limit switch.	<ul style="list-style-type: none"> – Check the setpoints. If the axis is in <i>Cyclic Synchronous Mode</i>, make a scope record. – Check the factor group settings. – Check the control mode.

29.4 Error 29-3 (emergency code 861207h)

Error

New setpoint violates torque limit.

Remedy

Cause	Recommended remedial actions
The setpoint violates a rotational direction lock or a (software) limit switch.	<ul style="list-style-type: none"> – Check the setpoints. If the axis is in <i>Cyclic Synchronous Mode</i>, make a scope record. – Check the factor group settings. – Check the control mode.

29.5 Error 29-4 (emergency code 861207h)**Error**

New setpoint violates set positions (software end switches).

Remedy

Cause	Recommended remedial actions
The setpoint violates a rotational direction lock or a (software) limit switch.	<ul style="list-style-type: none"> – Check the setpoints. If the axis is in <i>Cyclic Synchronous Mode</i>, make a scope record. – Check the factor group settings. – Check the control mode.

29.6 Error 29-5 (emergency code 861207h)**Error**

New setpoint violates speed limits or rotational direction lock.

Remedy

Cause	Recommended remedial actions
The setpoint violates a rotational direction lock or a (software) limit switch.	<ul style="list-style-type: none"> – Check the setpoints. If the axis is in <i>Cyclic Synchronous Mode</i>, make a scope record. – Check the factor group settings. – Check the control mode.

30 Error 30-x – encoder hardware

30.1 Error 30-0 (emergency code 730007h)

Error

Encoder reporting unknown error.

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"> – Check the device log for further information. – Reboot the application (24 V reset) to see if the error persists. – Refer to encoder system documentation or contact the motor manufacturer.

30.2 Error 30-10 (emergency code 730007h)

Error

EnDat encoder reporting unknown error.

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"> – Check the device log for further information. – Reboot the application (24 V reset) to see if the error persists. – Refer to encoder system documentation or contact the motor manufacturer.

30.3 Error 30-15 (emergency code 730007h)

Error

SD encoder reporting unknown error.

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"> – Check the device log for further information. – Reboot the application (24 V reset) to see if the error persists. – Refer to encoder system documentation or contact the motor manufacturer.

30.4 Error 30-20 (emergency code 730007h)

Error

SD encoder reporting overspeed.

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"> – Check the device log for further information. – Reboot the application (24 V reset) to see if the error persists. – Refer to encoder system documentation or contact the motor manufacturer.

30.5 Error 30-25 (emergency code 730007h)

Error

SD encoder reporting single-turn position error (STERR).

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"> – Check the device log for further information. – Reboot the application (24 V reset) to see if the error persists. – Refer to encoder system documentation or contact the motor manufacturer.

30.6 Error 30-30 (emergency code 730007h)

Error

SD encoder reporting multi-turn error (PSERR).

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"> – Check the device log for further information. – Reboot the application (24 V reset) to see if the error persists. – Refer to encoder system documentation or contact the motor manufacturer.

30.7 Error 30-35 (emergency code 730007h)

Error

SD encoder reporting overtemperature.

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"> – Check the device log for further information. – Reboot the application (24 V reset) to see if the error persists. – Refer to encoder system documentation or contact the motor manufacturer.

30.8 Error 30-40 (emergency code 730007h)

Error

BISS encoder reporting hardware error.

Remedy

Cause	Recommended remedial actions
The digital encoder has reported an error or warning.	<ul style="list-style-type: none"><li>– Check the device log for further information.<li>– Reboot the application (24 V reset) to see if the error persists.<li>– Refer to encoder system documentation or contact the motor manufacturer.

31 Error 31-x – compensation table tracking error

31.1 Error 31-0 (emergency code FF0A07h)

Error

Unknown tracking error.

Remedy

Cause	Recommended remedial actions
The tracking function of the compensation table has triggered an error. This function is used to monitor process-specific requirements.	<ul style="list-style-type: none"> – Check the axis for mechanical issues. – Check the settings of the tracking function.

31.2 Error 31-1 (emergency code FF0A07h)

Error

Tracking error exceeding maximum, table 0.

Remedy

Cause	Recommended remedial actions
The tracking function of the compensation table has triggered an error. This function is used to monitor process-specific requirements.	<ul style="list-style-type: none"> – Check the axis for mechanical issues. – Check the settings of the tracking function.

31.3 Error 31-2 (emergency code FF0A07h)

Error

Tracking error exceeding maximum, table 1.

Remedy

Cause	Recommended remedial actions
The tracking function of the compensation table has triggered an error. This function is used to monitor process-specific requirements.	<ul style="list-style-type: none"> – Check the axis for mechanical issues. – Check the settings of the tracking function.

32 Error 32-x – control initialization

32.1 Error 32-0 (emergency code 632007h)

Error

Unknown control initialization error.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

32.2 Error 32-1 (emergency code 632007h)

Error

Field weakening initialization error.

Remedy

Cause	Recommended remedial actions
Field weakening initialization error.	<ul style="list-style-type: none"> – Check the field weakening control parameters.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

32.3 Error 32-2 (emergency code 632007h)

Error

Motor parameter error / asynchronous motor.

Remedy

Cause	Recommended remedial actions
Motor parameter error.	<ul style="list-style-type: none"> – Check the motor's electric parameters.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

32.4 Error 32-3 (emergency code 632007h)

Error

Motor parameter error.

Remedy

Cause	Recommended remedial actions
Motor parameter error.	<ul style="list-style-type: none"> – Check the motor’s electric parameters.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis’ INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

32.5 Error 32-4 (emergency code 632007h)

Error

No motor type selected.

Remedy

Cause	Recommended remedial actions
Motor parameter error.	<ul style="list-style-type: none"> – Check the motor parameters.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis’ INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

32.6 Error 32-5 (emergency code 632007h)

Error

Error while initializing motor simulation.

Remedy

Cause	Recommended remedial actions
Motor parameter error.	<ul style="list-style-type: none"> – Check the motor parameters.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis’ INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

32.7 Error 32-7 (emergency code 632007h)

Error

Motor parameter error / synchronous motor.

Remedy

Cause	Recommended remedial actions
Motor parameter error.	<ul style="list-style-type: none"> – Check the motor’s electric parameters.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis’ INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

32.8 Error 32-8 (emergency code 632007h)

Error

Motor parameter error / asynchronous motor.

Remedy

Cause	Recommended remedial actions
Motor parameter error.	<ul style="list-style-type: none"> – An asynchronous motor requires the <i>IMag</i> parameter to be set.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis’ INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

33 Error 33-x – cross-module communication error

33.1 Error 33-0 (emergency code FF0807h)

Error

Supply unit: General I/O error.

33.2 Error 33-1 (emergency code FF0807h)

Error

Internal handling and firmware update of the modules.

Remedy

Cause	Recommended remedial actions
This error may occur if parameters relating to the supply, capacity or expansion module are written too fast.	<ul style="list-style-type: none"> – Add wait cycles to the PLC program.
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

33.3 Error 33-2 (emergency code FF0807h)

Error

The group has more than 4 capacity modules.

33.4 Error 33-3 (emergency code FF0807h)

Error

Axes with different firmware version within in the group detected.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> <li>– Try switching to a different version of the device firmware. <li>– Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

33.5 Error 33-4 (emergency code FF0807h)

Error

Timeout while reading the firmware from the internal file system.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> <li>– Try switching to a different version of the device firmware. <li>– Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

34 Error 34-x – non-fatal safety error

34.1 Error 34-0 (emergency code FF0C07h)

Error

STO: An unspecified error has occurred.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

34.2 Error 34-1 (emergency code FF0C07h)

Error

STO input sequence; turn off both inputs.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35 Error 35-x – fatal safety error

35.1 Error 35-0 (emergency code FF0C07h)

Error

Safety module S1: unknown error.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.2 Error 35-1 (emergency code FF0C07h)

Error

Safety module S1: unknown error.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.3 Error 35-2 (emergency code FF0C07h)

Error

Safety module S1: status information time-out.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.4 Error 35-3 (emergency code FF0C07h)**Error**

STO SF: diagnostic error.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.5 Error 35-4 (emergency code FF0C07h)**Error**

STO EF0 (test pulse monitoring): diagnostic error.

Remedy

Cause	Recommended remedial actions
The turn-on time of the external test pulses may be insufficient.	<ul style="list-style-type: none"> – Check the test pulses.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.

Cause	Recommended remedial actions
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.6 Error 35-5 (emergency code FF0C07h)

Error

STO EF1 (test pulse monitoring): diagnostic error.

Remedy

Cause	Recommended remedial actions
Signaling error.	<ul style="list-style-type: none"> – Check the safety switch for bouncing.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.7 Error 35-6 (emergency code FF0C07h)

Error

STO: diagnostic error.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.8 Error 35-7 (emergency code FF0C07h)

Error

STO_TPI: internal test pulse error.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.9 Error 35-8 (emergency code FF0C07h)

Error

STO_TPX: external test pulse error.

Remedy

Cause	Recommended remedial actions
This error is typical to occur during firmware updates of the supply unit, if the supply unit’s test pulse outputs are used.	<ul style="list-style-type: none"> – Reboot the system.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.10 Error 35-9 (emergency code FF0C07h)

Error

STO_TIME: internal error.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.11 Error 35-10 (emergency code FF0C07h)

Error

STO SF OV: internal supply is out of permissible range.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.12 Error 35-11 (emergency code FF0C07h)

Error

STO_TPF: external signature frequency exceeding maximum.

Remedy

Cause	Recommended remedial actions
The external signature frequency is exceeding the maximum.	<ul style="list-style-type: none"> – Check the frequency of the external test pulses.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.

Cause	Recommended remedial actions
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.13 Error 35-12 (emergency code FF0C07h)

Error

STO: incorrect input sequence.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.14 Error 35-13 (emergency code FF0C07h)

Error

SF OV: internal supply is out of permissible range.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.15 Error 35-14 (emergency code FF0C07h)

Error

SBC master switch failed.

Remedy

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.16 Error 35-15 (emergency code FF0C07h)

Error

SBC master switch was turned off.

Remedy

Cause	Recommended remedial actions
The 24 V supply voltage is likely out of range.	<ul style="list-style-type: none"> – Check the external the 24 V supply.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
An error in the 24 V supply was reported.	<ul style="list-style-type: none"> – Check the source of the 24 V supply. – Perform a precise voltage measurement and check the reading against the limits in the User Manual. – Check the voltage upon system power-up. Check the voltage in specific situations, in particular when releasing the motor brakes.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.17 Error 35-16 (emergency code FF0C07h)

Error

SBC: Brake 1 failure.

Remedy

Cause	Recommended remedial actions
The brake's supply voltage may be insufficient.	<ul style="list-style-type: none"> – Check the motor brake cabling for short circuit.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
An error in the 24 V supply was reported.	<ul style="list-style-type: none"> – Check the source of the 24 V supply. – Perform a precise voltage measurement and check the reading against the limits in the User Manual. – Check the voltage upon system power-up. Check the voltage in specific situations, in particular when releasing the motor brakes.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.18 Error 35-17 (emergency code FF0C07h)

Error

SBC: Brake 2 failure.

Remedy

Cause	Recommended remedial actions
The brake's supply voltage may be insufficient.	<ul style="list-style-type: none"> – Check the motor brake cabling for short circuit.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.19 Error 35-18 (emergency code FF0C07h)

Error

SBC: Brake 3 failure.

Remedy

Cause	Recommended remedial actions
The brake's supply voltage may be insufficient.	<ul style="list-style-type: none"> – Check the motor brake cabling for short circuit.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.20 Error 35-19 (emergency code FF0C07h)

Error

SBC: Brake 1 turned off.

Remedy

Cause	Recommended remedial actions
The brake's supply voltage may be insufficient.	<ul style="list-style-type: none"> – Check the motor brake cabling for short circuit.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.21 Error 35-20 (emergency code FF0C07h)

Error

SBC: Brake 2 turned off.

Remedy

Cause	Recommended remedial actions
The brake's supply voltage may be insufficient.	<ul style="list-style-type: none"> – Check the motor brake cabling for short circuit.

Cause	Recommended remedial actions
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.22 Error 35-21 (emergency code FF0C07h)

Error

SBC: Brake 3 turned off.

Remedy

Cause	Recommended remedial actions
The brake's supply voltage may be insufficient.	<ul style="list-style-type: none"> – Check the motor brake cabling for short circuit.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.23 Error 35-22 (emergency code FF0C07h)

Error

SBC: internal test pulse error on brake 1.

Remedy

Cause	Recommended remedial actions
Incorrect connection	<ul style="list-style-type: none"> – Check the motor brake, and cabling.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.

Cause	Recommended remedial actions
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.24 Error 35-23 (emergency code FF0C07h)

Error

SBC: internal test pulse error on brake 2.

Remedy

Cause	Recommended remedial actions
Incorrect connection	<ul style="list-style-type: none"> – Check the motor brake, and cabling.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.25 Error 35-24 (emergency code FF0C07h)

Error

SBC: internal test pulse error on brake 3.

Remedy

Cause	Recommended remedial actions
Incorrect connection	<ul style="list-style-type: none"> – Check the motor brake, and cabling.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module's DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.26 Error 35-25 (emergency code FF0C07h)

Error

SBC: Input sequence 1 error.

Remedy

Cause	Recommended remedial actions
Incorrect connection	<ul style="list-style-type: none"> – Check the motor brake, and cabling.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

35.27 Error 35-26 (emergency code FF0C07h)

Error

SBC: Input sequence 2 error.

Remedy

Cause	Recommended remedial actions
Incorrect connection	<ul style="list-style-type: none"> – Check the motor brake, and cabling.
A diagnostic error in the safety module has occurred.	<ul style="list-style-type: none"> – To acknowledge the error, re-boot the application (24 V reset). – Check the settings of the DIP switches. – Check the external cabling of the STO inputs, and the configuration of the safety master. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – Check the external relays in the safety circuit for bouncing.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

36 Error 36-x – encoder error while locked

36.1 Error 36-0 (emergency code 730007h)

Error

General encoder error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

36.2 Error 36-11 (emergency code 730007h)

Error

Failed to determine encoder offset (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Auto-commutation may not be working properly.	<ul style="list-style-type: none"> – Check the encoder speed and direction as well as the pole pair number of the motor. – Check the auto-commutation parameters. – Scope the numbers 24, 25, 21, 1009.

36.3 Error 36-12 (emergency code 730007h)

Error

Motor has been replaced by another type (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The motor has been replaced by another type.	<ul style="list-style-type: none"> – Acknowledge the error and adjust the parameter in the application.

36.4 Error 36-13 (emergency code 730007h)

Error

Motor has been replaced by an unknown type (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The motor has been replaced by an unknown type.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

36.5 Error 36-14 (emergency code 730007h)

Error

Encoder #1: Failed to determine encoder offset (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The motor is moving.	– Stop the motor mechanically and acknowledge the error.

36.6 Error 36-15 (emergency code 730007h)

Error

Position transducer has no distance-coded zero pulses (encoder error while locked).

Remedy

Cause	Recommended remedial actions
No distance-coded zero pulses have been set.	– Report this error to your service partner.

36.7 Error 36-20 (emergency code 751007h)

Error

Encoder: SSI error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.8 Error 36-30 (emergency code 751007h)

Error

EnDat protocol error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.9 Error 36-42 (emergency code 751007h)

Error

Hiperface protocol error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.10 Error 36-50 (emergency code 730007h)

Error

Internal communication error at encoder interface, channel 1 (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

36.11 Error 36-51 (emergency code 730007h)

Error

Internal communication error at encoder interface, channel 2 (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

36.12 Error 36-52 (emergency code 730007h)

Error

Internal communication error at encoder interface, channel 3 (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

36.13 Error 36-53 (emergency code 730007h)

Error

Internal communication error at encoder interface, channel 4 (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

36.14 Error 36-60 (emergency code 230507h)

Error

Encoder channel 1 (CH1): Ambiguous A/B track signals; likely an EMC issue (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.15 Error 36-61 (emergency code 230607h)

Error

Encoder channel 2 (CH2): Ambiguous A/B track signals; likely an EMC issue (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.16 Error 36-70 (emergency code 730007h)

Error

Encoder #1: Gear ratio error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

36.17 Error 36-71 (emergency code 730007h)**Error**

Encoder #2: Gear ratio error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

36.18 Error 36-72 (emergency code 730007h)**Error**

Encoder #3: Gear ratio error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

36.19 Error 36-73 (emergency code 730007h)**Error**

Encoder #4: Gear ratio error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

36.20 Error 36-74 (emergency code 730007h)**Error**

EtherCAT® encoder #1: Gear ratio error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

36.21 Error 36-75 (emergency code 730007h)**Error**

EtherCAT® encoder #2: Gear ratio error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

36.22 Error 36-76 (emergency code 730007h)

Error

EtherCAT® encoder #3: Gear ratio error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Gear ratio error.	– Check the gear ratio settings of this encoder.

36.23 Error 36-80 (emergency code 730007h)

Error

Encoder #1: Error while computing (absolute) position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	– Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.24 Error 36-81 (emergency code 730007h)

Error

Encoder #2: Error while computing (absolute) position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	– Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.25 Error 36-82 (emergency code 730007h)

Error

Encoder #3: Error while computing (absolute) position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.26 Error 36-83 (emergency code 730007h)

Error

Encoder #4: Error while computing (absolute) position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.27 Error 36-84 (emergency code 730007h)

Error

EtherCAT® encoder #1: Error while computing (absolute) position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.28 Error 36-85 (emergency code 730007h)

Error

EtherCAT® encoder #2: Error while computing (absolute) position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.29 Error 36-86 (emergency code 730007h)

Error

EtherCAT® encoder #3: Error while computing (absolute) position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	<ul style="list-style-type: none"> – Check the PPR count and the encoder gear ratio settings.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.30 Error 36-90 (emergency code 230507h)

Error

Encoder #1 has lost connection (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.31 Error 36-91 (emergency code 230607h)

Error

Encoder #2 has lost connection (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.32 Error 36-92 (emergency code 730007h)

Error

Encoder #3 has lost connection (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.33 Error 36-94 (emergency code 730007h)

Error

EtherCAT® encoder #1: Status bit deleted (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

36.34 Error 36-95 (emergency code 730007h)

Error

EtherCAT® encoder #2: Status bit deleted (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

36.35 Error 36-96 (emergency code 730007h)

Error

EtherCAT® encoder #3: Status bit deleted (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Incorrect cabling.	<ul style="list-style-type: none"> – Check the encoder cabling, the field bus system and the settings on the master.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. – Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

36.36 Error 36-100 (emergency code 230507h)

Error

Encoder #1: TTL error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

36.37 Error 36-101 (emergency code 230607h)

Error

Encoder #2: TTL error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

36.38 Error 36-110 (emergency code 730007h)

Error

Hardware does not support encoder #1 (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

36.39 Error 36-111 (emergency code 730007h)

Error

Hardware does not support encoder #2 (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

36.40 Error 36-112 (emergency code 730007h)

Error

Hardware does not support encoder #3.

Remedy

Cause	Recommended remedial actions
The hardware revision of this axis module does not support the encoder type or channel.	<ul style="list-style-type: none"> – Use a different encoder or contact your service partner for a different hardware revision.

Cause	Recommended remedial actions
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

36.41 Error 36-124 (emergency code 730007h)

Error

EtherCAT® encoder #1 is being used by another axis (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

36.42 Error 36-125 (emergency code 730007h)

Error

EtherCAT® encoder #2 is being used by another axis (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

36.43 Error 36-126 (emergency code 730007h)

Error

EtherCAT® encoder #3 is being used by another axis (encoder error while locked).

Remedy

Cause	Recommended remedial actions
This EtherCAT® encoder has been selected by 2 or more axes.	– Use only one encoder per axis.

36.44 Error 36-134 (emergency code 730007h)

Error

EtherCAT® encoder #1 error: Bit number of EtherCAT® encoder may be wrong (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

36.45 Error 36-135 (emergency code 730007h)

Error

EtherCAT® encoder #2 error: Bit number of EtherCAT® encoder may be wrong (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

36.46 Error 36-136 (emergency code 730007h)

Error

EtherCAT® encoder #3 error: Bit number of EtherCAT® encoder may be wrong (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the EtherCAT® connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.

36.47 Error 36-140 (emergency code 730007h)

Error

Encoder #1: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

36.48 Error 36-141 (emergency code 730007h)**Error**

Encoder #2: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

36.49 Error 36-142 (emergency code 730007h)**Error**

Encoder #3: Absolute encoder simulation: Failed to initialize (encoder error while locked). Absolute encoder simulation is not usable for this encoder.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

36.50 Error 36-143 (emergency code 730007h)**Error**

Encoder #4: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

36.51 Error 36-144 (emergency code 730007h)**Error**

EtherCAT® encoder #1: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

36.52 Error 36-145 (emergency code 730007h)**Error**

EtherCAT® encoder #2: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

36.53 Error 36-146 (emergency code 730007h)**Error**

EtherCAT® encoder #3: Absolute encoder simulation: Failed to Initialize. Absolute encoder simulation is not usable for this encoder (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Report this error to your service partner.

36.54 Error 36-150 (emergency code 730007h)**Error**

Encoder #1: Invalid back-up information (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	– Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.55 Error 36-151 (emergency code 730007h)**Error**

Encoder #2: Invalid back-up information (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.56 Error 36-152 (emergency code 730007h)**Error**

Encoder #3: Invalid back-up information (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.57 Error 36-153 (emergency code 730007h)**Error**

Encoder #4: Invalid back-up position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.58 Error 36-154 (emergency code 730007h)**Error**

EtherCAT® encoder #1: Invalid back-up position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.59 Error 36-155 (emergency code 730007h)**Error**

EtherCAT® encoder #2: Invalid back-up position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.60 Error 36-156 (emergency code 730007h)

Error

EtherCAT® encoder #3: Invalid back-up position (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.61 Error 36-160 (emergency code 730007h)

Error

Encoder #1: Position out of range, motor was moved (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.62 Error 36-161 (emergency code 730007h)

Error

Encoder #2: Position out of range, motor was moved (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.63 Error 36-162 (emergency code 730007h)

Error

Encoder #3: Position out of range, motor was moved (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.64 Error 36-163 (emergency code 730007h)

Error

Encoder #4: Position out of range, motor was moved (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.65 Error 36-164 (emergency code 730007h)**Error**

EtherCAT® encoder #1: Position out of range, motor was moved (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.66 Error 36-165 (emergency code 730007h)**Error**

EtherCAT® encoder #2: Position out of range, motor was moved (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.67 Error 36-166 (emergency code 730007h)**Error**

EtherCAT® encoder #3: Position out of range, motor was moved (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.68 Error 36-170 (emergency code 730007h)**Error**

Encoder #1: Different serial number, motor was replaced (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

36.69 Error 36-171 (emergency code 730007h)

Error

Encoder #2: Different serial number, motor was replaced (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

36.70 Error 36-172 (emergency code 730007h)

Error

Encoder #3: Different serial number, motor was replaced (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

36.71 Error 36-173 (emergency code 730007h)

Error

Encoder #4: Different serial number, motor was replaced (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. <li>– Report this error to your service partner.

36.72 Error 36-174 (emergency code 730007h)

Error

EtherCAT® encoder #1: Different serial number, motor was replaced (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

36.73 Error 36-175 (emergency code 730007h)**Error**

EtherCAT® encoder #2: Different serial number, motor was replaced (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

36.74 Error 36-176 (emergency code 730007h)**Error**

EtherCAT® encoder #3: Different serial number, motor was replaced (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. Where available, piece-specific parts of the motor nameplate will be loaded automatically. – Report this error to your service partner.

36.75 Error 36-180 (emergency code 751007h)**Error**

Encoder #1: Hiperface SDL error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Imprecise installation of the hiperface DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type I16) in the JM-3000 scope to ensure proper mounting of the encoder.

Cause	Recommended remedial actions
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.76 Error 36-182 (emergency code FF0B07h)

Error

Encoder #3: Hiperface SDL error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Imprecise installation of the hiperface DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type I16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.77 Error 36-210 (emergency code 230507h)

Error

SD encoder error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Imprecise installation of the hiperface DSL encoder.	<ul style="list-style-type: none"> – Check the AxialPosition (signal no. 1126:0, type I16) in the JM-3000 scope to ensure proper mounting of the encoder.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.78 Error 36-220 (emergency code 730007h)

Error

Encoder #1: Insufficient battery voltage, multiturn position is lost (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

36.79 Error 36-221 (emergency code 730007h)

Error

Encoder #2: Insufficient battery voltage, multiturn position is lost (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

36.80 Error 36-222 (emergency code 730007h)

Error

Encoder #3: Insufficient battery voltage, multiturn position is lost (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Battery voltage is insufficient.	<ul style="list-style-type: none"> – Check the voltage level and cabling of the encoder backup battery. – Replace the battery, acknowledge the error and re-reference the axis.

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.

36.81 Error 36-230 (emergency code 230507h)

Error

Encoder #1: Error in the SmartAbs encoder encoder error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.82 Error 36-240 (emergency code 730007h)

Error

Encoder #1: Parameter error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Parameter error	<ul style="list-style-type: none"> – Check the parameter set.

36.83 Error 36-241 (emergency code 730007h)

Error

Encoder #2: Parameter error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Parameter error	<ul style="list-style-type: none"> – Check the parameter set.

36.84 Error 36-242 (emergency code 730007h)

Error

Encoder #3: Parameter error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

36.85 Error 36-243 (emergency code 730007h)**Error**

Encoder #4: Parameter error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
Parameter error	– Check the parameter set.

36.86 Error 36-250 (emergency code 751007h)**Error**

Encoder #1: BISS protocol error (encoder error while locked).

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

36.87 Error 36-260 (emergency code 730007h)**Error**

Encoder #1: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.88 Error 36-261 (emergency code 730007h)**Error**

Encoder #2: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.89 Error 36-262 (emergency code 730007h)

Error

Encoder #3: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.90 Error 36-263 (emergency code 730007h)

Error

Encoder #4: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.91 Error 36-264 (emergency code 730007h)

Error

EtherCAT® encoder #1: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.92 Error 36-265 (emergency code 730007h)

Error

EtherCAT® encoder #2: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> – Acknowledge the error and re-reference the axis. – Report this error to your service partner.

36.93 Error 36-266 (emergency code 730007h)

Error

EtherCAT® encoder #3: Voltage loss during operation.

Remedy

Cause	Recommended remedial actions
The encoder special function (persistent referencing and multiturn simulation) has reported an error.	<ul style="list-style-type: none"> <li>– Acknowledge the error and re-reference the axis. <li>– Report this error to your service partner.

37 Error 37-x – SPI-SDC

Report this error to your service partner.

38 Error 38-x – safety IO expander error

38.1 Error 38-0 (emergency code FF0C07h)

Error

Fatal error in the IO expander SR1 safety module.

Remedy

Cause	Recommended remedial actions
An internal error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the device cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first. – To acknowledge the error, re-boot the application (24 V reset). – If the error persists after application reboot, it is likely a hardware issue. Replace the axis module and contact your service partner.

38.2 Error 38-1 (emergency code FF0C07h)

Error

Fatal error in the SR2 safety module IO expander.

Remedy

Cause	Recommended remedial actions
An internal error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the device cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first. – To acknowledge the error, re-boot the application (24 V reset). – If the error persists after application reboot, it is likely a hardware issue. Replace the axis module and contact your service partner.

38.3 Error 38-2 (emergency code FF0C07h)

Error

Communication to safety module IO expander failed.

Remedy

Cause	Recommended remedial actions
This may be a firmware issue.	<ul style="list-style-type: none"> – Check the versions of the functional and safety firmware for compatibility.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

38.4 Error 38-3 (emergency code FF0C07h)

Error

No valid firmware found on safety module IO expander.

Remedy

Cause	Recommended remedial actions
This may be a firmware update issue.	– If the error occurs following firmware update, rerun the update procedure.
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

38.5 Error 38-4 (emergency code FF0C07h)

Error

Alarm in the SR1 safety module IO expander.

Remedy

Cause	Recommended remedial actions
An external error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the cabling of the safe inputs. – Check the settings of the DIP switches. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – An external relay in the safety circuit may be bouncing. – Check the motor brake cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first.

38.6 Error 38-5 (emergency code FF0C07h)

Error

Alarm in the SR2 safety module IO expander.

Remedy

Cause	Recommended remedial actions
An external error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the cabling of the safe inputs. – Check the settings of the DIP switches. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – An external relay in the safety circuit may be bouncing. – Check the motor brake cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first.

38.7 Error 38-6 (emergency code FF0C07h)

Error

Fatal BIOS error in the SR1 safety module IO expander.

Remedy

Cause	Recommended remedial actions
An internal error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the device cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first. – To acknowledge the error, re-boot the application (24 V reset). – If the error persists after application reboot, it is likely a hardware issue. Replace the axis module and contact your service partner.

38.8 Error 38-7 (emergency code FF0C07h)

Error

Fatal BIOS error in the SR2 safety module IO expander.

Remedy

Cause	Recommended remedial actions
An internal error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the device cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first. – To acknowledge the error, re-boot the application (24 V reset). – If the error persists after application reboot, it is likely a hardware issue. Replace the axis module and contact your service partner.

38.9 Error 38-8 (emergency code FF0C07h)

Error

No valid production data found on safety module IO expander.

Remedy

Cause	Recommended remedial actions
An internal error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Reboot the device (24 V reset). – If the error persists after device reboot, report it to your service partner.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

38.10 Error 38-9 (emergency code FF0C07h)

Error

Fatal error of the SBC safety function in the safety module IO expander.

Remedy

Cause	Recommended remedial actions
An internal error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the device cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first. – To acknowledge the error, re-boot the application (24 V reset). – If the error persists after application reboot, it is likely a hardware issue. Replace the axis module and contact your service partner.

38.11 Error 38-10 (emergency code FF0C07h)

Error

Safety module IO expander fired an alarm.

Remedy

Cause	Recommended remedial actions
An external error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the cabling of the safe inputs. – Check the settings of the DIP switches. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – An external relay in the safety circuit may be bouncing. – Check the motor brake cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first.

38.12 Error 38-11 (emergency code FF0C07h)

Error

Alarm: External test pulses tin the safety module IO expander.

Remedy

Cause	Recommended remedial actions
An external error was diagnosed in the safety module.	<ul style="list-style-type: none"> – Check the cabling of the safe inputs. – Check the settings of the DIP switches. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – An external relay in the safety circuit may be bouncing. – Check the motor brake cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first.

38.13 Error 38-12 (emergency code FF0C07h)

Error

Alarm: Invalid DIP switch setting in the safety module IO expander.

Remedy

Cause	Recommended remedial actions
<p>An external error was diagnosed in the safety module.</p>	<ul style="list-style-type: none"> – Check the cabling of the safe inputs. – Check the settings of the DIP switches. – In particular, check the test pulses of the external safety master for compatibility with the settings of the axis module’s DIP switches. – An external relay in the safety circuit may be bouncing. – Check the motor brake cabling. – If the error occurs in an application running safety module S2, it is likely a subsequent error. Check safety module S2 and remedy any pending errors first.

39 Error 39-x – S2 safety module error

39.1 Error 39-0 (emergency code FF0C07h)

Error

Unknown error in the S2 safety module.

Remedy

Cause	Recommended remedial actions
A critical error has occurred in the S2 safety module.	<ul style="list-style-type: none"> – Check the extended error code in the notifications window. – To acknowledge the error, reboot either the SafePLC processing or the entire device.

39.2 Error 39-1 (emergency code FF0C07h)

Error

General alarm in the S2 safety module.

Remedy

Cause	Recommended remedial actions
An alarm has occurred in the S2 safety module.	<ul style="list-style-type: none"> – Check the extended error code in the notifications window.

39.3 Error 39-2 (emergency code FF0C07h)

Error

General alarm triggered by encoder evaluation on the S2 safety module.

Remedy

Cause	Recommended remedial actions
The safe encoder system has triggered an alarm triggered in the S2 safety module.	<ul style="list-style-type: none"> – Check the encoder hardware and wiring. – Check the encoder settings in JetSym. Encoder configurations must be made properly in both the safe and functional sections.
An alarm has occurred in the S2 safety module.	<ul style="list-style-type: none"> – Check the extended error code in the notifications window.

39.4 Error 39-3 (emergency code FF0C07h)

Error

SinCos encoder diagnosis has triggered an alarm in the S2 safety module.

Remedy

Cause	Recommended remedial actions
The safe encoder system has triggered an alarm triggered in the S2 safety module.	<ul style="list-style-type: none"> – Check the encoder hardware and wiring. – Check the encoder settings in JetSym. Encoder configurations must be made properly in both the safe and functional sections.

Cause	Recommended remedial actions
An alarm has occurred in the S2 safety module.	– Check the extended error code in the notifications window.

39.5 Error 39-4 (emergency code FF0C07h)

Error

Hiperface DSL encoder diagnosis has triggered an alarm in the S2 safety module.

Remedy

Cause	Recommended remedial actions
The safe encoder system has triggered an alarm triggered in the S2 safety module.	<ul style="list-style-type: none"> – Check the encoder hardware and wiring. – Check the encoder settings in JetSym. Encoder configurations must be made properly in both the safe and functional sections.
An alarm has occurred in the S2 safety module.	– Check the extended error code in the notifications window.

39.6 Error 39-5 (emergency code FF0C07h)

Error

HTL encoder diagnosis has triggered an alarm in the S2 safety module.

Remedy

Cause	Recommended remedial actions
The safe encoder system has triggered an alarm triggered in the S2 safety module.	<ul style="list-style-type: none"> – Check the encoder hardware and wiring. – Check the encoder settings in JetSym. Encoder configurations must be made properly in both the safe and functional sections.
An alarm has occurred in the S2 safety module.	– Check the extended error code in the notifications window.

39.7 Error 39-6 (emergency code FF0C07h)

Error

SSI encoder diagnosis has triggered an alarm in the S2 safety module.

Remedy

Cause	Recommended remedial actions
The safe encoder system has triggered an alarm triggered in the S2 safety module.	<ul style="list-style-type: none"> – Check the encoder hardware and wiring. – Check the encoder settings in JetSym. Encoder configurations must be made properly in both the safe and functional sections.
An alarm has occurred in the S2 safety module.	– Check the extended error code in the notifications window.

39.8 Error 39-7 (emergency code FF0C07h)

Error

Received invalid SRA checksum.

Remedy

Cause	Recommended remedial actions
Incorrect parameterization.	– Check the FSoE master settings.
An alarm has occurred in the S2 safety module.	– Check the extended error code in the notifications window.

39.9 Error 39-8 (emergency code FF0C07h)

Error

An alarm has occurred in the S2 safety module while running a safety function.

Remedy

Cause	Recommended remedial actions
A version conflict is pending in the S2 safety module.	– Check the firmware version of the S2 safety module.
An alarm has occurred in the S2 safety module.	– Check the extended error code in the notifications window.

39.10 Error 39-9 (emergency code FF0C07h)

Error

Safe digital input diagnostics has triggered an alarm.

Remedy

Cause	Recommended remedial actions
Incorrect connection	– Check the safe inputs for correct wiring. – It is recommended that inputs not used by the safety module not be wired.
An alarm has occurred in the S2 safety module.	– Check the extended error code in the notifications window.

39.11 Error 39-10 (emergency code FF0C07h)

Error

General fatal error in the S2 safety module.

Remedy

Cause	Recommended remedial actions
A critical error has occurred in the S2 safety module.	– Check the extended error code in the notifications window. – To acknowledge the error, reboot either the SafePLC processing or the entire device.

39.12 Error 39-11 (emergency code FF0C07h)

Error

Fatal error in the S2 safety module: PLC program failure.

Remedy

Cause	Recommended remedial actions
A version conflict is pending in the S2 safety module.	– Check the firmware version of the S2 safety module.
A critical error has occurred in the S2 safety module.	– Check the extended error code in the notifications window. – To acknowledge the error, reboot either the SafePLC processing or the entire device.

39.13 Error 39-12 (emergency code FF0C07h)**Error**

Fatal error in the S2 safety module: Invalid DeviceID.

Remedy

Cause	Recommended remedial actions
The device selected in the safety program does not match the hardware being used.	– Upload an appropriate program to the device.
A critical error has occurred in the S2 safety module.	– Check the extended error code in the notifications window. – To acknowledge the error, reboot either the SafePLC processing or the entire device.

39.14 Error 39-13 (emergency code FF0C07h)**Error**

Fatal error in the S2 safety module: Internal diagnostics.

Remedy

Cause	Recommended remedial actions
A critical error has occurred in the S2 safety module.	– Check the extended error code in the notifications window. – To acknowledge the error, reboot either the SafePLC processing or the entire device.
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

39.15 Error 39-14 (emergency code FF0C07h)**Error**

Fatal error in the S2 safety module: Internal timing problem.

Remedy

Cause	Recommended remedial actions
Error while compiling of the safety program.	– Check the safety program compilation statistics. – Reduce the size and complexity of the safety program.
A critical error has occurred in the S2 safety module.	– Check the extended error code in the notifications window. – To acknowledge the error, reboot either the SafePLC processing or the entire device.

Cause	Recommended remedial actions
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

39.16 Error 39-15 (emergency code FF0C07h)

Error

Fatal error in the S2 safety module: Range check error.

Remedy

Cause	Recommended remedial actions
An error has occurred during range check.	<ul style="list-style-type: none"> – Check the SafePLC parameters.

39.17 Error 39-16 (emergency code FF0C07h)

Error

The S2 safety module diagnostics has triggered an alarm.

Remedy

Cause	Recommended remedial actions
The encoder is not connected or not working properly.	<ul style="list-style-type: none"> – Check the cabling. If available, try connecting a different encoder for testing purposes. – The problem may result from mechanical shock. – In case of a linear encoder, the problem may result from inaccurate encoder assembly.
Digital encoder: Protocol error, or encoder has flagged a problem.	<ul style="list-style-type: none"> – Where short-term failures are acceptable, use the <i>ErrorTol</i> parameter to configure a maximum number of tolerated failures (in the 125 µs task). – Scope <i>CHx_ErrorCount</i> to monitor its behavior. In the event of an error, the position is estimated on the basis of historic data.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

40 Error 41-x – expansion module error

40.1 Error 41-0 (emergency code FF0807h)

Error

Expansion module: Unknown error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

40.2 Error 41-3 (emergency code FF0C07h)

Error

Fast shut-off circuit open or shorted.

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

40.3 Error 41-4 (emergency code FF0C07h)

Error

Expansion module: Fast shut-off system not connected to supply unit.

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

40.4 Error 41-5 (emergency code FF0C07h)

Error

Expansion module: Cross-communication error.

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.

40.5 Error 41-11 (emergency code FF0C07h)

Error

Expansion module: Fuse 401 has blown.

Remedy

Cause	Recommended remedial actions
This may be a hardware issue of the expansion module.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the expansion module.
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

40.6 Error 41-12 (emergency code FF0C07h)

Error

Expansion module: Fuse 400 has blown.

Remedy

Cause	Recommended remedial actions
This may be a hardware issue of the expansion module.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the expansion module.
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

40.7 Error 41-14 (emergency code FF0C07h)

Error

Expansion module: Symmetry error in axis module.

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	<ul style="list-style-type: none"> – Check the connected axis modules for errors.

Cause	Recommended remedial actions
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

40.8 Error 41-15 (emergency code FF0C07h)

Error

Expansion module: Internal error.

Remedy

Cause	Recommended remedial actions
Internal error.	<ul style="list-style-type: none"> – Report this error to your service partner.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the expansion module.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the expansion module.

40.9 Error 41-17 (emergency code FF0C07h)

Error

Expansion module: Overcurrent in DC link detected.

Remedy

Cause	Recommended remedial actions
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

40.10 Error 41-35 (emergency code FF0C07h)

Error

Expansion module: Internal temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

40.11 Error 41-36 (emergency code FF0C07h)

Error

Expansion module: Heat sink temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

40.12 Error 41-43 (emergency code FF0C07h)

Error

Expansion module: 24 V overvoltage

Remedy

Cause	Recommended remedial actions
The 24 V supply voltage is likely out of range.	<ul style="list-style-type: none"> – Check the external the 24 V supply.
An error in the 24 V supply was reported.	<ul style="list-style-type: none"> – Check the source of the 24 V supply. – Perform a precise voltage measurement and check the reading against the limits in the User Manual. – Check the voltage upon system power-up. Check the voltage in specific situations, in particular when releasing the motor brakes.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

40.13 Error 41-44 (emergency code FF0C07h)

Error

Expansion module: 24 V undervoltage

Remedy

Cause	Recommended remedial actions
The 24 V supply voltage is likely out of range.	<ul style="list-style-type: none"> – Check the external the 24 V supply.
An error in the 24 V supply was reported.	<ul style="list-style-type: none"> – Check the source of the 24 V supply. – Perform a precise voltage measurement and check the reading against the limits in the User Manual. – Check the voltage upon system power-up. Check the voltage in specific situations, in particular when releasing the motor brakes.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

40.14 Error 41-45 (emergency code FF0C07h)

Error

Expansion module: 24 V undervoltage

Remedy

Cause	Recommended remedial actions
The 24 V supply voltage is likely out of range.	<ul style="list-style-type: none"> – Check the external the 24 V supply.
An error in the 24 V supply was reported.	<ul style="list-style-type: none"> – Check the source of the 24 V supply. – Perform a precise voltage measurement and check the reading against the limits in the User Manual. – Check the voltage upon system power-up. Check the voltage in specific situations, in particular when releasing the motor brakes.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

40.15 Error 41-49 (emergency code FF0C07h)

Error

Expansion module: DC link I²t monitoring has detected overload.

Remedy

Cause	Recommended remedial actions
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

41 Error 42-x – capacity module #1 error

41.1 Error 42-0 (emergency code FF0807h)

Error

Capacity module: Unknown error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

41.2 Error 42-3 (emergency code FF0C07h)

Error

Fast shut-off circuit open or shorted.

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

41.3 Error 42-5 (emergency code FF0C07h)

Error

Capacity module: Fast shut-off system not connected to supply unit.

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

41.4 Error 42-14 (emergency code FF0C07h)

Error

Capacity module: Symmetry error in axis module.

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	<ul style="list-style-type: none"> – Check the connected axis modules for errors.

Cause	Recommended remedial actions
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

41.5 Error 42-15 (emergency code FF0C07h)

Error

Capacity module: Internal error.

Remedy

Cause	Recommended remedial actions
Internal error.	<ul style="list-style-type: none"> – Report this error to your service partner.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the capacity module.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the capacity module.

41.6 Error 42-29 (emergency code FF0807h)

Error

Capacity module: DC link symmetry error.

Remedy

Cause	Recommended remedial actions
The capacity module seems to be defective.	<ul style="list-style-type: none"> – Switch off power supply and replace the device.
This may be a hardware issue of the capacity module.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the capacity module.

41.7 Error 42-35 (emergency code FF0C07h)

Error

Capacity module: Internal temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

41.8 Error 42-36 (emergency code FF0C07h)

Error

Capacity module: Heat sink temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

41.9 Error 42-49 (emergency code FF0C07h)**Error**

Capacity module: DC link I²t monitoring has detected overload.

Remedy

Cause	Recommended remedial actions
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

42 Error 43-x – slave supply unit error

42.1 Error 43-0 (emergency code 220007h)

Error

Overall current in all axes exceeded maximum.

Remedy

Cause	Recommended remedial actions
Overall current in all axes exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

43 Error 44-x – slave supply unit error

43.1 Error 44-0 (emergency code FF0807h)

Error

Supply unit: Undefined error (slave supply unit error).

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

43.2 Error 44-1 (emergency code FF0807h)

Error

Supply unit: Fast channel error (slave supply unit error).

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

43.3 Error 44-2 (emergency code FF0807h)

Error

Supply unit: Mains voltage exceeding chopper limit (slave supply unit error).

Remedy

Cause	Recommended remedial actions
The rated voltage is too high.	– Check the rated voltage and mains connection.

43.4 Error 44-5 (emergency code FF0807h)

Error

Supply unit: Cross-communication error (slave supply unit error).

Remedy

Cause	Recommended remedial actions
An error has occurred in the cross communication link.	<ul style="list-style-type: none"> – Check the cabling of the cross communication (X3/X4 and/or X40A, X40B). – Cross communication links must not be established across several supply units. The X4 or X40B connector of the last axis module must remain open. – It is recommended that the firmware be identical on all cross-connected devices. – While this error is flagged on all axis modules, the root cause is typically a single device or cable. Try localizing the error by unlinking devices one by one from the cross communication.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

43.5 Error 44-7 (emergency code FF0807h)

Error

Supply unit: 24 V switching power supply unit error (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Communication to the 24 V supply circuit is missing.	<ul style="list-style-type: none"> – Check whether the supply unit includes a 24 V supply. – Check the parameter 702.5.
An error in the 24 V supply was reported.	<ul style="list-style-type: none"> – Check the source of the 24 V supply. – Perform a precise voltage measurement and check the reading against the limits in the User Manual. – Check the voltage upon system power-up. Check the voltage in specific situations, in particular when releasing the motor brakes.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

Cause	Recommended remedial actions
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

43.6 Error 44-14 (emergency code FF0807h)

Error

DC link symmetry error of axis module (slave supply unit error).

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	<ul style="list-style-type: none"> – Check the connected axis modules for errors.
This may be a hardware issue.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the axis module.

43.7 Error 44-15 (emergency code FF0807h)

Error

Supply unit: Internal error.

Remedy

Cause	Recommended remedial actions
Internal error.	<ul style="list-style-type: none"> – Report this error to your service partner.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

43.8 Error 44-16 (emergency code FF0807h)

Error

Supply unit: DC link overvoltage (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Overvoltage was detected.	<ul style="list-style-type: none"> – Check the actual mains voltage. – Overvoltage can be caused by a decelerating axis that may have a high inertia (feedback). Reduce the deceleration ramp. – Consider using a brake resistor with higher power rating. If the supply unit has an internal brake resistor contact your service partner.

43.9 Error 44-24 (emergency code FF0807h)

Error

Supply unit: Brake resistor overcurrent (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Overcurrent in the brake resistor was detected.	– Check the brake resistor. Use a brake resistor with higher Ohm value.

43.10 Error 44-25 (emergency code FF0807h)**Error**

Supply unit: During power-up, mains phase L1 or L2 was lost for longer than 20 ms (slave supply unit error).

Remedy

Cause	Recommended remedial actions
All three phases must be connected during pre-load.	– Check the power button.

43.11 Error 44-27 (emergency code FF0807h)**Error**

Supply unit: Mains undervoltage (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Undervoltage in the mains.	– Check the mains connection.

43.12 Error 44-28 (emergency code FF0807h)**Error**

Supply unit: Rectifier overload (slave supply unit error).

Remedy

Cause	Recommended remedial actions
The computed rectifier temperature is exceeding the limits.	– Reduce peak current.

43.13 Error 44-29 (emergency code FF0807h)**Error**

DC link symmetry error of supply unit (slave supply unit error).

Remedy

Cause	Recommended remedial actions
The supply unit seems to be defective.	– Switch off power supply and replace the device.
This may be a hardware issue of the supply unit.	– If other measures fail to remedy the problem, replace the supply unit.

43.14 Error 44-30 (emergency code FF0807h)

Error

Supply unit: Short circuit in brake transistor or DC link detected (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Short circuit in the brake transistor or DC link was detected.	<ul style="list-style-type: none"> – Check the DC link load. – Check the DC link connection for short circuit.

43.15 Error 44-31 (emergency code FF0807h)

Error

Supply unit: Ground fault detected (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Ground fault was detected.	<ul style="list-style-type: none"> – Check the DC link for correct wiring. – Check all motors for correct wiring.

43.16 Error 44-32 (emergency code FF0807h)

Error

Supply unit: Short circuit in load IGBT detected (slave supply unit error).

Remedy

Cause	Recommended remedial actions
This may be a brake resistor issue.	– Check the brake resistor. Use a brake resistor with lower Ohm value.
This may be a hardware issue of the supply unit.	– If other measures fail to remedy the problem, replace the supply unit.

43.17 Error 44-33 (emergency code FF0807h)

Error

Supply unit: Brake resistor not connected (slave supply unit error).

Remedy

Cause	Recommended remedial actions
This may be a brake resistor issue.	– Check the brake resistor. Use a brake resistor with lower Ohm value.

43.18 Error 44-34 (emergency code FF0807h)

Error

Supply unit: Internal temperature exceeding maximum.

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce the output power of the entire axis group.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

43.19 Error 44-35 (emergency code FF0807h)

Error

Supply unit: Heat sink temperature exceeding maximum (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce the output power of the entire axis group.
This may be a hardware issue of the supply unit.	<ul style="list-style-type: none"> – If other measures fail to remedy the problem, replace the supply unit.

43.20 Error 44-36 (emergency code FF0807h)

Error

Supply unit: Brake resistor P*t monitoring was triggered (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Excessive load is applied on the brake resistor.	<ul style="list-style-type: none"> – Reduce the deceleration ramps in the axis group, especially for axes with large masses. – Check the settings of the brake transistor monitoring.

43.21 Error 44-37 (emergency code FF0807h)

Error

Supply unit: 24 V supply: Internal temperature exceeding maximum (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce power consumption at the 24 V supply. – Reduce the output power of the entire axis group.

43.22 Error 44-41 (emergency code FF0807h)

Error

Supply unit: 24 V supply overload (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Overload of the supply unit's 24 V power supply.	<ul style="list-style-type: none"> – Check power consumption at the 24 V supply for peak loads.

43.23 Error 44-44 (emergency code FF0807h)

Error

Supply unit: 24 V supply: Heat sink temperature exceeding maximum (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Overtemperature was detected.	<ul style="list-style-type: none"> – Check the air temperature outside the device, and air circulation. – Reduce power consumption at the 24 V supply. – Reduce the output power of the entire axis group.

43.24 Error 44-45 (emergency code FF0807h)

Error

Supply unit: Temperature switch of brake resistor has tripped (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Excessive load is applied on the brake resistor.	<ul style="list-style-type: none"> – Reduce the deceleration ramps in the axis group, especially for axes with large masses. – Check the settings of the brake transistor monitoring.

43.25 Error 44-49 (emergency code FF0807h)

Error

Supply unit: DC link overload (slave supply unit error).

Remedy

Cause	Recommended remedial actions
DC link current in the entire system exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

43.26 Error 44-52 (emergency code FF0807h)

Error

Supply unit: Fast shut-off detected (slave supply unit error).

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

43.27 Error 44-53 (emergency code FF0807h)

Error

Supply unit: Chopper current exceeding minimum (slave supply unit error).

Remedy

Cause	Recommended remedial actions
The system requires a brake resistor that is connected to the supply unit.	<ul style="list-style-type: none"> – Review the User Manual for permissible resistance values. – Check the brake resistor cabling.

43.28 Error 44-54 (emergency code FF0807h)

Error

Supply unit: Chopper resistance value out of range (slave supply unit error).

Remedy

Cause	Recommended remedial actions
The system requires a brake resistor that is connected to the supply unit.	<ul style="list-style-type: none"> – Review the User Manual for permissible resistance values. – Check the brake resistor cabling.

43.29 Error 44-55 (emergency code FF0807h)

Error

Supply unit: Line reactor temperature exceeding maximum (slave supply unit error).

Remedy

Cause	Recommended remedial actions
The temperature switch of line reactor tripped.	<ul style="list-style-type: none"> – Check the settings of temperature switch evaluation.
DC link current in the entire system exceeded maximum.	<ul style="list-style-type: none"> – Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

44 Error 45-x – capacity module #2 error

44.1 Error 45-0 (emergency code FF0807h)

Error

Capacity module: Unknown error (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

44.2 Error 45-3 (emergency code FF0C07h)

Error

Fast shut-off circuit open or shorted (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

44.3 Error 45-5 (emergency code FF0C07h)

Error

Capacity module: Fast shut-off system not connected to supply unit (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

44.4 Error 45-14 (emergency code FF0C07h)

Error

Capacity module: Symmetry error of axis module (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	<ul style="list-style-type: none"> – Check the connected axis modules for errors.

Cause	Recommended remedial actions
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

44.5 Error 45-15 (emergency code FF0C07h)

Error

Capacity module: Internal error (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
Internal error.	– Report this error to your service partner.
This is likely a software issue.	– Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the capacity module.	– If other measures fail to remedy the problem, replace the capacity module.

44.6 Error 45-29 (emergency code FF0807h)

Error

Capacity module: DC link symmetry error (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
The capacity module seems to be defective.	– Switch off power supply and replace the device.
This may be a hardware issue of the capacity module.	– If other measures fail to remedy the problem, replace the capacity module.

44.7 Error 45-35 (emergency code FF0C07h)

Error

Capacity module: Internal temperature exceeding maximum (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

44.8 Error 45-36 (emergency code FF0C07h)

Error

Capacity module: Line reactor temperature exceeding maximum (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

44.9 Error 45-49 (emergency code FF0C07h)**Error**

Capacity module: DC link I²t monitoring has detected overload (capacity module #2 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

45 Error 46-x – capacity module #3 error

45.1 Error 46-0 (emergency code FF0807h)

Error

Capacity module: Unknown error (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

45.2 Error 46-3 (emergency code FF0C07h)

Error

Fast shut-off circuit open or shorted (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

45.3 Error 46-5 (emergency code FF0C07h)

Error

Capacity module: Fast shut-off system not connected to supply unit (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

45.4 Error 46-14 (emergency code FF0C07h)

Error

Capacity module: Symmetry error of axis module (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	<ul style="list-style-type: none"> – Check the connected axis modules for errors.

Cause	Recommended remedial actions
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

45.5 Error 46-15 (emergency code FF0C07h)

Error

Capacity module: Internal error (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
Internal error.	– Report this error to your service partner.
This is likely a software issue.	– Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the capacity module.	– If other measures fail to remedy the problem, replace the capacity module.

45.6 Error 46-29 (emergency code FF0807h)

Error

Capacity module: DC link symmetry error (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
The capacity module seems to be defective.	– Switch off power supply and replace the device.
This may be a hardware issue of the capacity module.	– If other measures fail to remedy the problem, replace the capacity module.

45.7 Error 46-35 (emergency code FF0C07h)

Error

Capacity module: Internal temperature exceeding maximum (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

45.8 Error 46-36 (emergency code FF0C07h)

Error

Capacity module: Line reactor temperature exceeding maximum (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

45.9 Error 46-49 (emergency code FF0C07h)

Error

Capacity module: DC link I²t monitoring has detected overload (capacity module #3 error).

Remedy

Cause	Recommended remedial actions
DC link current at the expansion module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

46 Error 47-x – capacity module #4 error

46.1 Error 47-0 (emergency code FF0807h)

Error

Capacity module: Unknown error (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

46.2 Error 47-3 (emergency code FF0C07h)

Error

Fast shut-off circuit open or shorted (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

46.3 Error 47-5 (emergency code FF0C07h)

Error

Capacity module: Fast shut-off system not connected to supply unit (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
Fast shut-off system has logged an error.	<ul style="list-style-type: none"> – Review the fast shut-off rules detailed in the User Manual. – Check other modules connected to the fast shut-off system for errors. – Check the all modules of the axis group for a critical error.

46.4 Error 47-14 (emergency code FF0C07h)

Error

Capacity module: Symmetry error of axis module (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
This may be an axis module issue.	<ul style="list-style-type: none"> – Check the connected axis modules for errors.

Cause	Recommended remedial actions
This may be a hardware issue.	– If other measures fail to remedy the problem, replace the axis module.

46.5 Error 47-15 (emergency code FF0C07h)

Error

Capacity module: Internal error (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
Internal error.	– Report this error to your service partner.
This is likely a software issue.	– Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.
This may be a hardware issue of the capacity module.	– If other measures fail to remedy the problem, replace the capacity module.

46.6 Error 47-29 (emergency code FF0807h)

Error

Capacity module: DC link symmetry error (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
The capacity module seems to be defective.	– Switch off power supply and replace the device.
This may be a hardware issue of the capacity module.	– If other measures fail to remedy the problem, replace the capacity module.

46.7 Error 47-35 (emergency code FF0C07h)

Error

Capacity module: Internal temperature exceeding maximum (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. – Try moving the relevant axes sequentially.

46.8 Error 47-36 (emergency code FF0C07h)

Error

Capacity module: Line reactor temperature exceeding maximum (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

46.9 Error 47-49 (emergency code FF0C07h)

Error

Capacity module: DC link I²t monitoring has detected overload (capacity module #4 error).

Remedy

Cause	Recommended remedial actions
DC link current at the capacity module exceeded maximum.	<ul style="list-style-type: none"> <li>– Where possible, reduce current consumption of the relevant axes, in particular axes with high power rating. <li>– Try moving the relevant axes sequentially.

47 Error 49-x – POWERLINK error

47.1 Error 49-0 (emergency code 1810004h)

Error

General POWERLINK error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

47.2 Error 49-1 (emergency code 1810004h)

Error

Error during POWERLINK initialization.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

47.3 Error 49-2 (emergency code 1810004h)

Error

Invalid process configuration.

Remedy

Cause	Recommended remedial actions
PLC configuration	<ul style="list-style-type: none"> – Check the process data mapping parameters of the PLC configuration (number of objects/PDO length).
This is likely a software issue.	<ul style="list-style-type: none"> – Check the encoder parameter settings. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

47.4 Error 49-3 (emergency code 1810004h)

Error

Watchdog has expired.

Remedy

Cause	Recommended remedial actions
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the POWERLINK connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

47.5 Error 49-5 (emergency code 1810004h)

Error

Error while initializing or de-initializing for synchronization.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

47.6 Error 49-6 (emergency code 1810004h)

Error

Synchronization accuracy is outside the set limits.

Remedy

Cause	Recommended remedial actions
This error is likely caused by an unsuitable parameter setting.	<ul style="list-style-type: none"> – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature. – When reporting this error to your service partner include the device settings.
The device was likely disconnected from the controller, or the controller is overloaded.	<ul style="list-style-type: none"> – Check the POWERLINK connection. Try replacing the cables. – Try reducing the computational load on the master. – Try reducing the cycle time of the master.
This may be in EMC issue. This is very likely, if the problem occurs when switching on the motor and/or connecting the power supply.	<ul style="list-style-type: none"> – Check the device cabling for proper connectivity. – Check the devices for proper grounding, i.e. Connected to a metal rear panel, and control cabinet connected to earth. – Check the motor grounding and motor cable length.

47.7 Error 49-7 (emergency code 1810004h)

Error

NetX returns hardware access error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

47.8 Error 49-8 (emergency code 1810004h)

Error

The value of an RxPdo parameter is out of range.

Remedy

Cause	Recommended remedial actions
PLC program	<ul style="list-style-type: none"> – Check the PLC program against the minimum and maximum values defined in the parameter list.

47.9 Error 49-9 (emergency code 1810004h)

Error

Fatal error

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

48 Error 50-x – hydraulic module error

48.1 Error 50-0 (emergency code 100007h)

Error

General hydraulic module error.

Remedy

Cause	Recommended remedial actions
This is likely a software issue.	<ul style="list-style-type: none"> – Try switching to a different version of the device firmware. – Delete the axis' INI file on the controller (in the Motion directory) and reboot the controller. See if the error persists or if it occurs with activating a certain feature.

48.2 Error 50-1 (emergency code 100007h)

Error

Hydraulic pump error or overload.

Remedy

Cause	Recommended remedial actions
Overcurrent was detected.	<ul style="list-style-type: none"> – Check the current regulation settings and step response. – Where possible, reduce current consumption, in particular in the low-frequency range. – Where possible, reduce the switching frequency or enable automatic switching frequency selection. – Check the encoder offset for correct configuration. Consider using an axis module with higher rated currents.
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.

48.3 Error 50-2 (emergency code 100007h)

Error

Position difference exceeded maximum.

Remedy

Cause	Recommended remedial actions
Feedback control could not follow setpoint.	<ul style="list-style-type: none"> – Check whether the axis is blocked. – Try reducing acceleration and deceleration. – If the set speed is exceeding the rated speed, check the field weakening settings. The available torque is reduced in field weakening mode.
Possible motor overspeed resulting from failing speed control; probably caused by incorrectly configured encoder offset.	<ul style="list-style-type: none"> – Check the encoder offset for correct configuration. – When using auto-commutation, review the settings and perform auto-commutation tests for all possible use cases. – When using torque control, reduce torque levels and provide for external speed limitation; alternatively increase speed control gain to improve speed limitation.

48.4 Error 50-3 (emergency code 100007h)

Error

Hydraulics: Defective pressure sensor detected.

Remedy

Cause	Recommended remedial actions
Defective pressure sensor was detected.	<ul style="list-style-type: none"> – Check the pressure sensor for correct wiring. – Check the hydraulic system.

49 Service

49.1 Technical support

In case of questions, suggestions, or issues, please contact our experts from Technical Support. You may reach out by phone or through the contact form on our homepage:

[Technical Support | www.bucherautomation.com](http://www.bucherautomation.com)

Or email us:

support@bucherautomation.com

Please supply the following information when contacting Technical Support:

- Hardware revision and serial number
The hardware revision and serial number is printed on the nameplate of the product.

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