

JX4

Fast and
compact
I/O system



40 %

Saves space in the control cabinet*

50 %

Saves time during installation*

2x

More I/O channels per module*

*(compared to predecessor JX3)





JX4-I/O-System

More space in the control cabinet.
 Fast time-to-market.
 Efficient handling of I/O signals.

The modular, space-saving and maintenance-friendly I/O system in IP20 that supports machine manufacturers in shortening the time-to-market of their machines and speeding up the handling of I/O signals.

Contents

Our functions – your success	6
Technical Data	9
Bus Coupler	
JX4-BN-EC	10
Digital I/O modules	
JX4-DI16	11
JX4-DI32	12
JX4-DI16DO16	13
JX4-DO16	14
JX4-DO32	15
Analog I/O modules	
JX4-AI4I	16
JX4-AI8I	17
JX4-AI4ID	18
JX4-AI8ID	19
JX4-AI4V	20
JX4-AI8V	21
JX4-AI4VD	22
JX4-AI8VD	23
JX4-AO4I	24
JX4-AO8I	25
JX4-AO4V	26
JX4-AO8V	27
Temperature modules	
JX4-THI4	28
JX4-THI8	29
Counter modules	
X4-CNT8	30
JX4-ENC2	31
JX4-SSI2	32

Our functions – your success



High signal density in a very small space

The JX4-I/O system is a very compact and densely packed I/O system. With a module width of just 25.7 mm, each module has as many as 32 I/O points available. This ensures maximum space saving in the control cabinet.

Slide-in-and-out mechanics. Quick and click.

The modules are mounted on a standard 35-mm DIN rail. Using the pull-out, the modules can be quickly mounted on the DIN rail and locked in place. Quick and click.



Diverse range of I/O module variants

Extensive range of different modules offers you flexibility in choosing and engineering even the most diverse applications.



Easy wiring with push-in male connectors

Quick connecting with the ergonomically shaped and removable push-in terminals in each module. Fast and easy wiring.



Fast and open technology

Equipped with an EtherCAT® bus head, the modules are prepared for uninterrupted data exchange with maximum speed and extremely short cycle times. The ideal I/O system for automating complex applications. And all that plus the fastest EtherCAT® standard.

Clear and precise diagnostics

Each module has status LEDs that make for easy diagnostics. One glance is enough to know that everything is OK. Each individual channel also has its own LED.





No guesswork. Clear module designation

Each module has its own nameplate, making it quick and easy to identify. Thanks to color coding, module types can be distinguished even faster.

Removable ergonomic connectors

The ergonomically shaped wiring terminals with push-in function can be easily removed and attached in installed state. That means that changes can be made to the wiring quickly and conveniently, even if the control cabinet is full.



Fast module replacement. Easy-to-use pull-out

It may become necessary to replace a module. The entire module package does not have to be removed to do this. A single module can be removed from the complete package using the pull-out.

Technical Data

General technical data

Operating environment	
Operating temperature	-20 °C ... +60 °C
Storage temperature	-40 °C ... +80 °C
Relative humidity	95 %, non-condensing
Installation	DIN rail EN 50022 – 35 × 7.5 or EN 50022 – 35 × 15
Elevation	≤2000 m
Resistance to vibration	IEC 60068-2-6 sinusoidal vibration 5 Hz–8.4 Hz, 3.5 mm, 8.4 Hz ... 150 Hz, 1 g X/Y/Z triaxial, 10 cycles/axial (100 min)
	IEC 60068-2-27 Mechanical shock 150 m/s ² , 11 ms, ±X/Y/Z direction 3× per direction
Shock resistance	3× per direction
Degree of protection	IP20
Overvoltage category	I
Contamination level	2
Access to PDO via SDO	Support
Diagnostic	Support
Warning	Support
Firmware update	Support
Protection against: Short circuit, reverse polarity and overvoltage	Support
CE	EN 61131-2 EN IEC 61000-6-4 EN IEC 61000-6-2 EN 61010-1:2010/A1 EN IEC 61010-2-201
EMC	EN 61010-1:2010/A1 EN IEC 61010-2-201
Low Voltage Directive	
Requirements for electromagnetic compatibility	
Electrostatic discharge	Level 3, contact ±8 kV air ±8 kV, IEC 61000-4-2
(Electrical) overvoltage (interference immunity against surge voltage)	Level 3, 1 kV DM 2 kV CM, IEC 61000-4-5
Electrical rapid pulse group (rapid transient electrical disturbance values/burst)	Level 4, power cable ±4 kV, IEC 61000-4-4
RoHS certification	Directive 2011/65/EU, Annex II
REACH	Regulation (EC) no. 1907/2006

JX4-BN-EC



Product features

- EtherCAT® module device profile
- Max. 32 JX4-I/O modules
- Status LEDs for EtherCAT®, voltage supply and system bus
- Firmware update via FoE

Description

The EtherCAT® bus node JX4-BN-EC is a gateway between an EtherCAT® master and Bucher Automation JX4-I/O modules. The JX4-BN-EC is used to set up decentralized I/O

stations. This module enables synchronous communication via EtherCAT® between the controller and decentralized JX4-I/O modules.

EtherCAT® interface

Protocol	EtherCAT®
Data transfer	Ethernet/EtherCAT® CAT5 cable
Bit rate	100 MBit/s
Minimum cycle time	250 µs
Transmission distance	≤100 m (station to station)
Bus interface	2× RJ45
Maximum number of modules in series	32
Volume of input process data and output process data	1024 bytes ⁽¹⁾
Comment (1): The total length of the upload stream and download stream must not exceed 1024 bytes.	

Mechanical data

Dimensions (H × W × D)	106.4 × 43 × 61 mm
Weight	155 g

Power supply

Input voltage	SELV input DC 24 V (18 V ... 36 V)
Input current	Max: 600 mA (DC 24 V)
Backplane supply current	Max: 2 A
Backplane supply voltage	DC 5 V
Backplane bus	System bus

Ordering information

Article no.	Designation	Description
10002675	JX4-BN-EC	EtherCAT® bus head for JX4 modules

JX4-DI16



Product features

- 16 digital inputs
- Adjustable input filter
- Push-in terminals
- Electrical isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-DI16 is used to connect digital sensors.

Technical Data

	JX4-DI16
Channels	16
Type	Type1/type3 PNP
Nominal input current	5 mA/channel
Max. switching threshold OFF	5 V (max. 0.9 mA)
Min. switching threshold ON	11 V (min. 2.1 mA)
Input delay	<50 µs
Input filter	No filter, 0.1 ms, 0.2 ms, 0.5 ms, 1 ms, 2 ms, 3 ms (factory setting), 4 ms ... 18 ms, 19 ms, 20 ms
Maximum input frequency	150 Hz (filter time: 3 ms)
Input impedance	5.4 kΩ
Electrical isolation	Optocoupler isolation
Isolation voltage	500 V
Logic voltage of the system bus	DC 5 V (-15 % ... +10 %)
Current consumption of logic voltage	68 mA
Energy consumption	0.34 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	90 g

Ordering information

Article no.	Designation	Description
10002678	JX4-DI16	JX4 module with 16 dig. inputs

JX4-DI32



Product features

- 32 digital inputs
- Adjustable input filter
- Push-in terminals
- Electrical isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-DI32 is used to connect digital sensors.

Technical Data

	JX4-DI32
Channels	32
Type	Type1/type3 PNP
Nominal input current	5 mA/channel
Max. switching threshold OFF	5 V (max. 0.9 mA)
Min. switching threshold ON	11 V (min. 2.1 mA)
Input delay	<50 µs
Input filter	No filter, 0.1 ms, 0.2 ms, 0.5 ms, 1 ms, 2 ms, 3 ms (factory setting), 4 ms ... 18 ms, 19 ms, 20 ms
Maximum input frequency	150 Hz (filter time: 3 ms)
Input impedance	5.4 KΩ
Electrical isolation	Optocoupler isolation
Isolation voltage	500 V
Logic voltage of the system bus	DC 5 V (-15 % ... +10 %)
Current consumption of logic voltage	85 mA
Energy consumption	0.425 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002676	JX4-DI32	JX4 module with 32 dig. inputs

JX4-DI16DO16



Product features

- 16 digital inputs and 16 digital outputs
- Adjustable input filter
- Possible load types: resistive, inductive. Lamp load
- Overload-proof and short-circuit-proof outputs and reverse polarity protection
- Push-in terminals
- Electrical isolation
- LEDs for monitoring supply voltage and communication

Description

The input and output expansion module JX4-DI16DO16 is used to connect digital sensors and actuators.

Technical Data

	JX4-DI16DO16
Digital input	
Channels	16
Type	Type1/type3 PNP
Nominal input current	5 mA/channel
Max. switching threshold OFF	5 V (max. 0.9 mA)
Min. switching threshold ON	11 V (min. 2.1 mA)
Input delay	<50 µs
Input filter	No filter, 0.1 ms, 0.2 ms, 0.5 ms, 1 ms, 2 ms, 3 ms (factory setting), 4 ms ... 18 ms, 19 ms, 20 ms
Maximum input frequency	150 Hz (filter time: 3 ms)
Input impedance	5.4 KΩ
Digital output	
Channels	16
Type	PNP
Load current per output	Max. 0.5 A
Output load type	Resistance load, inductive load, lighting load
Voltage drop on the output	<1 V
Leakage current	<10 µA
Switching time	<150 µs
Electrical isolation	Optocoupler isolation
Module protection	Reverse polarity protection
Isolation voltage	500 V
Logic voltage of the system bus	DC 5 V (-15 % ... +10 %)
Current consumption of logic voltage	90 mA
Energy consumption	0.45 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002680	JX4-DI16DO16	JX4 module with 16 dig. inputs and 16 dig. outputs

JX4-DO16



Product features

- 16 digital outputs
- Possible load types: resistive, inductive. Lamp load
- Overload-proof and short-circuit-proof outputs and reverse polarity protection
- Push-in terminals
- Electrical isolation
- LEDs for monitoring supply voltage and communication

Description

The output expansion module JX4-DO16 is used to connect digital actuators.

Technical Data

	JX4-DO16
Channels	16
Type	PNP
Load current per output	Max. 0.5 A
Output load type	Resistance load, inductive load, lighting load
Voltage drop on the output	<1 V
Switching time	<150 µs
Leakage current	<10 µA
Protective circuit	Short-circuit protection, overload protection
Module protection	Reverse polarity protection
Electrical isolation	Optocoupler isolation
Isolation voltage	500 V
Logic voltage of the system bus	DC 5 V (-15 % ... +10 %)
Current consumption of logic voltage	79 mA
Energy consumption	0.395 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	90 g

Ordering information

Article no.	Designation	Description
10002679	JX4-DO16	JX4 module with 16 dig. inputs

JX4-DO32



Product features

- 32 digital outputs
- Possible load types: resistive, inductive. Lamp load
- Overload-proof and short-circuit-proof outputs and reverse polarity protection
- Push-in terminals
- Electrical isolation
- LEDs for monitoring supply voltage and communication

Description

The output expansion module JX4-DO32 is used to connect digital actuators.

Technical Data

	JX4-DO32
Channels	32
Type	PNP
Load current per output	Max. 0.5 A
Output load type	Resistance load, inductive load, lighting load
Voltage drop on the output	<1 V
Switching time	<150 µs
Leakage current	<10 µA
Protective circuit	Short-circuit protection, overload protection
Module protection	Reverse polarity protection
Electrical isolation	Optocoupler isolation
Isolation voltage	500 V
Logic voltage of the system bus	DC 5 V (-15 % ... +10 %)
Current consumption of logic voltage	98 mA
Energy consumption	0.49 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002677	JX4-DO32	JX4 module with 32 dig. outputs

JX4-AI4I



Product features

- 4× 20 mA current inputs
- Single-ended configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-AI4I is used for connecting analog sensors with a current interface.

Technical Data

	JX4-AI4I
Analog channels	4
Input type	Current
Input signal	Disable, 4 mA ... 20 mA, 0 mA ... 20 mA (Adjustable range, default 0 mA ... 20 mA)
Input signal type	Single-ended
Conversion time	600 µs/4 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (current)	≤ 300 Ω
Max. permissible input current	30 mA
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	100 mA
Energy consumption	0.5 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002720	JX4-AI4I	JX4 module with 4 current inputs

JX4-AI8I



Product features

- 8× 20 mA current inputs
- Single-ended configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-AI8I is used for connecting analog sensors with a current interface.

Technical Data

	JX4-AI8I
Analog channels	8
Input type	Current
Input signal	Disable, 4 mA ... 20 mA, 0 mA ... 20 mA (Adjustable range, default 0 mA ... 20 mA)
Input signal type	Single-ended
Conversion time	700 µs/8 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % bei 25 °C, ±0.3 % über den gesamten Temperaturbereich
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (current)	≤ 300 Ω
Max. permissible input current	30 mA
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	110 mA
Energy consumption	0.55 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002721	JX4-AI8I	JX4 module with 8 current inputs

JX4-AI4ID



Product features

- 4x 20 mA current inputs
- Differential configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-AI4ID is used for connecting analog sensors with a current interface.

Technical Data

	JX4-AI4ID
Analog channels	4
Input type	Current
Input signal	Disable, 4 mA ... 20 mA, 0 mA ... 20 mA (Adjustable range, default 0 mA ... 20 mA)
Input signal type	Differential signal
Conversion time	600 µs/4 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (current)	≤ 250 Ω
Max. permissible input current	30 mA
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	150 mA
Energy consumption	0.75 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002724	JX4-AI4ID	JX4 module with 4 differential current inputs

JX4-AI8ID



Product features

- 8x 20 mA current inputs
- Differential configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-AI8ID is used for connecting analog sensors with a current interface.

Technical Data

	JX4-AI8ID
Analog channels	8
Input type	Current
Input signal	Disable, 4 mA ... 20 mA, 0 mA ... 20 mA (Adjustable range, default 0 mA ... 20 mA)
Input signal type	Differential signal
Conversion time	770 µs/8 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (current)	≤ 250 Ω
Max. permissible input current	30 mA
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	210 mA
Energy consumption	1.05 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002725	JX4-AI8ID	JX4 module with 8 differential current inputs

JX4-AI4V



Product features

- 4× analog voltage inputs
- Single-ended configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Technical Data

The input expansion module JX4-AI4V is used for connecting analog sensors with a voltage interface.

Technical Data

	JX4-AI4V
Analog channels	4
Input type	Voltage
Input signal	Disable, -10 V ... +10 V, 0 V ... 10 V, -5 V ... +5 V, 0 V ... 5 V, 1 V ... 5 V (Adjustable range, default -10 V ... +10 V)
Input signal type	Single-ended
Conversion time	700 us/4 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (voltage)	≥ 400 kΩ
Overvoltage protection	±30 V
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	180 mA
Energy consumption	0.95 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002722	JX4-AI4V	JX4 module with 4 voltage inputs

JX4-AI8V



Product features

- 8× analog voltage inputs
- Single-ended configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Technical Data

The input expansion module JX4-AI8V is used for connecting analog sensors with a voltage interface.

Technical Data

	JX4-AI8V
Analog channels	8
Input type	Voltage
Input signal	Disable, -10 V ... +10 V, 0 V ... 10 V, -5 V ... +5 V, 0 V ... 5 V, 1 V ... 5 V (Adjustable range, default -10 V ... +10 V)
Input signal type	Single-ended
Conversion time	770 us/8 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (voltage)	≥ 400 kΩ
Overvoltage protection	±30 V
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	270 mA
Energy consumption	1.35 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002723	JX4-AI8V	JX4 module with 8 voltage inputs

JX4-AI4VD



Product features

- 4× analog voltage inputs
- Differential configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-AI4VD is used for connecting analog sensors with a voltage interface.

Technical Data

	JX4-AI4VD
Analog channels	4
Input type	Voltage
Input signal	Disable, -10 V ... +10 V, 0 V ... 10 V, -5 V ... +5 V, 0 V ... 5 V, 1 V ... 5 V (Adjustable range, default -10 V ... +10 V)
Input signal type	Differential signal
Conversion time	600 us/4 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (voltage)	≥1 MΩ
Overvoltage protection	±30 V
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	150 mA
Energy consumption	0.75 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002726	JX4-AI4VD	JX4 module with 4 differential voltage inputs

JX4-AI8VD



Product features

- 8× analog voltage inputs
- Differential configuration
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The input expansion module JX4-AI8VD is used for connecting analog sensors with a voltage interface.

Technical Data

	JX4-AI8VD
Analog channels	8
Input type	Voltage
Input signal	Disable, -10 V ... +10 V, 0 V ... 10 V, -5 V ... +5 V, 0 V ... 5 V, 1 V ... 5 V (Adjustable range, default -10 V ... +10 V)
Input signal type	Differential signal
Conversion time	850 us/8 channels
Resolution	16 bits
Sampling rate	≤1 ksp/s
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Input filter	1 ... 200 samples (factory setting: 10 samples)
Input impedance (voltage)	≥1 MΩ
Overvoltage protection	±30 V
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	210 mA
Energy consumption	1.05 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002727	JX4-AI8VD	JX4 module with 8 differential voltage inputs

JX4-AO4I



Product features

- 4x 20 mA current outputs
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The output expansion module JX4-AO4I is used for connecting analog actuators with a current interface.

Technical Data

	JX4-AO4I
Analog channels	4
Output type	Current
Output signal	Disable, 4 mA ... 20 mA, 0 mA ... 20 mA (Adjustable range, default 0 mA ... 20 mA)
Conversion time	200 us/4 channels
Resolution	16 bits
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Load impedance (current)	≤ 500 Ω
Output protection	Overload protection, open-circuit protection, short-circuit protection (all automatic recovery mechanisms)
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	80 mA
Energy consumption	0.4 W
Dimensions (H x W x D)	106.4 x 25.7 x 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002728	JX4-AO4I	JX4 module with 4 current outputs

JX4-AO8I



Product features

- 8x 20 mA current outputs
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The output expansion module JX4-AO8I is used for connecting analog actuators with a current interface.

Technical Data

	JX4-AO8I
Analog channels	8
Output type	Current
Output signal	Disable, 4 mA ... 20 mA, 0 mA ... 20 mA (Adjustable range, default 0 mA ... 20 mA)
Conversion time	400 us/8 channels
Resolution	16 bits
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Load impedance (current)	≤ 500 Ω
Output protection	Overload protection, open-circuit protection, short-circuit protection (all automatic recovery mechanisms)
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	100 mA
Energy consumption	0.5 W
Dimensions (H x W x D)	106.4 x 25.7 x 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002729	JX4-AO8I	JX4 module with 8 current outputs

JX4-AO4V



Product features

- 4x analog voltage outputs
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The output expansion module JX4-AO4V is used for connecting analog actuators with a voltage interface.

Technical Data

	JX4-AO4V
Analog channels	4
Output type	Voltage
Output signal	Disable, -10 V ... +10 V, 0 V ... 10 V, -5 V ... +5 V, 0 V ... 5 V, 1 V ... 5 V (Adjustable range, default -10 V ... +10 V)
Conversion time	200 µs/4 channels
Resolution	16 bits
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Load impedance (voltage)	≥ 2 kΩ
Output protection	Overload protection, open-circuit protection, short-circuit protection (all automatic recovery mechanisms)
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	80 mA
Energy consumption	0.4 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002730	JX4-AO4V	JX4 module with 4 voltage outputs

JX4-AO8V



Product features

- 8x analog voltage outputs
- 16-bit resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The output expansion module JX4-AO8V is used for connecting analog actuators with a voltage interface.

Technical Data

	JX4-AO8V
Analog channels	8
Output type	Voltage
Output signal	Disable, -10 V ... +10 V, 0 V ... 10 V, -5 V ... +5 V, 0 V ... 5 V, 1 V ... 5 V (Adjustable range, default -10 V ... +10 V)
Conversion time	400 µs/8 channels
Resolution	16 bits
Measurement error	±0.1 % at 25 °C, ±0.3 % over the full temperature range
Load impedance (voltage)	≥ 2 kΩ
Output protection	Overload protection, open-circuit protection, short-circuit protection (all automatic recovery mechanisms)
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	100 mA
Energy consumption	0.5 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	110 g

Ordering information

Article no.	Designation	Description
10002731	JX4-AO8V	JX4 module with 8 voltage outputs

JX4-THI4



Product features

- 4 analog inputs for temperature sensors
- RTD and TC sensors
- 0.1 °C resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The expansion module JX4-THI4 features inputs for temperature measurement using Pt100/Pt1000 resistance thermometers or alternatively thermocouples of types J, K, B, E, S.

Technical Data

	JX4-THI4
Analog channels	4
Sensor types	TC, RTD
Resolution	0.1 °C (16 bits)
Conversion time	TC: 115 ms/4 channels; RTD: 290 ms/4 channels
Measurement error	TC: ±0.3 % at 25 °C, ±0.5 % over the full temperature range RTD: ±0.1 % at 25 °C, ±0.3 % over the full temperature range
Hardware filter	None, 10 Hz, 50 Hz, 60 Hz
Input impedance	≥ 10 kΩ
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	110 mA
Energy consumption	0.55 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	90 g

Ordering information

Article no.	Designation	Description
10002732	JX4-THI4	JX4 module for 4 temperature sensors

JX4-THI8



Product features

- 8 analog inputs for temperature sensors
- RTD and TC sensors
- 0.1 °C resolution
- Galvanic isolation
- LEDs for monitoring supply voltage and communication

Description

The expansion module JX4-THI8 features inputs for temperature measurement using Pt100/Pt1000 resistance thermometers or alternatively thermocouples of types J, K, B, E, S.

Technical Data

	JX4-THI8
Analog channels	8
Sensor types	TC, RTD
Resolution	0.1 °C (16 bits)
Conversion time	TC: 115 ms/8 channels; RTD: 290 ms/8 channels
Measurement error	TC: ±0.3 % at 25 °C, ±0.5 % over the full temperature range RTD: ±0.1 % at 25 °C, ±0.3 % over the full temperature range
Hardware filter	None, 10 Hz, 50 Hz, 60 Hz
Input impedance	≥ 10 kΩ
Galvanic isolation	No isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Current consumption of logic voltage	200 mA
Energy consumption	1 W
Dimensions (H × W × D)	106.4 × 25.7 × 72.3 mm
Weight	90 g

Ordering information

Article no.	Designation	Description
10002733	JX4-THI8	JX4 module for 8 temperature sensors

JX4-CNT8

AVAILABLE
SOON



Product features

- 8 independent channels for pulse counting
- 100 kHz pulse counting frequency
- Counter and frequency measurement
- Input filtering selectable in 15 steps

Description

The JX4-CNT8 detects 24-V pulse signals up to 100 kHz on eight independent channels, counts them with 32-bit counters, and additionally determines the pulse frequency per channel. Each channel can be activated or deactivated separately and reset. A 15-stage input filtering suppresses interference.

Technical Data

	JX4-CNT8
Number of channels	8
Input frequency range	0 ... 100 kHz
Counting range	0 ... 4,294,967,295 (2 ³² -1)
Frequency measurement	0 ... 100,000 Hz
Input voltage	DC 15 ... 30 V
Input filter	0 ... 15 filter levels
Galvanic isolation	Isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Logic voltage current consumption	80 mA
Energy consumption	0.4 W
Weight	85 g

Ordering information

Article no.	Designation	Description
10002736	JX4-CNT8	JX4 module with 8 counter inputs

JX4-ENC2

AVAILABLE
SOON



Product features

- 2x 5 V differential incremental encoders
- 1-, 2- or 4-fold evaluation
- 32-bit count value
- Configurable modulo range
- 2 sample inputs per encoder
- DC 5 V - encoder supply

Description

The JX4-ENC2 is a module for the detection of two 5-V differential incremental encoder signals. It supports 1-, 2- and 4-fold evaluation and determines the speed. An individual modulo range can be configured. Position values can be stored by means of fast sample inputs.

Technical Data

	JX4-ENC2
Number of channels	2
Input type	5 V differential incremental encoder
Input frequency	0 ... 1 MHz
Input filter	0 ... 15 filter levels
Counting range	0 ... 4,294,967,295 (2 ³² -1)
Modulo range	Adjustable, 1 ... 65,535 (2 ¹⁶ -1)
Sensor supply	5 V
Sample inputs	2 per encoder channel
Comparison outputs	2 per encoder channel (NPN)
Galvanic isolation	Isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Logic voltage current consumption	130 mA
Energy consumption	0.65 W
Weight	110 g

Ordering information

Article no.	Designation	Description
10002734	JX4-ENC2	JX4 module with 2 encoder interfaces

JX4-SSI2

**AVAILABLE
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Product features

- 2 SSI absolute encoders
- Binary or Gray coding
- Up to 2 MHz clock frequency
- 2 sample inputs per encoder
- DC 24 V – encoder supply

Description

The JX4-SSI2 evaluates two SSI absolute encoders with binary or Gray code at a clock frequency of up to 2 MHz. Fast sample inputs enable the storing of position values.

Technical Data

JX4-SSI2	
Number of channels	2
Input type	SSI (differential, 5 V)
SSI clock frequency	Max. 2 MHz
SSI code	Gray or binary
Counting range	0 ... 4,294,967,295 (2 ³² -1)
Encoder supply	24 V
Sample inputs	2 per encoder channel
Galvanic isolation	Isolation between channels, isolation between channels and backplane bus
Isolation voltage	500 V
Logic voltage	DC 5 V
Logic voltage current consumption	160 mA
Energy consumption	0.75 W
Weight	110 g

Ordering information

Article no.	Designation	Description
10002735	JX4-SSI2	JX4 module with 2 SSI-capable interfaces

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