



# I/O-System – 750 XTR Series

◀ Section 4

## I/O-System – 750 and 753 Series

- Highly versatile
- More than 500 modules available
- Functional Safety
- Ex i

## I/O-System – 750 XTR Series

For demanding applications where the following are critical:

- Extreme temperature stability
- Immunity to interference and dielectric strength
- Vibration and shock resistance

Section 6 ▶

## I/O-System – SPEEDWAY

- Uncompromising protection, even in the harshest environments outside the control cabinet
- Degree of protection: IP67
- Fully encapsulated

**Taking it to the eXTReme –  
The standard for 750 XTR**

The WAGO-I/O-SYSTEM 750 XTR is readily recognizable by its dark gray modules. Benefit from the unique features offered by this system in extreme environment applications.

The WAGO-I/O-SYSTEM 750 XTR features outstanding characteristics: It is extremely temperature-resistant, immune to interferences, as well as insensitive to vibrations and impulse voltages. This is what makes 750 XTR the first choice for demanding applications, including:

- Marine systems and onshore/offshore installations
- Renewable energy systems (wind, photovoltaic and biogas plants)
- Transformer stations and power distribution
- Petrochemical industry
- Water and wastewater treatment systems
- Custom machine engineering
- Railway applications

**Superior reliability in extreme climates**

Automation systems are increasingly being located in outdoor and remote locations where components are directly affected by widely fluctuating temperatures conditions (e.g., wind turbines and transformer stations).

Whether freezing cold, extreme heat or high humidity, the WAGO-I/O-SYSTEM 750 XTR is engineered for absolute dependability in all climatic conditions. This robust XTR version of the WAGO-I/O-SYSTEM 750 is unfazed by both freezing cold down to -40 °C and scorching heat up to +70 °C. And this applies to both initial start-up and daily operation.

Another highlight is that the 750 XTR functions at elevations up to 5,000 m, opening up these applications to new highs for safety, reliability and performance – even in the thin air of a mountain top station.

**eXTReme evolution of the tried and tested**

Using an industry-leading platform, the WAGO-I/O-SYSTEM 750 XTR boasts the same proven benefits:

- Compact design: up to 16 channels in just one 12 mm module
- Easy to use
- CAGE CLAMP® spring connection technology for vibration-proof, fast and maintenance-free connections
- Fieldbus independence due to its modular design
- Clear identification with the WAGO WSB marking system

**Additional protection against interference pulses**

The WAGO-I/O-SYSTEM 750 XTR provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity against EMC interference. These strengths add up to trouble-free operation.

**High mechanical performance**

Automation systems must be particularly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples of common disturbance-creating components. The WAGO-I/O-SYSTEM 750 XTR is also setting new standards for automation systems with 5g of vibration resistance according to DIN EN 60068-2-6 (acceleration: 50 m/s<sup>2</sup>) and 15g (150 m/s<sup>2</sup>) or 25g (250 m/s<sup>2</sup>) of continuous shock resistance according to IEC 60068-2-27.

Count on long-lasting, trouble-free operation and industry-topping levels of safety – even in the most torturous applications, such as a tunnel boring machines.

**Worldwide approvals**

International approvals for industrial automation, shipbuilding and onshore/offshore applications guarantee worldwide use even under the harshest operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Statkow.



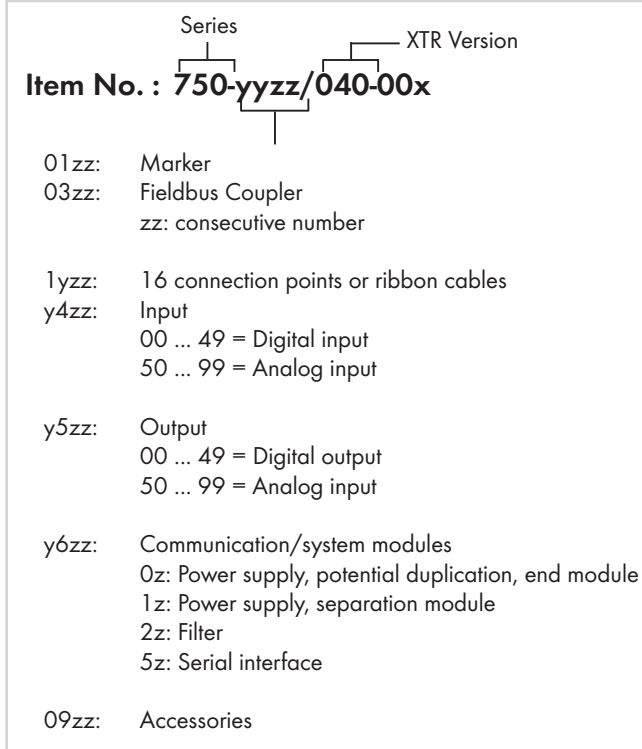
- No air conditioning required
  - Compact footprint
  - Lower energy and maintenance costs
- Can be used in unshielded areas
- Maximum system uptime
- Install close to vibrating and shock-generating system components
- CAGE CLAMP® connection technology for vibration-proof, fast and maintenance-free connection

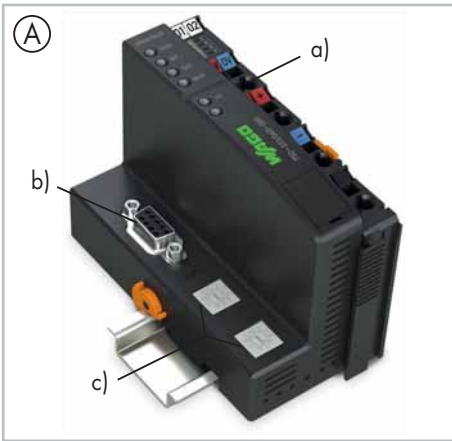


# I/O-System – 750 XTR Series

## Item Number Keys

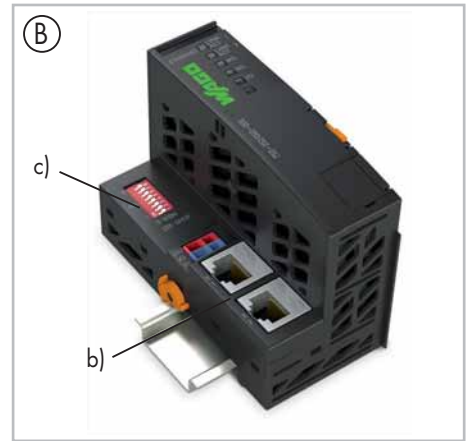
Explanation of the components for the item number key





**Housing design fieldbus coupler (A)**

- Including supply module (a) to power downstream I/O modules
- Technical differences on the connection level. Fieldbus interface (b) and optional address switch (c)
- W x H\* x L (mm) 51 x 65 x 100



**Housing design fieldbus coupler ECO (B)**

- Constraint in regards to power supply and data width
- W x H\* x L (mm) 50 x 65 x 97



**Housing design 750 (C)**

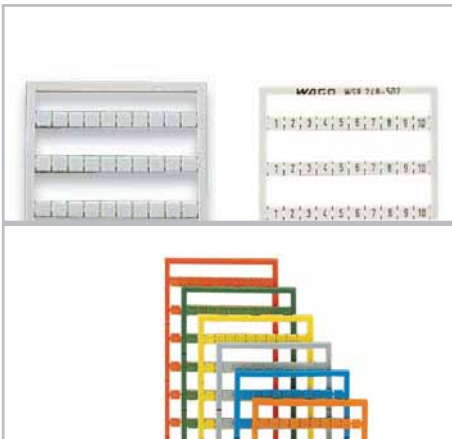
- 8 connecting terminals (CAGE CLAMP®)
- W x H\* x L (mm) 12 x 62 x 100



**Housing design 750 (D)**

- 16 connecting terminals (CAGE CLAMP® S)
- W x H\* x L (mm) 12 x 62 x 100

**Marking Accessories**



Miniature WSB quick marking system, blank, pre-marked and colored. Suitable for all I/O modules within the 750 Series.



Marker carrier for an individual I/O module. Suitable for all I/O modules within the 750 Series. The marker carrier can be accommodated in the upper miniature WSB carrier plate.



Marker carriers for an I/O node. Both carrier models (750-106 and 750-107) permit continuous marking regardless of the I/O module housing used.



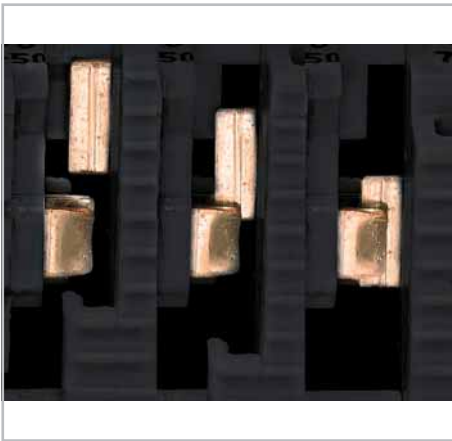
Attachment/release on the mounting rail



Secure, automatic connection of the data and electronics power supply by gold-plated pressure contacts



Service interface for configuring the fieldbus coupler. Connectivity via configuration cable or radio adapter



Secure, automatic connection of the power connection by self-cleaning blade contacts

### Notice:

For some I/O modules, not all power jumper contacts are made! An I/O module with three power jumper contacts (e.g., 2-channel digital input) cannot be snapped into place behind an I/O module in which not every contact is made.

To increase electromagnetic compatibility (EMC), some components are connected to the DIN-rail by a discharge contact. The DIN-rail must always have a low-resistance connection to the ground potential.

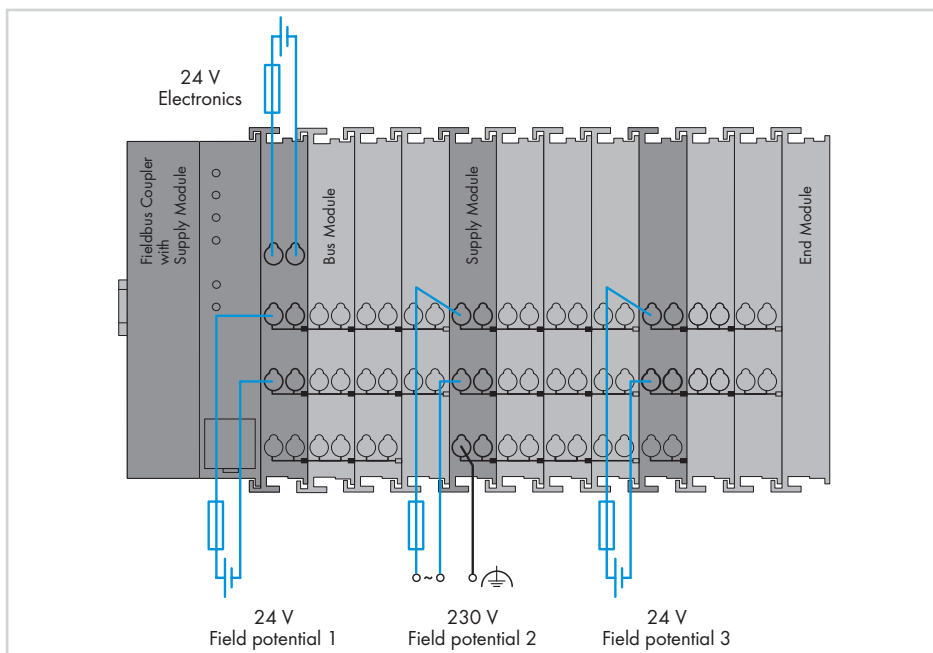


Wide range of accessories for EMC-compliant installation including shield connection

**Power supply**

The fieldbus coupler always powers the internal electronics' power supply. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. The I/O modules' connections automatically lead to transferring the supply voltages. Supply modules with diagnostics enable additional power supply monitoring. This ensures a flexible, user-specific supply design for a station.

The current supply to the electronics is limited by a maximum value. This value depends on the fieldbus coupler used. If the sum of the internal current demand of all the I/O modules exceeds this value, an additional bus supply module is necessary. Even in this case, the power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stops.



**Notices**

Additional steps must be implemented based on where the I/O-System is installed:

- As part of **shipbuilding** or in onshore/offshore installations, as well as in telecontrol applications, specific power and field-side power supply filters must be provided (750-624/040-001 or 750-626/040-000)

**Mixed operation:**

Mixed operation (standard/XTR modules) within a node is possible when groups of modules are electrically isolated on the field side (i.e., electrically isolated power supply). The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity to interference, but the ambient temperature is not critical.

**Interference-free in safety-related applications**

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs.

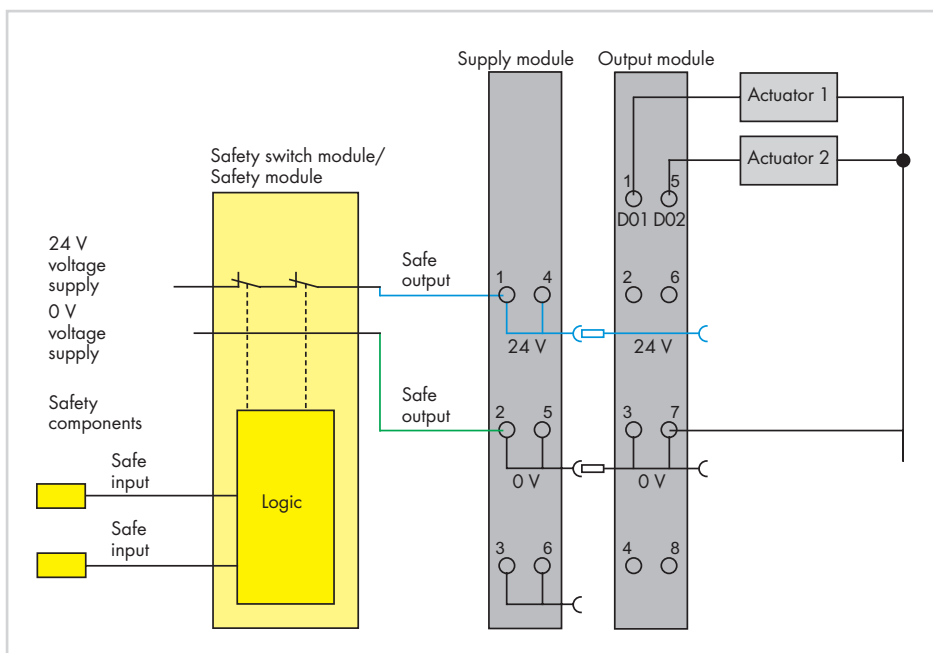
In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

All modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. The safety category and performance level depend solely on the safety components and their wiring.

**Attention!**

Interference-free WAGO I/O modules have no active influence on the safety function, they are not an active part of the safety application and are not a substitute for the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

Please refer to the manual for details about the power supply's design.



Example: Two-channel, double-pole power supply disconnection

### General Specifications

Operating voltage	24 VDC under laboratory conditions +15 °C ... +35 °C: 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup> for -40 °C ... +55 °C: 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup> for +55 °C ... +70 °C: 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup> <sup>1)</sup> Including residual ripple of 15 %
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	Max. 95 % short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (excluding wind-driven precipitation, water and ice formation)
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m
Degree of contamination	II acc. to IEC 61131-2
Dielectric strength	acc. to (EN 60870-2-1) Module ≤ 50 V: 510 VAC/775 VDC; Module > 50 V: 2.5 kVAC/3.5 VDC Isolation: Rated surge voltage Module ≤ 50 V: 1 kV (class VW1 acc. to EN 60870-2-1) Module > 50 V: 5 kV (class VW3 acc. to EN 60870-2-1) Surge: Module ≤ 50 V: 1 kV (L-L) / 2 kV (L-E) Module > 50 V: 2 kV (L-L) / 4 kV (L-E) Overvoltage category: III
Vibration resistance	5g acc. to IEC 60068-2-6, EN 60870-2-2, IEC 60721-3-1, IEC 60721-3-3, EN 61131-2
Shock resistance	15g/11 ms/half-sine/1000 shocks acc. to IEC 60068-2-27 25g/6 ms/1000 shocks acc. to IEC 60068-2-27
EMC immunity to interference	EN 61000-6-1, EN 61000-6-2, EN 61131-2 Marine applications, EN 50121-3-2, EN 50121-4 EN 50121-5, EN 60255-26, EN 60870-2-1 EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	EN 61000-6-3 and EN 61000-6-4, EN 61131-2 EN 60255-26, marine applications EN 60870-2-1 (industrial and residential areas) EN 61850-3 (industrial and residential areas) EN 50121-3-2, EN 50121-4, EN 50121-5
Protection type	IP20
Mounting position	standing horizontal/lying, vertical
Type of mounting	on DIN-rail
Housing material	Polycarbonate, polyamide 6.6
Stress due to contaminants	acc. to IEC 60068-2-42 and IEC 60068-2-43
Maximum pollutant concentration with a relative humidity < 75 %	SO <sub>2</sub> ≤ 25 ppm; H <sub>2</sub> S ≤ 10 ppm
Connection technology	CAGE CLAMP® (for standard I/O modules and fieldbus couplers)
Conductor cross-section; stripped lengths for standard I/O modules and fieldbus couplers: ECO fieldbus couplers:	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> /24 ... 14 AWG; 8 ... 9 mm/0.33 in. 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> /24 ... 16 AWG; 5 ... 6 mm/0.22 in.
Connection technology	CAGE CLAMP® S (for I/O modules with 16 connecting terminals)
Conductor cross-section; stripped lengths for I/O modules with 16 connecting terminals:	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> /24 ... 16 AWG; 8 ... 9 mm/0.33 in.
Current via power jumper contacts	max. 10 A

# 5 PROFIBUS DP/V1 Fieldbus Coupler

for eXTReme environmental conditions; 12 Mbaud; digital and analog signals

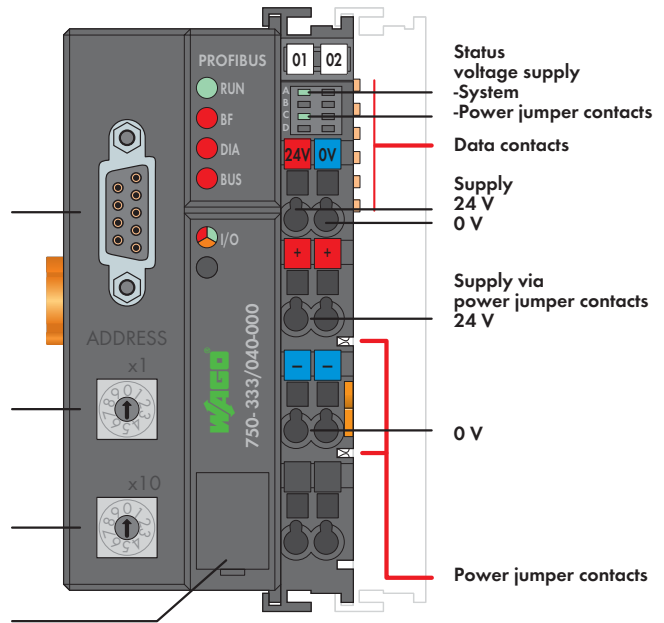


Fieldbus connection D-Sub

Address

Address

Configuration interface





The 750-333 Fieldbus Coupler maps the peripheral data of all the I/O modules of the WAGO-I/O-SYSTEM on PROFIBUS DP. When initializing, the coupler determines the node's module structure and creates the process image of all inputs and outputs. In order to optimize addresses, the I/O modules with a bit width smaller than 8 are grouped in one byte. It is furthermore possible to deactivate I/O modules and to modify the image of the node according to the connected signals without having to modify the existing application.

The diagnostic concept is based on ID- and channel-related diagnostics according to EN 50170. This does away with the need for programming modules to evaluate manufacturer-specific diagnostic data.

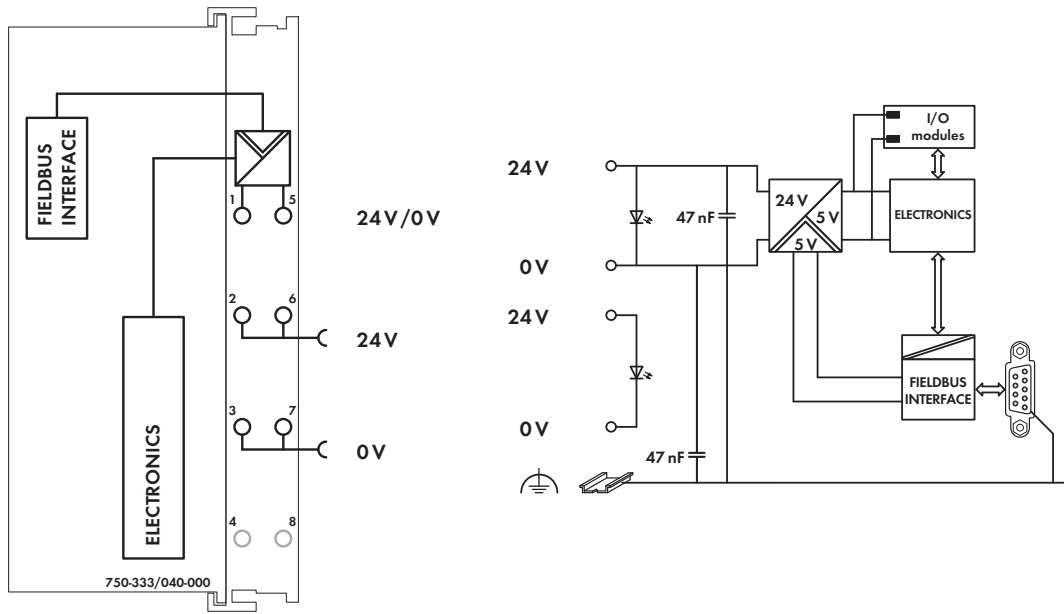
- The module is ideally suited for operation in harsh environmental conditions:**
- strongly extended temperature range
  - higher dielectric strength and EMC resistance
  - higher vibration and shock resistance

Notice: GSD files required

Description	Item No.	Pack. Unit
PROFIBUS DP/V1 12 Mbd /XTR	750-333/040-000	1
<b>Accessories</b>		
GSD files Download: <a href="http://www.wago.com">www.wago.com</a>		
Miniature WSB Quick marking system		
	plain 248-501	5
	with marking see Section 11	
<b>Standards and Approvals</b>		
Standard	EN 50170	
Conformity marking	CE	
Korea Certification		
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	

System Data	
No. of couplers connected to Master	96 with repeater
Max. no. of I/O points	approx. 6000 (depends on master)
Transmission medium	Cu cable acc. to EN 50170
Max. length of fieldbus segment	100 m ... 1200 m
	(depends on baud rate/cable)
Baud rate	9,6 Kbaud ... 12 Mbaud
Transmission time	typ. 1 ms (10 couplers; 32 digital I/Os per coupler at 12 Mbaud) max. 3.3 ms
Buscoupler connection	1 x D-Sub 9; socket





### Technical Data

Number of I/O modules	63
Fieldbus	
Max. input process image	244 bytes
Max. output process image	244 bytes
Configuration	via PC or PLC
Power supply	via CAGE CLAMP® connections, 24 VDC
Max. input current (24 V)	500 mA
Power supply efficiency	90 %
Internal current consumption (5 V)	200 mA
Total current for I/O modules (5 V)	1800 mA
Voltage via power jumper contacts	24 V DC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A DC
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overtoltage category	III

### General Specifications

Operating temperature	-40 °C ... +70 °C
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	51 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	179.6 g
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
Degree of protection	IP20
EMC immunity of interference	acc. to EN 61000-6-2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m

# ETHERNET Fieldbus Coupler

for eXTReme environmental conditions; 10/100 Mbit/s; digital and analog signals

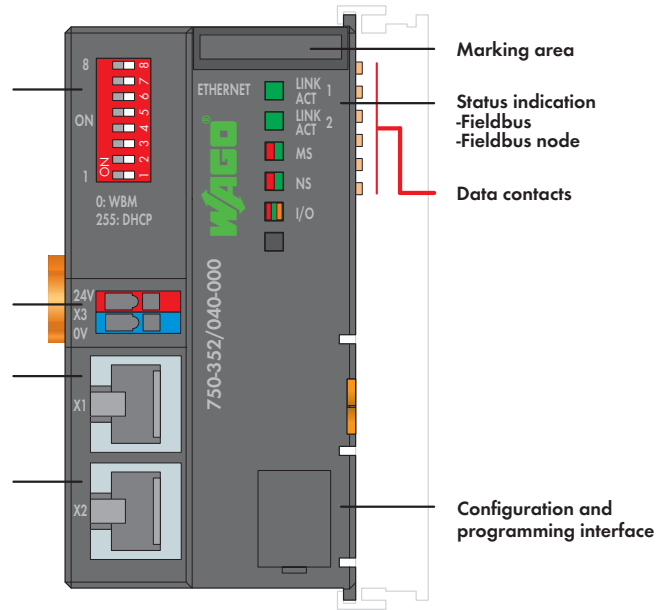


Address

Supply  
24 V  
0 V

Fieldbus  
connection  
RJ-45

Fieldbus  
connection  
RJ-45



The 750-352 ETHERNET Fieldbus Coupler connects ETHERNET to the modular WAGO-I/O-SYSTEM.


The fieldbus coupler automatically configures, creating a local process image which may include analog, digital or specialty modules. Analog and specialty module data is sent via words and/or bytes; digital data is sent bit by bit. Two ETHERNET interfaces and an integrated switch allow the fieldbus to be wired in a line topology. This eliminates the need for additional network devices, such as switches or hubs. Both interfaces support Auto-Negotiation and Auto-MDI(X).

The DIP switch configures the last byte of the IP address and may be used for IP address assignment (DHCP, BootP, static).

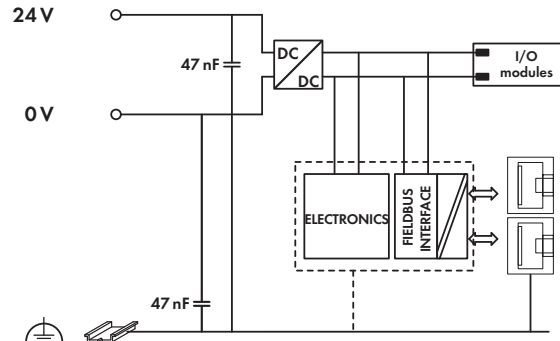
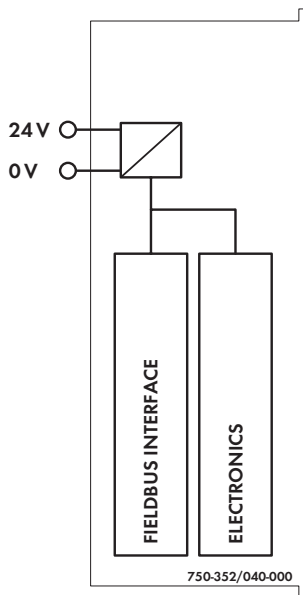
The coupler is designed for fieldbus communication in both EtherNet/IP and MODBUS networks. It also supports a wide variety of standard ETHERNET protocols (e.g., HTTP, BootP, DHCP, DNS, SNMP, FTP). An integrated Web server provides configuration options and status information from the coupler. The coupler has an integrated supply terminal for the system voltage. The field power jumper contacts are supplied via a separate supply module.

The module is ideally suited for operation in harsh environmental conditions:

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
ETHERNET Fieldbus Coupler /XTR	750-352/040-000	1
<b>Accessories</b>		
Miniature WSB Quick marking system		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	

System Data	
No. of couplers connected to Master	limited by ETHERNET specification
Transmission medium	Twisted Pair S-UTP 100 Ω, Cat 5; Max. line length: 100 m
Baud rate	10/100 Mbit/s
Transmission performance	Class D acc. to EN 50173
Buscoupler connection	2 x RJ-45
Protocols	EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, FTP, SNMP



Technical Data	
Number of I/O modules	64
with bus extension	250
Fieldbus	
Max. input process image	1020 words
Max. output process image	1020 words
Configuration	via PC
Power supply	via CAGE CLAMP® connections, 24 VDC
Input current typ. at rated load (24 V)	280 mA
Efficiency of the power supply (typ.) at nominal load (24 V)	90 %
Internal current consumption (5 V)	450 mA
Total current for I/O modules (5 V)	700 mA
Voltage via power jumper contacts	24 V DC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Oversoltage category	III

General Specifications	
Operating temperature	-40 °C ... +70 °C
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> / AWG 24 ... 14
Strip lengths	5 ... 6 mm / 0.22 in
Dimensions (mm) W x H x L	50 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	80.6 g
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
Degree of protection	IP20
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m

# 5 CANopen Fieldbus Coupler D-Sub

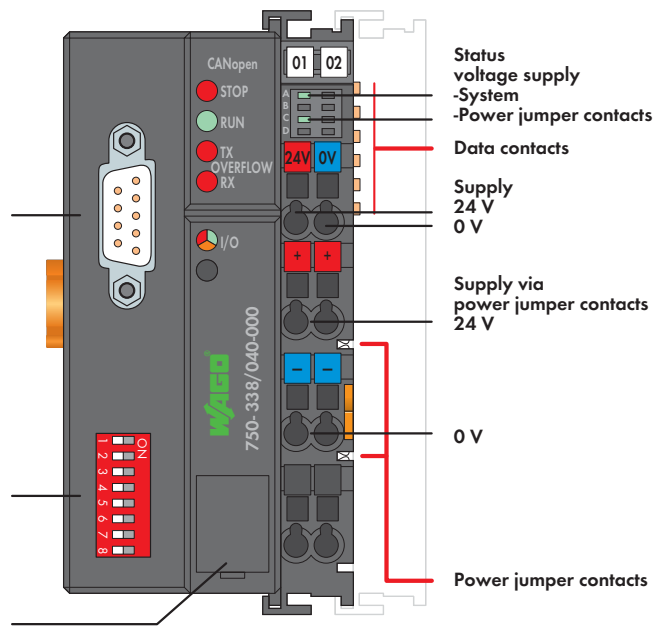
for eXTReme environmental conditions; 10 kbaud ... 1 Mbaud; digital and analog signals



Fieldbus connection D-Sub

DIP switch for node ID and baud rate

Configuration interface




The 750-338/040-000 Fieldbus Coupler connects the WAGO-I/O-SYSTEM as a slave to the CANopen fieldbus. Data is transmitted via PDOs and SDOs. The fieldbus coupler automatically configures, creating a local process image which may include analog, digital or specialty modules. Analog and specialty module data is sent via words and/or bytes, digital data is sent bit by bit. The local process image is divided into two data zones containing the data received and the data to be sent. The process data can be sent via the CANopen bus to a control system for further processing. The process output data can be sent via the CANopen bus.

The data of the analog modules is stored in the PDOs according to the order in which the modules are connected to the coupler. The bits of the digital modules are sent byte by byte and also mapped in the PDOs. If the amount of digital information exceeds 8 bits, the buscoupler automatically starts with a new byte. All entries of the object directory can be mapped as required in the 32 Rx PDOs and 32 Tx PDOs. The complete input and output process image can be transmitted via SDOs.

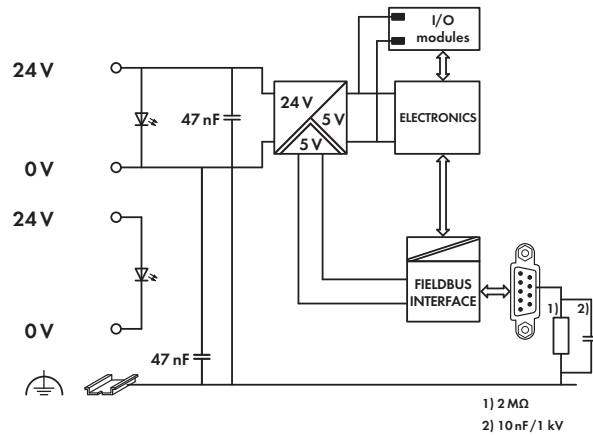
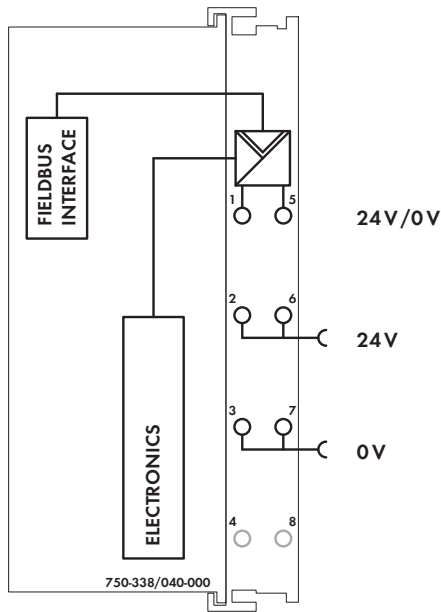
Spacer modules can be set via software.

The module is ideally suited for operation in harsh environmental conditions:

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
CANopen D-Sub /XTR	750-338/040-000	1
<b>Accessories</b>		
EDS files	Download: <a href="http://www.wago.com">www.wago.com</a>	
<b>Miniature WSB Quick marking system</b>		
	plain	248-501 5
	with marking	see Section 11
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508	UL 508	
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	

System Data	
No. of couplers connected to Master	1 10
Transmission medium	Shielded Cu cable 3 x 0.25 mm <sup>2</sup>
Max. length of bus line	30 m ... 1000 m (depends on baud rate/cable)
Baud rate	10 Kbaud ... 1 Mbaud
Buscoupler connection	1 x D-Sub 9; plug

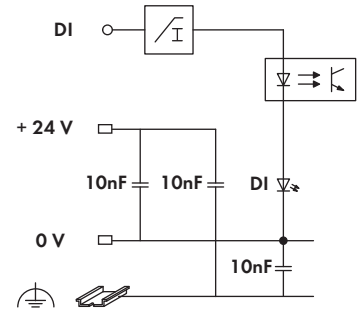
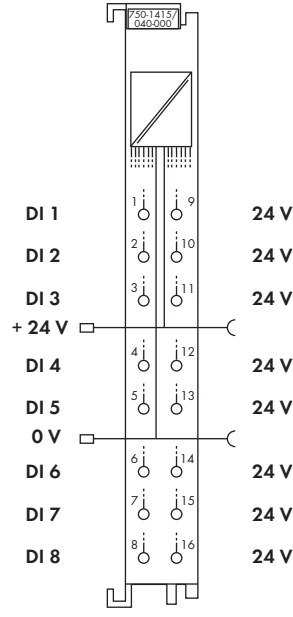
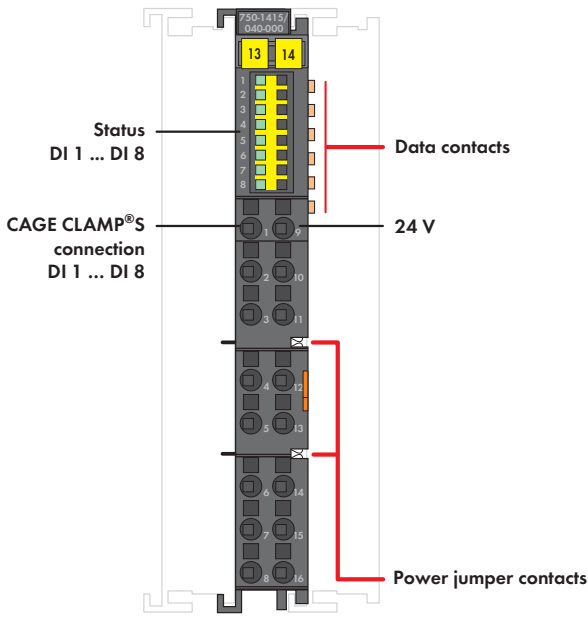


Technical Data	
Number of I/O modules	64
Fieldbus	
Max. input process image	512 bytes
Max. output process image	512 bytes
Configuration	via PC or PLC
No. of PDOs	32 Tx / 32 Rx
No. of SDOs	2 server SDOs
Communication profile	DS-301 V4.1
Device profile	DS 401 V2.0
	Marginal check
	Edge-triggered PDOs
	Programmable error response
COB ID distribution	SDO, standard
Node ID distribution	DIP switches
Other CANopen features	NMT slave
	Minimum boot-up
	Variable PDO mapping
	Emergency message
	Life guarding
	Configuration of virtual modules
Power supply	via CAGE CLAMP® connections, 24 VDC
Max. input current (24 V)	500 mA
Power supply efficiency	90 %
Internal current consumption (5 V)	350 mA
Total current for I/O modules (5 V)	1650 mA
Voltage via power jumper contacts	24 V DC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A DC
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III

General Specifications	
Operating temperature	-40 °C ... +70 °C
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	51 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	200 g
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
Degree of protection	IP20
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m

# 5 8-Channel Digital Input Module 24 VDC


for eXTReme environmental conditions; high-side switching, 2-wire connection



This 2-wire digital input module provides 8 channels at a width of just 12 mm. It receives binary control signals from digital field devices (e.g., sensors, encoders, switches or proximity switches). The module features CAGE CLAMP® S connections providing push-in termination of solid conductors. Each input channel has a noise-rejection RC filter with 3.0 ms time constant. A green LED indicates the switched status of each channel. Field and system levels are electrically isolated.

An operating tool with a 2.5 mm blade (210-719) is required to open the CAGE CLAMP® S connections.

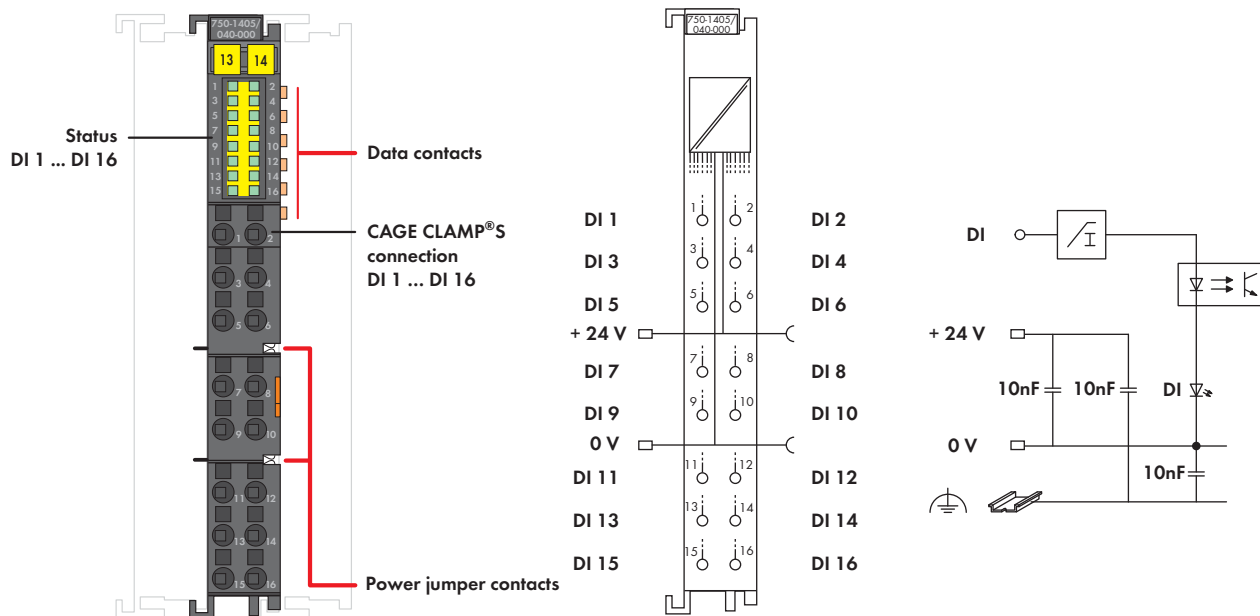
- The module is ideally suited for operation in harsh environmental conditions:**
- extended temperature range
  - higher dielectric strength and EMC resistance
  - higher vibration and shock resistance

Description	Item No.	Pack. Unit
8DI 24VDC 3.0ms, 2-wire connection /XTR	750-1415/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm</b>	210-719	50
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP® S	
Cross sections	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> / AWG 24 ... 16	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	46.8 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Number of inputs	8
Input type	High-side switching
Signal voltage (0)	-3 V ... +5 VDC (Type 1/3)
Signal voltage (1)	+11 V ... +30 VDC (Type 3)
Input current (typ.)	+1.6 mA (at 5 VDC) +4.3 mA ... +4.6 mA (at 24 VDC)
Input filter	3.0 ms
Current consumption (internal)	6 mA
Current consumption typ. (field side)	2 mA
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	8 bits
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# 16-Channel Digital Input Module 24 VDC


for eXTReme environmental conditions; high-side switching



This digital input module provides 16 channels at a width of just 12 mm. It receives binary control signals from digital field devices (e.g., sensors, encoders, switches or proximity switches). The module features CAGE CLAMP® S connections providing push-in termination of solid conductors. Each input channel has a noise-rejection RC filter with 3.0 ms time constant. A green LED indicates the switched status of each channel. Field and system levels are electrically isolated.

The module is ideally suited for operation in harsh environmental conditions:

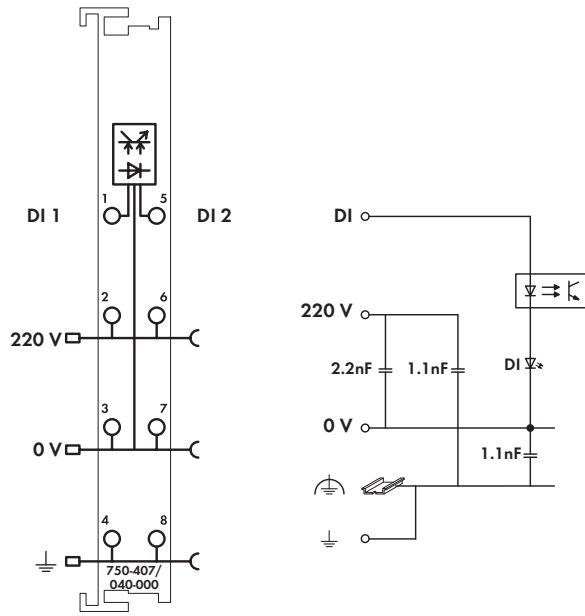
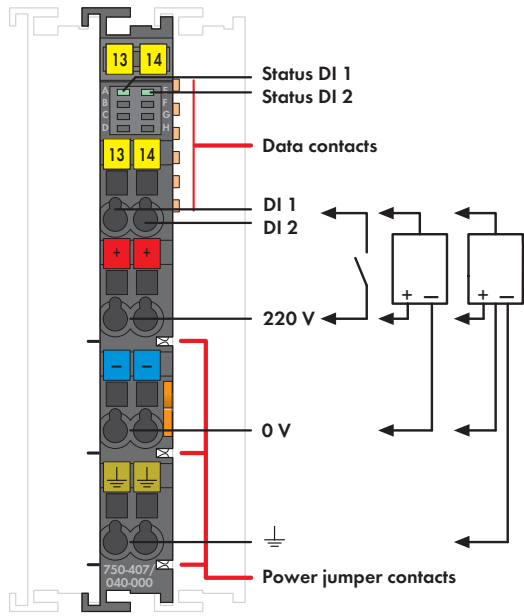
- extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
16DI 24VDC 3.0ms /XTR	750-1405/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm</b>	210-719	50
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP® S	
Cross sections	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> / AWG 24 ... 16	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	60 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Number of inputs	16
Input type	Type 1 (IEC 61131-2), high-side switching
Signal voltage (0)	-3 V ... +5 VDC
Signal voltage (1)	15 V ... 30 VDC
Input current (typ.)	+0.6 mA (at 5 VDC) +2.1 mA ... +2.4 mA (at 24 VDC)
Input filter	3.0 ms
Delay time "0" > "1"	3 ms
Delay time "1" > "0"	4 ms
Current consumption (internal)	25 mA
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	16 bits
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# 2-Channel Digital Input Module 220 VDC


for eXTReme environmental conditions; 2- to 4-wire connection; high-side switching



This digital input module receives control signals from digital field devices (e.g., sensors). The module is a 4-conductor device allowing direct connection of sensors with ground contact. Each input module has a 3.0 ms noise-rejection filter. Field and system levels are electrically isolated. When using the ground CAGE CLAMP® connection, the field power must be reapplied after every seven 750-407/040-000 I/O modules!

**The module is ideally suited for operation in harsh environmental conditions:**

- extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

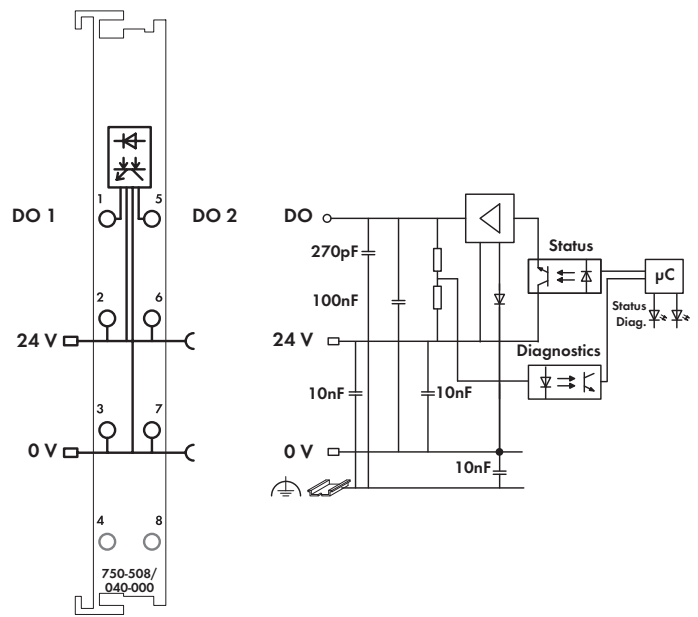
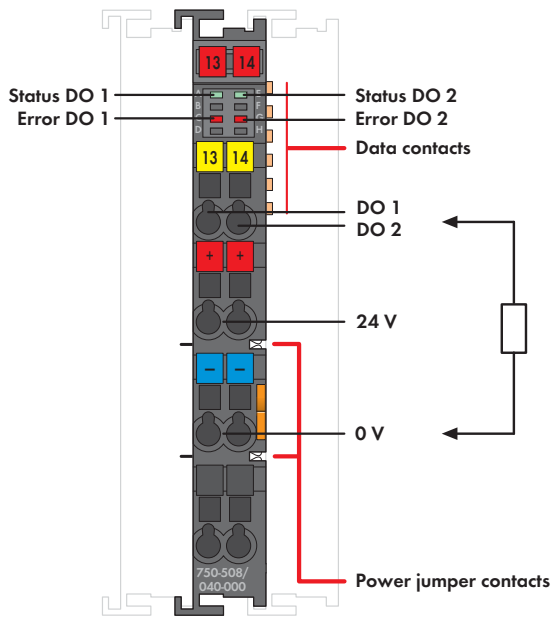
Description	Item No.	Pack. Unit
2DI 220VDC 3.0ms /XTR	750-407/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	48 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Number of inputs	2
Signal voltage (0)	-3 V ... +100 VDC
Signal voltage (1)	160 V ... 286 VDC
Voltage via power jumper contacts	220 VDC (-20 % ... +25 %)
Input current (typ.)	1.2 mA at 220 VDC
Input filter	3.0 ms
Current consumption (internal)	5 mA
Current via power jumper contacts (max.)	10 A (operating temperature < 60 °C); 8 A (60 °C ... 70 °C operating temperature)
Isolation (supply/DIN rail)	Rated insulation voltage: 2.5 kV AC or 3.5 kV DC Rated surge voltage: 5 kV Overvoltage category: III
Bit width	2 bits
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5



## 2-Channel Digital Output Module 24 VDC


for eXTReme environmental conditions; short-circuit protected, high-side switching, with diagnostics



This digital output module transmits control signals from the automation device to the connected actuators. All outputs are short-circuit proof. This output module detects the following errors: overload, short-circuit and wire break. The status is transmitted to the fieldbus coupler and indicated by LEDs. The module is a 3-conductor device. Field and system levels are electrically isolated.

The module is ideally suited for operation in harsh environmental conditions:

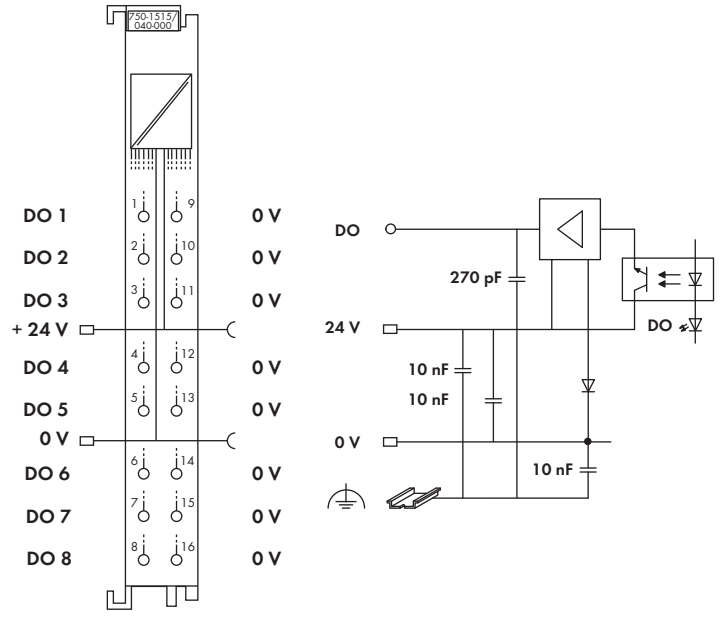
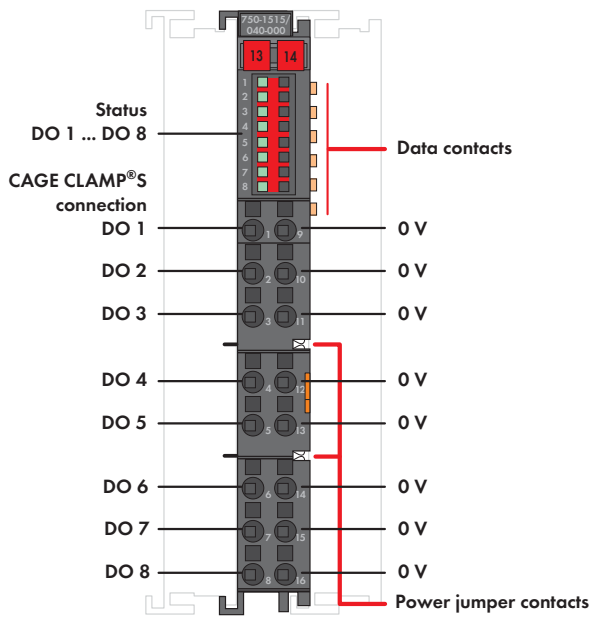
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
2DO 24VDC 2.0A/Diagnostics /XTR	750-508/040-000	1
Interference-free for use in safety functions (see manual)		
Accessories	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
Approvals		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	48.6 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
No. of outputs	2
Output type	High-side switching
Type of load	Inductive, resistive loads and lamps
Max. switching frequency	1 kHz
Output current (max.)	2 A
Current consumption (internal)	14 mA
Current consumption typ. (field side)	7 mA + charge
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	2 bits
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# 8-Channel Digital Output Module 24 VDC

for eXTReme environmental conditions; high-side switching, 2-wire connection



This 2-wire digital output module provides 8 channels at a width of just 12 mm. It transmits binary control signals from the automation device to the connected actuators (e.g., magnetic valves, contactors, transmitters, relays or other electrical loads).

The module features CAGE CLAMP® S connections providing push-in termination of solid conductors.


A green LED indicates the switched status of each channel.

Field and system levels are electrically isolated.

An operating tool with a 2.5 mm blade (210-719) is required to open the CAGE CLAMP® S connections.

**The module is ideally suited for operation in harsh environmental conditions:**

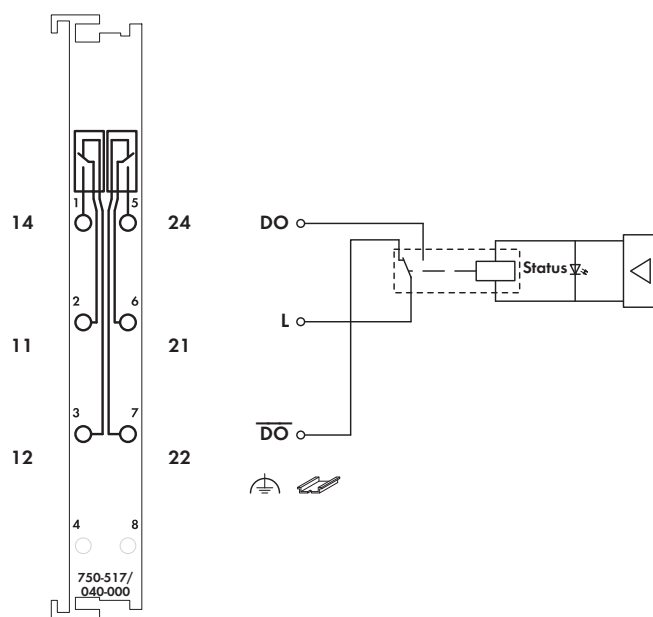
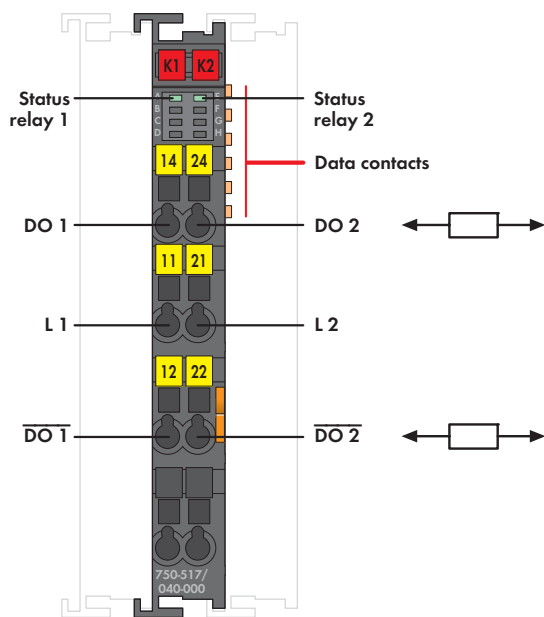
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
8DO 24VDC 0.5A, 2-wire connection /XTR	750-1515/040-000	1
Interference-free for use in safety functions (see manual)		
Accessories	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm</b>	210-719	50
Approvals		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP® S	
Cross sections	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> / AWG 24 ... 16	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	48 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
No. of outputs	8
Output type	High-side switching
Type of load	Inductive, resistive loads and lamps
Max. switching frequency	1 kHz
Output current (max.)	0.5 A, short-circuit protected
Max. current consumption (internal)	20 mA
Current consumption typ. (field side)	15 mA
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	8 bits
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5


## 2-Channel Relay Output Module 230 VAC, 1.0 A

for eXTReme environmental conditions, potential-free, 2 changeover contacts



This digital output module transmits control signals from the automation device to the connected actuators.  
 The internal system voltage triggers the relay.  
 The NO contacts are electrically isolated.  
 The switched status of the relay is shown by a LED.

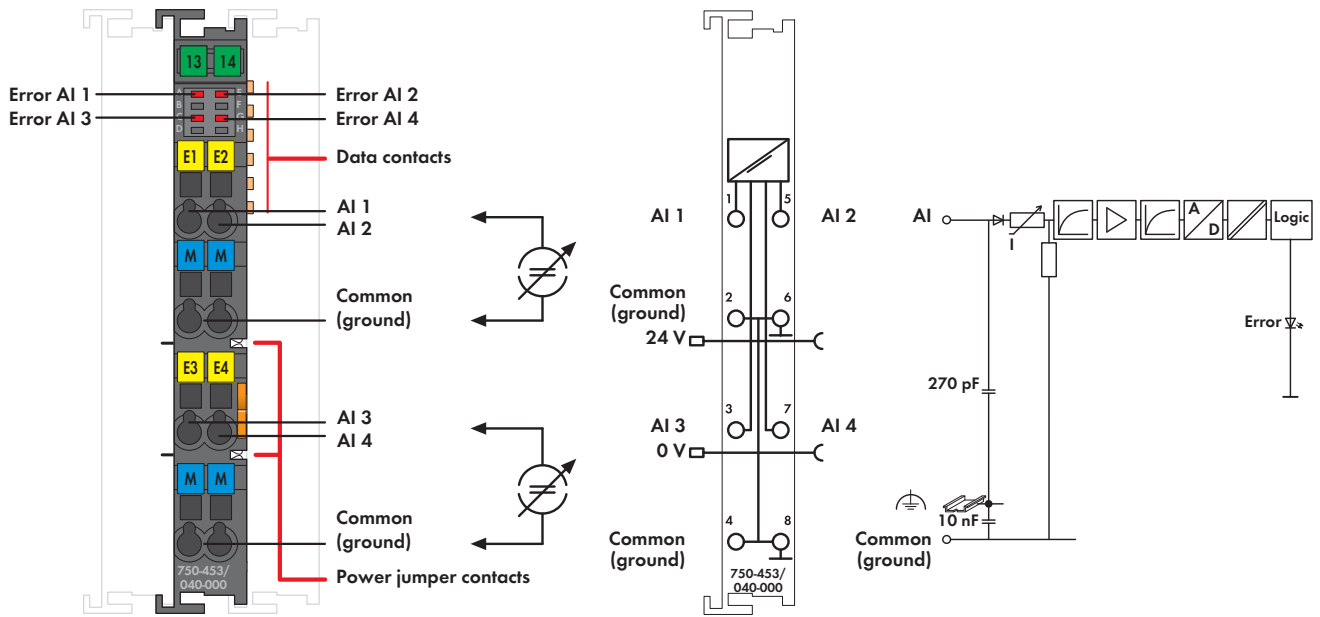
**The module is ideally suited for operation in harsh environmental conditions:**  
 - strongly extended temperature range  
 - higher dielectric strength and EMC resistance  
 - higher vibration and shock resistance

Description	Item No.	Pack. Unit
2DO 230VAC 1.0A/ Relay 2CO/ potential-free /XTR	750-517/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	52.5 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
No. of outputs	2 changeover contacts
Max. switching frequency	6/min (at nominal load)
Pull-in time (max.)	8 ms
Drop-out time (max.)	4 ms
Contact material	Silver alloy
Mechanical life (min.)	5 x 10 <sup>6</sup> (180 switching cycles/min.)
Electrical life (min.)	1 x 10 <sup>6</sup> (1 A AC/250 V) (resistive load)
Max. switching voltage	250 VAC / 300 VDC
Min. switching current	100 mA / 12 VDC
Max. switching current	1 A AC; 1 A at 40 VDC; 0.15 A at 300 VDC
Max. current consumption (internal)	90 mA
Isolation (supply/DIN rail)	Rated insulation voltage: 2.5 kV AC or 3.5 kV DC Rated surge voltage: 5 kV Overvoltage category: III
Internal bit width	2-bit output
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# 4-Channel Analog Input Module 0/4-20 mA


for eXTReme environmental conditions; single-ended



The analog input module processes standard 0/4-20 mA signals. The input signal is electrically isolated and transmitted with a resolution of 12 bits. The internal system supply powers the module. The input channels of the module have a common ground potential.

The module is ideally suited for operation in harsh environmental conditions:

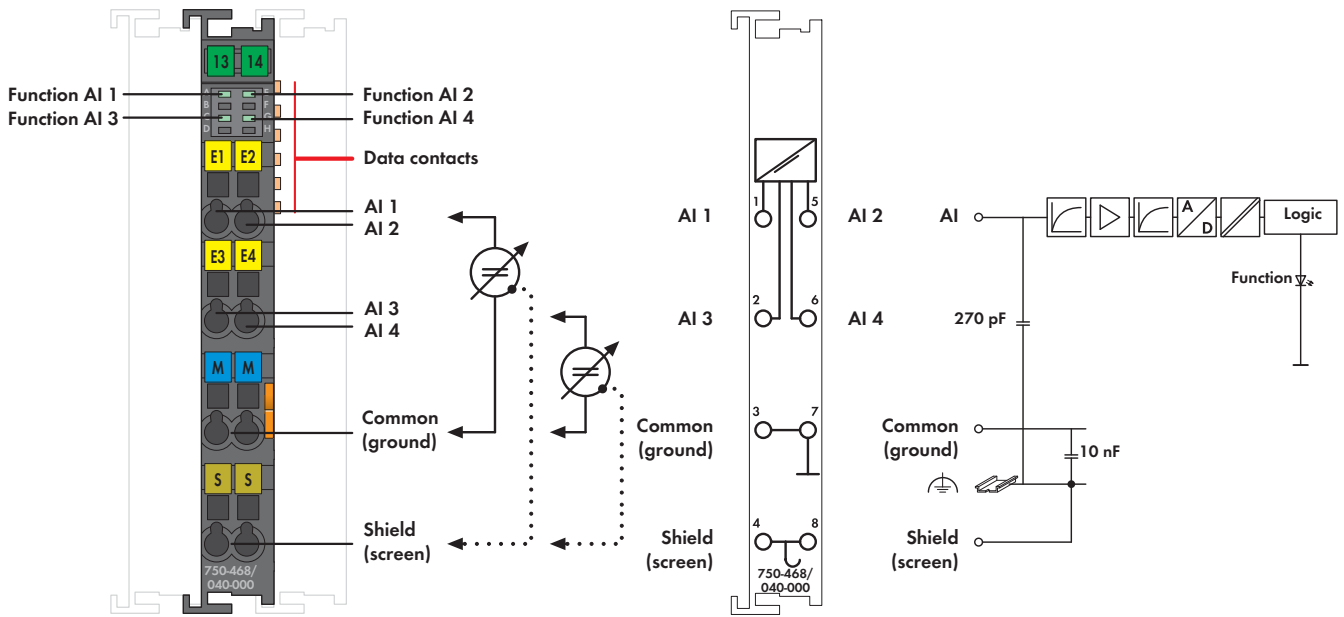
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration resistance

Description	Item No.	Pack. Unit
4AI 0-20mA S.E. /XTR	750-453/040-000	1
4AI 4-20mA S.E. /XTR	750-455/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	51 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Number of inputs	4
Signal characteristic	Single ended
Signal current	0 mA ... 20 mA (750-453/040-000) 4 mA ... 20 mA (750-455/040-000)
Input voltage (max.)	32 V
Input resistance	< 100 Ω/ 20 mA
Conversion time (typ.)	10 ms
Resolution	12 bits
Measuring error (25 °C)	< ± 0.1 % of the full scale value
Temperature coefficient	< ± 0.01 % / K of the full scale value
Current consumption (internal)	65 mA
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	4 x 16 bits data 4 x 8 bits control/status (optional)
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27

## 4-Channel Analog Input Module 0-10 V

for eXTReme environmental conditions; single-ended



The analog input module processes standard 0–10 V signals. The input signal is electrically isolated and transmitted with a resolution of 12 bits.


The internal system supply powers the module.

The input channels of the module have a common ground potential.

The shield (screen) is directly connected to the DIN rail.

The module is ideally suited for operation in harsh environmental conditions:

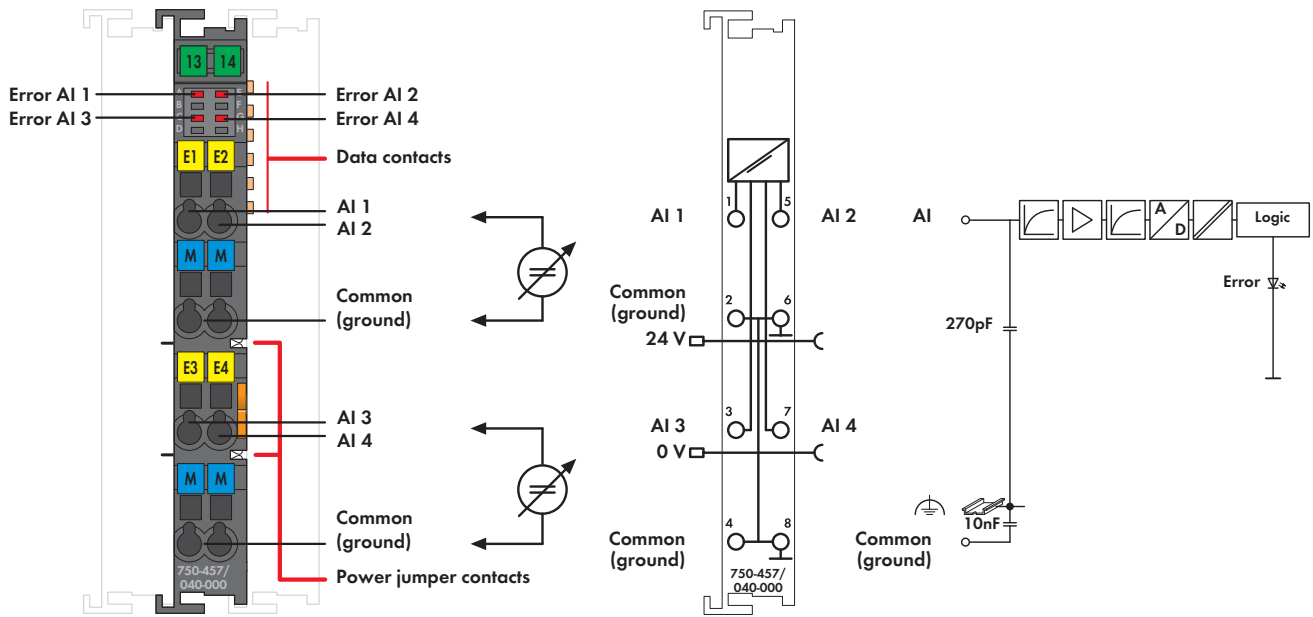
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
4AI 0-10V DC S.E. /XTR	750-468/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP <sup>®</sup>	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	52.5 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Number of inputs	4
Signal characteristic	Single ended
Signal voltage	0 V ... 10 V
Input voltage (max.)	35 V
Internal resistance	133 kΩ
Conversion time (typ.)	4 ms
Resolution	12 bits
Measuring error (25 °C)	< ± 0.2 % of the full scale value
Temperature coefficient	< ± 0.01 % / K of the full scale value
Current consumption typ. (internal)	60 mA
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C
	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C
	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C
	<sup>1)</sup> including residual ripple of 15 %
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	4 x 16 bits data
	4 x 8 bits control/status (optional)
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27

# 5 4-Channel Analog Input Module ±10 V


for eXTReme environmental conditions; single-ended



This analog input module processes standard ±10 V signals. The input signal is electrically isolated and transmitted with a resolution of 12 bits. The internal system supply powers the module. The input channels of the module have a common ground potential.

The module is ideally suited for operation in harsh environmental conditions:

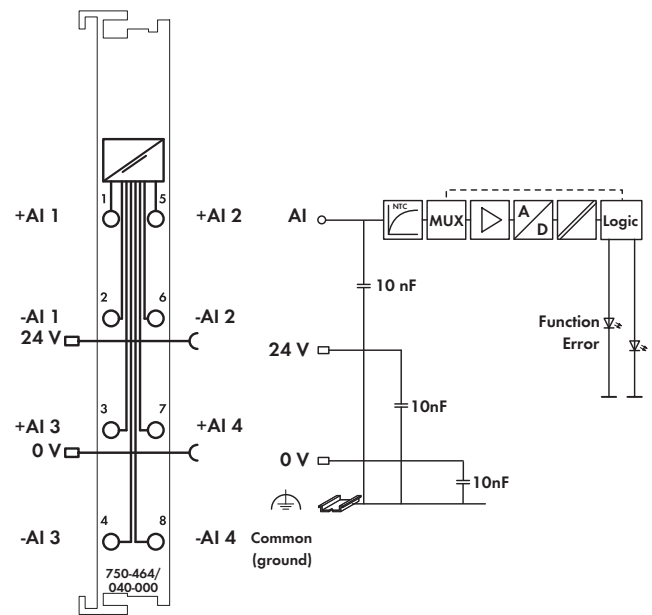
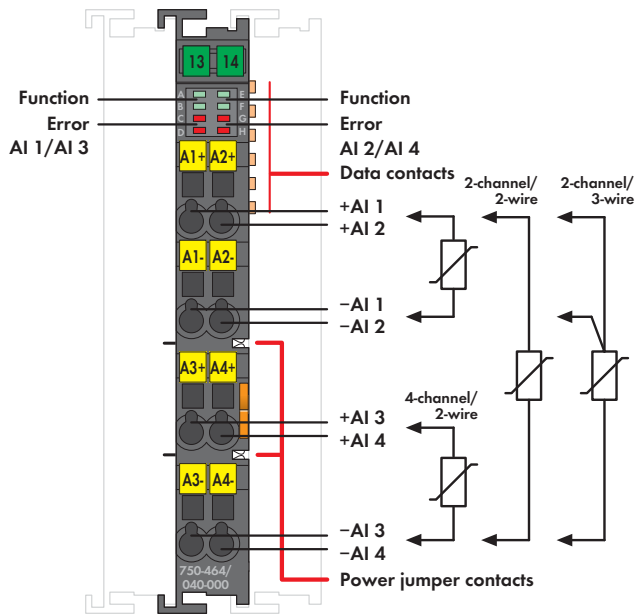
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
4AI ±10VDC S.E. /XTR	750-457/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	50.5 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Number of inputs	4
Signal characteristic	Single ended
Signal voltage	± 10 V
Input voltage (max.)	± 40 V
Input resistance	> 100 kΩ
Conversion time (typ.)	10 ms
Resolution	12 bits
Measuring error (25 °C)	< ± 0.1 % of the full scale value
Temperature coefficient	< ± 0.01 % / K of the full scale value
Current consumption (internal)	65 mA
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C
	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C
	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C
	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	4 x 16 bits data
	4 x 8 bits control/status (optional)
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27

## 2-/4-Channel Analog Input Module for RTDs

for eXTReme environmental conditions



The input module directly connects to Pt or Ni resistance sensors and potentiometers.

It can be operated as a 2-channel (2- and 3-wire technology) or 4-channel (2-wire technology) module.

The bus module linearizes the entire temperature range. A sensor error (short circuit, line break or measuring range overflow) is indicated by a red LED.

The module can be configured via WAGO-I/O-CHECK or GSD files.

The module features multiple setting options and high accuracy.

The module is ideally suited for operation in harsh environmental conditions:

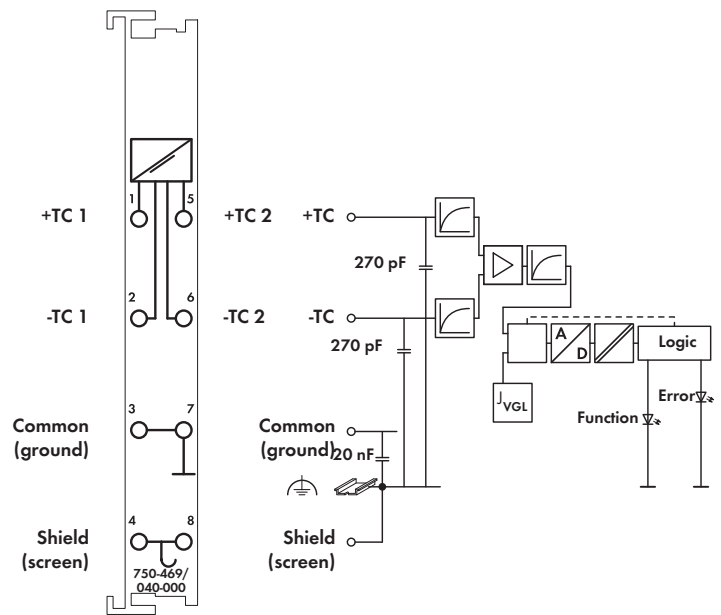
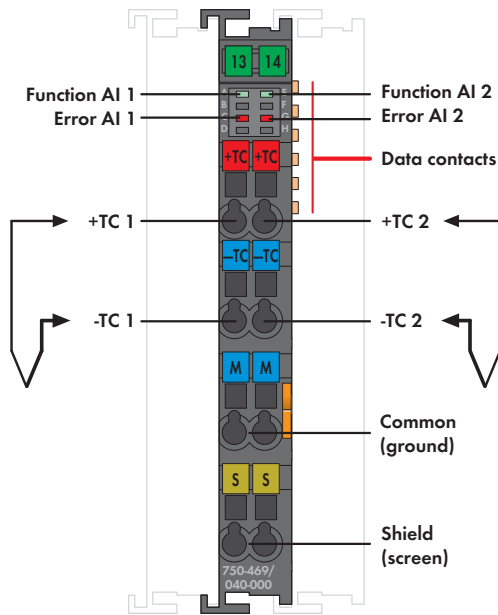
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
2/4 AI RTD configurable /XTR	750-464/040-000	1
Accessories	Item No.	Pack. Unit
Miniature WSB Quick marking system plain	248-501	5
with marking	see Section 11	
Approvals		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
Weight	47.3 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994	
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5	

Technical Data	
Number of inputs	2 / 4 (default setting)
Sensor types	Pt100 (default), Pt200, Pt500, Pt1000 (IEC 751), Ni100, Ni1000 (DIN 43760), Ni120 (Minco), Ni1000 (TK 5000),
	2-channel operation: potentiometer, resistance measurement 10 Ω ... 5000 Ω, 10 Ω ... 1200 Ω
Sensor connection	2-conductor (default setting), 3-conductor (2-channel operation)
Measuring current (typ.)	≤ 350 μA per measurement circuit
Measurement repetition rate (standard)	1.1 s
Measurement repetition rate (2-channel/2-conductor)	0.63 s
Response time (max.)	4 s
Resolution	16 bits (0.1 °C)
Conversion time	≤ 320 ms
Measuring error (25 °C)	≤ 1 K in the entire temp. range, ≤ 0.5 K in the restricted temp. range (-30 °C ... +120 °C)
Accuracy (+25 °C)	≤ ± 0.2% of full scale value; typ.: ≤ ± 0.1% of full scale value
Temperature coefficient	≤ 20 ppm/K; typ. ≤ 15 ppm/K
Current consumption typ. (internal)	50 mA
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	4 (2) x 16 bits data 4 (2) x 8 bits control/status (option)
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27

## 2-Channel Analog Input Module for Thermocouples

for eXTReme environmental conditions



This input module directly connects to two thermocouples. Internal electrical isolation allows operation of grounded sensors. The bus module linearizes the entire temperature range. Cold junction compensation mitigates the clamping unit offset voltage over the 0–55 °C operating range. A line break is indicated by a red LED. A green LED indicates readiness for operation and error-free communication with the bus coupler. The shield (screen) is directly connected to the DIN rail.

The module is ideally suited for operation in harsh environmental conditions:

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

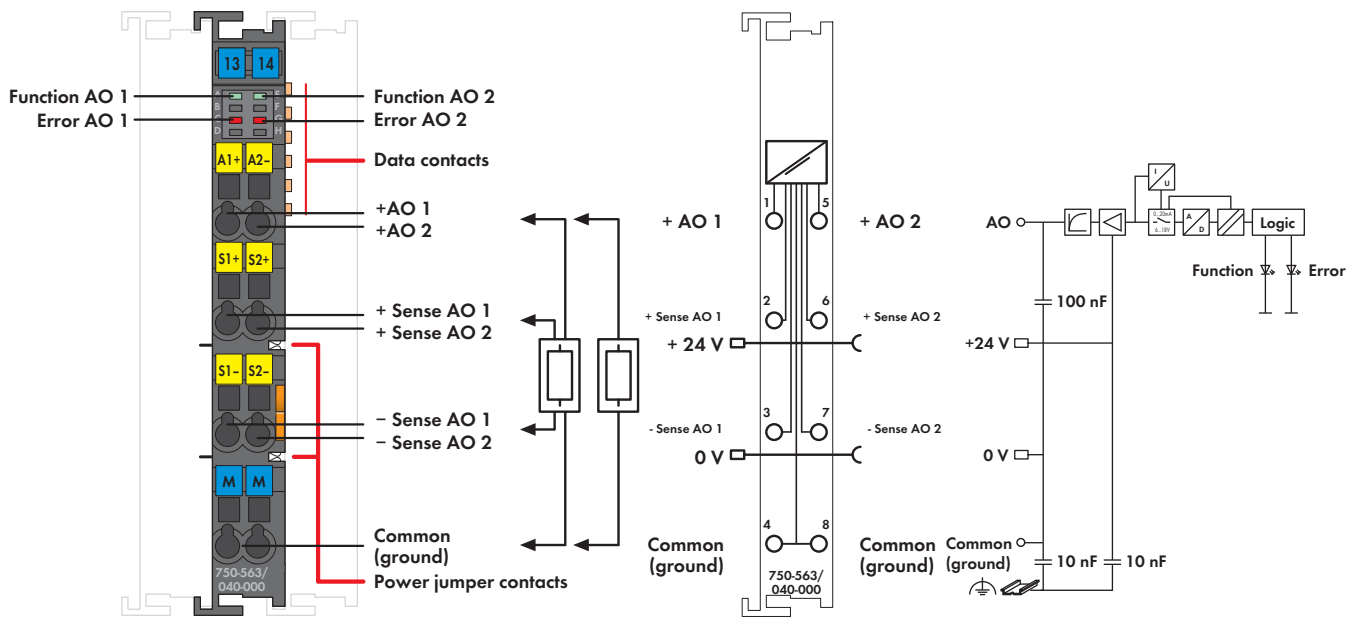
Description	Item No.	Pack. Unit
2AI Thermocouple/configurable /XTR	750-469/040-000	1
Accessories	Item No.	Pack. Unit
Miniature WSB Quick marking system plain	248-501	5
with marking	see Section 11	
Approvals		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100; Height from upper-edge of DIN 35 rail	
Weight	38.2 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994	
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5	

Technical Data	
Number of inputs	2
Sensor types	Type L: -100 °C ... +900 °C; Type K: -100 °C ... +1370 °C; Type J: -100 °C ... +1200 °C; Type E: -100 °C ... +1000 °C; Type T: -100 °C ... +400 °C; Type N: -100 °C ... +1300 °C; Type U: -25 °C ... +600 °C; Type B: +600 °C ... +1800 °C; Type R: 0 °C ... +1700 °C; Type S: -50 °C ... +1700 °C;
	-30 mV ... +30 mV; -60 mV ... +60 mV; -120 mV ... +120 mV
Internal resistance	1 MΩ
Cold junction compensation	at each pair of terminal blocks
Resolution (over entire range)	0.1 °C
Conversion time	320 ms (each channel)
Measuring error (25 °C)	< ± 6 K (volt. input < ± 2 K, cold junct. < ± 4 K)
Temperature coefficient	< ± 0.2 K/K
Max. admissible current between the ground contacts 3 and 7:	100 mA
Max. current consumption (internal)	65 mA
Voltage via power jumper contacts	24 VDC
	under laboratory conditions +15 °C ... +35 °C 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	2 x 16 bits data 2 x 8 bits control/status (optional)
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27



# 2-Channel Analog Output Module, 0/4 ... 20 mA / 6 ... 18 VDC

for eXTReme environmental conditions; 16-bit, configurable



This analog output module generates 0/4–20 mA output currents or 6–18 V output voltages for the field.

Output ranges can be configured via WAGO-I/O-CHECK or GSD files.

The module has two short-circuit-proof output channels and enables direct connection of two 2-wire actuators to AO 1 and ground or AO2 and ground.



Signals are output via AO 1 or AO 2. In addition, the sense lines from 4-wire actuators can be connected to -Sense AO1 and +Sense AO1 or -Sense AO2 and +Sense AO2.

Both output channels have a common ground potential.

The output signal is electrically isolated and transmitted with a resolution of 16 bits. Both internal system and field side supply power the module.

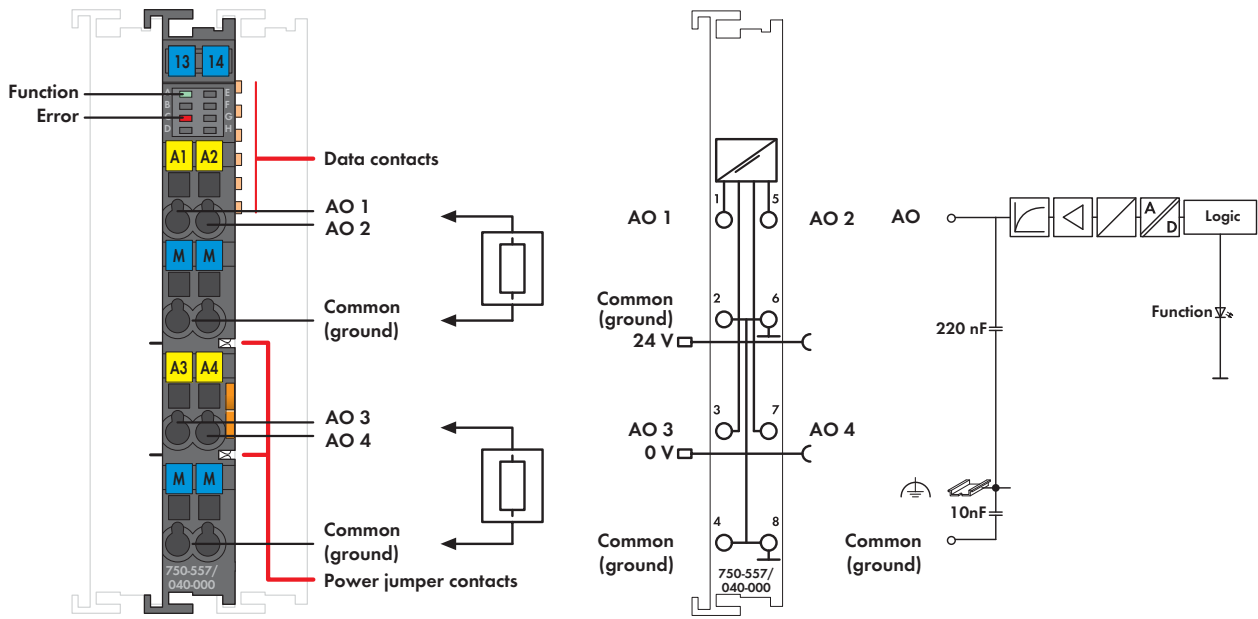
**The module is ideally suited for operation in harsh environmental conditions:**

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
2 AO 0/4-20mA / 6-18VDC configurable / XTR	750-563/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification		
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
Weight	53.5 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2	
Shock resistance	acc. to IEC 60068-2-27	

Technical Data	
No. of outputs	2
Operation modes	configurable: 0 mA ... 20 mA; 4 mA ... 20 mA; 6 V ... 18 V
Load impedance	> 1.8 kΩ (voltage output) < 500 Ω (current output)
Resolution	16 bits
Conversion time (typ.)	5 ms
Recovery time (typ.)	< 300 μs
Measuring error (25 °C)	< ± 0.05 % of the scale end value
Temperature coefficient	< ± 100 ppm
Current consumption (internal)	80 mA ... 110 mA
Voltage via power jumper contacts	24 VDC under laboratory conditions +15 °C ... +35 °C min. ... 31.2 V <sup>1)</sup> for -40 °C ... +55 °C min. ... 28.8 V <sup>1)</sup> for +55 °C ... +70 °C min. ... 26.4 V <sup>1)</sup>
	min. voltage range: 21.6 V (24 V - 10 %); min. current range: 20.4 V (24 V - 15 %); <sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	2 x 16 bits data 2 x 8 bits control/status (optional)
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5


# 4-Channel Analog Output Module ±10 V/0-10 V for eXTReme environmental conditions



This analog output module generates standard ±10 V or 0-10 V signals. The output signal is electrically isolated and transmitted with a resolution of 12 bits. The internal system supply powers the module. The output channels of the module have a common ground potential.

The module is ideally suited for operation in harsh environmental conditions:

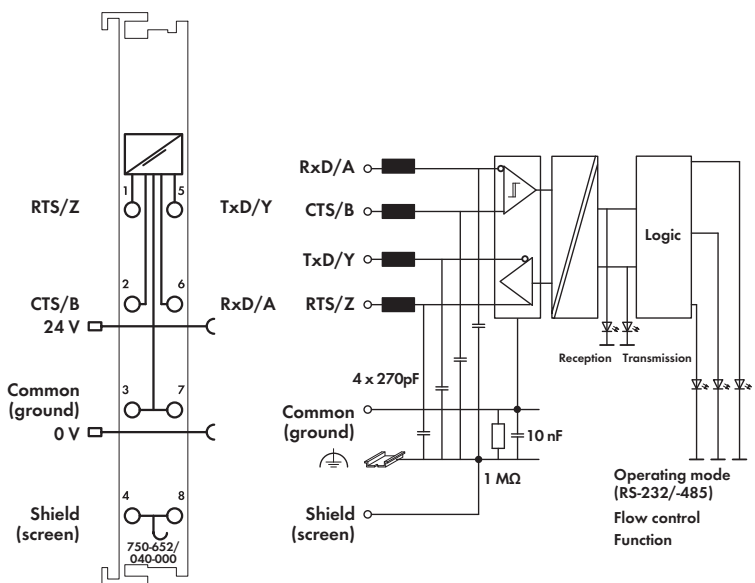
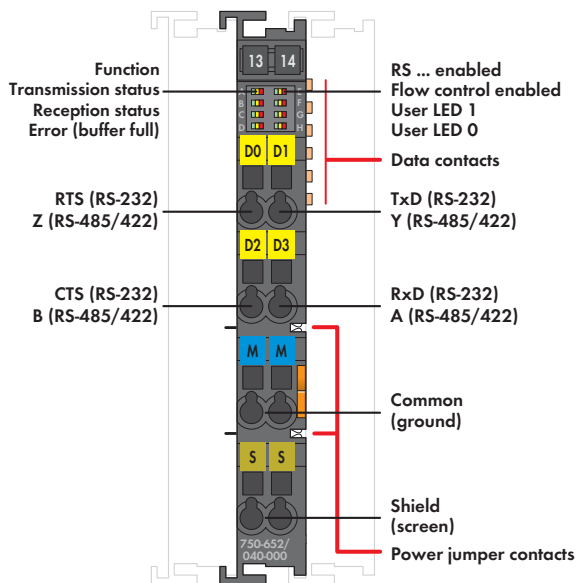
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
4AO ± 10VDC /XTR	750-557/040-000	1
4AO 0-10VDC /XTR	750-559/040-000	1
Accessories		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
Approvals		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	53.5 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
No. of outputs	4
Signal voltage	±10 V (750-557/040-000) 0 V ... 10 V (750-559/040-000)
Load impedance	> 5 kΩ
Resolution	12 bits
Conversion time (typ.)	10 ms
Recovery time (typ.)	100ms
Measuring error (25 °C)	< ± 0.1 % of the full scale value
Temperature coefficient	< ± 0.01 % / K of the full scale value
Max. current consumption (internal)	125 mA
Voltage via power jumper contacts	24 V DC
	under laboratory conditions +15 °C ... +35 °C
	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
	for -40 °C ... +55 °C
	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
	for +55 °C ... +70 °C
	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Bit width	4 x 16 bits data 4 x 8 bits control/status (optional)
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# Serial Interface RS-232 / RS-485



for eXTReme environmental conditions; freely configurable



This serial interface module connects RS-485, RS-422 or RS-232 interface devices to the WAGO-I/O-SYSTEM 750. It also provides gateways between the serial interface and the fieldbus systems supported by the WAGO-I/O-SYSTEM 750. No higher protocol level is required by the module. Communication is completely transparent to the fieldbus master, which provides a wide range of applications for the serial interface module. If required, communication protocols can be configured via fieldbus master. The 2560-byte input buffer provides for high data baud rates. At lower baud rates, the data received in lower priority tasks is evaluated without data loss.

The 512-byte output buffer provides fast transmission of larger data strings. The module can be configured via WAGO-I/O-CHECK or GSD files. Flexible baud rate and data width selection provides perfect adaptation to the respective application. **The module is ideally suited for operation in harsh environmental conditions:**

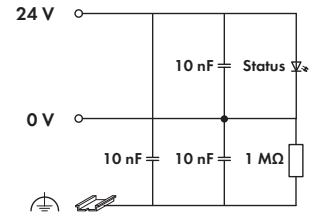
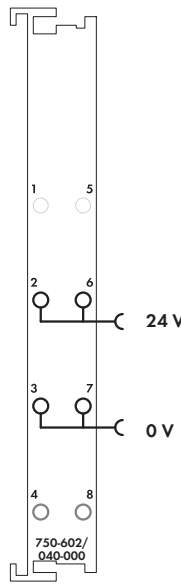
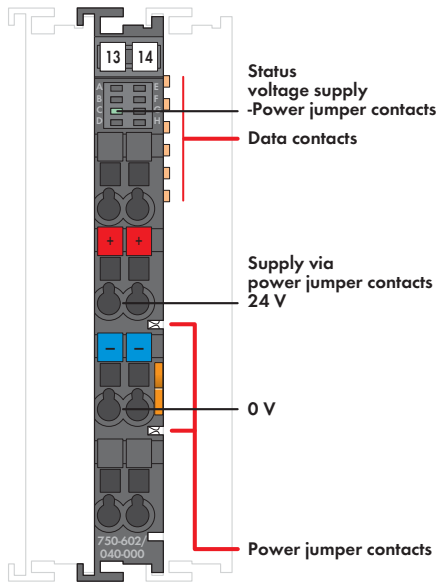
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
RS-232/RS-485 freely configurable /XTR	750-652/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification		
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
Weight	51 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Transmission channels	1 TxD / 1 RxD, full duplex, half duplex 7 or 8 bit data, 1 or 2 stop bit
Baud rate	9,600 baud (default setting) 300 baud ... 115,200 baud
Bit transfer	RS-485/-422: ISO 8482 / DIN 66259 - 4; RS-232: EIA/TIA-232-F
Line length	RS-485/-422: max. approx. 1000 m, RS-232: max. 40 m, data exchange mode/ DMX: max. 100 m twisted-pair cable
Buffer	2560 bytes for reception / 512 bytes for transmission
Internal bit width	8, 24 or 48 bytes (parametrizable)
Current consumption (internal)	85 mA
Voltage via power jumper contacts	24 VDC under laboratory conditions +15 °C ... +35 °C 18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup> for -40 °C ... +55 °C 18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup> for +55 °C ... +70 °C 18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27



# Supply Module 24 VDC

for eXTReme environmental conditions; passive



This supply module provides the I/O modules with the corresponding supply potential. Maximum available supply current to all connected modules is 10 A. When configuring the system, it must be ensured that this total current is not exceeded. Should higher currents be necessary, an intermediate supply module must be added to the assembly.

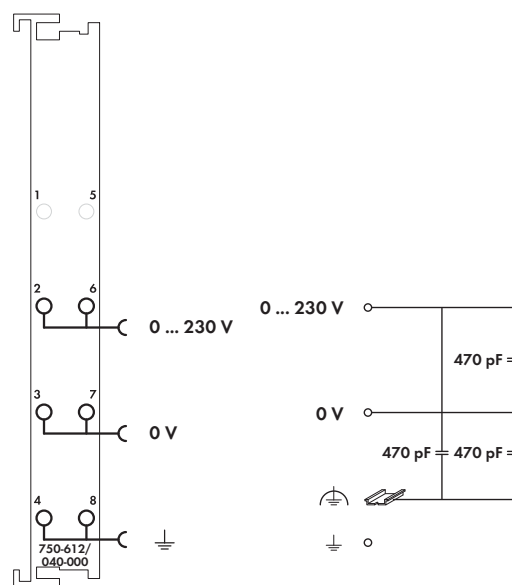
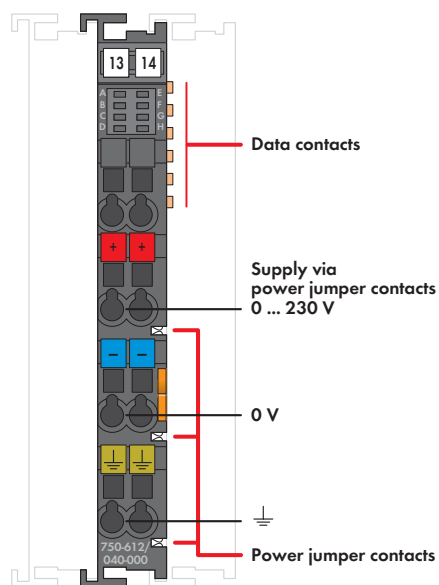
- The module is ideally suited for operation in harsh environmental conditions:**
- strongly extended temperature range
  - higher dielectric strength and EMC resistance
  - higher vibration and shock resistance

Description	Item No.	Pack. Unit
<b>24VDC Power Supply /XTR</b>	<b>750-602/040-000</b>	<b>1</b>
Accessories	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
 plain	<b>248-501</b>	<b>5</b>
with marking	see Section 11	
Approvals		
Conformity marking	CE	
Korea Certification		
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	44.1 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# Supply Module 230 V AC/DC

for eXTReme environmental conditions; passive





This supply module provides the I/O modules with the corresponding supply potential.

Maximum available supply current to all connected modules is 10 A. When configuring the system, it must be ensured that this total current is not exceeded. Should higher currents be necessary, an intermediate supply module must be added to the assembly.

**The module is ideally suited for operation in harsh environmental conditions:**

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

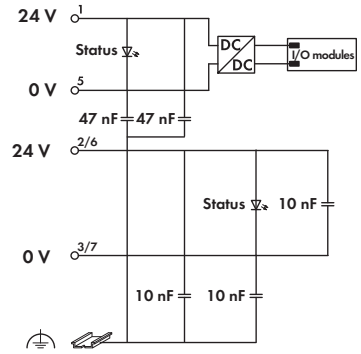
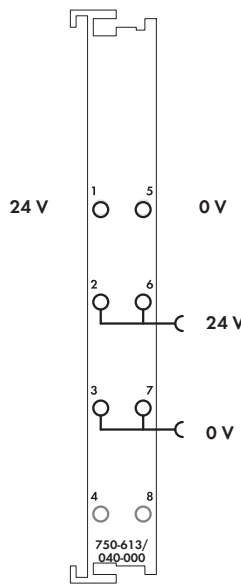
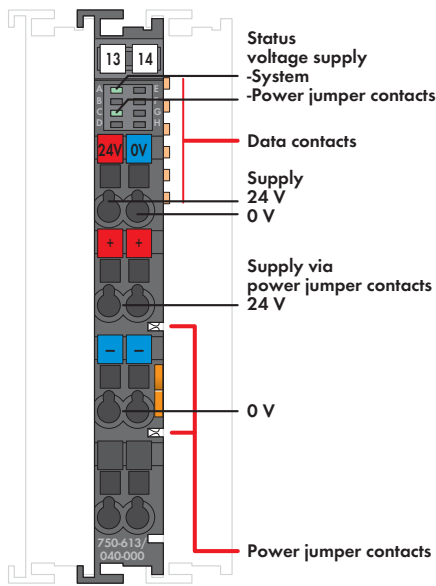
Description	Item No.	Pack. Unit
0-230V AC/DC Power Supply /XTR	750-612/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification		
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	51.5 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

## Technical Data

Voltage via power jumper contacts	0 V ... 230 V AC/DC (-20 % ... +25 %)
Current via power jumper contacts (max.)	10 A DC
Isolation (supply/DIN rail)	Rated insulation voltage: 2.5 kV AC or 3.5 kV DC Rated surge voltage: 5 kV Overvoltage category: III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5



# 5 Internal System Supply Module 24 VDC

for eXTReme environmental conditions



This internal system supply module increases the current supply for the internal system by 2 A.  
 If the internal current consumption of all modules is higher than 2 A, an additional supply module must be added.  
 The module also supplies field side power to the adjoining modules via the power jumper contacts.

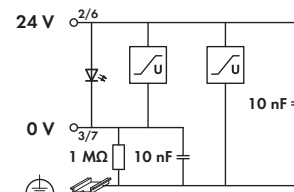
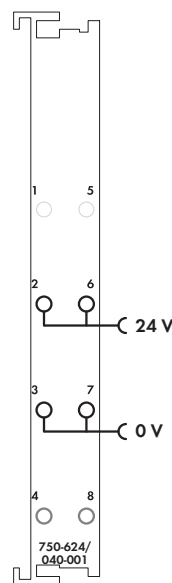
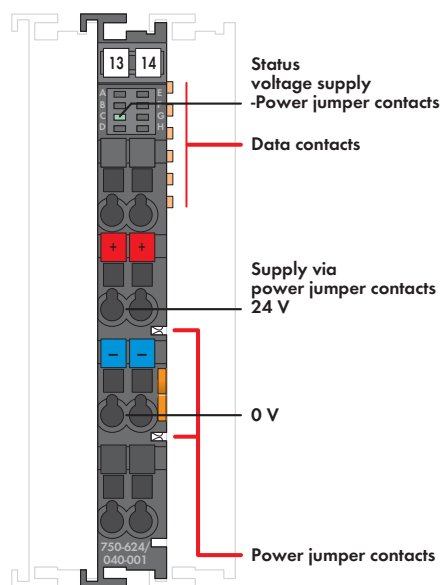
- The module is ideally suited for operation in harsh environmental conditions:**
- strongly extended temperature range
  - higher dielectric strength and EMC resistance
  - higher vibration and shock resistance

Description	Item No.	Pack. Unit
24VDC Bus Power Supply /XTR	750-613/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification		
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
<b>Technical Data</b>		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	58.5 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Input current max.	500 mA
Total current for I/O modules	2000 mA
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# Field-Side Power Supply Filter

for eXTReme environmental conditions; for field-side power supply



The WAGO I/O-SYSTEM 750 XTR can also be used in shipbuilding applications and onshore/offshore installations (e.g., platforms, loading facilities). This is possible via certification under the standards of leading agencies such as Germanischer Lloyd and Lloyds Register. Proper system operation is ensured (certified) by using this overvoltage protection module. This also applies to XTR I/O modules used in substations and/or telecontrol systems. The following modules are required for power supply: 750-626/040-000 Power Supply Filter (system and field supply) or 750-624/040-001 Field-Side Power Supply Filter (only field supply). WAGO's 750-624/040-001 Field-Side Power Supply Filter is equipped with surge suppression and can also be used as a power supply module.

The module is ideally suited for operation in harsh environmental conditions:

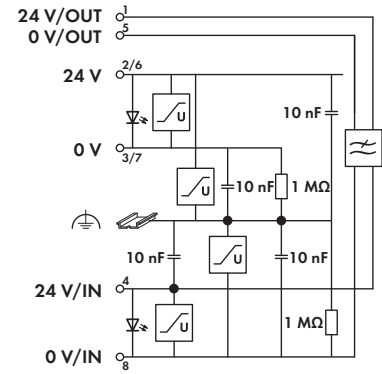
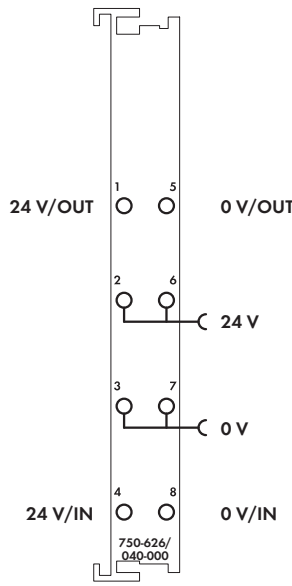
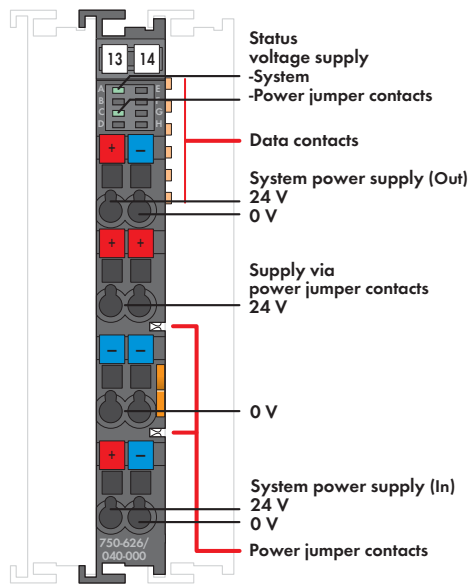
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
<b>24VDC Field-Side Power Supply Filter with Overvoltage (Surge) Protection /XTR</b>	<b>750-624/040-001</b>	<b>1</b>
Accessories	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
plain	<b>248-501</b>	<b>5</b>
with marking	see Section 11	
Approvals		
Conformity marking	CE	
Korea Certification	K	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	51 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

# Power Supply Filter

for eXTReme environmental conditions; for system and field-side power supply



The WAGO-I/O-SYSTEM 750 XTR can also be used in shipbuilding applications and onshore/offshore installations (e.g., platforms, loading facilities). This is possible via certification under the standards of leading agencies such as Germanischer Lloyd and Lloyds Register. Proper system operation is ensured (certified) by using this overvoltage protection module. This also applies to XTR I/O modules used in substations and/or telecontrol systems. The following modules are required for power supply: 750-626/040-000 Power Supply Filter (system and field supply) or 750-624/040-001 Field-Side Power Supply Filter (only field supply). WAGO's 750-626/040-000 Power Supply Filter filters the 24 V system power supply and is equipped with surge suppression. The power supply filter can also be used as a power supply module.

The module is ideally suited for operation in harsh environmental conditions:

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

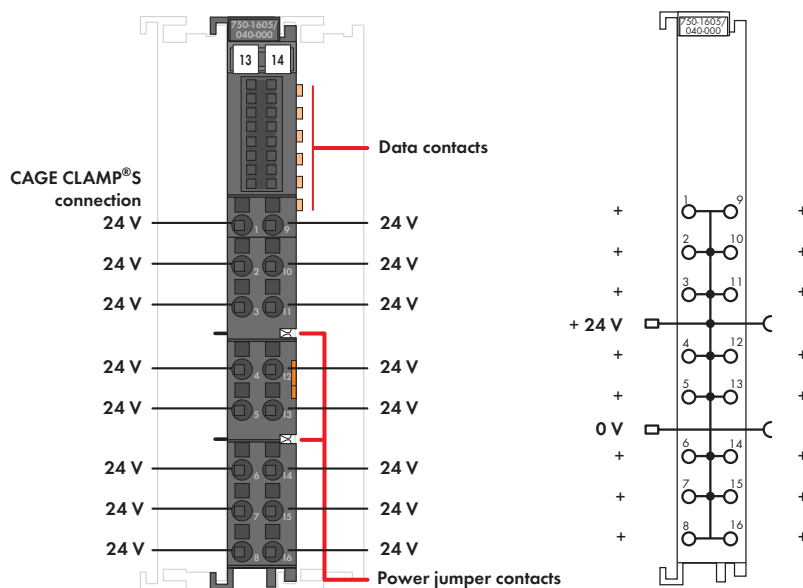
Description	Item No.	Pack. Unit
<b>24VDC Power Supply Filter with Overvoltage (Surge) Protection /XTR</b>	<b>750-626/040-000</b>	<b>1</b>
Accessories	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
plain	<b>248-501</b>	5
with marking	see Section 11	
Approvals		
Conformity marking	CE	
Korea Certification	K	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®	
Cross sections	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 24 ... 14	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	51 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via system voltage (max.)	1.5 A
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5



## Field-Side Connection Module 16+

for eXTReme environmental conditions; 24 VDC



The field side connection module provides 24 V power for the inputs of the 16-channel input module 750-1405/040-000, for example.


This eliminates the need for additional terminal blocks.

The 24 V supply and 0 V potential are derived from the internal power jumper contacts of an adjacent upstream I/O module. A connection of the potentials to the downstream I/O modules is made automatically via the power jumper contacts when snapping the I/O modules together. The 24 V power is provided to all 16 field-side CAGE CLAMP® S connections and the 0 V potential passed through without being used by the module.

An operating tool with a 2.5 mm blade (210-719) is required to open the CAGE CLAMP® S connections.

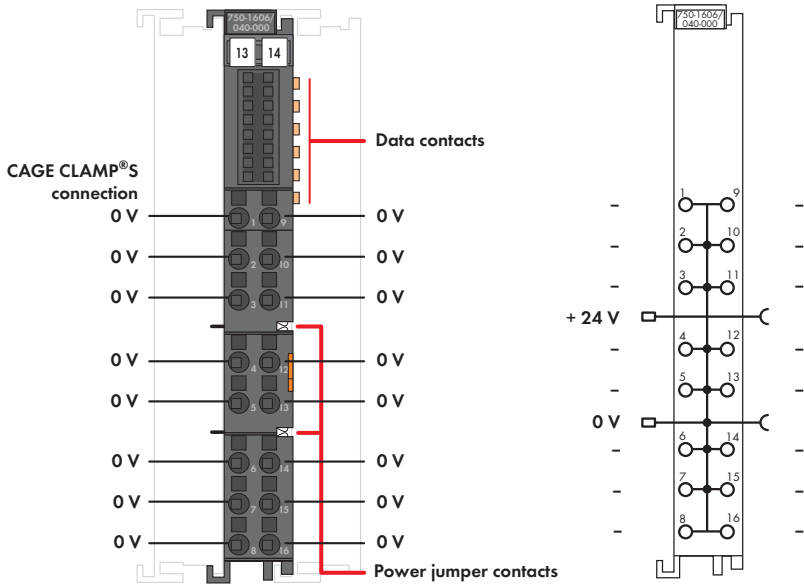
The module is ideally suited for operation in harsh environmental conditions:

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
Field-Side Connection Module 16+ /XTR	750-1605/040-000	1
Accessories	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm</b>	210-719	50
Approvals		
Conformity marking	CE	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP® S	
Cross sections	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> / AWG 24 ... 16	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	40.2 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5


# 5 Field-Side Connection Module 16- for eXTReme environmental conditions; 0 VDC



The field side connection module provides 0 V power. This eliminates the need for additional terminal blocks. The 24 V supply and 0 V potential are derived from the internal power jumper contacts of an adjacent upstream I/O module. A connection of the potentials to the downstream I/O modules is made automatically via the power jumper contacts when snapping the I/O modules together. The 0 V power is provided to all 16 field-side CAGE CLAMP®S connections and the 24 V potential passed through without being used by the module. An operating tool with a 2.5 mm blade (210-719) is required to open the CAGE CLAMP®S connections.

The module is ideally suited for operation in harsh environmental conditions:

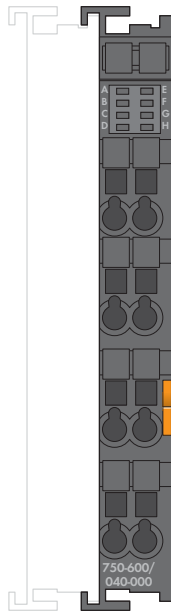
- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
Field-Side Connection Module 16- /XTR	750-1606/040-000	1
Accessories	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm	210-719	50
Approvals		
Conformity marking	CE	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	
Technical Data		
Wire connection	CAGE CLAMP®S	
Cross sections	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> / AWG 24 ... 16	
Strip lengths	8 ... 9 mm / 0.33 in	
Dimensions (mm) W x H x L	12 x 62 x 100	
	Height from upper-edge of DIN 35 rail	
Weight	42.1 g	
Operating temperature	-40 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)	
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m	

Technical Data	
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15 °C ... +35 °C	18 V ... 31.2 V (17.4 V ... 31.2 V) <sup>1)</sup>
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V) <sup>1)</sup>
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V) <sup>1)</sup>
	<sup>1)</sup> including residual ripple of 15 %
Current via power jumper contacts (max.)	10 A
Isolation (peak value)	510 VAC or 775 VDC power supply/DIN rail
Rated surge voltage	1 kV
Overvoltage category	III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5

## End Module

for eXTReme environmental conditions




An end module must be snapped onto the assembly at the end of a fieldbus node.

The end module completes the internal data bus, while providing correct data transmission.

The module is ideally suited for operation in harsh environmental conditions:

- strongly extended temperature range
- higher dielectric strength and EMC resistance
- higher vibration and shock resistance

Description	Item No.	Pack. Unit
End Module /XTR	750-600/040-000	1
<b>Accessories</b>		
<b>Miniature WSB Quick marking system</b>		
 plain	248-501	5
with marking	see Section 11	
<b>Approvals</b>		
Conformity marking	CE	
Korea Certification	KC	
Marine applications	GL	
UL 508		
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4	

Technical Data	
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	32.5 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	without temperature derating: 0 m ... 2000 m; with temperature derating: 2000 m ... 5000 m (0.5 K/100 m); max.: 5000 m
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27
EMC immunity of interference	acc. to EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	acc. to EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5