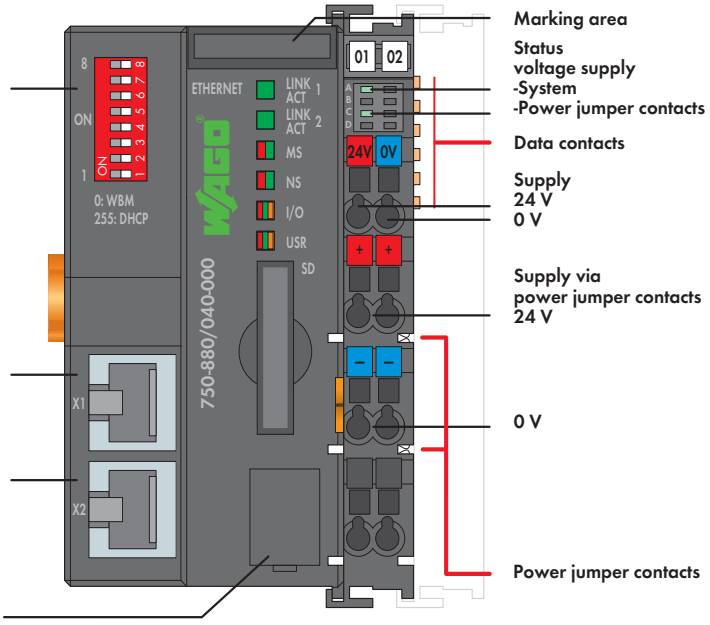
PLC - ETHERNET Programmable Fieldbus Controller

for eXTReme environmental conditions; 32-bit CPU, multitasking



In conjunction with the WAGO-I/O-SYSTEM, the ETHERNET PLC is used as a programmable controller within ETHERNET networks.
The PLC supports all digital, analog, and specialty modules found within the 750/753 Series, and is suitable for data rates of 10/100 Mbit/s.
Two ETHERNET interfaces and an integrated switch enable fieldbus wiring in a line topology. This eliminates 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.
The PLC supports both MODBUS/TCP and ETHERNET/IP for use in industrial environments. It also supports a wide variety of standard ETHERNET protocols for easy integration into IT environments (e.g., HTTP, BootP, DHCP, DNS, SNTP, SNMP, FTP).
For telecontrol applications, the 750-880/040-001 Controller supports the IEC 60870-5-101/-103-104, IEC 61850-7 and IEC 61400-25 communication protocols.

An integrated Web server provides the user with configuration options and status information from the controller.
The IEC 61131-3 programmable controller is multitasking-capable and features a battery-backed RTC.
A data memory of 1 MB is available.
The 750-880 PLC has a slot for a removable memory card, allowing device parameters or files (e.g., boot files) to be transferred from one controller to another. The memory card can be accessed via FTP and be used as an additional drive.

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
ETHERNET Controller /XTR	**750-880/040-000**	1
ETHERNET Telecontroller/XTR	**750-880/040-001**	1

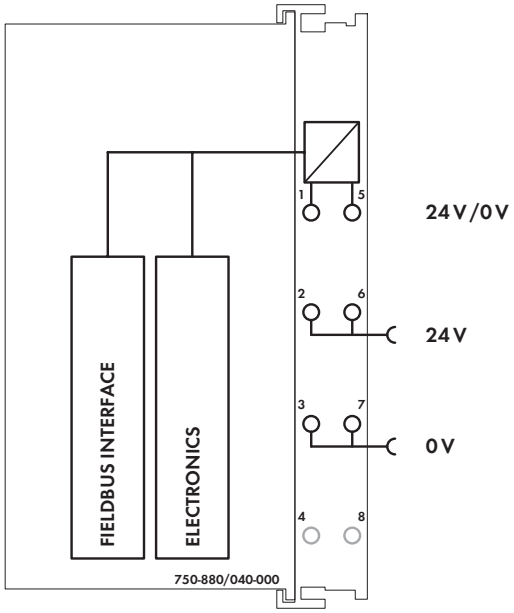
Accessories		Item No.	Pack. Unit
SD memory card, 1 GB		**758-879/000-001**	1
WAGO-I/O-PRO V2.3, RS-232 kit		**759-333**	1
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

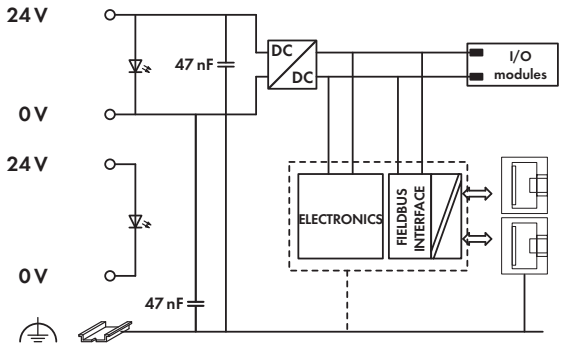
Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

System Data

No. of controllers 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, SNTP, FTP, SNMP
750-880/040-001	IEC 60870-5-101/-103/-104, IEC 61850,
	IEC 61400-25
Programming	WAGO-I/O-PRO
IEC 61131-3	IL, LD, FBD, ST, FC
SD card slot	Push-push mechanism, sealable cover lid
Type of memory card	SD and SDHC up to 32 GB (All
	guaranteed properties are only valid in
	connection with the WAGO 758-879/
	000-001 memory card.)





Technical Data

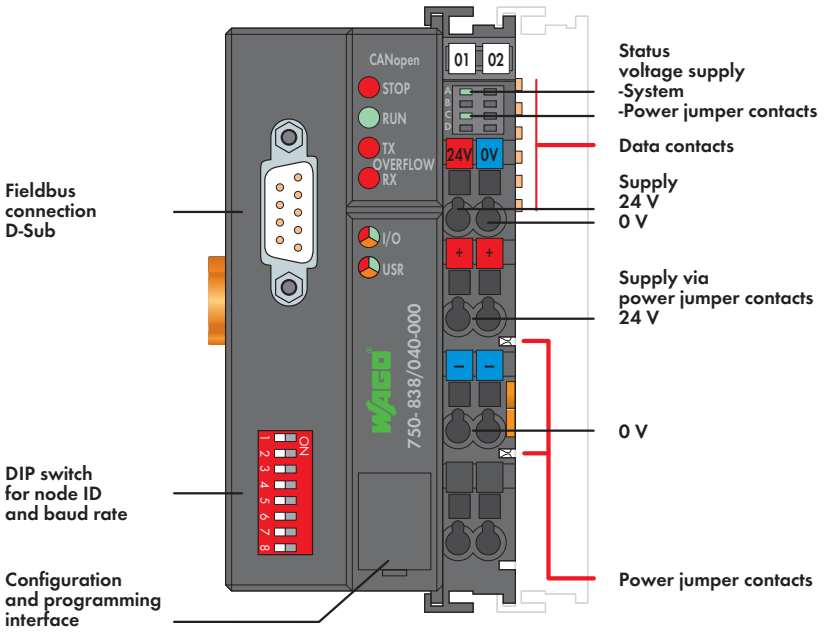
Number of I/O modules	64
Fieldbus	
Max. input process image	1020 words
Max. output process image	1020 words
Configuration	via PC
Program memory	1024 Kbytes
Data memory	1024 Kbytes
Non-volatile memory (retain)	32 Kbytes
Power supply	via CAGE CLAMP® connections, 24 VDC
Input current typ. at rated load (24 V)	500 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)	1700 mA
	up to 60°C operating temperature;
	1500 mA > 60°C operating temperature
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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] including residual ripple of 15 %
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated impulse voltage	1 kV
Overvoltage category	III

General Specifications

Operating temperature	-40 °C ... +70 °C
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	62 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	164 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 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, -29
Degree of protection	IP20
EMC: CE - immunity to 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: CE - 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

PLC - CANopen Programmable Fieldbus Controller, D-Sub

for eXTReme environmental conditions; 16-bit CPU



The CANopen PLC combines control functionality, I/O interface and fieldbus in one device.

Programming PLC applications is performed in compliance with IEC 61131-3. The programmer can access all fieldbus and I/O data.

Features and applications:
- Central control system is assisted by decentralized processing units
- Complex applications are divided into independent, testable units
- Programmable fault response in the event of a fieldbus failure

Notice: EDS files required

- Signal pre-processing reduces fieldbus transmissions
- Peripheral equipment can be controlled directly, resulting in faster system response times
- Compact, self-sufficient controller

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
CANopen Controller/XTR	**750-838/040-000**	1

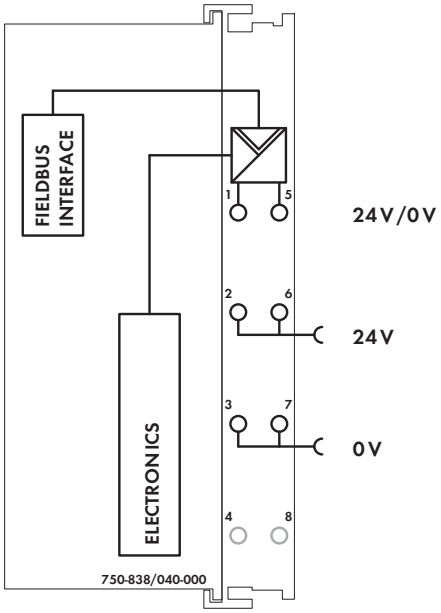
Accessories		Item No.	Pack. Unit
EDS files	Download: www.wago.com		
WAGO-I/O-PRO V2.3, RS-232 kit		**759-333**	1
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

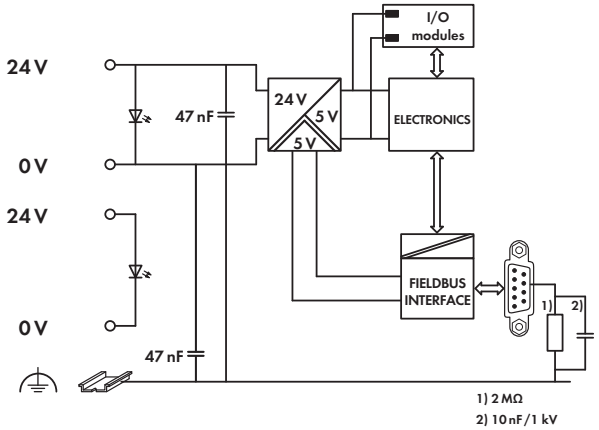
Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

System Data

No. of controllers connected to Master	110
Transmission medium	Shielded Cu cable 3 x 0.25 mm²
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
Programming	WAGO-I/O-PRO V2.3
IEC 61131-3	IL, LD, FBD, ST, FC





Technical Data

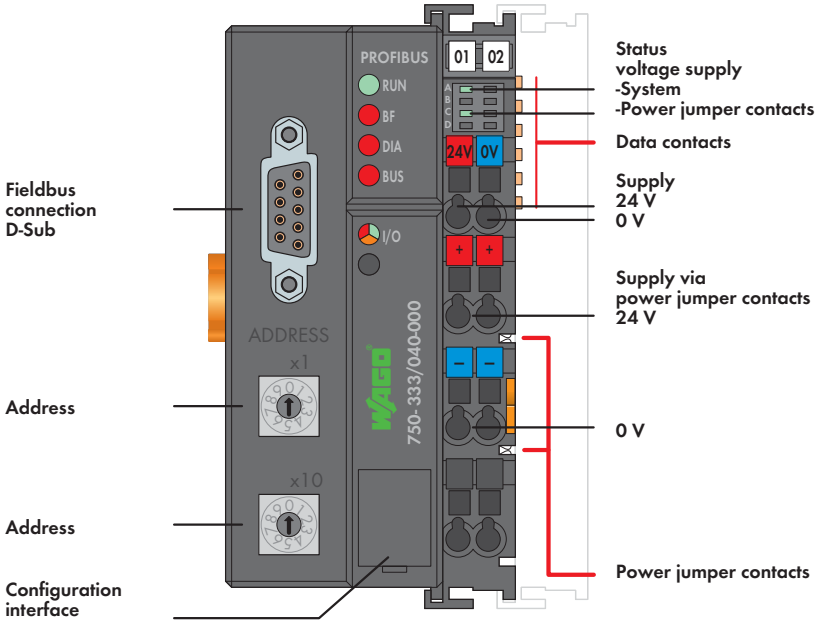
Number of I/O modules	64
Fieldbus	
Max. input process image	512 bytes
Max. output process image	512 bytes
Max. input variables	512 bytes
Max. output variables	512 bytes
Configuration	via PC or PLC
Program memory	128 Kbytes
Data memory	64 Kbytes
Non-volatile memory (retain)	8 Kbytes
Cycle time	< 3 ms for 1,000 statements /
	256 dig. I/Os
No. of PDOs	32 Tx / 32 Rx
No. of SDOs	2 server SDOs / 16 client SDOs
Communication profile	DS-301 V4.01
Device profile	DS-401 V 2.0
	Marginal check
	Edge-triggered PDOs
	Programmable error response
	DSP 405
	using function blocks NMT master can be
	programmed
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 / heartbeat
	Configuration of virtual modules
Power supply	via CAGE CLAMP® connections, 24 VDC
Max. input current (24 V)	500 mA
Efficiency of the power supply	90 %
Internal current consumption (5 V)	350 mA
Total current for I/O modules (5 V)	1650 mA
	up to 60 °C operating temperature;
	1250 mA > 60 °C operating temperature
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)[1]
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] including residual ripple of 15 %

General Specifications

Current via power jumper contacts (max.)	DC10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated impulse voltage	1 kV
Overvoltage category	III
Operating temperature	-40 °C ... +70 °C
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	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 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, -29
Degree of protection	IP20
EMC: CE - immunity to interference	acc. to EN 61000-6-1, -2, EN 61131-2,
	marine applications, EN 50121-3-2, -4, -5,
	EN 60255-26
EMC: CE - 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

PROFIBUS DP/V1 Fieldbus Coupler

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



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.

Notice: GSD files required

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 resistance

Description	Item No.	Pack. Unit
PROFIBUS DP/V1 12 Mbd /XTR	**750-333/040-000**	1

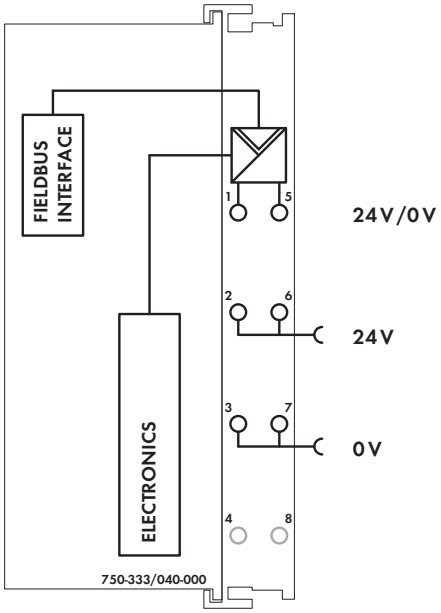
Accessories		Item No.	Pack. Unit
GSD files	Download: www.wago.com		
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

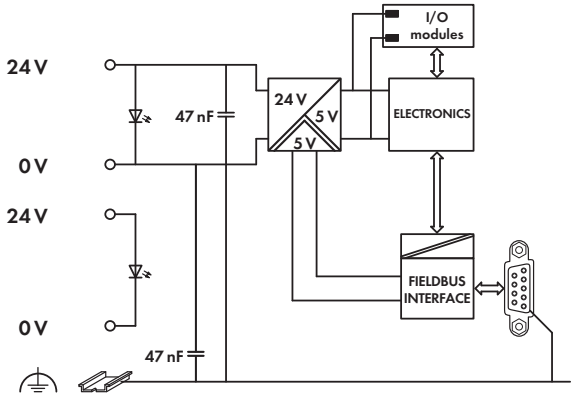
Standards and Approvals

Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending
Standard	EN 50170
Conformity marking	CE

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

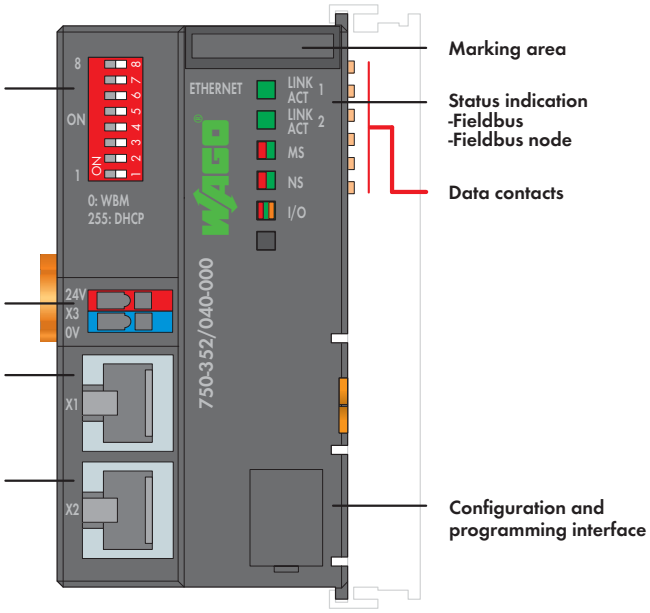
Number of I/O modules	63
Fieldbus	
Max. input process image	244 bytes
Max. output process image	244 bytes
Configuration	via PC or PLC
Power supply	via CAGE CLAMP® connections, 24 VDC
Max. input current (24 V)	500 mA
Efficiency of the power supply	90 %
Internal current consumption (5 V)	200 mA
Total current 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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] including residual ripple of 15 %
Current via power jumper contacts (max.)	DC10 A
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated impulse voltage	1 kV
Overvoltage category	III

General Specifications

Operating temperature	-40 °C ... +70 °C
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	51 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	182 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 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, -29
Degree of protection	IP20
EMC: CE - immunity to 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: CE - 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



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 resistance

Description	Item No.	Pack. Unit
ETHERNET Fieldbus Coupler/XTR	**750-352/040-000**	1

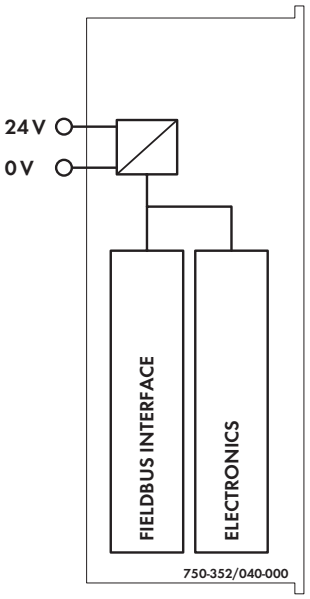
Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

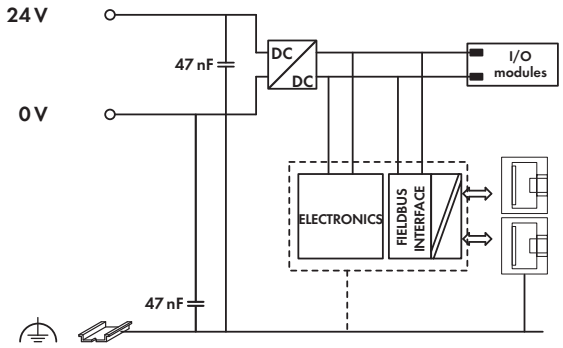
Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

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

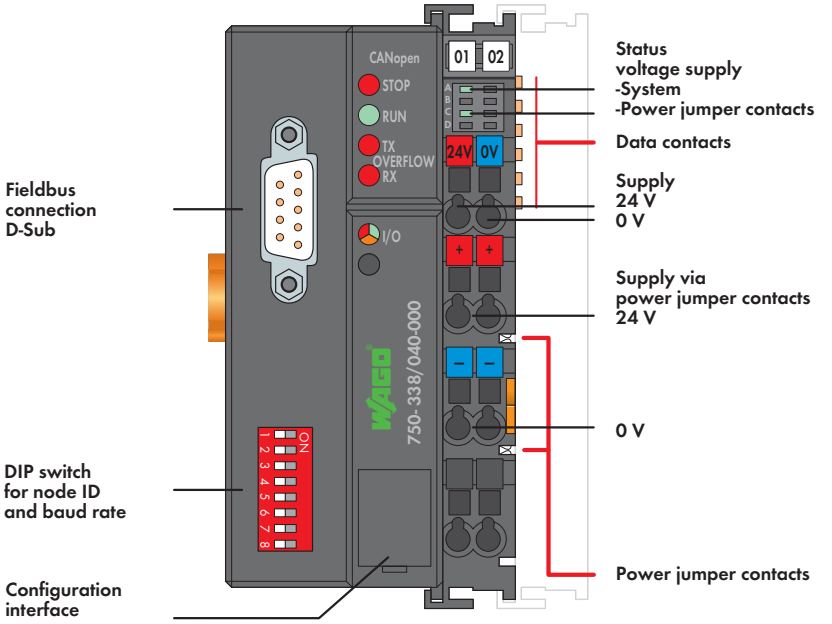
Number of I/O modules	64
with bus extension	250
Fieldbus	
Max. input process image	1020 words
Max. output process image	1020 words
Configuration	via PC
Power supply	via CAGE CLAMP® connections, 24 VDC
Input current typ. at rated load (24 V)	280 mA
Efficiency of the power supply (typ.) at	
nominal load (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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] including residual ripple of 15 %
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated impulse voltage	1 kV
Overvoltage category	III

General Specifications

Operating temperature	-40 °C ... +70 °C
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 1.5 mm² / AWG 24 ... 14
Strip lengths	5 ... 6 mm / 0.22 in
Dimensions (mm) W x H x L	50 x 65 x 97
	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 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, -29
Degree of protection	IP20
EMC: CE - immunity to 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: CE - 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

CANopen Fieldbus Coupler D-Sub

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



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 resistance

Description	Item No.	Pack. Unit
CANopen D-Sub/XTR	**750-338/040-000**	1

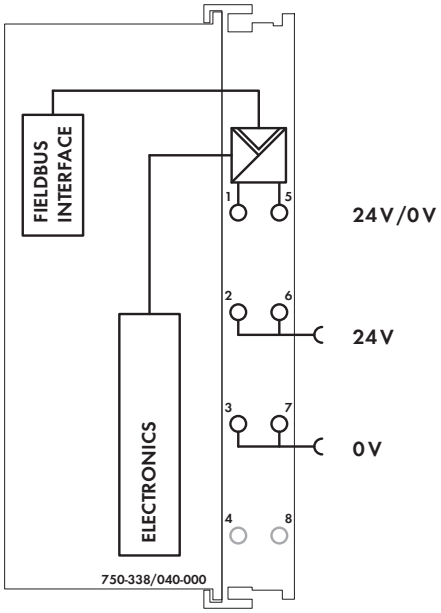
Accessories		Item No.	Pack. Unit
EDS files	Download: www.wago.com		
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

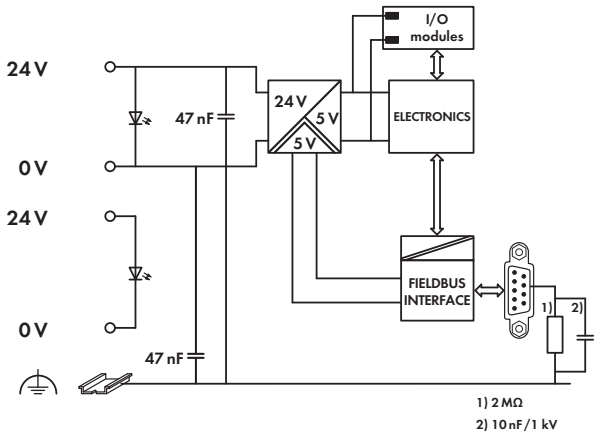
Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

System Data

No. of couplers connected to Master	110
Transmission medium	Shielded Cu cable 3 x 0.25 mm²
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
Efficiency of the power supply	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)[1]
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] including residual ripple of 15 %
Current via power jumper contacts (max.)	10 ADC
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated impulse voltage	1 kV
Overvoltage category	III

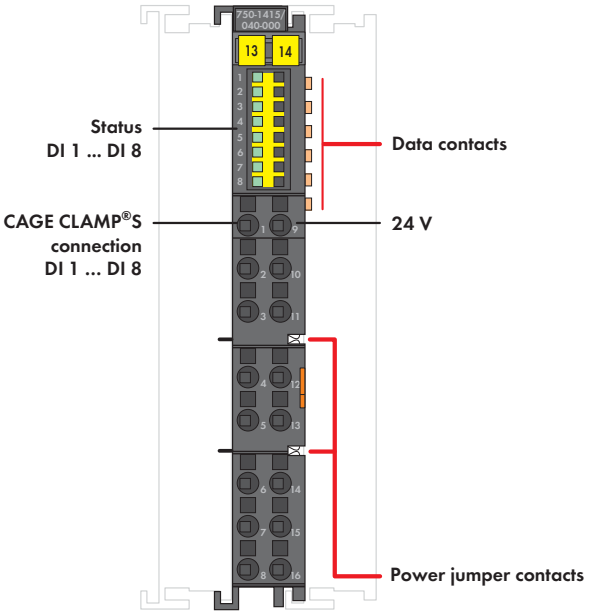
General Specifications

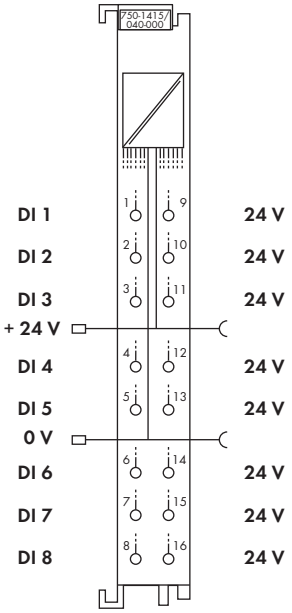
Operating temperature	-40 °C ... +70 °C
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	51 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	200 g
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class
	3K7 / IEC EN 60721-3-3 (except wind-
	driven precipitation 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, -29
Degree of protection	IP20
EMC: CE - immunity to interference	acc. to EN 61000-6-1, -2, EN 61131-2,
	marine applications, EN 50121-3-2, -4, -5,
	EN 60255-26
EMC: CE - 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

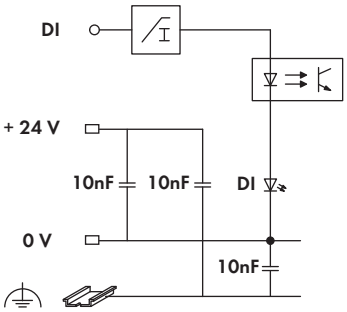
750-1415/040-000

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 resistance

Description	Item No.	Pack. Unit
8DI 24VDC 3.0ms, 2-wire connection/XTR	**750-1415/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	
Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm		**210-719**	50

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

Wire connection	CAGE CLAMP® S
Cross sections	0.25 mm² ... 1.5 mm² / 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	45 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 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

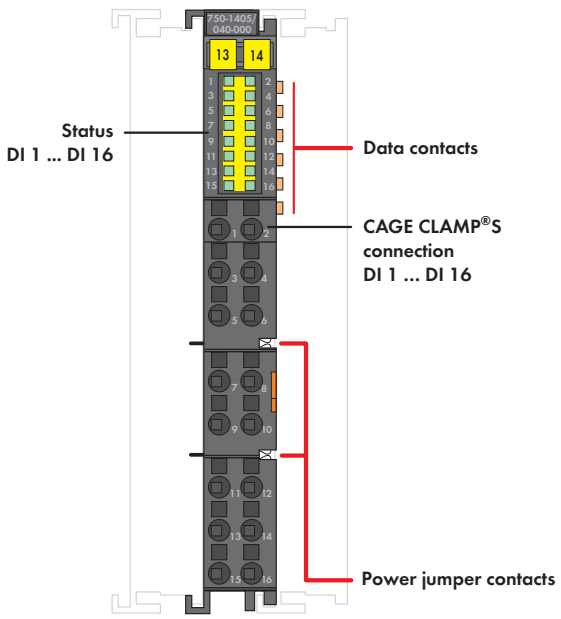
Technical Data

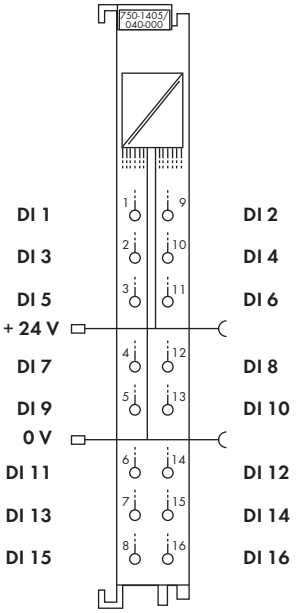
Number of inputs	8
Input type	High-side switching
Signal voltage (0)	-3 V ... +5 VDC (Type 1/3)
Signal voltage (1)	+11 V ... +30 VDC (Type 3)
Input current (typ.)	+1.6 mA (at 5 VDC)
	+4.3 mA ... +4.6 mA (at 24 VDC)
Input filter	3.0 ms
Current consumption (internal)	6 mA
Current consumption typ. (field 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)[1]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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

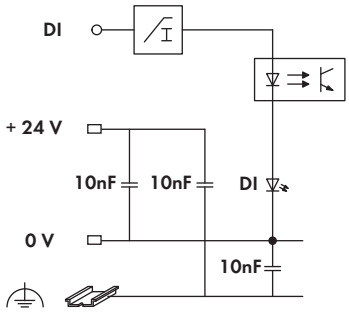
750-1405/040-000

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 resistance

Description	Item No.	Pack. Unit
16DI 24VDC 3.0ms/XTR	**750-1405/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	
Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm		**210-719**	50

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

Wire connection	CAGE CLAMP® S
Cross sections	0.25 mm² ... 1.5 mm² / 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 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

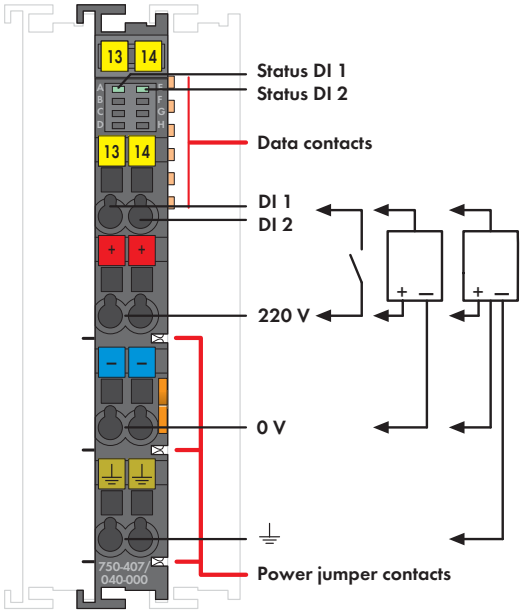
Technical Data

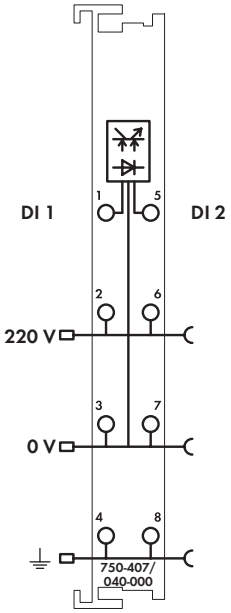
Number of inputs	16
Input type	Type 1 (IEC 61131-2), high-side switching
Signal voltage (0)	-3 V ... +5 VDC
Signal voltage (1)	15 V ... 30 VDC
Input current (typ.)	+0.6 mA (at 5 VDC)
	+2.1 mA ... +2.4 mA (at 24 VDC)
Input filter	3.0 ms
Delay time "0" > "1"	3 ms
Delay time "1" > "0"	4 ms
Current consumption (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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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

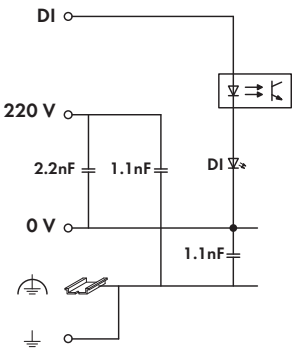
750-407/040-000

2-Channel Digital Input Module 220 VDC

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







The 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.
The field power must be reapplied after every 7 modules.

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

Description	Item No.	Pack. Unit
2DI 220VDC 3.0ms/XTR	**750-407/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

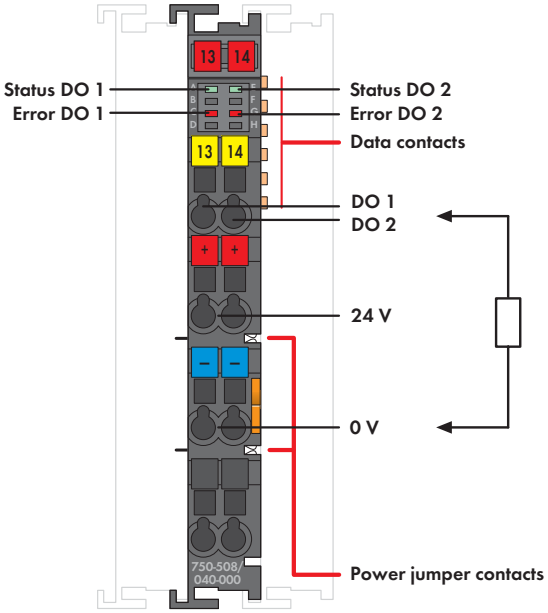
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	48 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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

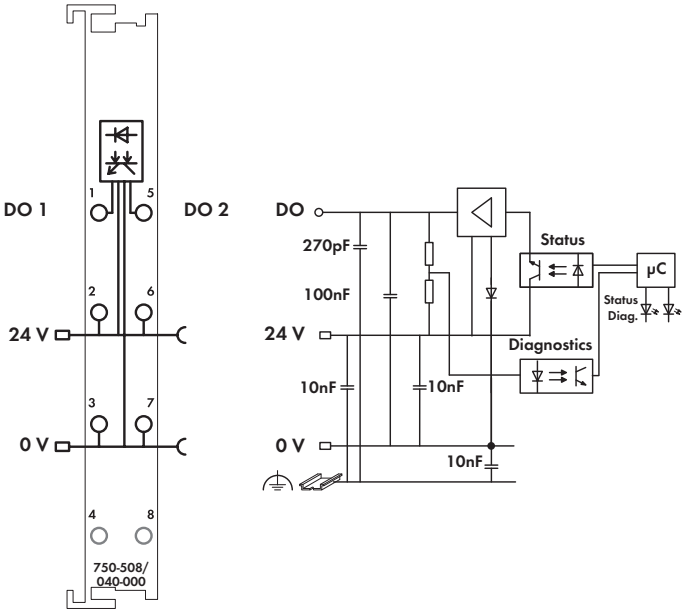
Technical Data

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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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 4-conductor device and actuators with ground connection may be directly connected to it.

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 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
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

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 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

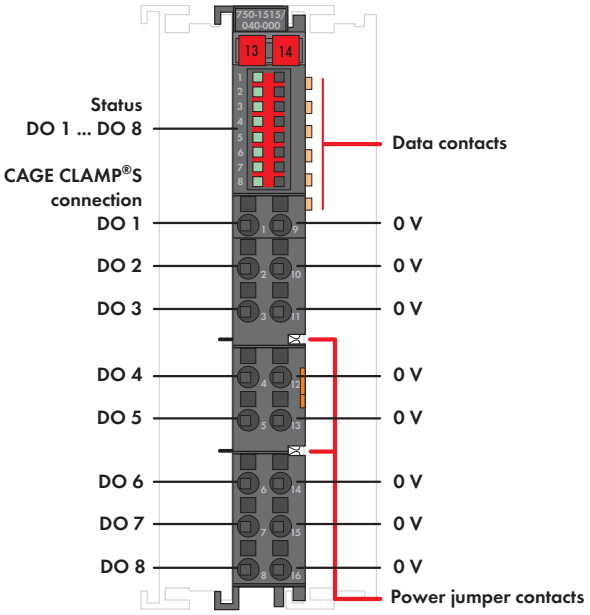
Technical Data

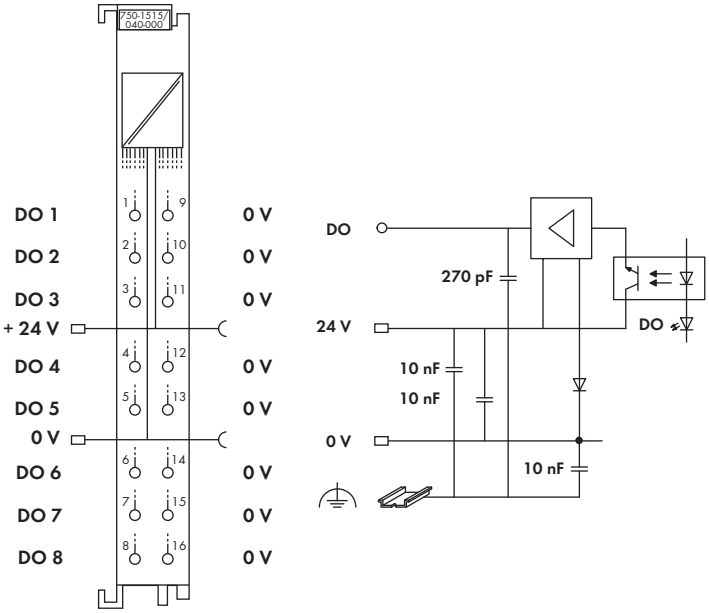
No. of outputs	2
Output type	High-side switching
Type of load	Inductive, resistive loads and lamps
Max. switching frequency	1 kHz
Output current (max.)	2 A
Current consumption (internal)	14 mA
Current consumption typ. (field side)	7 mA + charge
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15°C ... +35°C	18 V ... 31.2 V (17.4 V ... 31.2 V)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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

750-1515/040-000

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 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
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	
Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm		**210-719**	50

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

Wire connection	CAGE CLAMP® S
Cross sections	0.25 mm² ... 1.5 mm² / 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 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

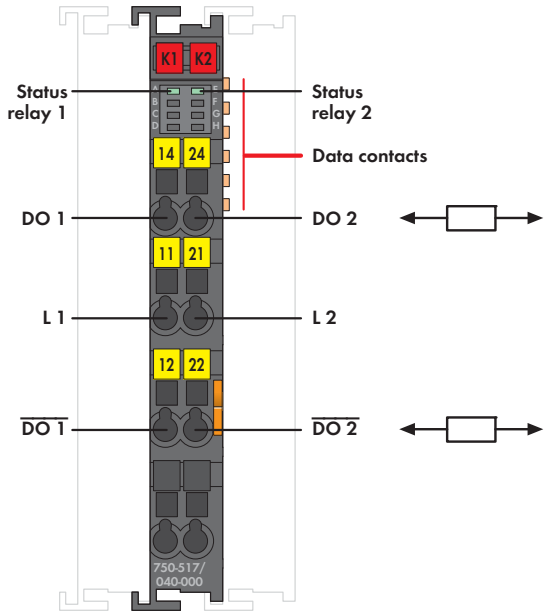
Technical Data

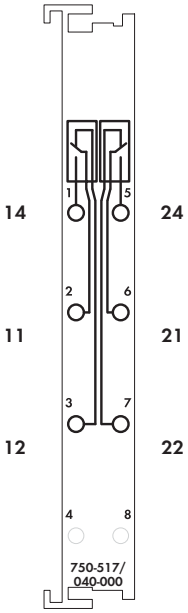
No. of outputs	8
Output type	High-side switching
Type of load	Inductive, resistive loads and lamps
Max. switching frequency	1 kHz
Output current (max.)	0.5 A, short-circuit protected
Max. current consumption (internal)	20 mA
Current consumption typ. (field side)	15 mA
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15°C ... +35°C	18 V ... 31.2 V (17.4 V ... 31.2 V)[1]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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

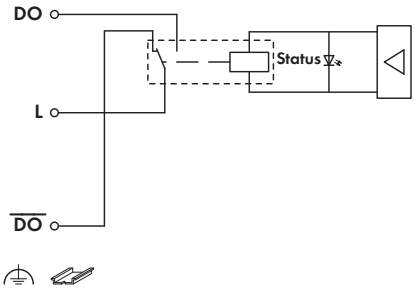
750-517/040-000

2-Channel Relay Output Module 230 VAC, 300 VDC

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 resistance

Description	Item No.	Pack. Unit
2DO 230VAC 1.0A/ Relay 2CO/ potential-free/XTR	**750-517/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

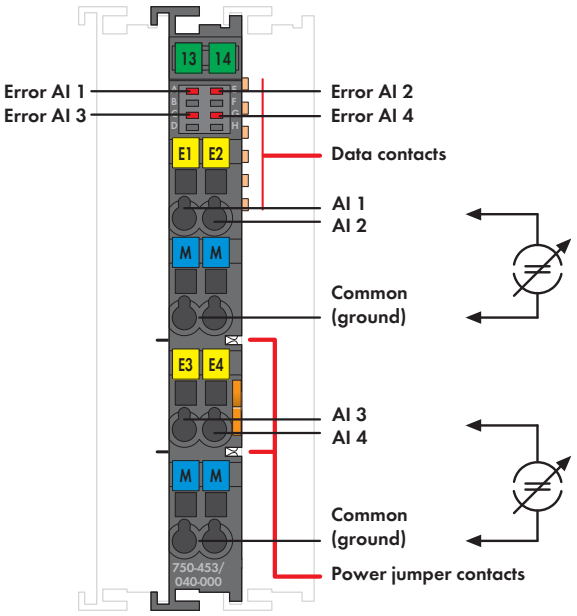
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	52.5 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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

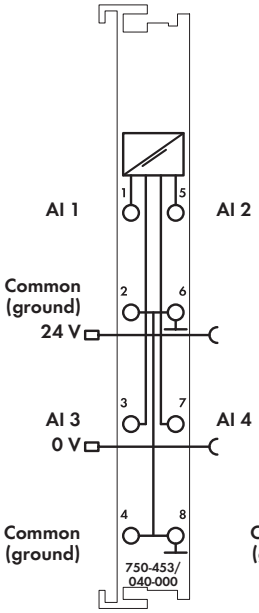
Technical Data

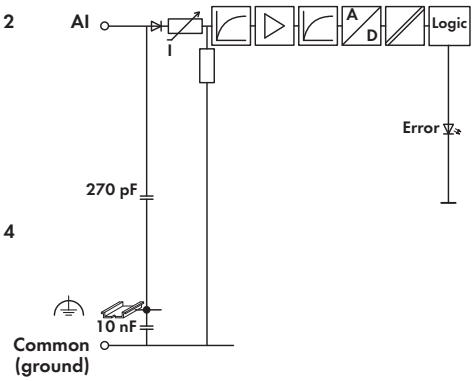
No. of outputs	2 changeover contacts
Max. switching frequency	6/min (at nominal load)
Pull-in time (max.)	8 ms
Drop-out time (max.)	4 ms
Contact material	Silver alloy
Mechanical life (min.)	5 x 10^6 (180 switching cycles/min.)
Electrical life (min.)	1 x 10^6 (1 A AC/250 V) (resistive load)
Max. switching voltage	250 VAC / 300 VDC
Min. switching current	100 mA / 12 VDC
Max. switching current	1A 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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 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

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

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	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 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

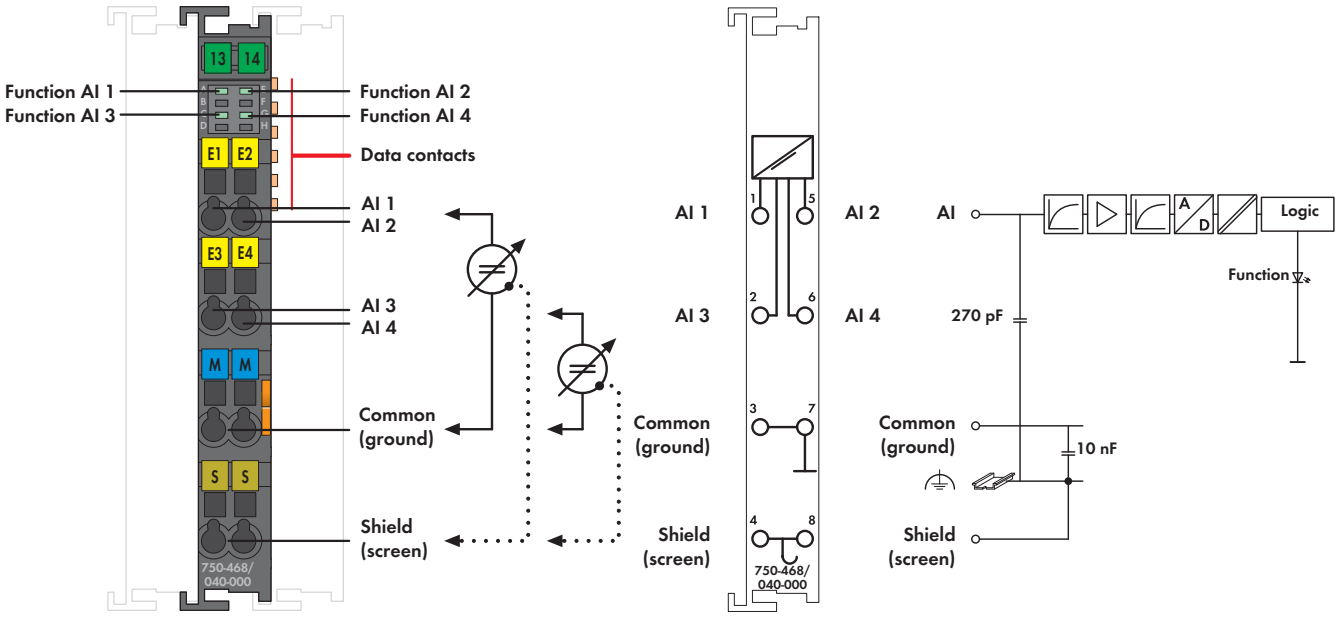
Technical Data

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)[1]
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse voltage	1 kV
Overvoltage category	III
Bit width	4 x 16 bits data
	4 x 8 bits control/status (optional)
EMC: CE - immunity to 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: CE - 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, -29

750-468/040-000

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 resistance

Description	Item No.	Pack. Unit
4AI 0-10V DC S.E./XTR	**750-468/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
cULus UL 508	pending
cULus ANSI/ISA 12.12.01	pending

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	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 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

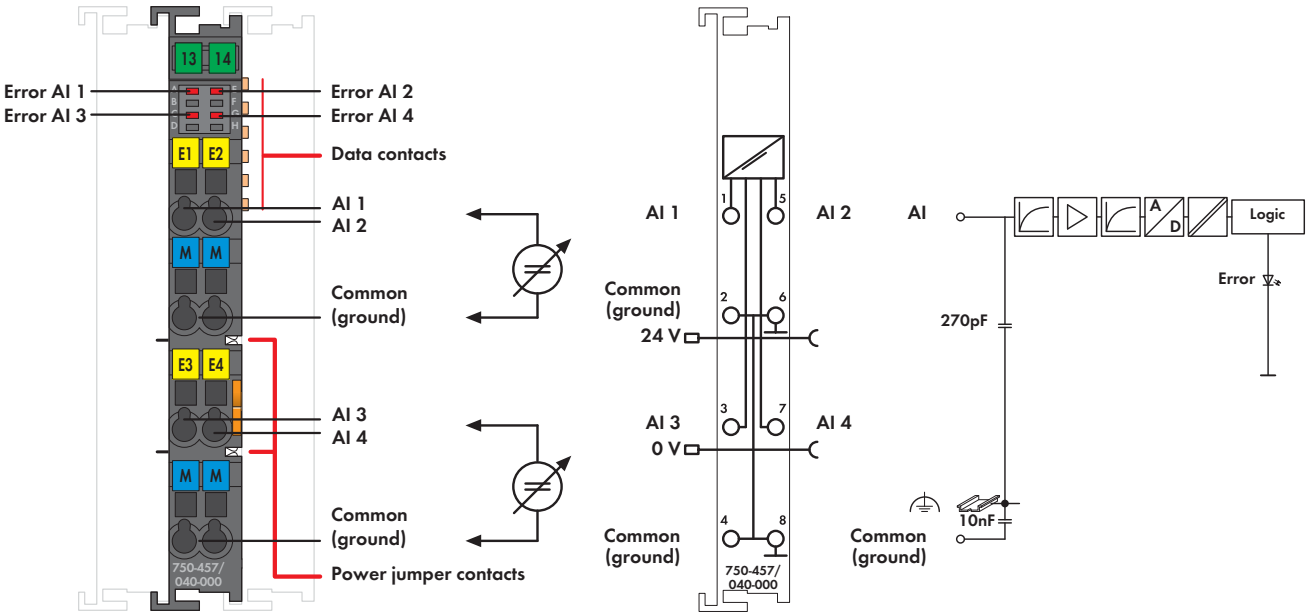
Technical Data

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)[1]
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] including residual ripple of 15 %
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated impulse voltage	1 kV
Overvoltage category	III
Bit width	4 x 16 bits data
	4 x 8 bits control/status (optional)
EMC: CE - immunity to 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: CE - 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, -29

750-457/040-000

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 resistance

Description	Item No.	Pack. Unit
4AI ±10VDC S.E./XTR	**750-457/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

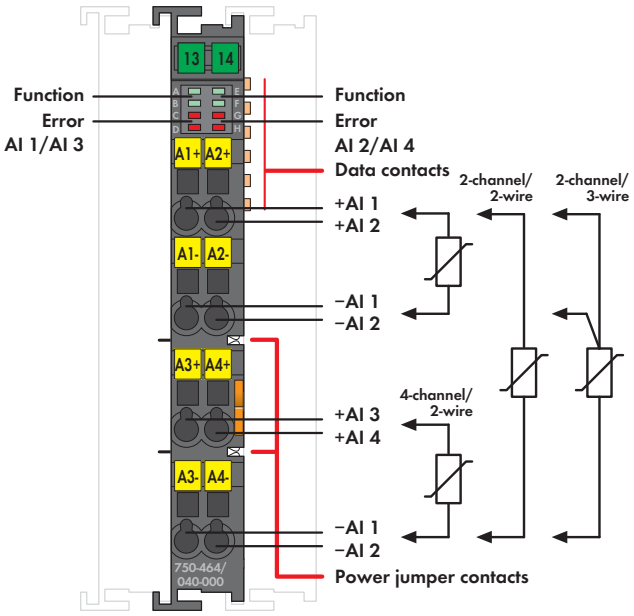
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	50.5 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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

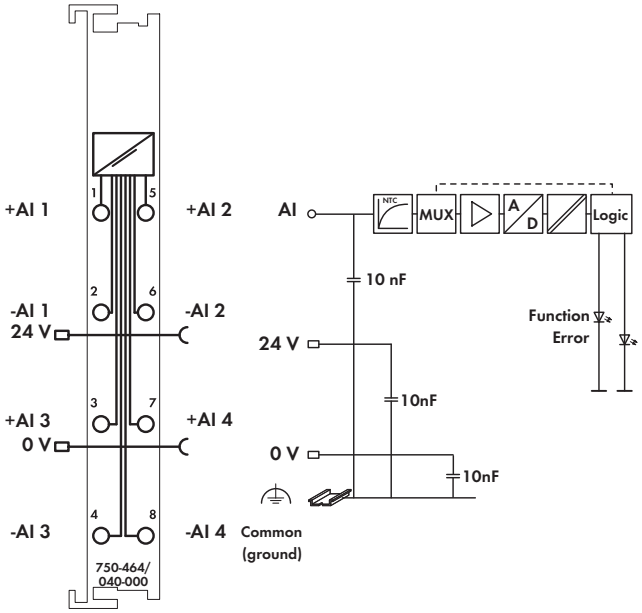
Technical Data

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)[1]
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse voltage	1 kV
Overvoltage category	III
Bit width	4 x 16 bits data
	4 x 8 bits control/status (optional)
EMC: CE - immunity to 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: CE - 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, -29

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 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 Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
cULus UL 508	pending
cULus ANSI/ISA 12.12.01	pending

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	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 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: CE - immunity to 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: CE - 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

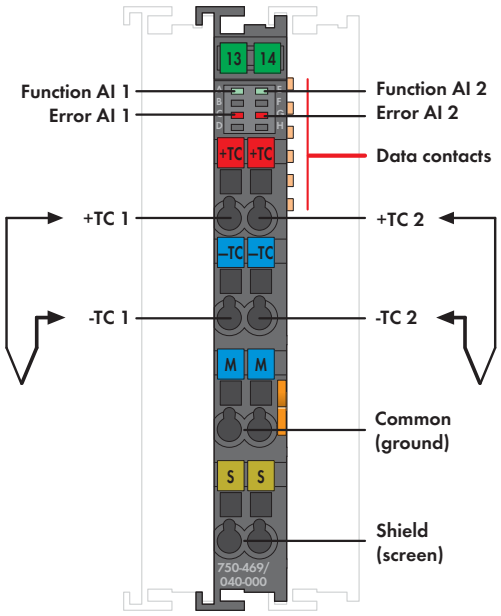
Technical Data

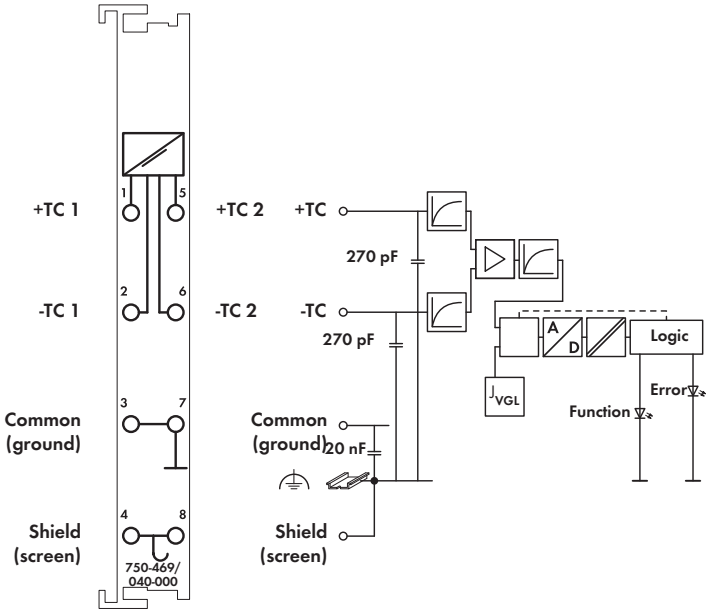
Number of inputs	2 / 4 (default setting)
Sensor types	Pt100 (default), Pt200, Pt500, Pt1000 (IEC 751), Ni100, Ni1000 (DIN 43760), Ni120 (Minco), Ni1000 (TK 5000), potentiometer, resistance measurement 10 Ω ... 5000 Ω, 10 Ω ... 1200 Ω
Sensor connection	2-conductor (default setting), 3-conductor (2-channel 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)[1]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse 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, -29

750-469/040-000

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 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 Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

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	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 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: CE - immunity to 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: CE - 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

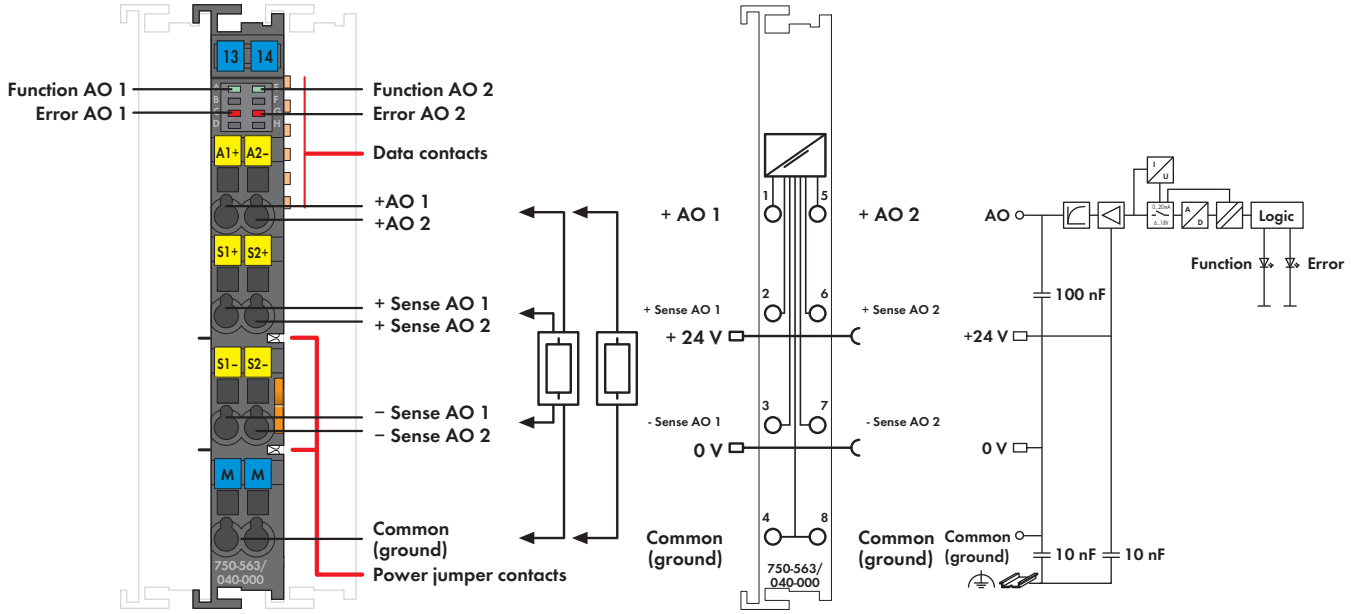
Technical Data

Number of inputs	2
Sensor types	Type K; -100 °C ... +1370 °C, Type J; -100 °C ... +1200 °C, Type E; -100 °C ... +1000 °C, Type S; -50 °C ... +1700 °C, Type T; -100 °C ... +400 °C, Type L; -100 °C ... +900 °C
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)[1]
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] including residual ripple of 15 %
Isolation (peak value)	510 VAC or 775 VDC
	power supply/DIN rail
Rated impulse 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, -29

750-563/040-000

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 resistance

Description	Item No.	Pack. Unit
2 AO 0/4-20mA / 6-18VDC configurable/ XTR	**750-563/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

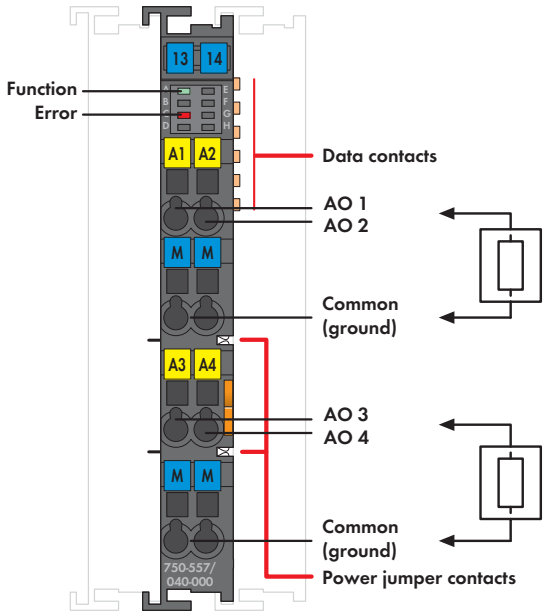
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	53.5 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class
	3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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, -29

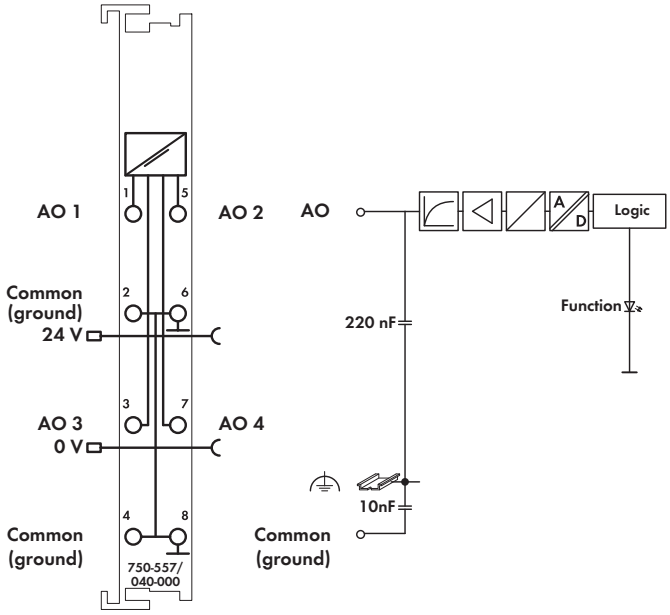
Technical Data

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[1)]
for -40 °C ... +55 °C	min. ... 28.8 V[1)]
for +55 °C ... +70 °C	min. ... 26.4 V[1)]
	min. voltage range: 21.6 V (24 V - 10 %);
	min. current range: 20.4 V (24 V - 15 %);
	[1)] 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 impulse voltage	1 kV
Overvoltage category	III
Bit width	2 x 16 bits data
	2 x 8 bits control/status (optional)
EMC: CE - immunity to 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: CE - 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 resistance

Description	Item No.	Pack. Unit
4AO ± 10VDC/XTR	**750-557/040-000**	1
4AO 0-10VDC/XTR	**750-559/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
cULus UL 508	pending
cULus ANSI/ISA 12.12.01	pending

Technical Data

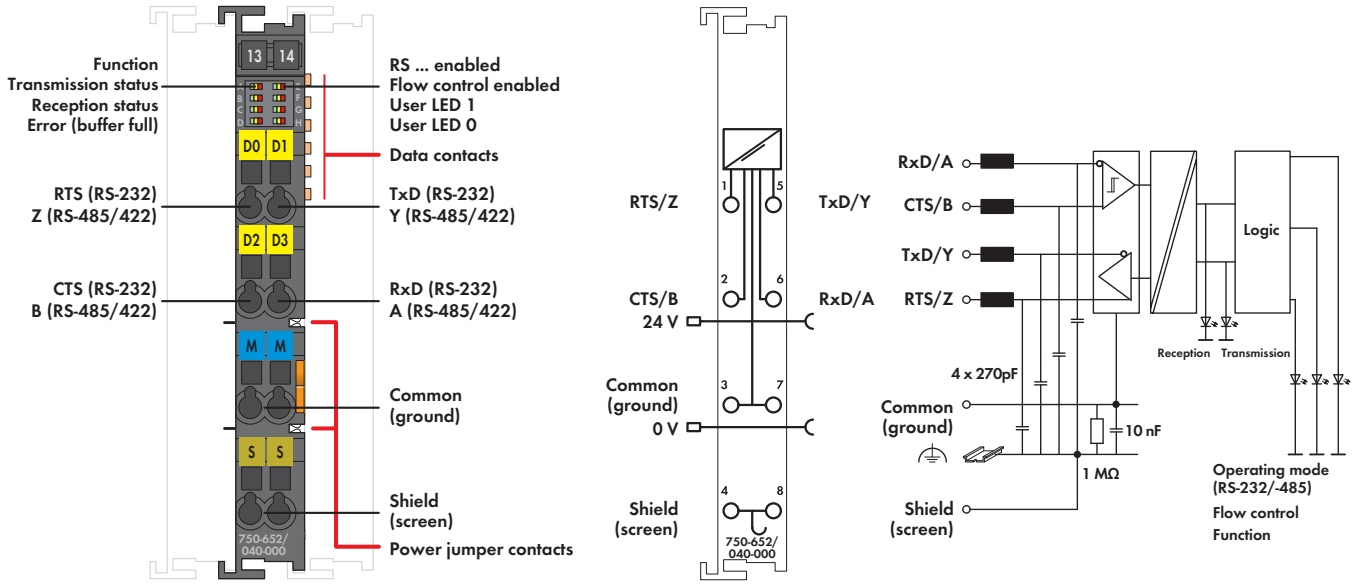
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	53.5 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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.)	100 ms
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)[1]
for -40 °C ... +55 °C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55 °C ... +70 °C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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 resistance

Description	Item No.	Pack. Unit
RS-232/RS-485 freely configurable/XTR	**750-652/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

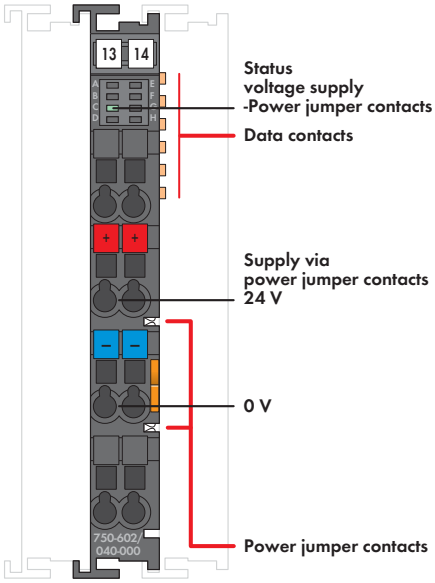
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	51 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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

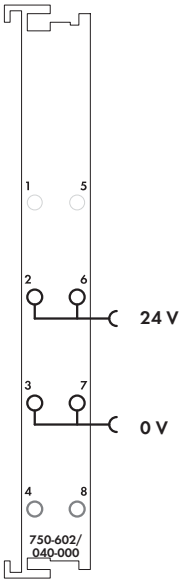
Technical Data

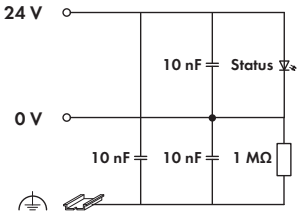
Transmission channels	1 TxD / 1 RxD, full duplex, half duplex 7 or 8 bit data, 1 or 2 stop bit
Baud rate	9,600 baud (default setting)
	300 baud ... 115,200 baud
Bit transfer	RS-485/-422: ISO 8482 / DIN 66259 - 4; RS-232: EIA/TIA-232-F
Line length	RS-485/-422: max. approx. 1000 m, RS-232: max. 40 m, data 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)[1]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse voltage	1 kV
Overvoltage category	III
EMC: CE - immunity to 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: CE - 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, -29

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 resistance

Description	Item No.	Pack. Unit
24VDC Power Supply/XTR	**750-602/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

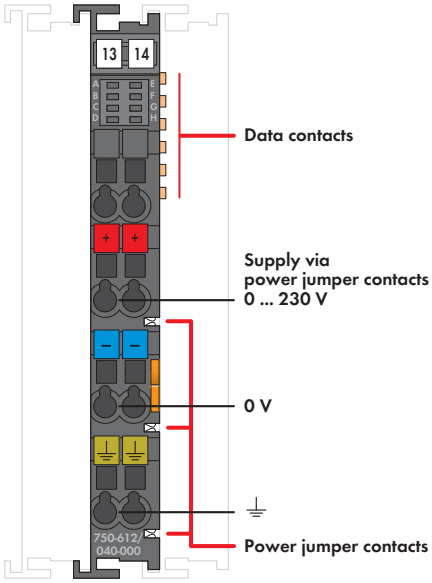
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	44.1 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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

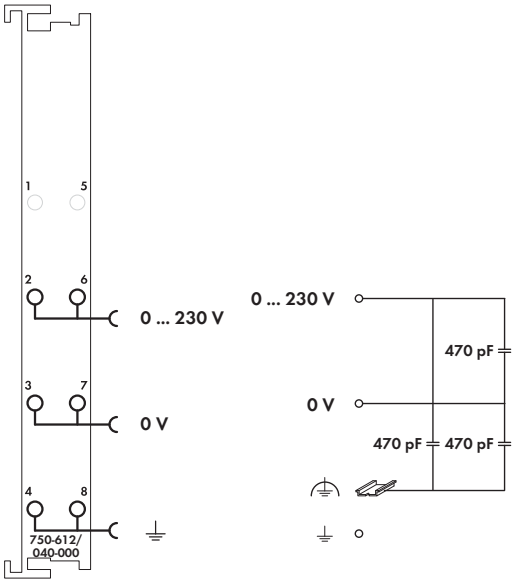
Technical Data

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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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 resistance

Description	Item No.	Pack. Unit
0-230V AC/DC Power Supply/XTR	**750-612/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
cULus UL 508	pending
cULus ANSI/ISA 12.12.01	pending

Technical Data

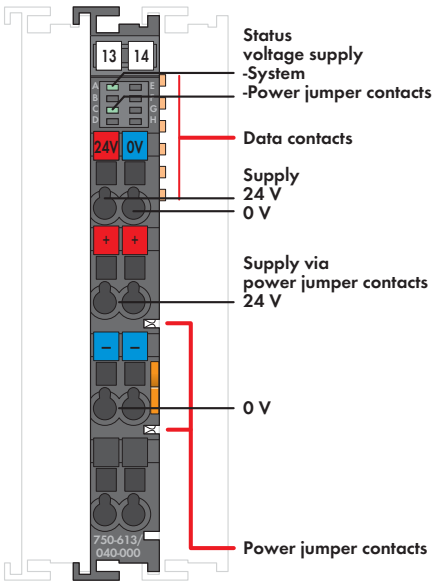
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	51.5 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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

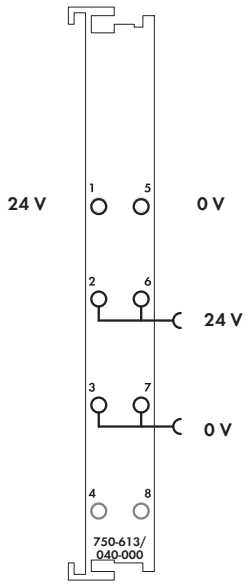
Technical Data

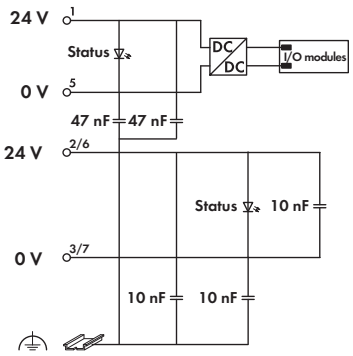
Voltage via power jumper contacts	0 V ... 230 V AC/DC (-20 % ... +25 %)
Current via power jumper contacts (max.)	10 ADC
Isolation (supply/DIN rail)	Rated Insulation Voltage : 2.5 kV AC or 3.5 kV DC
	Rated impulse voltage: 5 kV
	Overvoltage category: III
Vibration resistance	acc. to IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 61131-2
Shock resistance	acc. to IEC 60068-2-27, -29
EMC: CE - immunity to 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: CE - 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

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 resistance

Description	Item No.	Pack. Unit
24VDC Bus Power Supply/XTR	**750-613/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

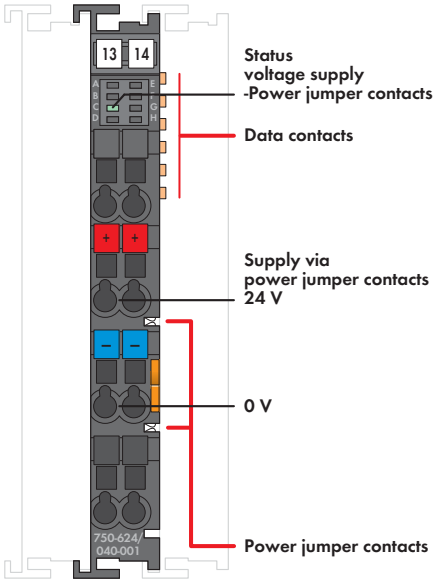
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	58.5 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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

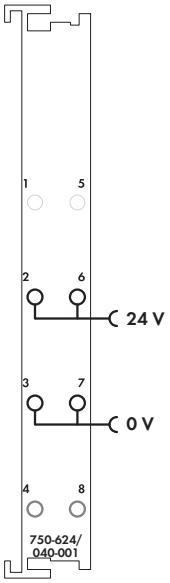
Technical Data

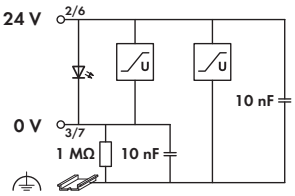
Input current max.	500 mA
Total current for I/O modules	2000 mA
Voltage via power jumper contacts	24 VDC
under laboratory conditions +15°C ... +35°C	18 V ... 31.2 V (17.4 V ... 31.2 V)[1]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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

Filter Module

for eXTReme environmental conditions; for field-side power supply







The WAGO-I/O-SYSTEM 750 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 module 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 resistance

Description	Item No.	Pack. Unit
24VDC Field-Side Power Supply Filter with Overvoltage (Surge) Protection/XTR	**750-624/040-001**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
cULus UL 508	pending
cULus ANSI/ISA 12.12.01	pending

Technical Data

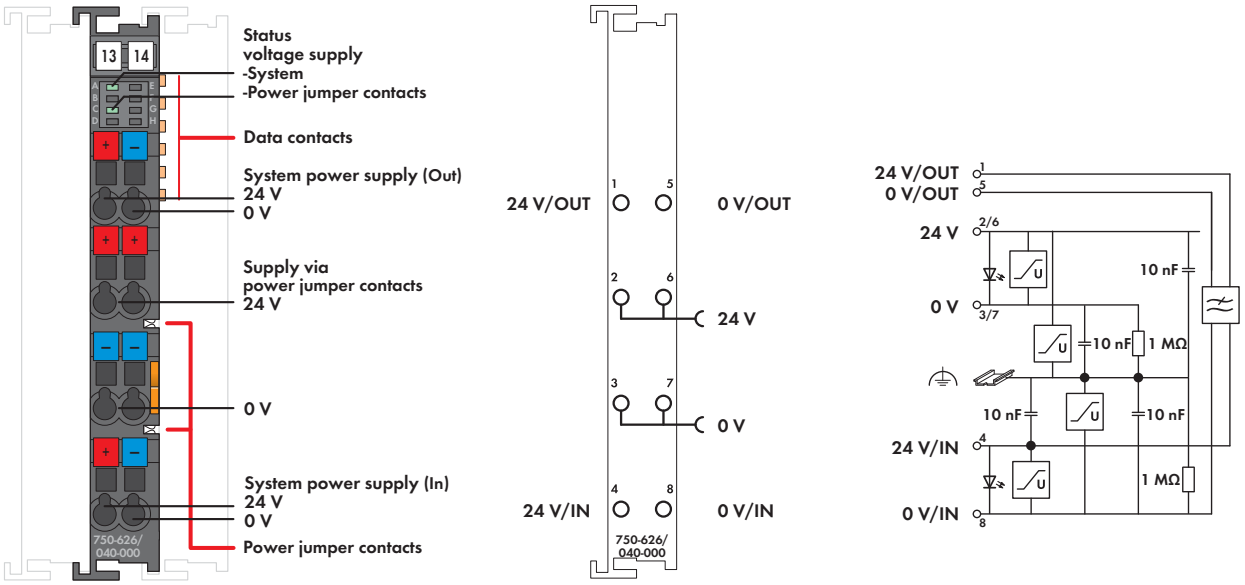
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	51 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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

Filter Module

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



The WAGO-I/O-SYSTEM 750 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. The module filters the 24 V system power supply and is equipped with surge suppression.
This module 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 resistance

Description	Item No.	Pack. Unit
24VDC Power Supply Filter with Overvoltage (Surge) Protection/XTR	**750-626/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

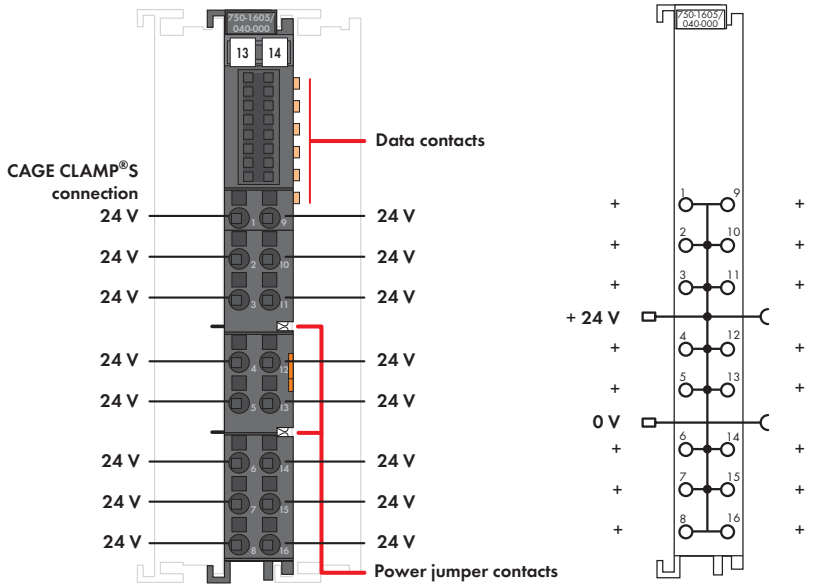
Wire connection	CAGE CLAMP®
Cross sections	0.25 mm² ... 2.5 mm² / AWG 24 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	51 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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)[1]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1]
	[1] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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



This field-side connection module is used in combination with the 16-channel 750-1405 and 750-1406 Input Modules (also suitable for 8-channel input modules with a single conductor connection) for providing the 24 V potential to the inputs.
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® 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 resistance

Description	Item No.	Pack. Unit
Field-Side Connection Module 16+/XTR	**750-1605/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	
Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm		**210-719**	50

Approvals

Conformity marking	CE
Shipbuilding	pending
cULus UL 508	pending
cULus ANSI/ISA 12.12.01	pending

Technical Data

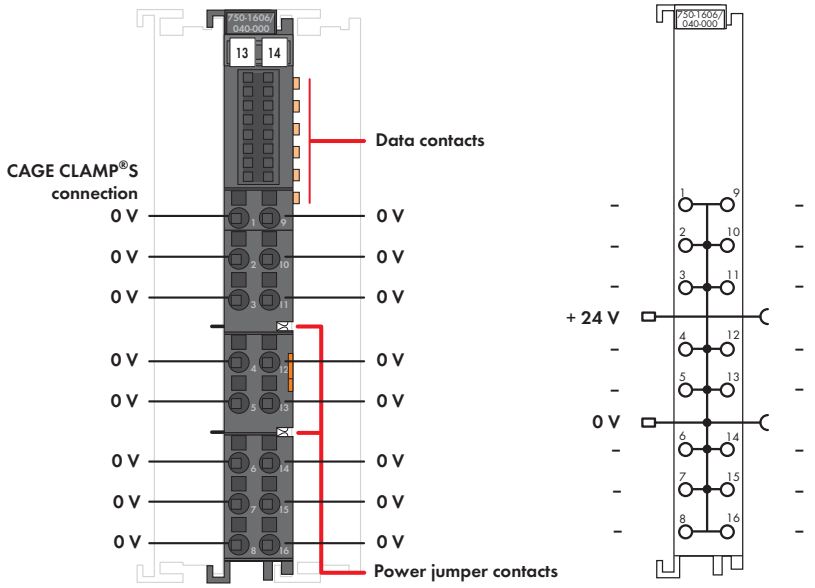
Wire connection	CAGE CLAMP® S
Cross sections	0.25 mm² ... 1.5 mm² / AWG 24 ... 16
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	40.2 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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; 0 VDC



This field-side connection module is used in combination with the 16-channel 750-1504 Output Module (also suitable for 8-channel output modules with a single conductor connection) for providing the 0 V potential to the outputs. 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 resistance

Description	Item No.	Pack. Unit
Field-Side Connection Module 16-/XTR	**750-1606/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	
Operating tool, with partially insulated shaft, type 1, blade (2.5 x 0.4) mm		**210-719**	50

Approvals

Conformity marking	CE
Shipbuilding	pending
UL 508	pending
ANSI/ISA 12.12.01	pending

Technical Data

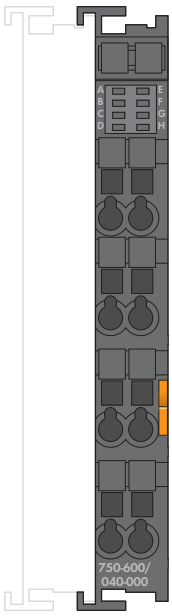
Wire connection	CAGE CLAMP® S
Cross sections	0.25 mm² ... 1.5 mm² / AWG 24 ... 16
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	12 x 62 x 100
	Height from upper-edge of DIN 35 rail
Weight	39.3 g
Operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C
Relative humidity	95 %, short-term condensation acc. to class 3K7 / IEC EN 60721-3-3 (except wind-driven precipitation 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)[1)]
for -40°C ... +55°C	18 V ... 28.8 V (17.4 V ... 28.8 V)[1)]
for +55°C ... +70°C	18 V ... 26.4 V (17.4 V ... 26.4 V)[1)]
	[1)] 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 impulse 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, -29
EMC: CE - immunity to 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: CE - 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 resistance

Description	Item No.	Pack. Unit
End Module/XTR	**750-600/040-000**	1

Accessories		Item No.	Pack. Unit
Miniature WSB Quick marking system			
	plain	**248-501**	5
	with marking	see Full Line Catalog AUTOMATION 2012/2013	

Approvals

Conformity marking	CE
Shipbuilding	pending
cULus UL 508	pending
cULus ANSI/ISA 12.12.01	pending

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 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, -29
EMC: CE - immunity to 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: CE - 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