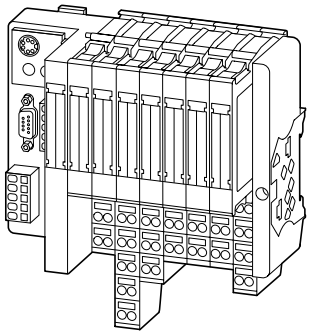
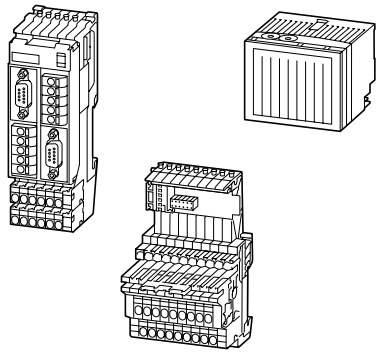
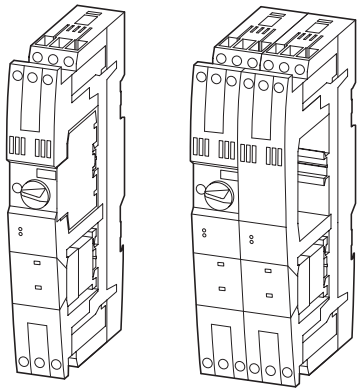
XI/ON



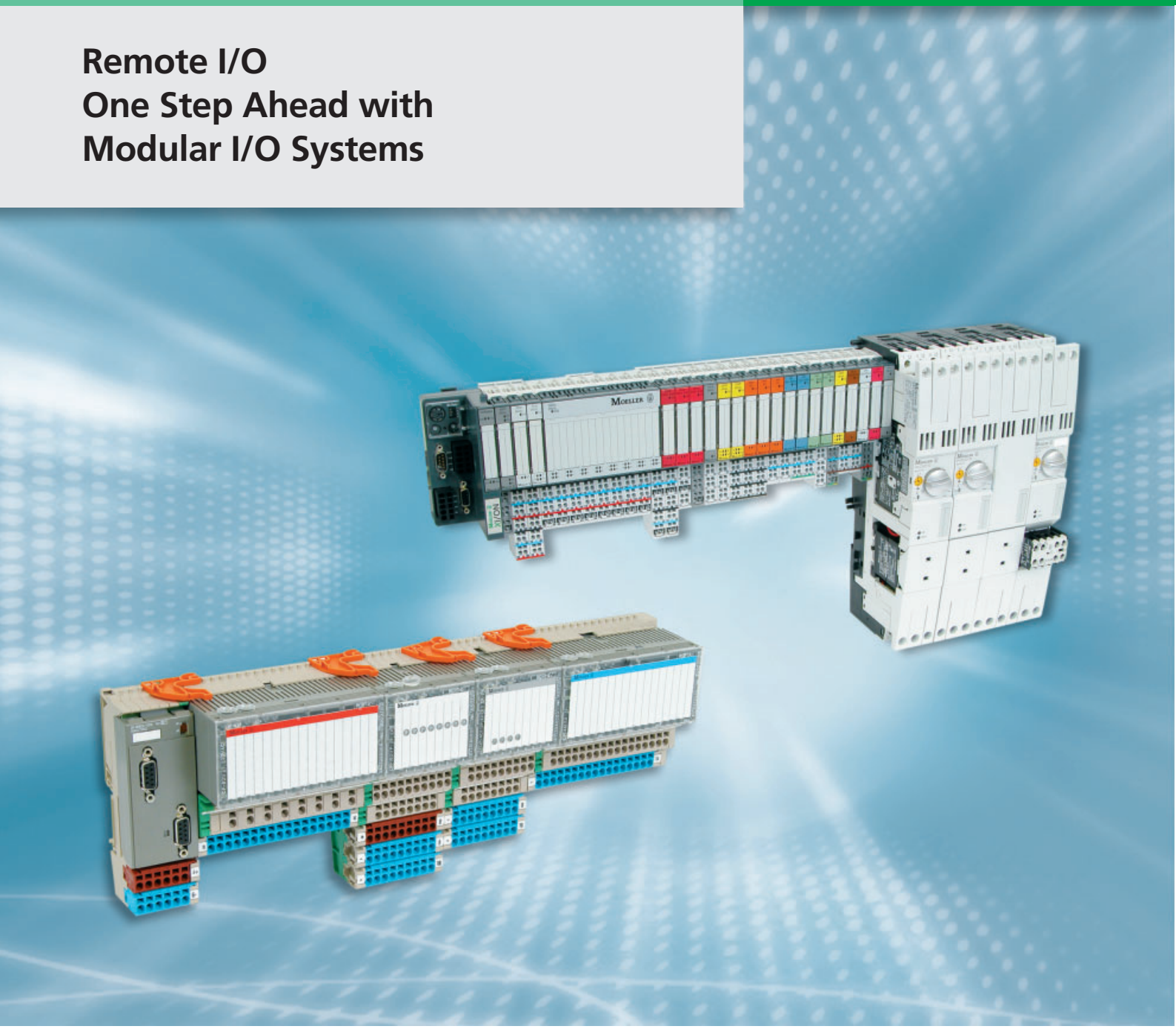
WINbloc



xStart-XS1

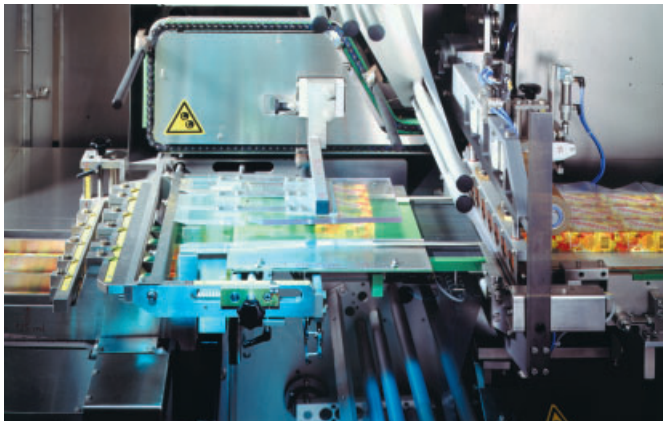


Remote I/O
One Step Ahead with Modular I/O Systems

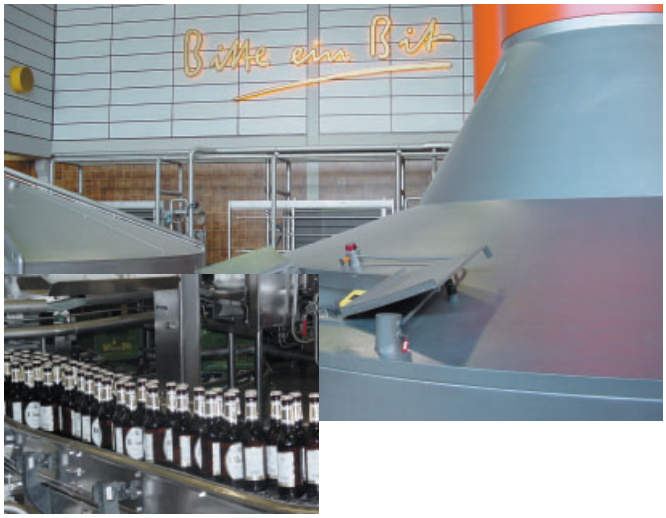


The application ranges of remote I/Os are as varied as the different applications themselves – whether in motion control, temperature or speed measurement, current and voltage data acquisition.
They are used wherever remote signal processing is an essential element of the automation concept. Moeller offers the right I/O system for every application, from the highly granular XI/ON system to the compact WINbloc system, and of course, combined operation on the same bus line.

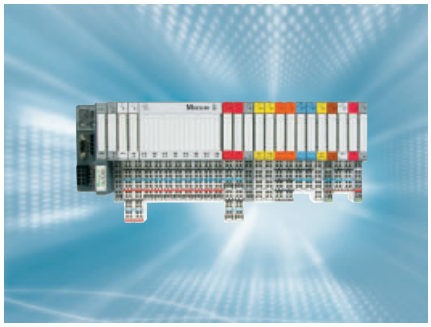
The result: an easy-to-handle modular concept – adaptable to any application, intelligent and ready for future developments.



Conventional automation solutions often cannot provide highly responsive and flexible intelligence directly in the field. In machine building, for example, where signals have to be processed directly at the machine or when system sections have to continue to be accessible even when the bus has failed. In cases like these, small autonomous units are used that are integrated via the network with maximum transparency. Remote I/O systems from Moeller allow you to keep one step ahead, since decentralised structures increase the manageability of the system and reduce wiring costs.



The benefits of decentralised intelligence are obvious: Wherever extensive processes or systems can be divided into independent subprocesses, decentralised automation offers a flexible solution.
Programming, commissioning and service become more manageable and are therefore subject to fewer errors and less costly. Last but not least, the availability of the system is also increased since the subsystems function autonomously.

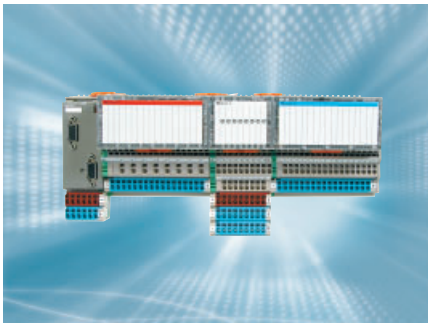


XI/ON

As much as necessary, as little as possible. This is the principle on which the XI/ON modular I/O system is based. The highly granular modularity of the system allows you to buy only the I/Os you actually need. A comprehensive range of digital and analog I/Os and technology modules are provided for this purpose. On the field level, the wiring is implemented using base modules that are also available in different versions to match the requirements at hand: 2-, 3- or 4-wire terminal designs are available, with screw or tension clamp terminals to meet the needs of the application exactly.

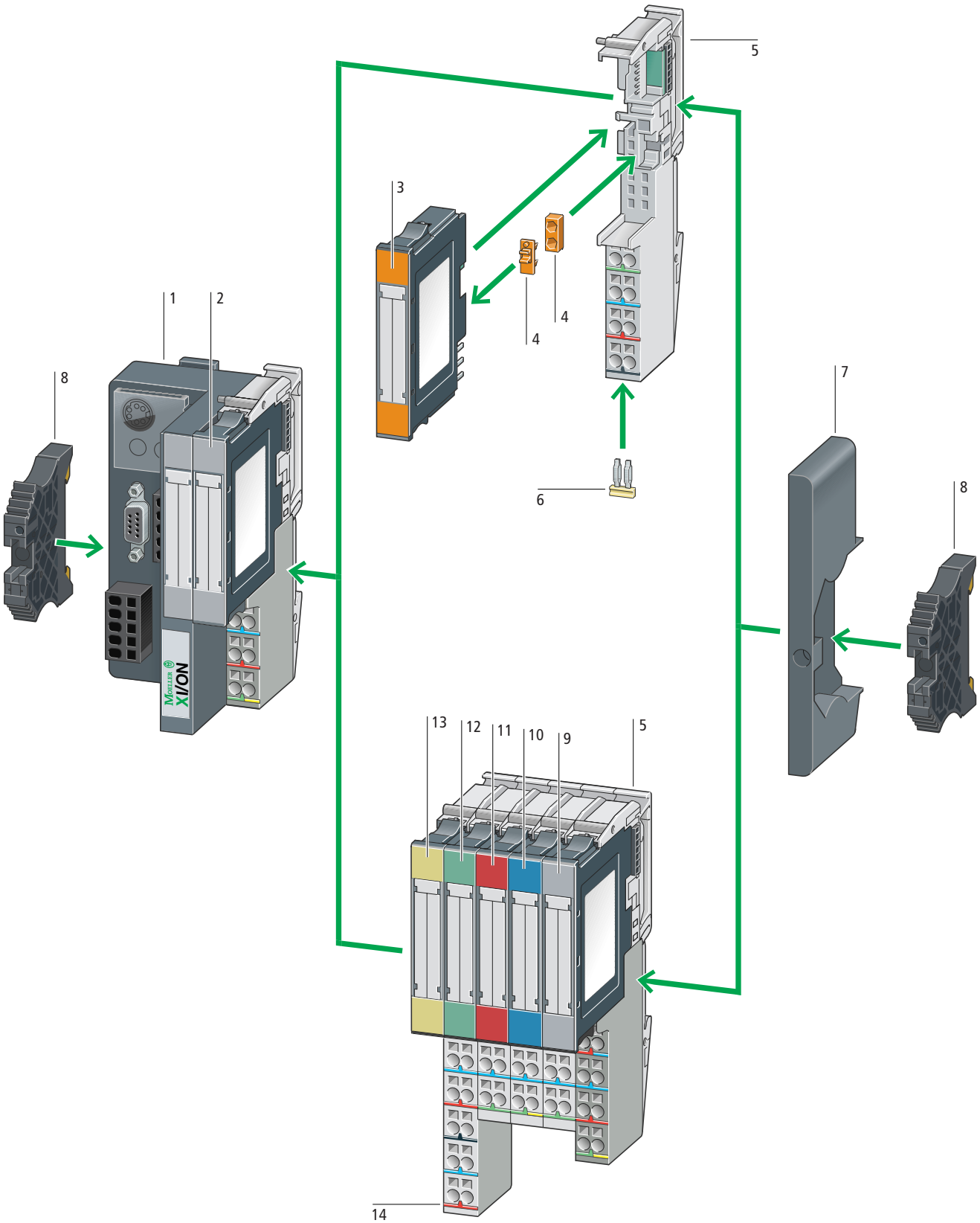
Xstart – XS1

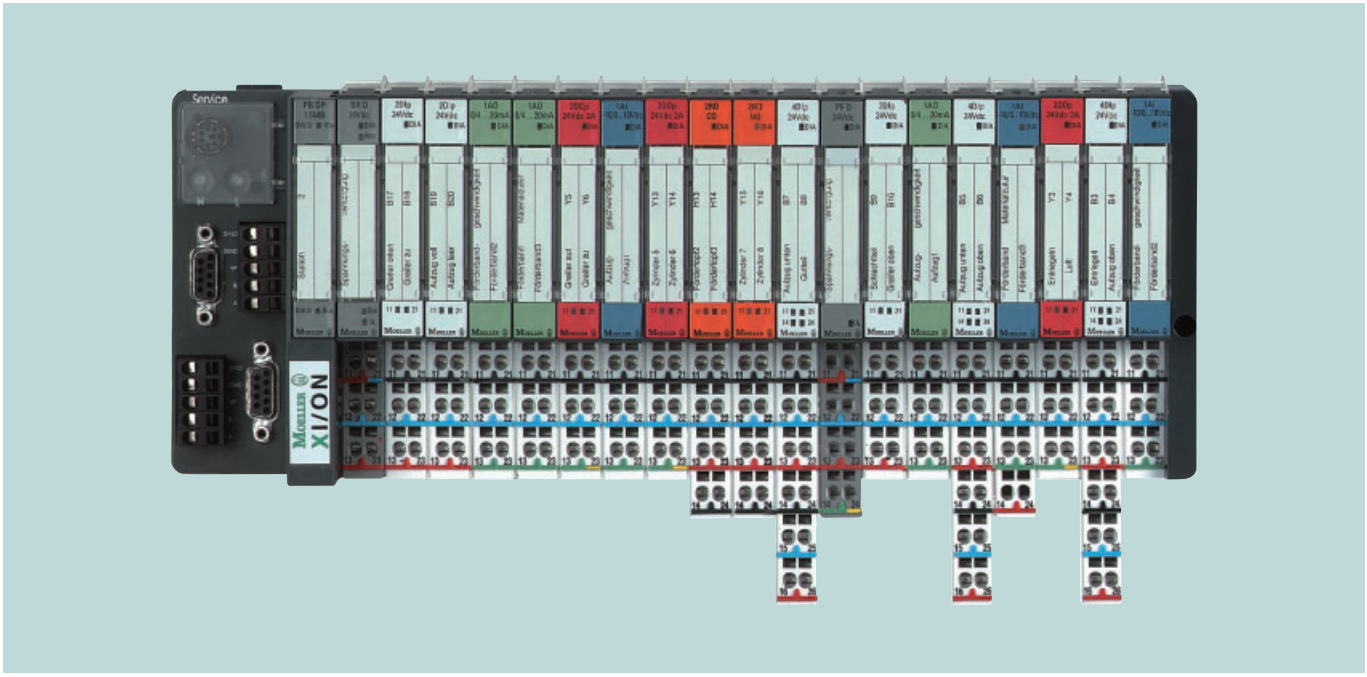
XS1 applies the benefits of the XION concept to industrial motor starters. This has produced type-tested motor starter combinations up to 4 kW, with AC-3 up to 415 V. The base modules can be installed quickly and without the risk of errors.
The devices are simply snap fitted on top-hat rails. No additional control wiring is required. The power modules for DOL and reversing starters can be plugged in and enable user-friendly and simple servicing. The fieldbus connection is handled by the XION gateway.



WINbloc

WINbloc and WINbloc Eco offer the compact and cost-efficient solution in block designs for PROFIBUS-DP and CANopen.
The plug-in electronics module allows the implementation of flexible solutions with a high level of availability.
A wide range of electronics and base modules is available. I/O combination modules are offered for the most commonly used combinations.
For fast and simple installation base modules come with tension clamp terminals for 2-, 3-, and 4-wire connections. In this way, any application required can be easily implemented.





Application

XI/ON is a fieldbus-independent, modular I/O system for use in industrial automation. It links the sensors and actuators of the field level with the higher-level PLCs.

System configuration

An XI/ON station consists of a gateway, power supply modules and I/O modules. The entire XI/ON station is recognised as a bus station in any fieldbus configuration and is assigned a bus address.
The I/O modules are a combination of one electronics module and a base module implemented as a terminal block.
The electronics modules can be plugged into the base modules without affecting their wiring.
The integration of the bus-capable motor starter xStart-XS1 in the XI/ON system makes a flexible, system-wide installation availability possible. xStart offers direct and reversing starters, with or without an AGM auxiliary contact, for motors power ratings up to 4.0 kW (at present).

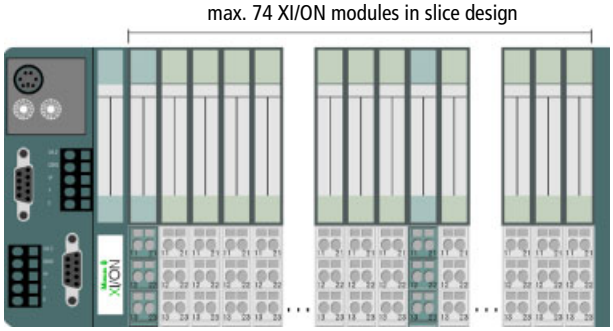
Features

Gateway
- Interfacing the XI/ON I/O modules with the fieldbus
- Supports the fieldbus protocols PROFIBUS-DP, DeviceNet, or CANopen.
- Coordinates the entire process data traffic
- Generates diagnostics information for the higher-level PLC
- Field bus connection through direct wiring or through fieldbus-specific connectors
- provodes integrated interfaces for the I/Oassistant software (I/Oassistant can be downloaded from the Internet, at www.moeller.net).
- Allows definition of the field bus addresses

Electronics modules
- Contain numerous I/O functions
- Communicate with the gateway through a built-in module bus
- Are independent of the higher-level field bus
- Can be connected independently of the field wiring
- Are available as 1-, 2- and 4-channel slice or as 16- and 32-channel block
- Are colour-coded according to type

Base modules
- Designed for connection to the field cabling
- Laid out as terminal blocks
- Available in slice and block design with spring-loaded clamp or screw connection
- Available for 2-, 3-, 4- and 4 × 2-//3-wire connection

max. 74 XI/ON modules in slice design



An XI/ON station can consist of the gateway and a maximum of 74 modules in slice design (this corresponds to about 1 m mounting rail length, including end brackets and end plate). When modules in block design are used, the maximum number of modules is reduced accordingly (1 module in block design is equivalent to about 8 modules in slice design).

In cases of maximum system configuration, the provision of an adequate number of bus refreshing and power feeding modules must be taken into account.
When using the I/O*assistant*, an error message will automatically be generated by the menu item <Station - Configuration test> as soon as the system limits are exceeded.

CANopen system configuration

Module type	Channels Max./station	Modules Max./station
Digital inputs, 4 DI	288	72[2)]
Digital outputs, 4 DO	288	72[2)]
Analog inputs, 2 AI-I	142	71[1)]
Analog inputs, 2 AI-U	142	71[1)]
Analog inputs, 2 AI-PT/NI or 2 AI-THERMO	142	71[1)]
Analog outputs, 2 AO-I	142	71[1)]
Analog outputs, 2 AO-U	142	71[1)]
Counter module, 1 CNT	71/71	71[1)]

PROFIBUS-DP system configuration

Maximum station configuration, process-data dependent

Module type	Channels Max./station	Modules Max./station
Digital inputs, 4 DI	288	72[2)4)]
Digital outputs, 4 DO	288	72[2)4)]
Analog inputs, 2 AI-I	78	39[2)4)]
Analog inputs, 2 AI-U	78	39[2)4)]
Analog inputs, 2 AI-PT/NI	46	23[3)4)]
Analog inputs, 2 AI-THERMO	76	38[2)4)]
Analog outputs, 2 AO-I	38	19[3)5)]
Analog outputs, 2 AO-U	38	19[3)]
Counter module, 1 CNT	7/7	7[3)4)]

PROFIBUS-DP system configuration

Maximum station configuration, diagnosis-data dependent

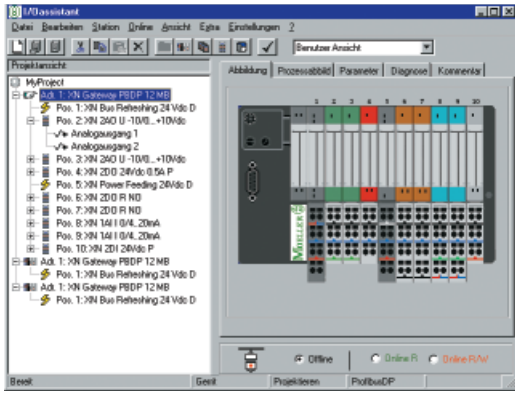
Module type	Channels Max./station	Modules Max./station
Digital inputs, 4 DI	288	72[2)4)]
Digital outputs, 4 DO	288	72[2)4)]
Analog inputs, 2 AI-I	78	39[2)4)]
Analog inputs, 2 AI-U	78	39[2)4)]
Analog inputs, 2 AI-PT/NI	46	23[3)4)]
Analog inputs, 2 AI-THERMO	58	29[2)4)]
Analog outputs, 2 AO-I	38	19[3)5)]
Analog outputs, 2 AO-U	38	19[3)5)]
Counter module, 1 CNT	7/7	7[3)4)]

DeviceNet system configuration

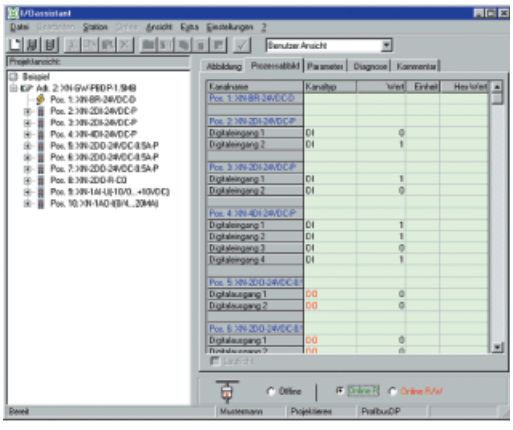
Module type	Channels Max./station	Modules Max./station
Digital inputs, 4 DI	288	72[2)]
Digital outputs, 4 DO	288	72[2)]
Analog inputs, 2 AI-I	142	71[3)]
Analog inputs, 2 AI-U	142	71[3)]
Analog inputs, 2 AI-PT/NI or 2 AI-THERMO	126	63[3)]
Analog outputs, 2 AO-I	126	63[3)]
Analog outputs, 2 AO-U	126	63[3)]
Counter module, 1 CNT	31/31	31[1)]

[1)] plus 1 bus refreshing module
[2)] plus 2 bus refreshing modules
[3)] plus 3 bus refreshing modules
[4)] Standard GSD file: unpacked module representation
[5)] Typified GSD file: unpacked module representation

Support All Along the Line – with I/O-Assistant, the interactive Configuration Software



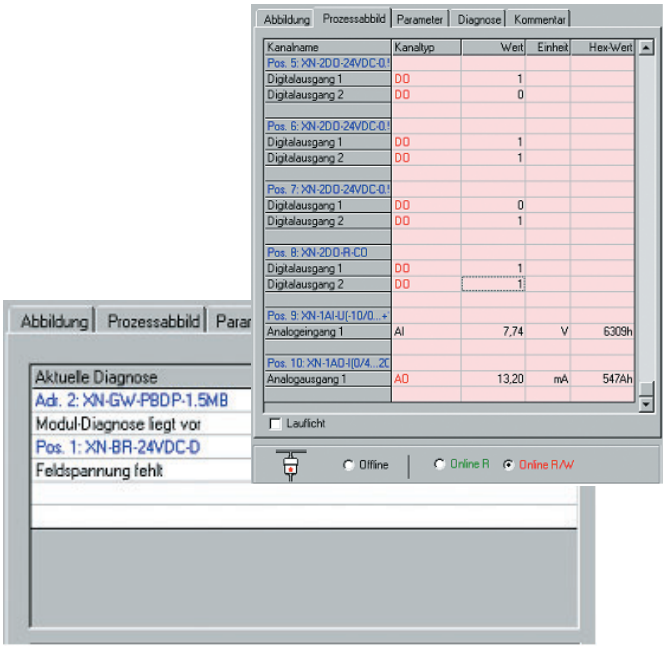
Instantly online, instantly viewed, instantly tested
The I/Oassistant provides you with a universal tool that supports you interactively throughout the planning and implementation stage of your XI/ON system.
First of all, you need to create and structure a project on screen. To do this, you select gateways, electronics/base modules and the appropriate accessories. Then you configure the individual stations either offline or online. Once everything is set to your satisfaction, you can put the cpmplete system into operation.
The I/Oassistant checks the station, reads in process data, outputs values and visualises the diagnostics data of the channels. In this way you can commission your station without a higher-level controller and ensure that sections of the system are operating correctly.



Interactive project design
The I/Oassistant offers you visual and interactive support during the entire system planning and implementation process. You start the engineering with a structured project tree that you can check on screen at any time and modify as required.
Then you select for each station the gateway required for the fieldbus to be used and add the required modules using drag and drop. Already at this stage, you receive active support from the software, for example, by the automatic display of the base modules that are suitable for the electronics modules selected.

I/Oassistant also checks whether the structure of the station is correct. The software shows you, as early as in the design phase, whether the physical structure of the station is complete. In this way, planning errors can be prevented right from the start.

Once the planning has been completed, the software can generate a detailed project documentation that includes an overview picture and parts lists.

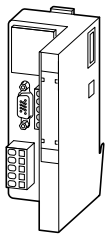
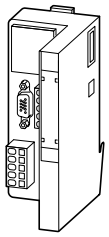
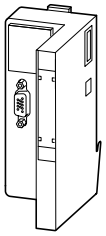
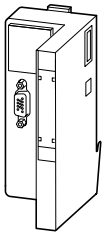
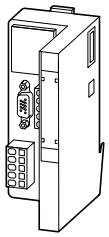
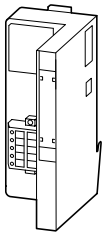


I/Oassistant, the universal commissioning and diagnostics tool
This lets you check online what is going on. With actual process data and parameter states, you will obtain a fast overview of the current status of the station.
Errors are indicated immediately on screen via the red Error LED. You then simply move to the diagnostics window and locate the problem at a glance. On the spot diagnostics cannot be faster or more effective.
You set the outputs and modify values directly from the PC. By forcing the values you can instantly view the behaviour of your application.
You can thus check the field wiring, for example, without having a fully installed control system – function testing as it should be.

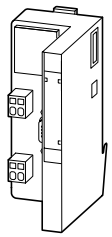
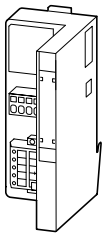
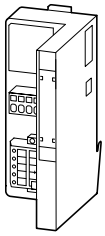
Electronics modules	Base modules	Spring-loaded terminal (T) or screwed connection (S)																
		XN-S3x-SBB	XN-S3x-SBC	XN-S4x-SBBC	XN-S4x-SBBS	XN-S4x-SBCS	XN-S6x-SBBSBB	XN-S4x-SBBS-CJ	XN-S6x-SBCSBC	XN-B3x-SBB	XN-B3x-SBC	XN-B4x-SBBC	XN-B6x-SBBSE	XN-P3x-SBB	XN-P3x-SBB-B	XN-P4x-SBBC	XN-P4x-SBBC-B
Digital input																		
XN-2DI-24VDC-P		●		●														
XN-2DI-24VDC-N		●		●														
XN-2DI-120/230VAC-P		●		●														
XN-4DI-24VDC-P					●		●											
XN-4DI-24VDC-N					●		●											
XN-16DI-24VDC-P										●		●						
XN-32DI-24VDC-P													●					
Digital output																		
XN-2DO-24VDC-2A-P			●			●												
XN-2DO-24VDC-0.A-P			●			●												
XN-2DO-24VDC-0.A-N			●			●												
XN-4DO-24VDC-0.A-N						●			●									
XN-16DO-24VDC-P											●							
Relay modules																		
XN-2DO-R-NC					●	●												
XN-2DO-R-NO					●	●												
XN-2DO-R-CO					●													
Analog input																		
XN-1AI-I(0/4...20MA)		●			●													
XN-2AI-I(0/4...20MA)		●			●													
XN-1AI-U(–10/0...+10VDC)		●			●													
XN-2AI-U(–10/0...+10VDC)		●			●													
XN-2AI-PT/NI-2/3		●			●													
XN-2AI-THERMO-PI								●										
Analog output																		
XN-1AO-I(0/4...20MA)		●																
XN-2AO-I(0/4...20MA)		●																
XN-2AO-U(–10/0...+10V)		●																
Counter module																		
XN-1CNT-24VDC					●													
XN-1RS232					●													
XN-1RS485/422					●													
XN-1SSI					●													
Supply modules																		
XN-BR-24VDC-D														●[1]	●[2]	●[1]	●[2]	
XN-PF-24VDC-D														●		●		
XN-PF-120/230VAC-D														●		●		

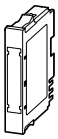
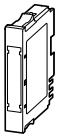
Notes

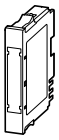
[1] Base modules for gateway supply
[2] Base modules for bus refreshing within the station

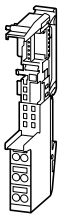
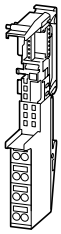
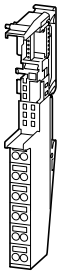
	Description	Type Article no.	Price See Price List	Std. pack
Gateways				
	Connection to PROFIBUS-DP Supports up to 74 disc-type modules Transmission rate: 9.6 kBits/s to 1.5 MBit/s 2 × 9-pole SUB-D sockets 2 × spring-loaded terminal strips for direct wiring PS/2 socket (service interface for connecting to I/Oassistant software) Address set with two hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted immediately next to the gateway to provide the supply for the gateway.	**XN-GW-PBDP-1.5MB** 225162		1 off
	As XN-GW-PBDP-1,5MB, but 2 × screw connections for direct wiring	**XN-GW-PBDP-1.5MB-S** 227852		1 off
	Connection to PROFIBUS-DP Supports up to 74 disc-type modules Transmission rate: 9.6 kBits/s to 12 MBit/s 1 × 9-pole SUB-D socket PS/2 socket (service interface for connecting to I/Oassistant software) Address set with two hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted immediately next to the gateway to provide the supply for the gateway.	**XN-GW-PBDP-12MB** 225161		1 off
	Connection to PROFIBUS-DP Supports up to 15 modules (incl. up to 4 block-type modules) Transmission rate: 9.6 kBits/s to 12 MBit/s 1 × 9-pole SUB-D socket PS/2 socket (service interface only for firmware download through I/Oassistant software) Address set with two hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted immediately next to the gateway to provide the supply for the gateway.	**XN-GW-PBDP-12MB-STD** 229499		1 off
	Connection to CAN Transmission rates: 1000 kBit/s, 800 kBit/s, 500 kBit/s, 250 kBit/s, 125 kBit/s, 50 kBit/s, 20 kBit/s, 10 kBit/s Address range for CANopen 001 to 127 (dec.) 1 × 9-pole SUB-D socket, 1 × 9-pole SUB-D plug 2 × spring-loaded terminal strips for direct wiring PS/2 socket (service interface for connecting to I/Oassistant software) Address set with two hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted immediately next to the gateway to provide the supply for the gateway.	**XN-GW-CANOPEN** 225163		1 off
	Connection to DeviceNet through an open style connector Transmission rates: 500 kBit/s, 250 kBit/s, 125 kBit/s PS/2 socket (service interface for connecting to I/Oassistant software) Address set with two decimal rotary switches The supply module XN-BR-24VDC-D must be mounted immediately next to the gateway to provide the supply for the gateway.	**XN-GW-DNET** 225164		1 off
Notes	The delivery package for all gateways includes: 2 × end bracket XN-WEW-32/2-SW, 1 × end plate XN-ABPL			

Moeller HPL0213-2004/2005

	Description	Type Article no.	Price See Price List	Std. pack
Gateways				
	Gateway with integrated supply Connection to PROFIBUS-DP Supports up to 74 disc-type modules Transmission rate: 9.6 kBit/s to 12 MBit/s 1 × 9-pole SUB-D socket Connection for the supply voltage via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address set with two decimal rotary switches Address range: 1 – 99 Bus refreshing module is already integrated	**XN-GWBR-PBDP** 270324		1 off
	Gateway with integrated supply Connection to CANopen Supports up to 74 disc-type modules Transmission rate selectable up to 1MBit/s 1 × Open Style Connector Connection for the supply voltage via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address set with two decimal rotary switches Address range: 1 – 99 Bus refreshing module is already integrated	**XN-GWBR-CANOPEN** 270325		1 off
	Gateway with integrated supply Connection to DeviceNet Supports up to 74 disc-type modules Transmission rates: 125 kBit/s, 250 kBit/s, 500 kBit/s 1 × Open Style Connector Connection for the supply voltage via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address set with two decimal rotary switches Address range: 1 – 63 Bus refreshing module is already integrated	**XN-GWBR-DNET** 270326		1 off
Notes	The delivery package for all gateways includes: 2 × end bracket XN-WEW-32/2-SW, 1 × end plate XN-ABPL			

		Description	For use with base module	Type Article no.	Price See Price List	Std. pack
Supply modules						
	Bus refreshing module	Module for supply/refreshing of the (nominal) 5 V DC system voltage, via internal module bus. Supply for XI/ON modules with 24 V DC nominal voltage. Gateways of type XN-GW-... require a bus refreshing module immediately next to the gateway. In type XN-GWBR-... gateways, the bus refreshing function is already integrated.	XN-P3T-SBB XN-P3S-SBB XN-P4T-SBBC XN-P4S-SBBC XN-P3T-SBB-B XN-P3S-SBB-B XN-P4T-SBBC-B XN-P4S-SBBC-B	**XN-BR-24VDC-D** 225187		1 off
	Power feeding module	Field power supply module with 24 V DC nominal voltage	XN-P3T-SBB XN-P3S-SBB XN-P4T-SBBC XN-P4S-SBBC	**XN-PF-24VDC-D** 225186		
	Power feeding module	Field power supply module with 120/230 V AC nominal voltage	XN-P3T-SBB XN-P3S-SBB XN-P4T-SBBC XN-P4S-SBBC	**XN-PF-120/230VAC-D** 225188		
I/O modules						
	Digital input	2 digital inputs, 24 V DC Positive switching	XN-S3T-SBB XN-S3S-SBB XN-S4T-SBBC XN-S4S-SBBC	**XN-2DI-24VDC-P** 225169		1 off
		2 digital inputs, 24 V DC Negative switching		**XN-2DI-24VDC-N** 225170		
		2 digital inputs, 120/230 V AC		**XN-2DI-120/230VAC** 225171		
		4 digital inputs/24 V DC Positive switching	XN-S4T-SBBS XN-S4S-SBBS XN-S6T-SBBSBB XN-S6S-SBBSBB	**XN-4DI-24VDC-P** 225165		
		4 digital inputs/24 V DC Negative switching	XN-S4T-SBBS XN-S4S-SBBS XN-S6T-SBBSBB XN-S6S-SBBSBB	**XN-4DI-24VDC-N** 225172		
		16 digital inputs, 24 V DC Positive switching Block module	XN-B3T-SBB XN-B3S-SBB XN-B4T-SBBC XN-B4S-SBBC	**XN-16DI-24VDC-P** 229434		
		32 digital inputs, 24 V DC Positive switching Block module	XN-B6T-SBBSBB XN-B6S-SBBSBB	**XN-32DI-24VDC-P** 230879		
	Digital output	2 digital outputs, 24 V DC/2 A Positive switching	XN-S3T-SBC XN-S3S-SBC XN-S4T-SBCS XN-S4S-SBCS	**XN-2DO-24VDC-2A-P** 225168		
		2 digital outputs, 24 V DC/0.5 A Positive switching		**XN-2DO-24VDC-0.5A-P** 225166		
		2 digital outputs, 24 V DC/0.5 A Negative switching		**XN-2DO-24VDC-0.5A-N** 225174		
		2 digital outputs, 120/230 V AC/0.5 A		**XN-2DO-120/230VAC-0.5A** 265697		
		4 digital outputs, 24 V DC/0.5 A Positive switching	XN-S4T-SBCS XN-S4S-SBCS XN-S6T-SBCSBC XN-S6S-SBCSBC	**XN-4DO-24VDC-0.5A-P** 230880		
		16 digital outputs, 24 V DC/0.5 A Positive switching Block module	XN-B3T-SBC XN-B3S-SBC	**XN-16DO-24VDC-0.5A-P** 229433		

		Description	For use with base module	**Type** Article no.	**Price** See Price List	Std. pack
I/O modules						
	Relay modules	2 changeover contacts, isolated 230 V AC / 30 V DC	XN-S4T-SBBS XN-S4S-SBBS	**XN-2DO-R-CO** 225167		1 off
		2 break contacts 230 V AC / 30 V DC	XN-S4T-SBBS XN-S4S-SBBS XN-S4T-SBCS XN-S4S-SBCS	**XN-2DO-R-NC** 225175		
		2 make contacts 230 V AC / 30 V DC	XN-S4T-SBBS XN-S4S-SBBS XN-S4T-SBCS XN-S4S-SBCS	**XN-2DO-R-NO** 225176		
	Analog inputs	1 analog input 0/4 to 20 mA	XN-S3T-SBB XN-S3S-SBB XN-S4T-SBBS XN-S4S-SBBS	**XN-1AI-I(0/4...20MA)** 225177		
		2 analog inputs 0/4 to 20 mA		**XN-2AI-I(0/4...20MA)** 230869		
		1 analog input -10/0 to +10 V DC		**XN-1AI-U(-10/0...+10VDC)** 225178		
		2 analog inputs -10/0 to +10 V DC		**XN-2AI-U(-10/0...+10VDC)** 230870		
		2 analog inputs Acquisition of normalized signals for temperature measurement Connection of sensor types Pt100, Pt200, Pt500, Pt1000 and Ni100, Ni1000 in 2- or 3-wire circuit		**XN-2AI-PT/NI-2/3** 225181		
		2 analog inputs Acquisition of normalized signals for measuring temperatures or voltages up to 1 V Connection of thermocouple types B, E, J, K, N, R, S, T	XN-S4T-SBBS-CJ XN-S4S-SBBS-CJ	**XN-2AI-THERMO-PI** 225182		
	Analog outputs	1 analog output 0/4 to 20 mA	XN-S3T-SBB XN-S3S-SBB	**XN-1AO-I(0/4...20MA)** 225179		
		2 analog outputs 0/4 to 20 mA		**XN-2AO-I(0/4...20MA)** 230871		
		2 analog outputs -10/0 to +10 V DC		**XN-2AO-U(-10/0...+10VDC)** 225180		
	Counter module	1 digital input/24 V DC 1 digital output/24 V DC Counting modes: infinite, once only or periodic count Frequency, rotational speed or period count Acquisition of signals from rotary encoders (track A/B)	XN-S4T-SBBS XN-S4S-SBBS	**XN-1CNT-24VDC** 225183		
	Serial interface RS232	Data transmission rate selectable up to 115200 Bit/s		**XN-1RS232** 270321		
	Serial interface RS485/422	Data transmission rate selectable up to 115200 Bit/s		**XN-1RS485/422** 270322		
	Serial interface SSI	Connection of SSI encoders up to max. 32-bit. Data transmission rate selectable up to 1 MBit/s		**XN-1SSI** 270323		

	Description	Can be used with module	**Type** Article no.	**Price** See Price List	Std. pack
Spring-loaded terminal					
2-wire/3-wire					
Base modules 	With XN-BR-24VDC-D base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D base module to provide the field supply	XN-BR-24VDC-D XN-PF-24VDC-D XN-PF-120/230VAC-D	**XN-P3T-SBB** 225190		1 off
	Base module for bus refreshing within the stations Suitable for XN-BR-24VDC-D	XN-BR-24VDC-D	**XN-P3T-SBB-B** 225189		
	Slice module	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC XN-1AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2AI-PT/NI-2/3 XN-1AO-I(0/4...20MA) XN-2AO-I(0/4...20MA) XN-2AO-U(-10/0...+10VDC)	**XN-S3T-SBB** 225193		
	Connection to C rail	XN-2DO-24VDC-0.5A-P XN-2DO-24VDC-0.5A-N XN-2DO-24VDC-2A-P XN-2DO-120/230VAC-0.5A	**XN-S3T-SBC** 225195		
	Block module	XN-16DI-24VDC-P	**XN-B3T-SBB** 227751		
	Block module Connection to C rail	XN-16DO-24VDC-0.5-P	**XN-B3T-SBC** 227752		
4-wire					
Base modules 	With XN-BR-24VDC-D base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D base module to provide the field supply Connection to C rail	XN-BR-24VDC-D XN-PF-24VDC-D XN-PF-120/230VAC-D	**XN-P4T-SBBC** 225192		1 off
	Base module for bus refreshing within the stations Connection to C rail	XN-BR-24VDC-D	**XN-P4T-SBBC-B** 225191		
	Connection to C rail	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC	**XN-S4T-SBBC** 225194		
	Connection to C rail	XN-2DO-24VDC-0.A-P XN-2DO-24VDC-0.A-N XN-2DO-24VDC-2A-P XN-2DO-R-NO XN-2DO-R-NC XN-2DO-120/230VAC-0.5A	**XN-S4T-SBCS** 225196		
	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N XN-1AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2DO-R-CO XN-2DO-R-NO XN-2DO-R-NC XN-2AI-PT/NI-2/3 XN-1CNT-24VDC	**XN-S4T-SBBS** 225197		
	Cold junction compensation	XN-2AI-THERMO-PI	**XN-S4T-SBBS-CJ** 225200		
	Block module Connection to C rail	XN-16DI-24VDC-P	**XN-B4T-SBBC** 227753		
4 (32) × 2-/3-wire					
Base modules 	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N	**XN-S6T-SBBSBB** 225198		1 off
	Connection to C rail	XN-4DO-24VDC-0.5A-P	**XN-S6T-SBCSBC** 225199		
	Block module	XN-32DI-24VDC-P	**XN-B6T-SBBSBB** 227754		

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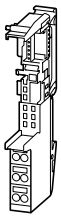
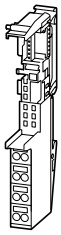
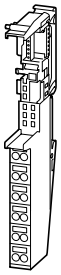
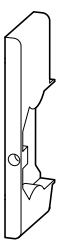
	Description	Can be used with module	Type Article no.	Price See Price List	Std. pack
Screw connection					
2-wire/3-wire					
Base modules 	Base module for bus refreshing within the stations	XN-BR-24VDC-D	**XN-P3S-SBB-B** 225201		1 off
	With XN-BR-24VDC-D base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D base module to provide the field supply	XN-PF-24VDC-D XN-PF-120/230VAC-D XN-PF-120/230VAC-D	**XN-P3S-SBB** 225202		
	Slice module	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC XN-1AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2AI-PT/NI-2/3 XN-1AO-I(0/4...20MA) XN-2AO-I(0/4...20MA) XN-2AO-U(-10/0...+10VDC)	**XN-S3S-SBB** 225205		
	Connection to C rail	XN-2DO-24VDC-0.5A-P XN-2DO-24VDC-0.5A-N XN-2DO-24VDC-2A-P XN-2DO-120/230VAC-0.5A	**XN-S3S-SBC** 225207		
	Block module	XN-16DI-24VDC-P	**XN-B3S-SBB** 227755		
	Block module Connection to C rail	XN-16DO-24VDC-0.5-P	**XN-B3S-SBC** 227756		
4-wire					
Base modules 	With XN-BR-24VDC-D base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D base module to provide the field supply Connection to C rail	XN-BR-24VDC-D XN-PF-24VDC-D XN-PF-120/230VAC-D	**XN-P4S-SBBC** 225204		1 off
	Base module for bus refreshing within the stations Connection to C rail	XN-BR-24VDC-D	**XN-P4S-SBBC-B** 225203		
	Connection to C rail	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC	**XN-S4S-SBBC** 225206		
	Connection to C rail	XN-2DO-24VDC-0.A-P XN-2DO-24VDC-0.A-N XN-2DO-24VDC-2A-P XN-2DO-R-NO XN-2DO-R-NC XN-2DO-120/230VAC-0.5A	**XN-S4S-SBCS** 225208		
	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N XN-1AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2DO-R-CO XN-2DO-R-NO XN-2DO-R-NC XN-2AI-PT/NI-2/3 XN-1CNT-24VDC	**XN-S4S-SBBS** 225209		
	Cold junction compensation Suitable for XN-2AI-THERMO-PI	XN-2AI-THERMO-PI	**XN-S4S-SBBS-CJ** 225212		
	Block module Connection to C rail	XN-16DI-24VDC-P	**XN-B4S-SBBC** 227757		
4 (32) × 2-/3-wire					
Base modules 	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N	**XN-S6S-SBBSBB** 225210		1 off
	Connection to C rail	XN-4DO-24VDC-0.5A-P	**XN-S6S-SBCSBC** 225211		
	Block module	XN-32DI-24VDC-P	**XN-B6S-SBBSBB** 227758		

	For use with	Type Article no.	Price See Price List	Std. pack
Coding elements electronics/base				
A coding element is a standard item in the delivery package for each electronics module, and is used to prevent the module being inserted in the wrong location.	XN-xDI-24VDC	**XN-KO/2** 225233		10 off
	XN-2DI-120/230VAC	**XN-KO/5** 225236		
	XN-xDO-24VDC	**XN-KO/6** 225237		
	XN-2DO-120/230VAC-0.5A	**XN-KO/7** 225238		
	XN-2DO-R-NO	**XN-KO/8** 225239		
	XN-2DO-R-NC	**XN-KO/9** 225240		
	XN-2DO-R-CO	**XN-KO/10** 225241		
	XN-xAI-I	**XN-KO/11** 225242		
	XN-1AI-U(-10/0...+10V) XN-2AI-U(-10/0...+10V) XN-2AI-THERMO-PI XN-2AI-PT/NI-2/3	**XN-KO/12** 225243		
	XN-1AO-I(0/4...20MA)	**XN-KO/13** 225244		
	XN-2AO-U(-10/0...+10V)	**XN-KO/14** 225245		
	XN-1CNT-24VDC XN-1RS232 XN-1RS485/422 XN-1SSI	**XN-KO/15** 225246		
	XN-BR-24VDC-D XN-PF-24VDC-D	**XN-KO/16** 225247		
	XN-PF-120/230VAC-D	**XN-KO/17** 225248		

	Description	Type Article no.	Price See Price List	Std. pack
Relay jumpers				
The relay jumpers are for bridging relay roots.	1-grid	**XN-QV/1** 225216		10 off
	2-grid	**XN-QV/2** 225217		
	3-grid	**XN-QV/3** 225218		
	4-grid	**XN-QV/4** 225219		
	5-grid	**XN-QV/5** 225220		
	6-grid	**XN-QV/6** 225221		
	7-grid	**XN-QV/7** 225222		
	8-grid	**XN-QV/8** 225223		
End plate				
	For covering an XI/ON station An end plate is supplied as part of the gateway package	**XN-ABPL** 225250		2 off

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	Description	Type Article no.	Price See Price List	Std. pack
End bracket 	For fixing the XI/ON station on the top-hat rail 2 end brackets are supplied as standard with the gateways	**XN-WEW-35/2-SW** 225254		100 off
Connection level marking on the base modules The markers are for clear and application-specific marking of the connection levels of a base module. 	Blue	**XN-ANBZ-BL** 225224		10 off
	Red	**XN-ANBZ-RT** 225225		
	Green	**XN-ANBZ-GN** 225226		
	Black	**XN-ANBZ-SW** 225227		
	Brown	**XN-ANBZ-BR** 225228		
	Red/blue	**XN-ANBZ-RT/BL-BED** 225229		
	Green/yellow	**XN-ANBZ-GN/GE-BED** 225230		
	White	**XN-ANBZ-WS** 225231		
Screen connection for gateway				
	Screen connection for direct bus connection	**SCH-1-WINBLOC** 224089		1 off
Screen connection, tension clamp base modules				
	2-pole screen connection for analog signals	**XN-KLBU/T** 225251		10 off
Screen connection, screw connection base modules				
	2-pole screen connection for analog signals	**XN-KLBU/S** 225252		10 off
Ferrite ring				
	For damping high frequency interference signals in data and power lines	**PS416-ZBX-405** 025519		2 off
Switched-mode power supply units				
	Controlled output voltage 24 V DC Rated current 2.5 A	**SN4-025-BI7** 200033		1 off
	Controlled output voltage 24 V DC Rated current 5 A	**SN4-050-BI7** 200034		1 off
Inscription labels The marking plates can be used for labelling base modules and slots for electronics modules.	Labelled 1 – 50	**FW5/1-50(047346)** 084689		10 off
	Labelled 51 – 100	**FW5/51-100(047346)** 200234		
	Labelled 101 – 150	**FW5/101-150(047346)** 084691		
	Labelled 151 – 200	**FW5/151-200(047346)** 084692		
Data plug				
	Pins, 9-pole Cable entry, angled 90	**ZB4-209-DS2** 206982		1 off
PROFIBUS-DP data cable				
	Twisted, without connector, two-wire, 2 0.64 mm2 (only suitable for fixed wiring)	**ZB4-900-KB1** 206983		100 m
Service cable				
	Establishes the connection between I/O assistant and the service interface at the gateway	**XN-PS2-CABLE** 225215		1 off
Labels For labelling the electronics modules	A5 sheet, perforated, 1057 labels	**XN-LABEL/SCHEIBE** 225255		5 off
	A5 sheet, perforated, 10 labels	**XN-LABEL/BLOCK** 225256		5 off

General		
Standards		DIN 19245 EN 61131 IEC 68-2 EN 50081-2
Supported fieldbus systems		PROFIBUS-DP, CANopen, DeviceNet
Electrical isolation		Yes, through optocoupler
Ambient temperature	°C	-0/+55
Ambient temperature for storage	°C	-25/85
Relative humidity	%	5 – 95 (indoor), level RH-2, no condensation (for storage at 45°C)
Harmful gases		
SO_2	ppm	10 (rel. humidity < 75%, no condensation)
H_2S	ppm	1.0 (rel. humidity < 75%, no condensation)
Vibration resistance, operating conditions		According to IEC/EN 61131
Mechanical shock resistance		According to IEC 60068-2-27
Repetitive shock resistance		According to IEC 60068-2-29
Tipping and falling		As per IEC 60068-2-31, free fall as per IEC 60068-2-32
Degree of protection		IP20
Electromagnetic compatibility (EMC)		
ESD		EN 50081-2
Electromagnetic fields		EN 50081-2
Burst		EN 50081-2
Surge		EN 61000-6-2
HF asymmetric		EN 61000-6-2
Radiated interference/Conducted interference voltage		EN 61000-6-4
Radiated interference (RFI)		EN 61000-6-4
Type test		to EN 61131-2
Base modules		
Rated data		As per VDE 0611 Teil 1/8.92 / IEC/EN 60947-7-1
Connections in TOP direction		Spring-loaded or screw terminal
Core stripping length	mm	8
Terminal capacity		
Single conductor H07V-U	mm^2	1.5
Single conductor H07V-K	mm^2	0.5 – 2.5
Flexible with ferrule	mm^2	0.5 – 1.5
Plug gauge IEC/EN 60947-1		A1
Approvals		CE, UL and CSA

			XN-BR-24VDC-D	XN-PF-24VDC-D	XN-PF-120/230VAC-D
Supply modules					
Operating voltage		V DC	24	24	120/230 AC
System supply	U_{sys}	V DC	24/5	–	–
Permissible range, 24 V DC	U_{sys}	V DC	18 – 30	–	–
Permissible range, 5 V DC	U_{sys}	V DC	4.7 – 5.3	–	–
Field voltage	U_L		24 V DC	24 V DC	24 V DC
Admissible range			–	–	to EN 61131-2
Admissible range		V DC	18 – 30	18 – 30	–
Nominal current drawn from module bus	I_{MB}	mA	–	≦ 28	≦ 25
Insulation test	U_i	V AC	–	–	1780
Residual ripple		%	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)
Maximum operating current	I_{EI}	A	10	10	10
Maximum system supply current	I_{MB}	A	1.5	–	–
Number of diagnosis bits			4	4	4
Base module without gateway supply					
Without C connection			2-/3-wire XN-P3x-SBB-B	2-/3-wire XN-P3x-SBB	2-/3-wire XN-P3x-SBB
With C connection			4-wire XN-P4x-SBBC-B	4-wire XN-P4x-SBBC	4-wire XN-P4x-SBBC

Notes

Permissible range for system supply:
for U_{sys} = 24 V DC: 18 – 30 V DC (as per EN 61131-2)
for U_{sys} = 5 V DC: 4.7 – 5.3 V DC (only XN-BR-24VDC-D)
Permissible range for field voltage U_L:
As per EN 61131-2 (18 – 30 V DC)
Permissible range for nominal voltage and field voltage U_L:
to EN 61131-2

			XN-GW-PBDP-1.5MB	XN-GW-PBDP-12MB	XN-GW-PBDP-12MB-STD	XN-GW-CANOPEN	XN-GW-DNET
Networking							
Fieldbus			PROFIBUS-DP			CANopen	DeviceNet
Operating voltage		V DC	5 (from bus refreshing module)				
Admissible range		V DC	4.7 – 5.3	4.7 – 5.3	4.7 – 5.3	4.7 – 5.3	4.7 – 5.3
Residual ripple		%	< 5 (to EN 61131-2)				
Nominal current drawn from module bus	I_{MB}	mA	≦ 430	≦ 430	≦ 410	≦ 350	≦ 250
Service interface			PS/2 socket	PS/2 socket	PS/2 socket, for firmware download only	PS/2 socket	PS/2 socket
Connections, fieldbus			2 × SUB-D sockets, 9-pole; 2 × spring-loaded terminal strips for direct wiring	1 × SUB-D socket, 9-pole	1 × SUB-D socket, 9-pole	1 × SUB-D socket, 9-pole; 1 × SUB-D plug, 9-pole; 2 × direct wiring, 5-pole; spring-loaded	Open style connector
Data transfer rate		kBit/s	9.6 – 1500	9.6 – 12000	9.6 – 12000	20, 50, 125, 250, 500, 800, 1000	125, 250, 500
Selecting data transfer rate			–	–	–	Via DIP switch	Via DIP switch
Addressing			2 hex rotary coding plug		2 hex rotary coding switch		2 decimal rotary coding switch
Fieldbus termination			Via SUB-D plug	Via SUB-D plug	Via SUB-D plug	Via SUB-D plug	Via DIP switch
Number of parameter bytes			5 bytes	5 bytes	5 bytes	–	–
Number of diagnosis bytes			3 bytes	3 bytes	3 bytes	–	–
Address range			1 – 125 dec.	1 – 125 dec.	1 – 125 dec.	1 – 127 dec.	0 – 63 dec.

			XN-GWBR-PBDP	XN-GWBR-CANOPEN	XN-GWBR-DNET
Networking					
Fieldbus			PROFIBUS-DP	CANopen	DeviceNet
System supply	U_{sys}	V DC	24 V DC/5 V DC	24 V DC/5 V DC	24 V DC/5 V DC
Permissible range, 5 V DC	U_{sys}	V DC	4.7 – 5.3	4.7 – 5.3	4.7 – 5.3
Permissible range, 24 V DC	U_{sys}	V DC	18 – 30	18 – 30	18 – 30
Field voltage	U_L		24	24	24
Admissible range		V DC	18 – 30	18 – 30	18 – 30
Residual ripple		%	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)
Service interface			PS/2 socket	PS/2 socket	PS/2 socket
Connections, fieldbus			1 × SUB-D socket, 9-pole	Open style connector	Open style connector
Data transfer rate		kBit/s	9.6 – 12000	20, 50, 125, 250, 500, 800, 1000	125, 250, 500
Selecting data transfer rate			–	Via DIP switch	Via DIP switch
Addressing			2 decimal rotary coding switch		
Fieldbus termination			External	External	External
Number of parameter bytes			5 bytes	–	–
Number of diagnosis bytes			3 bytes	–	–
Address range			1 – 99 dec.	1 – 99 dec.	1 – 63 dec.

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			XN-2DI-24VDC-P	XN-2DI-24VDC-N
Digital input modules				
Channels		Qty.	2	2
Nominal voltage on supply terminal	U_L		24 V DC	24 V DC
Nominal current drawn from supply terminal	I_L	mA	≦ 20	≦ 20
Nominal current drawn from module bus	I_{MB}	mA	≦ 28	≦ 28
Insulation test	U_i	V AC	–	–
Power loss		W	0.7	0.7
Input voltage				
Input voltage, nominal value		V DC	24 V DC	24 V DC
Low level	U_L		-30 V – +5 V	0 V – +5 V
High level	U_H		11 – 30 V	> (U_{PF} -11 V)
Frequency range		Hz	–	–
Input current				
Low level/active level	I_L		0 mA – 1.5 mA	1.8 mA – 10 mA
High level/active level	I_H		2 mA – 10 mA	0 mA – 1.7 mA
Input delay				
$t_{rising\ edge}$		µσ	< 200	< 200
$t_{falling\ edge}$		µσ	< 200	< 200
Maximum permissible cable capacitance			–	–
Base modules				
Without C connection			2-/3-wire XN-S3x-SBB 2-wire proximity switches (Bero® initiators) can be attached, with a permissible quiescent current up to 1.5 mA.	
With C connection			4-wire XN-S4x-SBBC	4-wire XN-S4x-SBBC

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XN-2DI-120/230VAC	XN-4DI-24VDC-P	XN-4DI-24VDC-N	XN-16DI-24VDC-P	XN-32DI-24VDC-P
2	4	4	16	32
120/230 V AC	24 V DC	24 V DC	24 V DC	24 V DC
≦ 20	≦ 40	≦ 40	≦ 40	≦ 30
≦ 28	≦ 28	≦ 28	≦ 45	≦ 30
1780	–	–	–	–
1	1	1	2.5	4.2
120/230 V AC	24 V DC	24 V DC	24 V DC	24 V DC
0 – 20 V AC	-30 V – +5 V	0 V – +5 V	-30 V – +5 V	-30 V – +5 V
79 V AC – 265 V AC	15 V – 30 V	> (U_{PF} -11 V)	15 V – 30 V	15 V – 30 V
48 – 63	–	–	–	–
0 mA – 1 mA	0 mA – 1.5 mA	1.3 mA – 6 mA	0 mA – 1.5 mA	< 1.5 mA
3 mA – 8 mA	2 mA – 10 mA	20 mA – 1.2 mA	2 mA – 10 mA	2 mA – 10 mA
< 20000	< 200	< 200	< 200	< 200
< 20000	< 200	< 200	< 200	< 200
141 nF at 79 V AC/50 Hz; 23 nF at 265 V AC/50 Hz	–	–	–	–
2-/3-wire XN-S3x-SBB	2-/3-wire XN-S4x-SBBS 4-wire XN-S6x-SBBSBB	2-/3-wire XN-S4x-SBBS 4-wire XN-S6x-SBBSBB	2-/3-wire XN-B3x-SBB	2-/3-wire XN-B6x-SBBSBB
4-wire XN-S4x-SBBC	–	–	4-wire XN-B4x-SBBC	–

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			XN-2DO-24VDC-0.5A-P	XN-2DO-24VDC-0.5A-N
Digital output modules				
Channels		Qty.	2	2
Nominal voltage on supply terminal	U_L		24 V DC	24 V DC
Nominal current drawn from supply terminal (for 0 mA load current)	I_L	mA	≦ 20	≦ 20
Nominal current drawn from module bus	I_{MB}	mA	≦ 32	≦ 32
Power loss		W	Normally 1	Normally 1
Output voltage				
High level	U_H/U_A		Min. L+ (-1 V)	Max. GND (+1 V)
Output current				
High level (nominal)	I_H		0.5	0.5 A
High level (permissible range)	I_H	A	< 0.6	< 0.6
Low level	I_A	mA	–	–
Back-up fuse			–	–
Surge current	I_S	A	–	–
Delay for signal changeover, resistive load				
From Low to High level		µσ	< 100	< 100
From High to Low signal		µσ	< 100	< 100
Load resistance range			48 Ω – 1 kΩ	–
Utilization factor	g	%	100	100
Connectable:			Resistive loads Inductive loads Electric lamps	Resistive loads Inductive loads Electric lamps
Resistive load		Ω	≧ 48	≧ 48
Inductive load		H	≦ 1.2	≦ 1.2
Lamp load	R_{LL}	W	≦ 3	≦ 12
Switching frequency				
For resistive load	f	Hz	5000 (R_{LO} < 1 kΩ)	100 (R_{LO} < 1 kΩ)
Inductive load		Hz	2	2
For lamps		Hz	≦ 10	≦ 10
Number of diagnosis bits			2	2
Base modules				
With C connection			2-/3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS	2-/3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS

Output delay for signal changeover with resistive load / Switching frequency with resistive load: R_{LO} < 1 kΩ

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XN-2DO-120/230VAC-0.5A	XN-2DO-24VDC-2A-P	XN-4DO-24VDC-0.5A-P	XN-16DO-24VDC-0.A-P
2	2	4	16
120/230 V AC	24 V DC	24 V DC	24 V DC
≦ 20	≦ 50	≦ 25	≦ 30
≦ 35	≦ 33	≦ 30	≦ 45
Normally 1	Normally 1	Normally 1	Normally 4
> U_L (-2 V)	Min. L+ (-1 V)	Min. L+ (-1 V)	Min. L+ (-1 V)
0.5 A	2	0.5 A	0.5 A
0.02 – 0.5	< 2.4	1.0 A for max. 5 minutes	< 0.6
< 1.5	–	–	–
500 mA FF	–	–	–
8 (1 period at 60 Hz)	–	–	–
< T/2 +1 ms	< 100	< 250	< 100
< T/2 +1 ms	< 100	< 250	< 100
At 120 V AC 240 Ω – 6 kΩ at 230 V AC 460 Ω – 11.5 kΩ	12 Ω – 1 kΩ	48 Ω – 1 kΩ	–
100	100	100	100
Resistive loads Inductive loads Electric lamps	Resistive loads Inductive loads Electric lamps	Resistive loads Inductive loads Electric lamps	Resistive loads Inductive loads Electric lamps
≧ 48	≧ 12	≧ 48	≧ 48
≦ 1.2	≦ 1.2	≦ 1.2	Category DC-13 as per EN 60947-5-1
–	≦ 6	≦ 6	≦ 3
–	5000 (R_{LO} < 1 kΩ)	5000 (R_{LO} < 1 kΩ)	100 (R_{LO} < 1 kΩ)
–	2	2	–
–	≦ 10	≦ 10	–
0	2	1	4
2-/3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS	2-/3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS	4-wire XN-S4x-SBCS 4 × 2-/3-wire XN-S4x-SBCSBC	2-/3-wire XN-B3x-SBC

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			XN-1AI-I(0/4...20MA)	XN-2AI-I(0/4...20MA)
Analog input modules				
Channels		Qty.	1	2
Nominal voltage on supply terminal	U_L		24 V DC	24 V DC
Nominal current drawn from supply terminal	I_L	mA	≦ 50	≦ 12
Nominal current drawn from module bus	I_{MB}	mA	≦ 41	≦ 35
Power loss		W	< 1	< 1
Input current		mA	0/4 – 20	0/4 – 20
Maximum input current		mA	50	50
Input voltage			–	–
Maximum input voltage		V DC	–	–
Input resistance			< 125 Ω	< 125 Ω
Limit frequency (–3 db)		Hz	200	> 50
Offset error		%	≦ 0.1	≦ 0.1
Linearity		%	0.03	–
Basic error limit at 23 °C		%	< 0.2	< 0.2
Repetition accuracy (deviation)		%	0.09	0.05
Temperature coefficient			300 ppm/°C of full-scale value	300 ppm/°C of full-scale value
Resolution of the A/D-converter			14-bit (signed integer)	16-bit
Measurement method			Successive approximation	Delta Sigma
Measurement display			16-bit signed integer 12-bit full range, flush left	16-bit signed integer 12-bit full range, flush left
Sensor/transmitter supply			Linked to L+ and L- of the supply; not short-circuit protected	≦ 250 mA; Linked to L+ and L- of the supply; not short-circuit protected
Cycle time		ms	–	–
Connectable sensors			–	–
Number of diagnosis bits			2-bit	2-bit
No. of parameter bits			3-bit	1 byte (per channel)
Base modules				
Without C connection			2-/3-wire XN-S3x-SBB	2-/3-wire XN-S3x-SBB
No C-connection for sensor/transmitter supply			4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS

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XN-1AI-U(-10/0...+10VDC)	XN-2AI-U(-10/0...+10VDC)	XN-2AI-PT/NI-2/3	XN-2AI-THERMO-PI
1	2	2	2
24 V DC	24 V DC	24 V DC	24 V DC
≦ 50	≦ 12	≦ 30	≦ 30
≦ 41	≦ 35	≦ 45	≦ 45
< 1	< 1	< 1	< 1
–	–	–	–
–	–	–	–
-10/0 to +10 V DC	-10/0 to +10 V DC	–	–
35 continuous	35 V continuous	–	–
≧ 98.5 kΩ	≧ 98.5 kΩ	–	–
200	> 50	–	–
≦ 0.1	≦ 0.1	≦ 0.1	≦ 0.1
0.03	–	< 0.1	0.1
< 0.2	< 0.2	< 0.2	< 0.2
0.05	0.05	0.05	0.05
300 ppm/°C of full-scale value	150 ppm/°C of full-scale value	300 ppm/°C of full-scale value	300 ppm/°C of full-scale value
14-bit (signed integer)	16-bit	–	–
Successive approximation	Delta Sigma	–	–
16-bit signed integer 12-bit signed integer, flush-left 12-bit full range, flush left	16-bit signed integer 12-bit full range, flush left	16-bit signed integer 12-bit full range, flush left	16-bit signed integer 12-bit full range, flush left
Linked to L+ and L- of the supply; not short-circuit protected	≦ 250 mA; Linked to L+ and L- of the supply; not short-circuit protected	–	–
–	–	< 130 per channel	60 per channel + 100
–	–	Platinum sensors: Pt100, Pt500, Pt1000 (as per IEC 751) Nickel sensors: Ni100, Ni1000 (as per DIN 43760)	Thermocouple types B, E, J, K, N, R, S, T to IEC 584, Class 1, 2, 3
1-bit	2-bit	2 bytes (1 byte per channel)	2 bytes (1 byte per channel)
3-bit	2 bytes	4 bytes (2 bytes per channel)	2 bytes (1 byte per channel)
2-/3-wire XN-S3x-SBB	2-/3-wire XN-S3x-SBB	2-/3-wire XN-S3x-SBB	–
4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS	4-wire, with integrated cold-junction compensation XN-S4x-SBBS-CJ

			XN-1AO-I(0/4...20MA)	XN-2AO-I(0/4...20MA)	XN-2AO-U(-10/0...+10VDC)
Analog output modules					
Channels		Qty.	1	2	2
Nominal voltage on supply terminal	U_L		24 V DC	24 V DC	24 V DC
Nominal current drawn from supply terminal	I_L	mA	≦ 50	≦ 50	≦ 50
Nominal current drawn from module bus	I_{MB}	mA	≦ 39	≦ 40	≦ 43
Power loss		W	Normally 1	Normally 1	Normally 1
Output voltage		V DC	–	–	-10/0 – +10
Output current		mA	0/4 – 20	0/4 – 20	–
Load resistance					
Resistive load		Ω	< 450	< 450	> 1000
Inductive load		H	< 0.001	< 0.001	–
Capacitive load		µF	–	–	> 1
Short-circuit current		mA	–	–	≦ 40
Transmission frequency		Hz	≦ 200	≦ 200	≦ 100
Offset error		%	≦ 0.1	≦ 0.1	≦ 0.1
Linearity		%	0.02	–	0.1
Basic error limit at 23 °C		%	< 0.2	< 0.2	< 0.2
Repetition accuracy (deviation)		%	0.05	–	0.05
Output ripple		%	0.02	–	0.02
Temperature coefficient			300 ppm/°C of full-scale value	150 ppm/°C of full-scale value	300 ppm/°C of full-scale value
Recovery time					
Resistive load		ms	0.1	2	0.1
Inductive load		ms	0.5	2	0.5
Capacitive load		ms	0.5	0.5	0.5
Interference suppression			–	–	Common-mode > 90 dB Differential > 70 dB Crosstalk between channels > -50 dB
Measurement display			16-bit signed integer 12-bit full range, flush left	16-bit signed integer 12-bit full range, flush left	16-bit signed integer 12-bit signed integer, flush-left 12-bit full range, flush left
Number of parameter bytes			3	3 (per channel)	3 (per channel)
Base modules					
Without C connection			2-/3-wire XN-S3x-SBB	2-/3-wire XN-S3x-SBB	2-/3-wire XN-S3x-SBB

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			XN-2DO-R-NC	XN-2DO-R-NO	XN-2DO-R-CO
Relay modules					
Contact type			2 break contacts	2 make contacts	2 changeover contacts, isolated
Nominal voltage on supply terminal	U_L		24 V DC	24 V DC	24 V DC
Nominal current drawn from supply terminal	I_L	mA	≦ 20	≦ 20	≦ 20
Nominal current drawn from module bus	I_{MB}	mA	≦ 28	≦ 28	≦ 28
Insulation test	U_i	V AC	1780	1780	1780
Power loss		W	Normally 1	Normally 1	Normally 1
Connectable:			Resistive loads Inductive loads Electric lamps	Resistive loads Inductive loads Electric lamps	Resistive loads Inductive loads Electric lamps
Nominal load voltage			230 V AC, 30 V DC	230 V AC, 30 V DC	230 V AC, 30 V DC
Output current per channel / 230 V AC					
Maximum continuous current		A	2	2	2
Maximum continuous current, resistive load			5 A, load-dependent	5 A, load-dependent	5 A, load-dependent
Minimum load current		mA	10 mA at ≧ 12 V DC	10 mA at ≧ 12 V DC	10 mA at ≧ 12 V DC
Output current for DC voltage (resistive)			Load limit curve → Page 6/39	Load limit curve → Page 6/39	Load limit curve → Page 6/39
Utilization factor	g	%	100	100	100
Operating life at 230 V AC					
at 5 A	Operations	$\times 10^6$	> 0.1	> 0.1	> 0.1
at 0.5 A	Operations	$\times 10^6$	> 1	> 1	> 1
Base modules					
Without C connection			4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS
With C connection			4-wire XN-S4x-SBCS	4-wire XN-S4x-SBCS	–

			XN-1CNT-24VDC
Counter module			
Channels		Qty.	1
Nominal voltage on supply terminal	U_L		24 V DC
Nominal current drawn from supply terminal	I_L	mA	≦ 50
Nominal current drawn from module bus	I_{MB}	mA	≦ 40
Power loss		W	< 1.3
Power supply of encoders			Output voltage L+ (-0.8 V) Output current ≦ 0.5 A, short-circuit protected
Digital inputs			
Input voltage			
Input voltage, nominal value		V DC	24
Low level	U_L		–30 V DC/+5 V DC
High level	U_H		11 V DC – 30 V DC
Input current			
Low level	I_L		-8 mA – 1.5 mA
High level	I_H		2 mA – 10 mA
Minimum pulse width		µσ	Filter on: > 25 ms (20 kHz) Filter off: < 2.5 ms (200 kHz)
Digital outputs			
Output voltage			
Output voltage, nominal value		V DC	24
Low level	U_L		≦ 3 V DC
High level			≧ L+ (-1 V)
Output current			
High level (permissible range)	I_H	A	5 mA – 2 A
High level (nominal)	I_H		≦ 0.5 A (55° C)
Switching frequency			
For resistive load		Hz	100
Inductive load		Hz	2
For lamps		Hz	≦ 10
Lamp load	R_{LL}	W	≦ 10
Output delay			100 µs (resistive load)
Short-circuit protected			Yes
Response threshold		V	2.6 – 4 A
Inductive quenching			L+ (-50 – -60 V)
Measurement ranges			
Frequency			0.1 Hz – 200 kHz
Speed			1 rev/min – 25000 revs/min
Time period			5 ms – 120 s
Counter modes			
Signal evaluation A, B			Pulse and direction, rotary encoder: single/double/quadruple
Control mode			Endless count, count once, count periodically
Hysteresis		mm	0 – 255
Pulse duration			0 – 255
Synchronization			Once/periodic
Counter limits			Upper count limit: 0 – 7FFF FFFF Lower count limit: 8000 0000 – FFFF FFFF
Measurement modes			
Signal evaluation A, B			Pulse and direction, single rotary encoder
Temperature coefficient			≦ 100 ppm/°C of full-scale value
Number of diagnosis bits			1
No. of parameter bits			15
Base modules			
No C-connection for sensor/transmitter supply			4-wire XN-S4x-SBBS

Notes

[1] The figures for nominal current from the supply terminal apply for load current = 0 mA.

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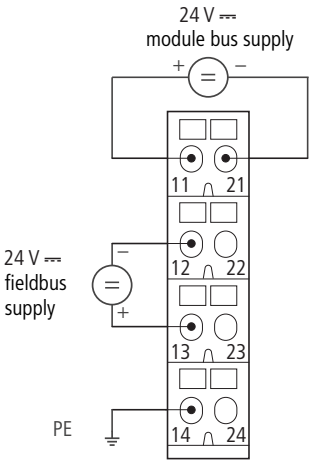
			XN-1RS232	XN-1RS485/422	XN-1SSI
Interfaces					
Type			RS232	RS484/RS422	SSI
Nominal voltage at supply terminal	U_L		24 V DC	24 V DC	24 V DC
Nominal current drawn from supply terminal	I_L	mA	≦ 25	≦ 25	≦ 25
Nominal current drawn from module bus	I_{MB}	mA	≦ 140	≦ 90	≦ 50
Power loss		W	Normally 1	Normally 1	Normally 1
Transmission channels			RxD, TxD, RTS, CTS	RxD, TxD	CL, D
Data buffer					
Receive		Byte	128	128	–
Transmit		Byte	64	64	–
Connection type					
RS232			Full-duplex	–	–
RS485			–	2-wire, half-duplex	–
RS422			–	2-wire, half-duplex or 4-wire, full-duplex	4-wire, full-duplex (clock output/ signal input)
Bit transfer rate			Max. 115200 bit/s (parameterizable), default setting: 9600 Bit/s, 7 data bits, odd parity, 2 stop bits	Max. 115200 bit/s (parameterizable), default setting: 9600 Bit/s, 7 data bits, odd parity, 2 stop bits	Max. 1 MHz (parameterizable), default settings: 500 kBit/s
Insulation voltage					
Between interface and module bus/system voltage		V_{eff}	500	500	500
Between interface and field voltage		V_{eff}	500	500	500
Common-mode range		V DC	-7 – 12	–	–
Cable impedance		Ω	–	120	120
Bus termination			–	120 Ω (external)	Internal
Cable length, RS232		m	max. 15	max. 1000	max. 30
Number of diagnosis bytes			1	1	1
Number of parameter bytes			4	4	4
Base modules					
No C-connection for sensor/transmitter supply			4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS

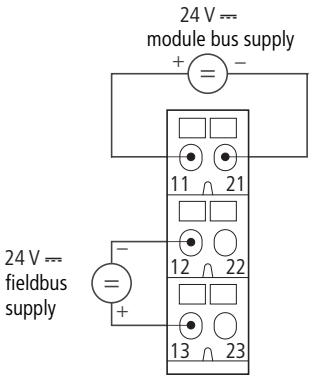
Notes The figures for nominal current from the supply terminal apply when there is no sensor/transmitter current.

Bus refreshing module

XN-P4x-SBBC with gateway supply
XN-P4x-SBBC-B without gateway supply

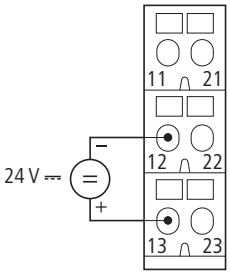


XN-P3x-SBB with gateway supply
XN-P3x-SBB-C without gateway supply

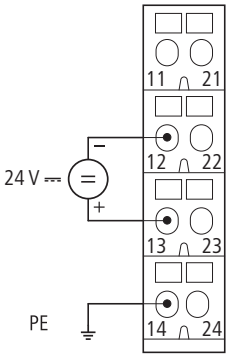


Power feeding module

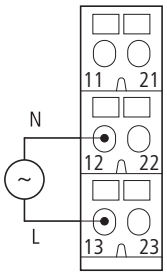
XN-P3x-SBB for XN-PF-24VDC-D



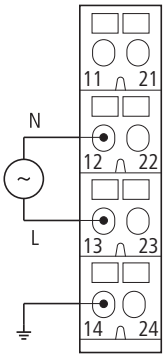
XN-P4x-SBBC for XN-PF-24VDC-D



XN-P3x-SBB for XN-PF-120/230VAC-D



XN-P4x-SBBC for XN-PF-120/230VAC-D



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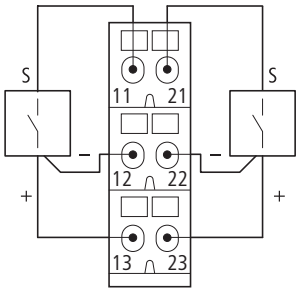
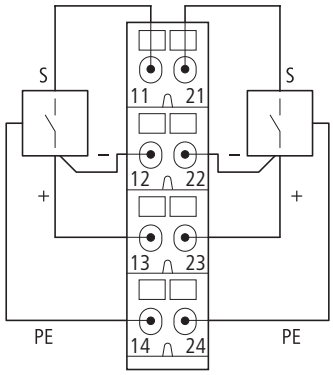
Digital input modules

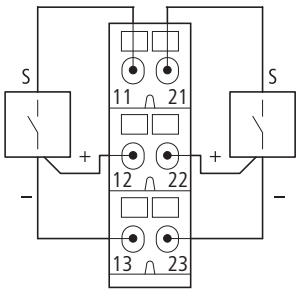
XN-S3x-SBB for XN-2DI-24VDC-P



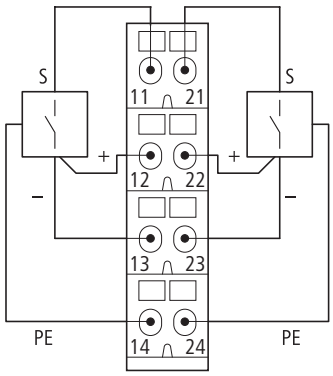
XN-S4x-SBBC for XN-2DI-24VDC-P



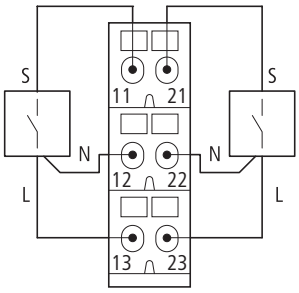
XN-S3x-SBB for XN-2DI-24VDC-N



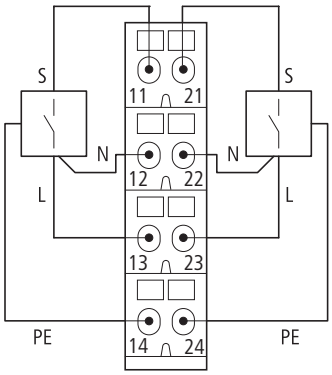
XN-S4x-SBBC for XN-2DI-24VDC-N



XN-S3x-SBB for XN-2DI-120/230VAC-P

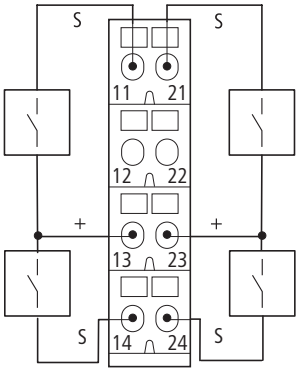


XN-S4x-SBBC for XN-2DI-120/230VAC-P

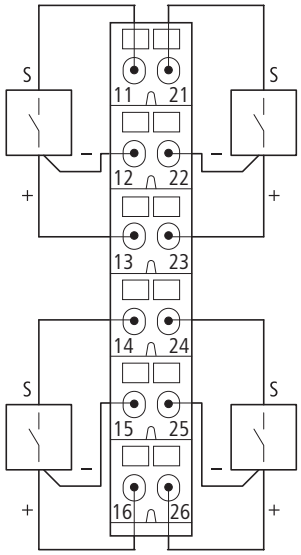


Digital input modules

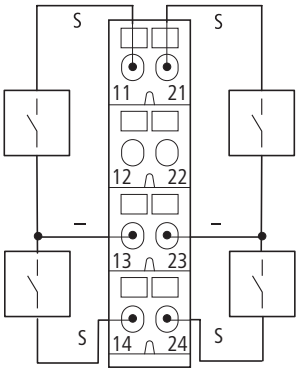
XN-S4x-SBBS for XN-4DI-24VDC-P



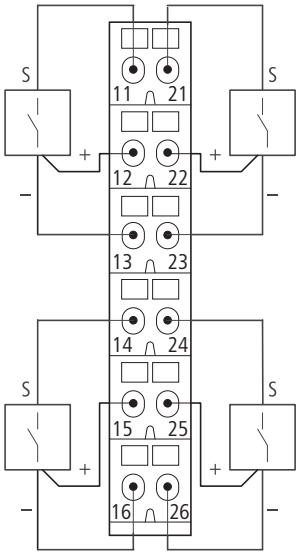
XN-S6x-SBBSBB for XN-4DI-24VDC-P



XN-S4x-SBBS for XN-4DI-24VDC-N



XN-S6x-SBBSBB for XN-4DI-24VDC-N



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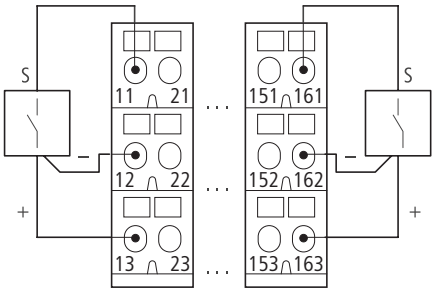
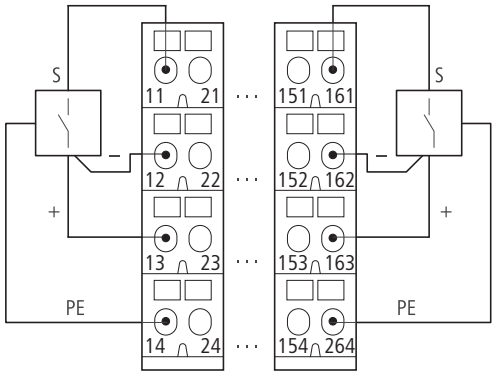
Digital input modules

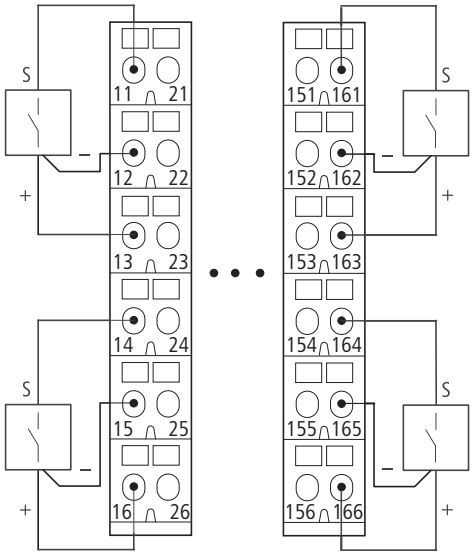
XN-B3x-SBB for XN-16DI-24VDC-P



XN-B4x-SBBC for XN-16DI-24VDC-P

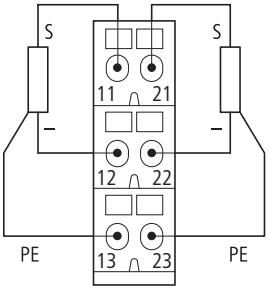


XN-B6x-SBBSBB for XN-32DI-24VDC-P

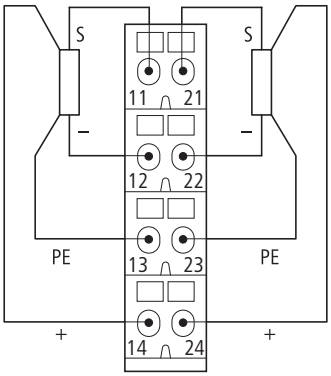


Digital output modules

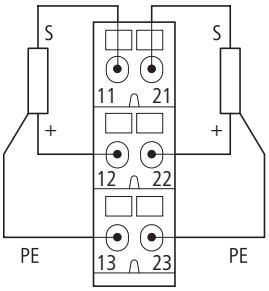
XN-S3x-SBC for
XN-2DO-24VDC-0.5A-P
XN-2DO-24VDC-2A-P



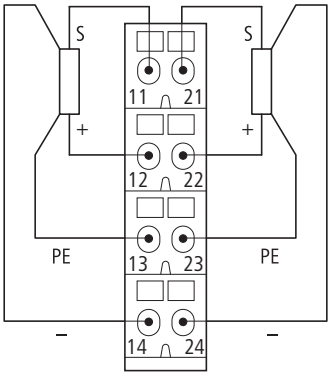
XN-S4x-SBCS for
XN-2DO-24VDC-0.5A-P
XN-2DO-24VDC-2A-P



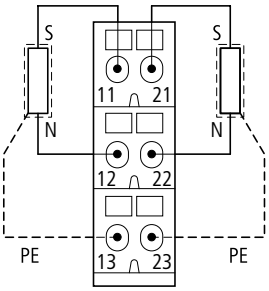
XN-S3x-SBC for
XN-2DO-24VDC-0.5A-N



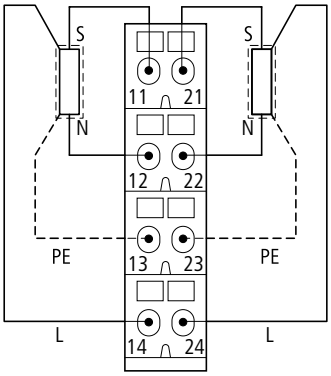
XN-S4x-SBCS for
XN-2DO-24VDC-0.5A-N



XN-S3x-SBC for XN-2DO-120/230VAC-0.5A



XN-S4x-SBCS for XN-2DO-120/230VAC-0.5A



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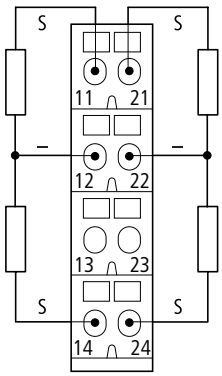
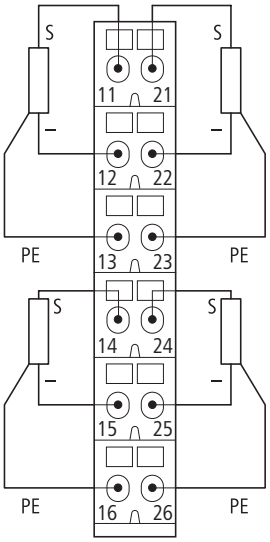
Digital output modules

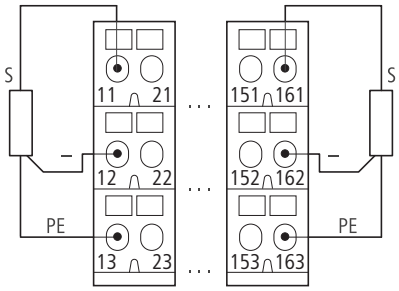
XN-S4x-SBCS for
XN-4DO-24VDC-0.5A-P



XN-S6x-SBCS for
XN-4DO-24VDC-0.5A-P

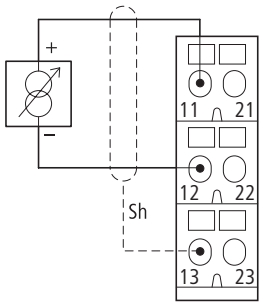


XN-B3x-SBC for XN-16DO-24VDC-0.5A-P

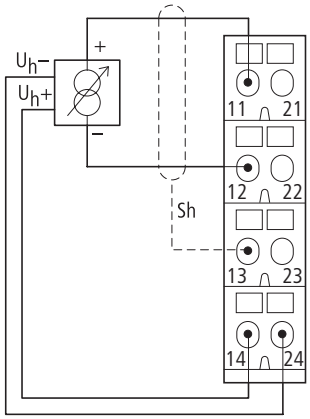


Analog input modules

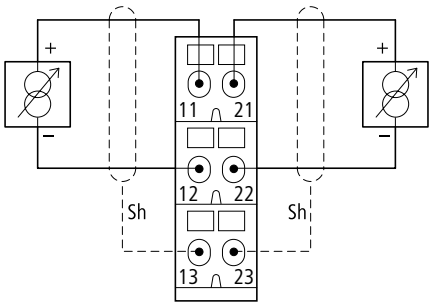
XN-S3x-SBB for XN-1AI-I(0/4...20MA)
XN-S3x-SBB for XN-1AI-U(–10/0...+10V)
Analog sensor/transmitter, without transmitter supply



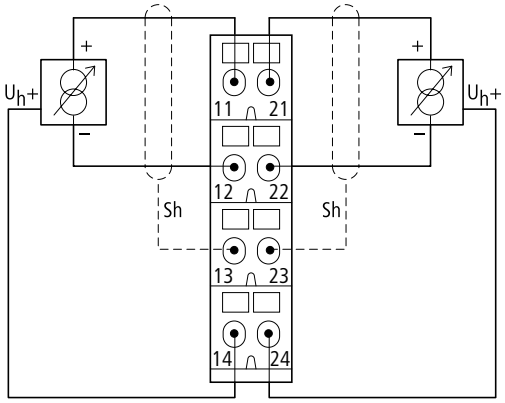
XN-S4x-SBBS for XN-1AI-I(0/4...20MA)
XN-S4x-SBBS for XN-1AI-U(–10/0...+10V)
Analog transmitter with floating transmitter supply



XN-S3x-SBB for XN-2AI-I(0/4...20MA), XN-2AI-V(-10/0...+10VDC)
Analog sensor/transmitter, without transmitter supply



XN-S4x-SBBS for XN-2AI-I(0/4...20MA), XN-2AI-VC(-10/0...+10VDC),
Analog transmitter with non-floating transmitter supply



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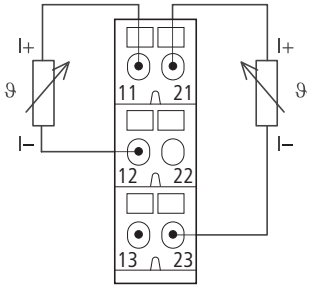
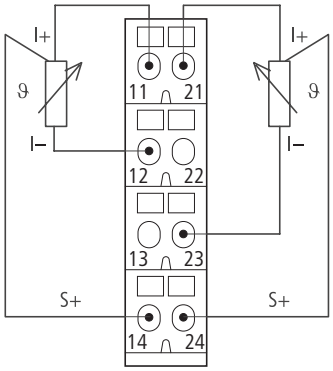
Analog input modules

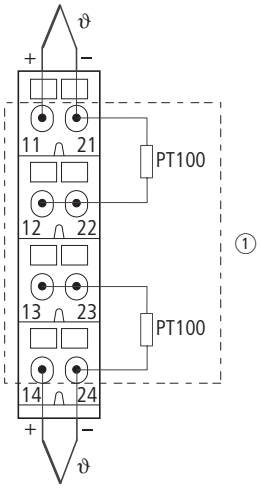
XN-S3x-SBB, for XN-2AI-PT/NI-2/3
2-wire connection



XN-S4x-SBBS, for XN-2AI-PT/NI-2/3
3-wire connection



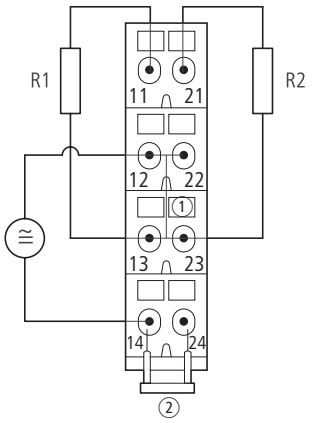
XN-S4x-SBBS-CJ for XN-2AI-Thermo



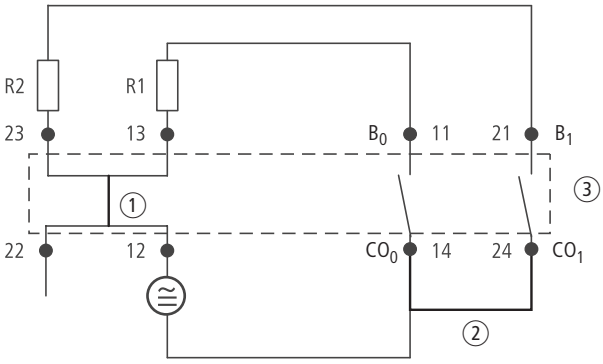
① Cold-junction compensation in base module

Relay modules

XN-S4x-SBBS with externally applied supply and common potential link for XN-2DO-R-NC

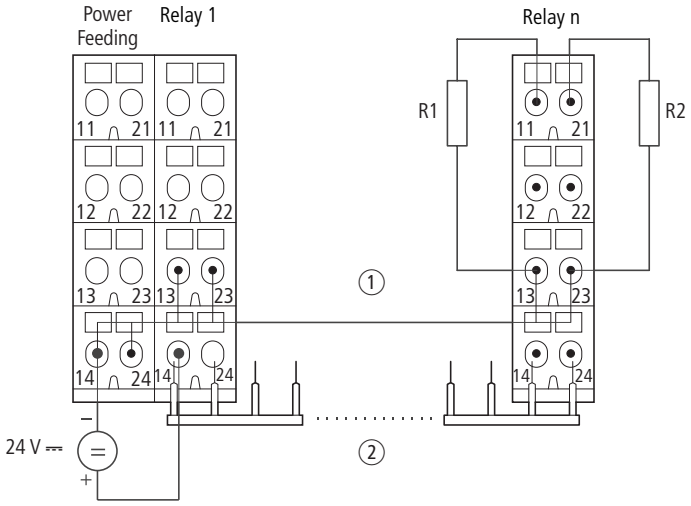


Module circuit XN-S4x-SBBS for XN-2DO-R-NC



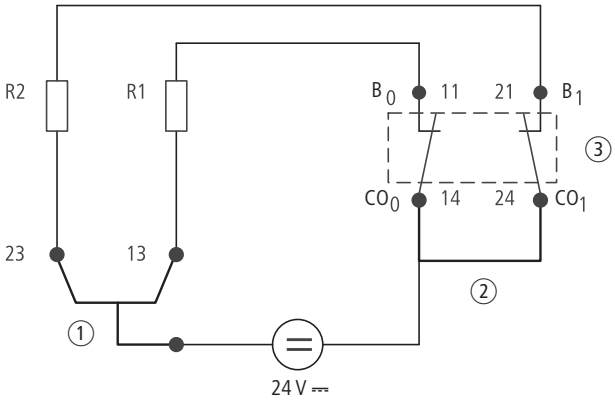
① Linked in the electronics
② Cross-link via QVR in the base module
③ Electronics module

XN-S4x-SBCS supply via C-rail and common potential link for XN-2DO-R-NC



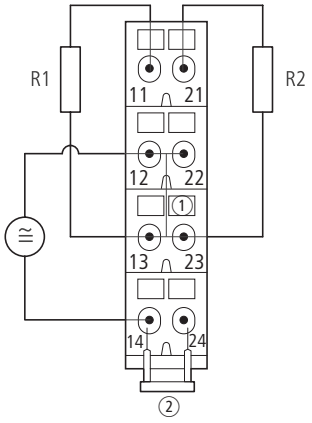
① Supply via C-rail
② Max. 8 relay modules

Module circuit XN-S4x-SBCS for XN-2DO-R-NC

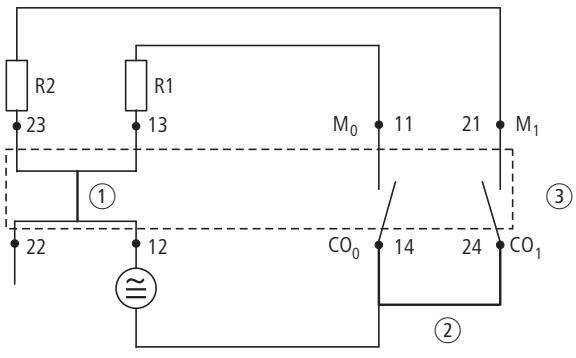


① C-rail
② Cross-link via QVR in the base module
③ Electronics module

XN-S4x-SBBS with externally applied supply and common potential link for XN-2DO-R-NO



Module circuit XN-S4x-SBBS for XN-2DO-R-NO



① Linked in the electronics
② Cross-link via QVR in the base module
③ Electronics module

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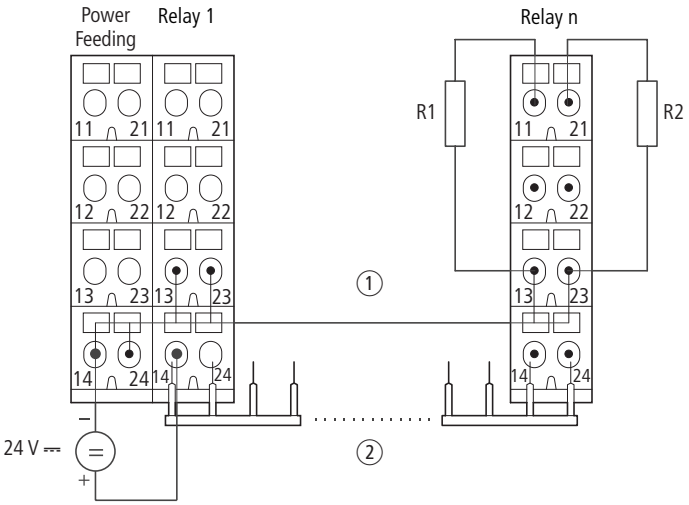
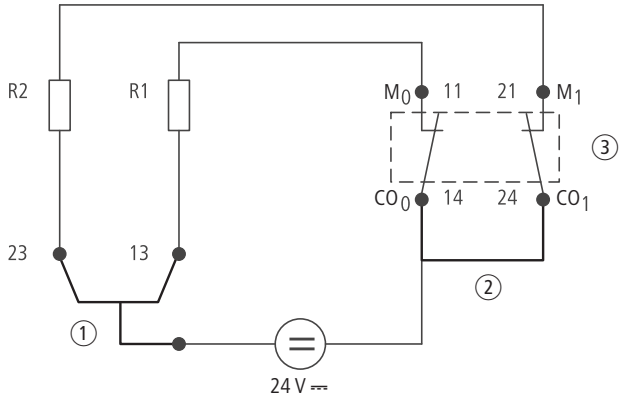
Relay modules

XN-S4x-SBCS supply via C-rail and common potential link for XN-2DO-R-NO



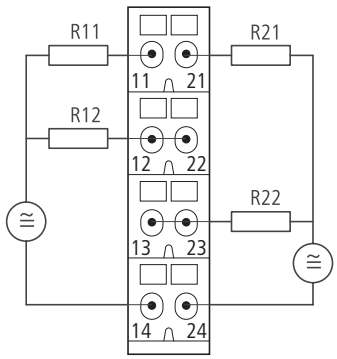
① Supply via C-rail
② Max. 8 relay modules

Module circuit XN-S4x-SBCS for XN-2DO-R-NO

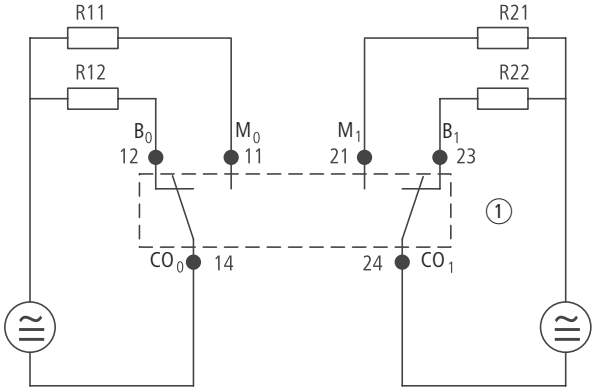


① C-rail
② Cross-link via QVR in the base module
③ Electronics module

XN-S4x-SBBS for XN-2DO-R-CO

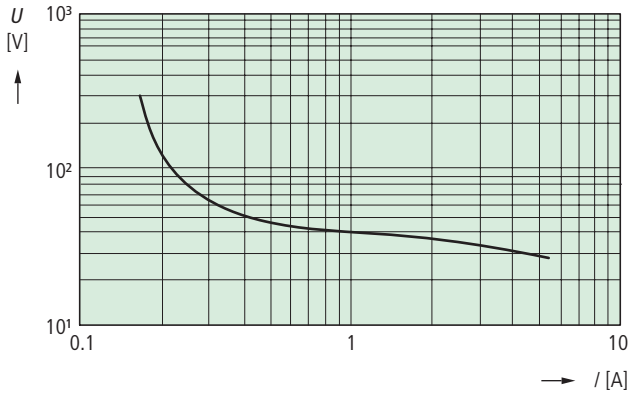


Module circuit XN-S4x-SBBS for XN-2DO-R-CO



① Electronics module

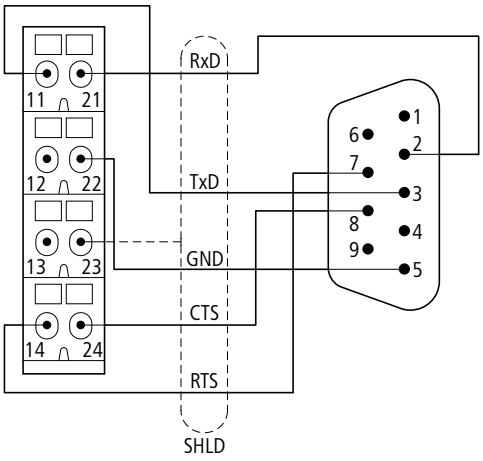
Load limit curve



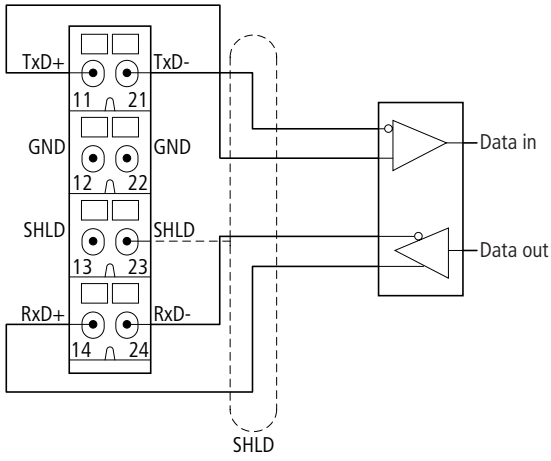
Definition:
After 1000 switching cycles, no arc with a duration >10ms shall occur.

Serial interfaces

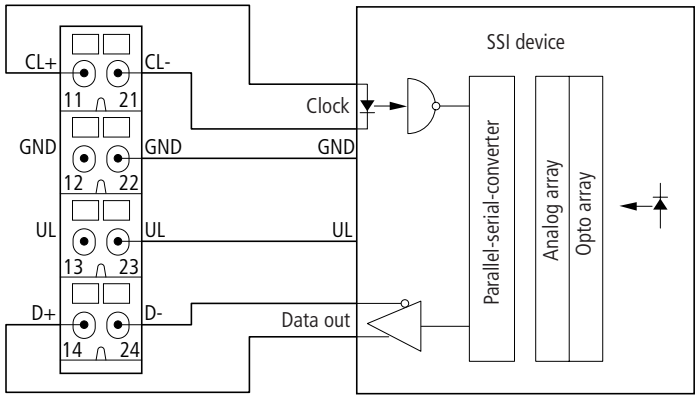
XN-S4x-SBBS for XN-1RS232 and Submin-D plug



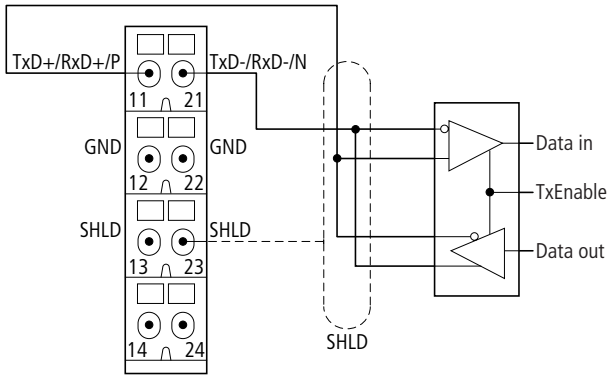
XN-S4x-SBBS for XN-1RS485/422 in RS422 mode



XN-S4x-SBBS for XN-1SSI o anSSI rotary encoder

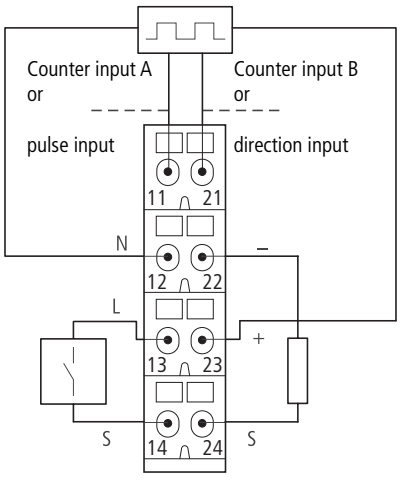


XN-S4x-SBBS for XN-1RS485/422 in RS485 mode



Technology modules / counter

XN-S4x-SBBS for XN-1CNT-24VDC



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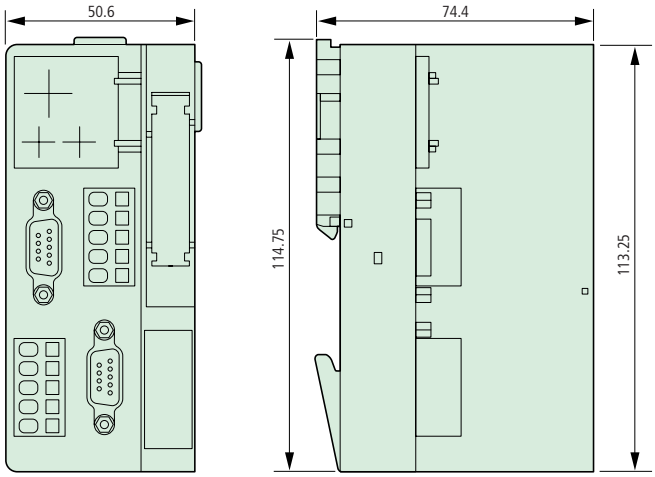
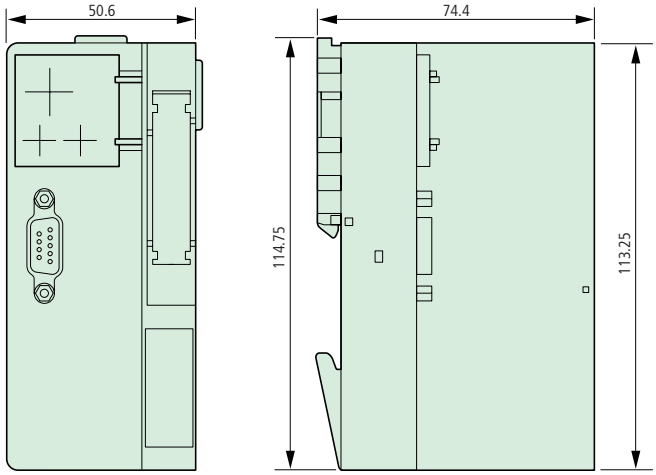
Gateways

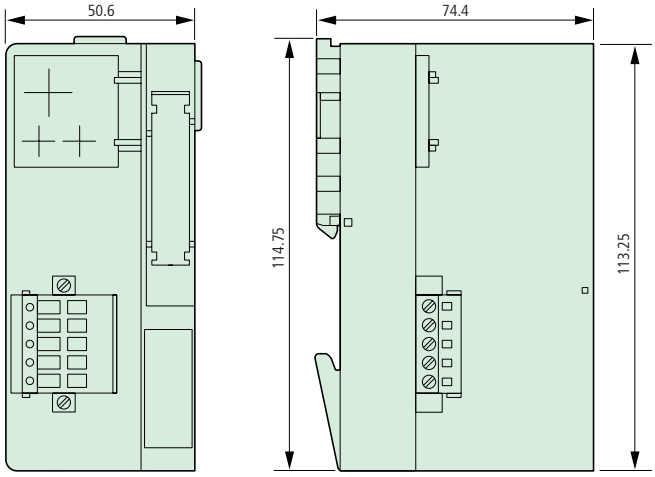
XN-GW-PDBP-1.5MB
XN-GW-PDBP-1.5MMB-S
XN-GW-CANOPEN



XN-GW-PDBP-12MB
XN-GW-PDBP-12MB-STD

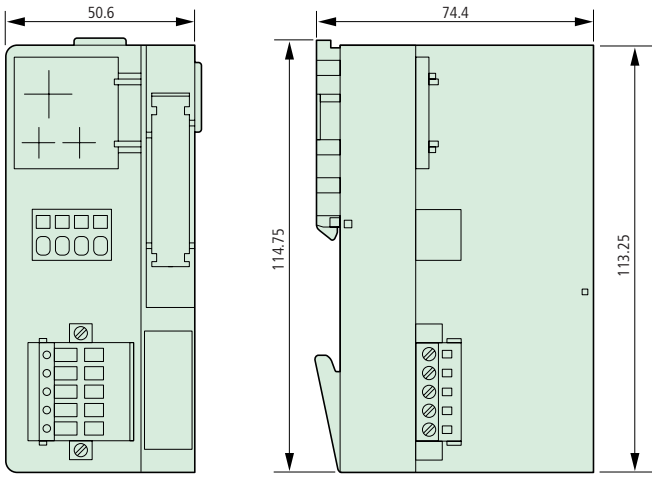


XN-GW-DNET

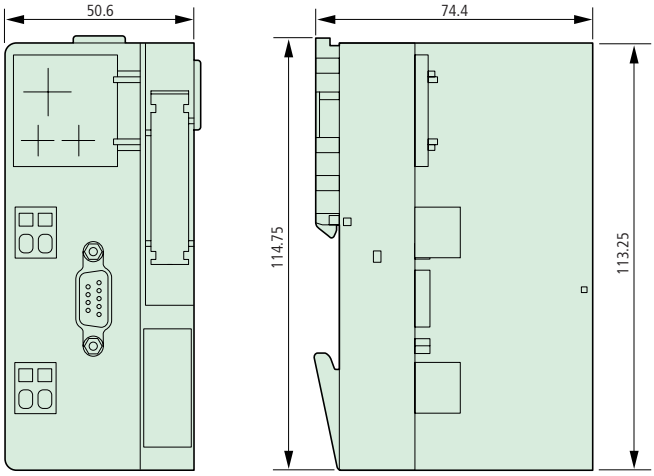


Gateways

XN-GWBR-PBDP



XN-GWBR-DNET, XN-GWBR-CANOPEN



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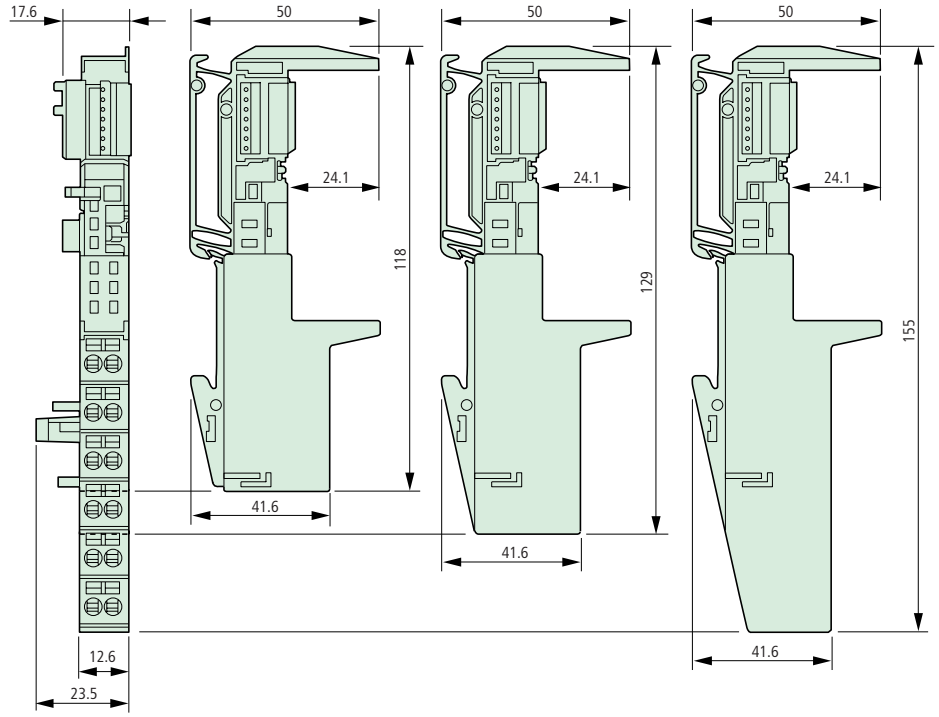
Base modules

Tension spring

XN-S3T-SBB
XN-S3T-SBC
XN-S4T-SBBC
XN-S4T-SBBS
XN-S4T-SBCS
XN-S6T-SBBSBB
XN-S6T-SBCSBC

XN-P3T-SBB
XN-P3T-SBB-B
XN-P4T-SBBC
XN-P4T-SBBC-B
XN-S4T-SBBS-CJ

XN-x3... XN-x4... XN-x6...

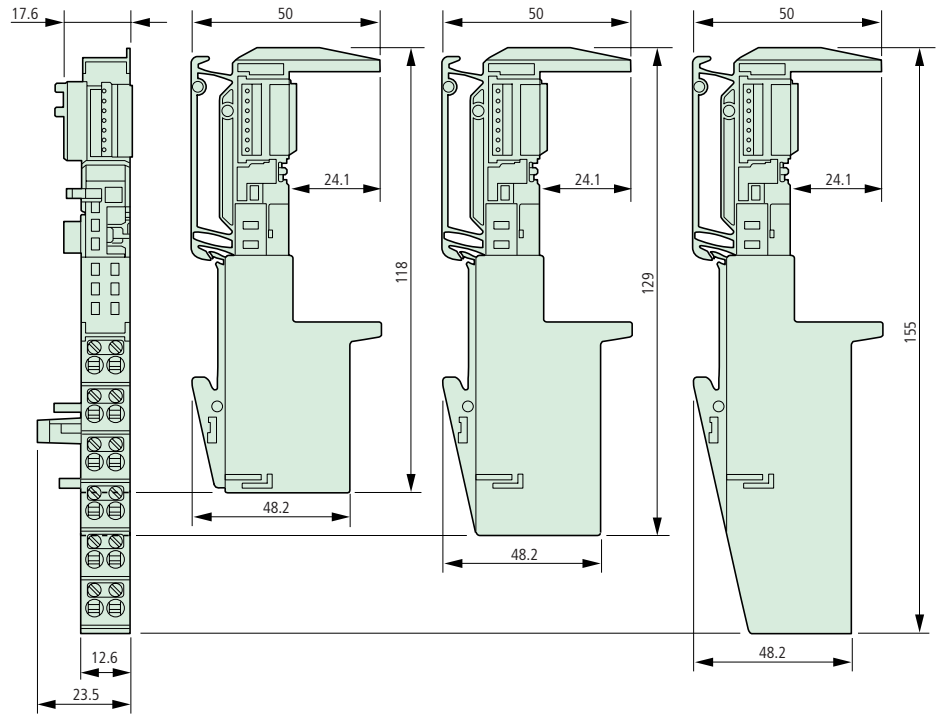


Screw connection

XN-S3S-SBB
XN-S3S-SBC
XN-S4S-SBBC
XN-S4S-SBBS
XN-S4S-SBCS
XN-S6S-SBBSBB
XN-S6S-SBCSBC

XN-P3S-SBB
XN-P3S-SBB-B
XN-P4S-SBBC
XN-P4S-SBBC-B
XN-S4S-SBBS-CJ

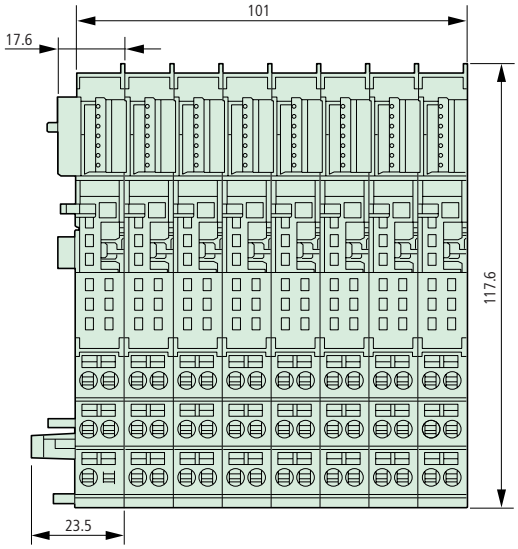
XN-x3... XN-x4... XN-x6...



Base modules as block modules

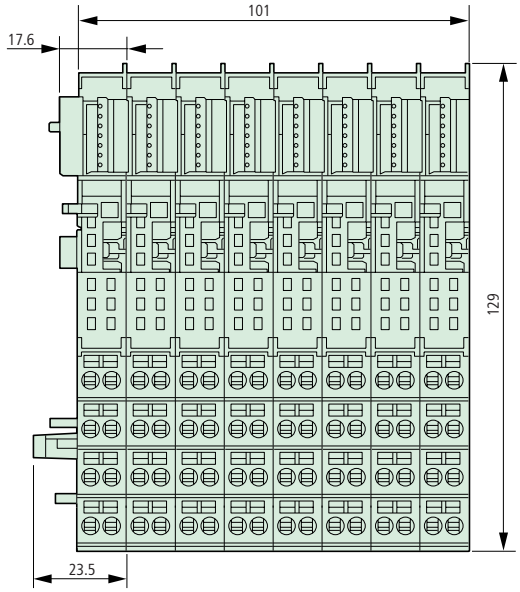
Spring-loaded, 2-/3-wire

XN-B3T-SBB
XN-B3T-SBC



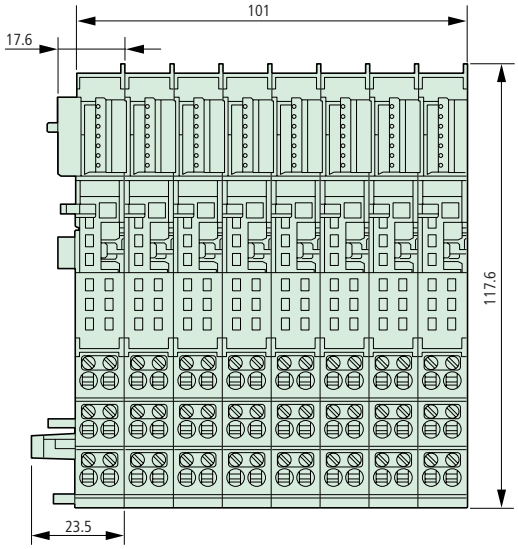
4-wire

XN-B4T-SBBC



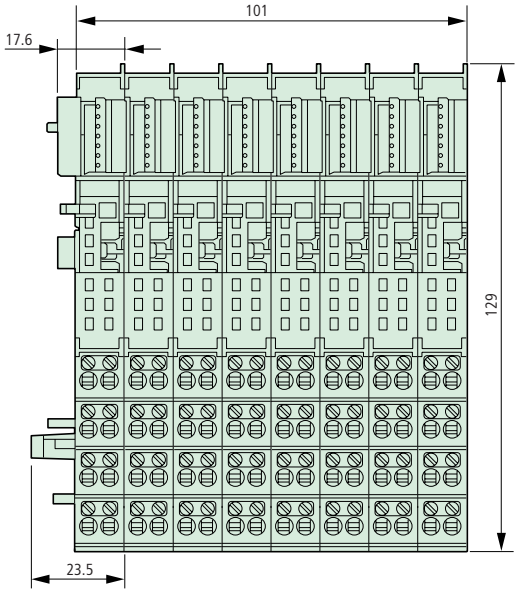
Screw connection, 2-/3-wire

XN-B3S-SBB
XN-B3S-SBC



4-wire

XN-B4S-SBBC



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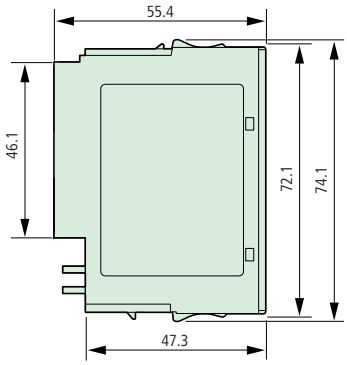
Electronics modules

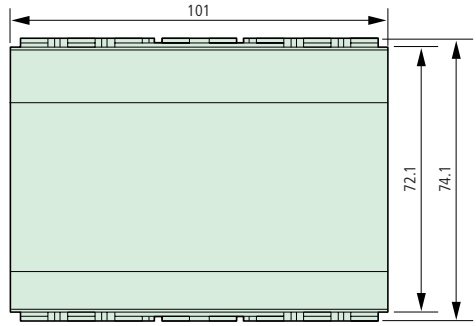
XN-BR-24VDC-D
XN-PF-24VDC-D
XN-PF-120/230VAC-D
XN-2DI-24VDC-P
XN-2DI-24VDC-N
XN-2DI-120/230VAC
XN-4DI-24VDC-P
XN-4DI-24VDC-N
XN-2DO-24VDC-2A-P
XN-2DO-24VDC-0.5A-P
XN-2DO-24VDC-0.5A-N
XN-4DO-24VDC-0.5A-P
XN-2DO-R-CO
XN-2DO-R-NC
XN-2DO-R-NO
XN-1AI-I(0/4...20MA)
XN-2AI-I(0/4...20MA)
XN-1AI-U(–10/0...+10VDC)
XN-2AI-U(–10/0...+10VDC)
XN-2AI-PT/NI-2/3
XN-2AI-THERMO-PI
XN-1AO-I(0/4...20MA)
XN-2AO-I(0/4...20MA)
XN-2AO-U(–10/0...+10VDC)
XN-1CNT-24VDC
XN-1RS-232
XN-1RS485/422
XN-1SSI

Electronics modules in block versions

XN-16DI-24VDC-P
XN-32DI-24VDC-P
XN-16DO-24VDC-0.A-P

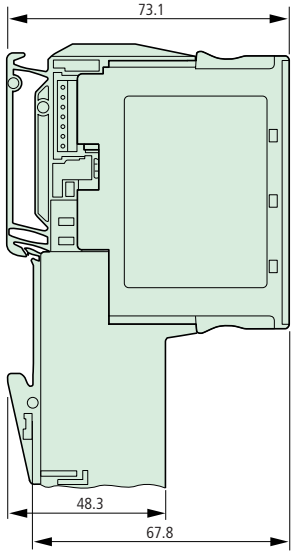


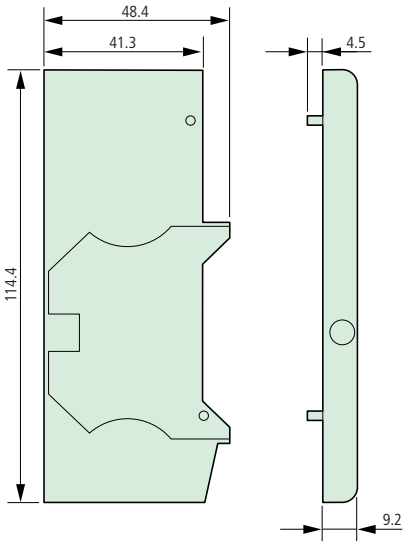
XI/ON module, complete



End plate

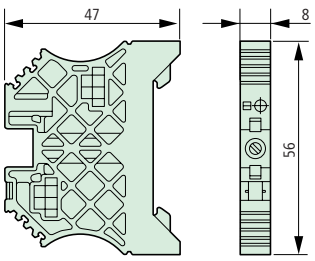
XN-ABPL





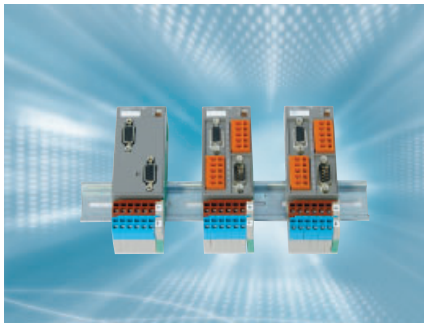
End bracket

XN-WEW-35/2-SW



WINbloc

Bridges



The bridge connects the expandable I/O modules with PROFIBUS-DP or CANopen with each I/O module becoming a passive network station on the fieldbus concerned. The bus address is set using rotary switches on the I/O modules

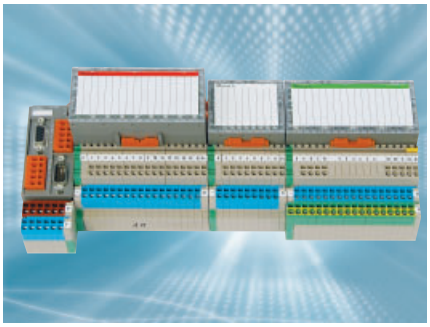
- Up to 10 I/O modules connectable per bridge
- Bus connection via SUB-D or tension clamp terminals as required
- Isolated fieldbus
- Operating voltage: 24 V DC

DP bridge
Transmission rate: up to 1.5 MBit/

DP bridge/12MBaud
Transmission rate: up to 12 MBit/s

CAN bridge
Transmission rate: up to 1 MBit/s

Digital I/O modules for CANopen



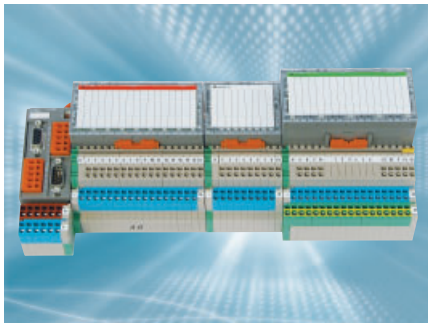
8/16/32-channel input modules
CAN-8-(16)DI/P
CAN-16-(32)DI/P-2x8 (2x16)

4/8/16/32-channel output modules
Either 0.5 A or 2 A
Short-circuit-proof design -PK
with short-circuit monitoring LED
CAN-4DO/2.0A-PK
CAN-8-(16)DO/0,5A-PK
CAN-16-(32)DO/0,5A-P-2x8 (2x16)

8/32-channel combination modules
Optimum combination of
input/output modules
Either 0.5 A or 2 A outputs
Short-circuit-proof design -PK
with short-circuit monitoring LED
CAN-4DI/4DO/0,5A-PK
CAN-24DI/8DO/0,5A-PK

8/16-channel relay modules
Make contact
CAN-8(16)DO-R-NO

Analog I/O modules for CANopen



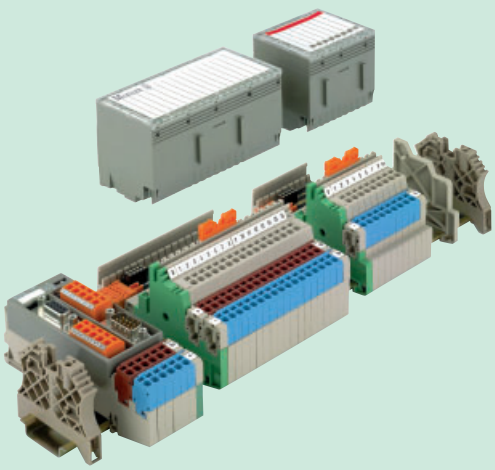
4-channel input modules
Input ranges:
10/0. .+10 V, 0/4. .20 mA
16-Bit resolution
Protection against polarity reversal
CAN-4AI/UI

PT100 analog input
0.1 K, 0.1 W resolution
CAN-4AI/PT100

Analog input
Thermocouples K,J,R,S,T,N,E,B
1K resolution
CAN-4AI/Thermo

4-channel output modules
Output ranges:
10/0. .+10 V, 0/4. .20 mA
Protection against polarity reversal
16-Bit resolution
CAN-4AO/UI

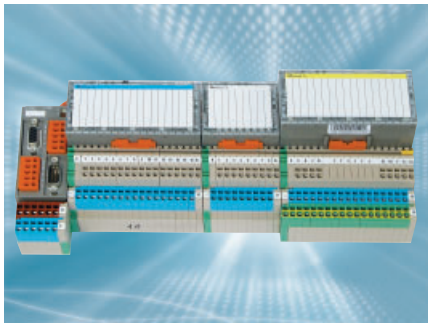
4-channel combination modules
Input/output ranges:
10/0. .+10 V, 0/4. .20 mA
Protection against polarity reversal
CAN-3AI/1AO/UI



Extensive selection of I/O functions
The basic structure of the WINbloc system consists of a bridge, an electronics module and a base module. The large selection of I/O modules available can meet any combination requirement. Simply join together up to 10 I/O modules and you can create a station that is matched exactly to the needs of the application. Nothing could be simpler.

Fast and cost-effective wiring
A wide range of different base modules is available for the interface, either with 2-, 3- or 4-wire connections. Modularity all along the line! The IO points are connected with tension clamps for easy access.

Digital I/O modules for PROFIBUS-DP



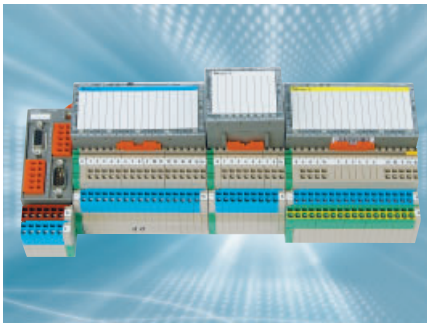
8/16/32-channel input modules
Either 24 V DC, 120 V AC or 230 V AC
Either positive or negative switching
DP-8-(16)DI/P, DP-16-(32)DI/P-2x8 (2x16)
DP-8-DI/N, DP-8-DI/115VAC (230VAC)

4/8/16/32-channel output modules
Either 0.5 A or 2 A
Short-circuit-proof design -PK
with short-circuit monitoring LED
DP-4DO/2.0A-PK
DP-8-(16)DO/0.5A-PK
DP-16-(32)DO/0.5A-P-2x8 (2x16)

8/12/16/32-channel combination modules
Optimum combination of input/output modules, either 0.5 A or 2 A outputs
Short-circuit-proof design -PK
with short-circuit monitoring LED
DP-4DI/4DO/0.5A-PK
DP-8DI/4DO/0.5A-PK
DP-8DI/4DO/2.0A-PK
DP-8DI/8DO/0.5A-PK
DP-24DI/8DO/0.5A-PK

8/16-channel relay modules
Either make, or potential-free changeover contact
DP-8(16)DO-R-NO, DP-8DO-R-CO

Analog I/O modules and counters for PROFIBUS-DP



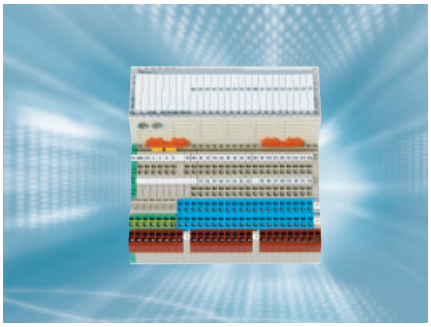
4-channel input modules
Input ranges: 10/0. .+10 V,0/4. .20 mA
16-Bit resolutionProtection against polarity reversal
DP-4AI/UI
PT100 analog input
Resolution 0.5 K, 0,1 W/0.25 K, 0.025 W
DP-4AI/PT100
Analog input
Thermocouples K,J,R,S,T,N,E,B
Resolution 1 K, 0.25 K
DP-4AI/Thermo

4-channel output modules
Output ranges: 10/0. .+10 V, 0/4. .20 mA
Protection against polarity reversal
12-Bit resolution
DP-4AO/UI

4-channel combination modules
Input/output ranges: 10/0. .+10 V, 0/4. .20 mA
Protection against polarity reversal
DP-3AI/1AO/UI

1-channel counter module, 25kHz
Forwards/backwards positioning
Counter range 0. .65535
Limit value definition via PROFIBUS-DP
DP-1CNT/24VDC

WINbloc Eco for PROFIBUS-DP

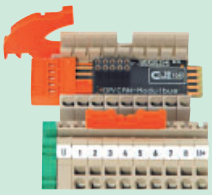


Digital input modules
Positive switching
DP-16DI/P-ECO
DP-32DI/P-ECO

Digital output modules
Positive switching
Short-circuit-proof
DP-16DO/0,5A-PK-ECO
DP-32DO/0,5A-PK-ECO

Combination modules
Positive switching
Short-circuit-proof
DP-16DI-P/16DO/0,5A-PK-ECO

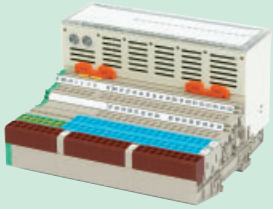
Modular plug-in terminals for reliable connections

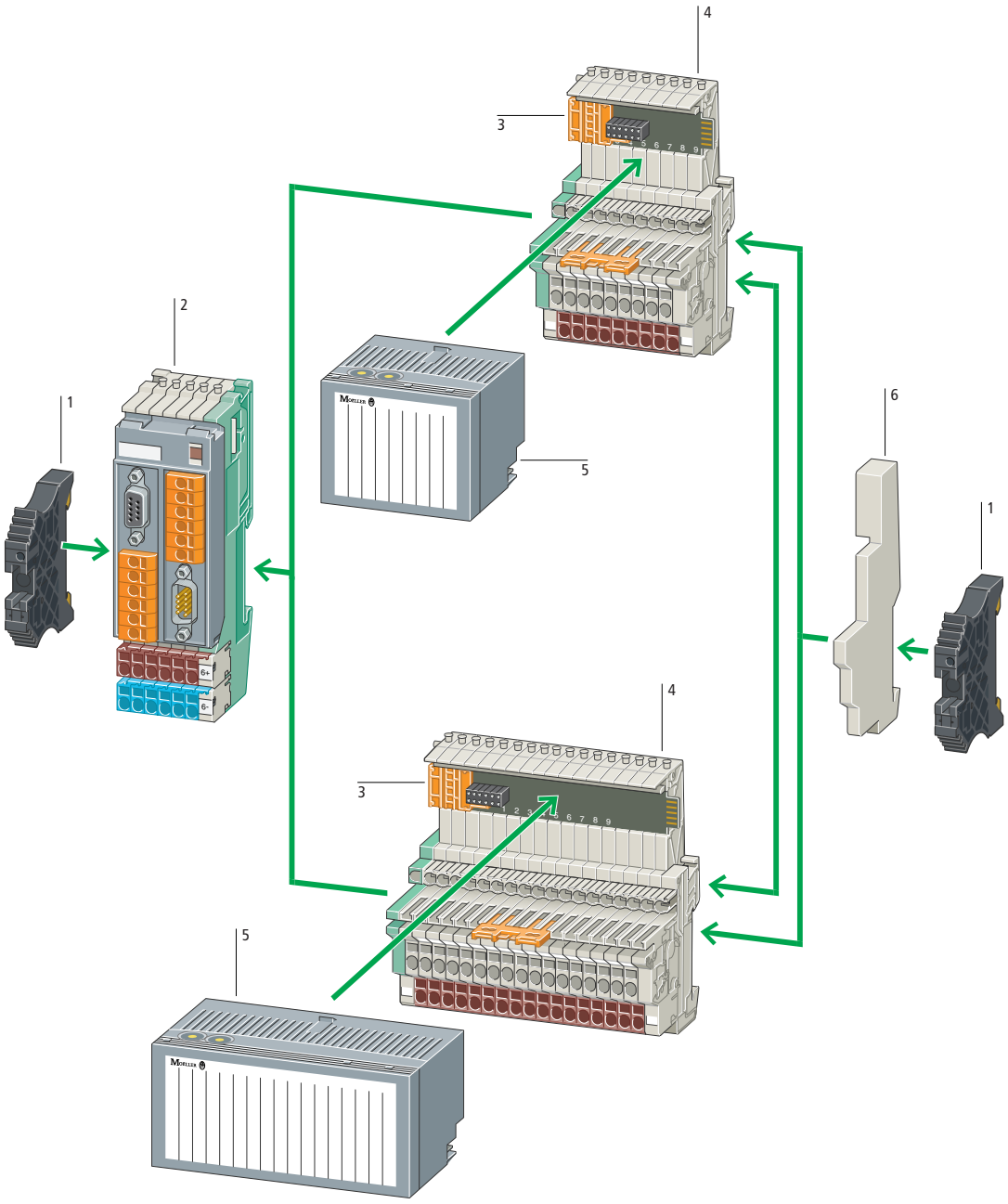


Reliable contact is made with the electronic circuit of the base elements using the sliding module bus link. A clip ensures a mechanically reliable connection. Then you simply clip the electronics module onto the base module and lock it into position – done!

WINbloc Eco

The economical and compact alternative for connecting to PROFIBUS-DP. The system consists of a base module and an electronics module, without the need for a bridge.
The fieldbus is wired directly onto the base module. Every WINbloc eco module is a passive slave on the PROFIBUS-DP network. In addition to extensive diagnostics options using LEDs, the signals are assigned simply and clearly to the terminals.





CANopen bridge 2

→ Page 6/50

Sliding bus link 3

Base modules 4

→ Page 6/51

Electronics modules 5

→ Page 6/50

Accessories

End bracket WEW-35/2 6
End plate ZAP-MA/25 1

→ Page 6/91

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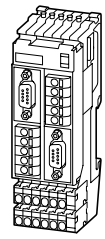
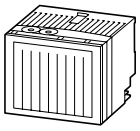
	2-wire connection											3-wire connection										4-wire connection								
	ZSB-1.5/8-S/+	ZSB-1.5/16-S/+	ZSB-1.5/8-S/S/+/+	ZSB-1.5/16-S/S/++	ZSB-1.5/8-S/-	ZSB-1.5/16-S/-	ZSB-1.5/8-S/S/-/-	ZSB-1.5/16-S/S/-/-	ZSB-1.5/8-S/S	ZSB-1.5/16-S/S	ZSB-1.5/16-S/S/+/-+	ZSB-1.5/16-S/S/PE	ZSB-1.5/8-S/+/-	ZSB-1.5/16-S/+/-	ZSB-1.5/8-S/S/+/+/-/-	ZSB-1.5/16-S/S/+/+/-/-	ZSB-1.5/8-S/-/PE	ZSB-1.5/16-S/-/PE	ZSB-1.5/8-S/S/PE/PE/-/-	ZSB-1.5/16-S/S/P/P/-/-	ZSB-1.5/16-S/S/+/-+/-	ZSB-1.5/16-S/S/PE-TF	ZSB-1.5/8-S/+/-/PE	ZSB-1.5/16-S/+/-/PE	ZSB-1.5/16-S/S/+/P+/-/-	ZSB-1.5/16-S/S/PE-+	ZSB-1.5/8-S/S/-/PE	ZSB-1.5/16-S/S/-/PE	ZSB-1.5/8-S/+/-/PE/EI	ZSB-1.5/16-S/S/PE-+UI	ZSB-1.5/16-S/S/PE-PT100
Digital input																															
CAN-8DI/P	●												●											●							
CAN-16DI/P		●												●																	
CAN-16DI/P-2x8			●												●										●						
CAN-32DI/P				●												●															
Digital output																															
CAN-4DO/2.0A-PK					●												●														
CAN-8DO/0.5A-PK					●												●														
CAN-16DO/0.5A-PK						●												●													
CAN-16DO/0.5A-PK-2x8							●												●												
CAN-32DO/0.5A-P-2x16								●												●											
Digital relay modules																															
CAN-8DO/R-NO									●																			●			
CAN-16DO/R-NO										●																			●		
Analog input																															
CAN-4AI/UI												●																			●
CAN-4AI/PT100																							●								
CAN-4AI/THERMO																															
Analog output																															
CAN-4AO/UI												●																		●	
Combi-modules																															
CAN-4DI/4DO/0,5A-PK																														●	
CAN-24DI/8DO/0,5A-PK										●											●				●	●					
CAN-3AI/1AO-UI												●																		●	

	Inputs Qty.	Outputs Qty.	Description	For use with	**Type** Article no.	**Price** See Price List	Std. pack
Bridges							
Maximum 10 I/O modules can be connected per bridge							
	–	–	CAN connection as per ISO 11898: 2 × SUB-D, 9-pole Bus connection for direct wiring: 2 × spring-loaded terminals, type LMZF	–	**CAN-BRIDGE** 224177		1 off
Electronics modules							
Plugged onto the base modules							
							
Digital input	8	–	Positive switching	ZSB-1.5/8-S/+ ZSB-1.5/8-S/+/- ZSB-1.5/8-S/+/-/PE	**CAN-8DI/P** 224179		1 off
	16	–	Positive switching	ZSB-1.5/16-S/+ ZSB-1.5/16-S/+/- ZSB-1.5/16-S/+/-/PE	**CAN-16DI/P** 224180		
	2 × 8	–	Positive switching, 2 channels per terminal	ZSB-1.5/8-S/S/+/+ ZSB-1.5/8-S/S/+/+/-/-	**CAN-16DI/P-2X8** 224181		
	2 × 16	–	Positive switching, 2 channels per terminal	ZSB-1.5/16-S/S/+/+ ZSB-1.5/16-S/S/+/+/-/-	**CAN-32DI/P-2X16** 224182		
Analog input	4	–	Input range, voltage -10/0 to +10 V Input range, current 0/4 – 20 mA	ZSB-1.5/16-S/S/PE	**CAN-4AI/UI** 224194		
	4	–	Pt100, 2-, 3-, 4-wire	ZSB-1.5/16-S/S/PE-PT100	**CAN-PT100** 224197		
	4	–	Thermo K, J, R, S, T, N, E, B	ZSB-1.5/16-S/S/PE-TF	**CAN-THERMO** 224196		
Digital output	–	4	Positive switching, short-circuit protected	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	**CAN-4DO/2.0A-PK** 224183		
	–	8	Positive switching, short-circuit protected	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	**CAN-8DO/0.5A-PK** 224184		
	–	16	Positive switching, short-circuit protected	ZSB-1.5/16-S/- ZSB-1.5/16-S/-/PE	**CAN-16DO/0.5A-PK** 224185		
	–	2 × 8	Positive switching, not short-circuit protected, 2 channels per terminal	ZSB-1.5/8-S/S/-/- ZSB-1.5/8-S/S/PE/PE/-/-	**CAN-16DO/0.5A-P-2X8** 224189		
	–	2 × 16	Positive switching, not short-circuit protected, 2 channels per terminal	ZSB-1.5/16-S/S/-/- ZSB-1.5/16-S/S/P/P/-/-	**CAN-32DO/0.5A-P-2X16** 224186		
	–	8	8-way relay, make contact	ZSB-1.5/8-S/S ZSB-1.5/8-S/S/-/PE	**CAN-8DO/R-NO** 224187		
	–	16	16-way relay, make contact	ZSB-1.5/16-S/S ZSB-1.5/16-S/S/-/PE	**CAN-16DO/R-NO** 224188		
Analog output	–	4	Output range, voltage -10/0 to +10 V Output range, current 0/4 – 20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	**CAN-4AO/UI** 224195		
Combi-modules	4	4	Positive switching, digital input/output, short-circuit protected	ZSB-1.5/8-S/+/-/PE-EI	**CAN-4DI/4DO/0.5A-PK** 224191		
	24	8	Positive switching, digital input/output, short-circuit protected	ZSB-1.5/16-S/S/+/-+ ZSB-1.5/16-S/S/+/-+/- ZSB-1.5/16-S/S/+/P+/-/- ZSB-1.5/16-S/S/PE-+	**CAN-24DI/8DO/0.5A-PK** 224190		
Combi-modules	3	1	Input/output range, voltage -10/0 to +10 V Input/output range, current 0/4 – 20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	**CAN-3AI/1AO-UI** 224192		

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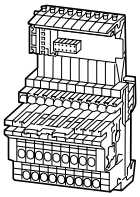
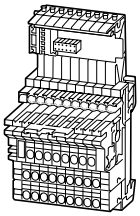
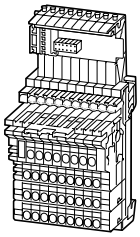
Connection types	For use with	**Type** Article no.	**Price** See Price List	Std. pack	**Notes**
Base modules					
For connection to electronics module; mounted on rails					
2-wire connection 	CANopen: CAN-16DO/0.5A-P-2X8	**ZSB-1.5/8-S/S/-/-** 224057		1 off	–
	CANopen: CAN-32DI/P-2X16	**ZSB-1.5/16-S/S/+/+** 224051			–
	CANopen: CAN-32DO/0.5A-P-2X16	**ZSB-1.5/16-S/S/-/-** 224059			–
	CANopen: CAN-8DI/P	**ZSB-1.5/8-S/+** 224045			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/+/-+** 224063			–
	CANopen: CAN-8DO/R-NO	**ZSB-1.5/8-S/S** 224061			–
	CANopen: CAN-16DI/P	**ZSB-1.5/16-S/+** 224048			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-16DI/P-2X8	**ZSB-1.5/8-S/S/+/+** 224049			–
	CANopen: CAN-4DO/2.0A-PK CANopen: CAN-8DO/0.5A-PK	**ZSB-1.5/8-S/-** 224055			–
	CANopen: CAN-16DO/R-NO	**ZSB-1.5/16-S/S** 224062			–
	CANopen: CAN-16DO/0.5A-PK	**ZSB-1.5/16-S/-** 224056			–

Connection types	For use with	**Type** Article no.	**Price** See Price List	Std. pack	**Notes**
Base modules					
3-wire connection 	CANopen: CAN-16DO/0.5A-PK	**ZSB-1.5/16-S/-/PE** 224054		1 off	–
	CANopen: CAN-16DI/P	**ZSB-1.5/16-S/+/-** 224047			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-8DI/P	**ZSB-1.5/8-S/+/-** 224044			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-4AI/UI CANopen: CAN-4AO/UI CANopen: CAN-3AI/1AO-UI	**ZSB-1.5/16-S/S/PE** 224040			Cross-link (ZQV) for setting individual channels is included in delivery package
	CANopen: CAN-16DI/P-2X8	**ZSB-1.5/8-S/S/+/+/-/-** 224050			–
	CANopen: CAN-4DO/2.0A-PK CANopen: CAN-8DO/0.5A-PK	**ZSB-1.5/8-S/-/PE** 224053			–
	CANopen: CAN-32DI/P-2X16	**ZSB-1.5/16-S/S/+/+/-/-** 224052			–
	CANopen: CAN-32DO/0.5A-P-2X16	**ZSB-1.5/16-S/S/P/P/-/-** 224060			–
	CANopen: CAN-16DO/0.5A-P-2X8	**ZSB-1.5/8-S/S/PE/PE/-/-** 224058			–
	CANopen: CAN-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/+/-+/-** 224064			–
	CANopen: CAN-THERMO	**ZSB-1.5/16-S/S/PE-TF** 224075			Cold-junction compensation and linearization Accuracy figures take account of linearity, hysteresis and cold-junction compensation error at T_a= 23 °C Cable break will be reliably detected Cross-link (ZQV) for setting individual channels is included in delivery package
4-wire connection 	CANopen: CAN-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/+/P+/-/-** 224065			–
	CANopen: CAN-16DI/P	**ZSB-1.5/16-S/+/-/PE** 224046			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-8DO/R-NO	**ZSB-1.5/8-S/S/-/PE** 224069			–
	CANopen: CAN-8DI/P	**ZSB-1.5/8-S/+/-/PE** 224043			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-16DO/R-NO	**ZSB-1.5/16-S/S/-/PE** 224070			–
	CANopen: CAN-4DI/4DO/0.5A-PK	**ZSB-1.5/8-S/+/-/PE-EI** 224071			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-4AO/UI CANopen: CAN-3AI/1AO-UI	**ZSB-1.5/16-S/S/PE-+UI** 224074			Cross-link (ZQV) for setting individual channels is included in delivery package
Pt100 2-, 3-, 4-wire connection, and Pt100 mixed operation	CANopen: CAN-PT100	**ZSB-1.5/16-S/S/PE-PT100** 224076			Cross-link (ZQV) for setting individual channels is included in delivery package
Special module for connecting 4 SAI modules	CANopen: CAN-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/PE-+** 224066			–

			WINbloc CANopen
General			
Standards			IEC/EN 61131
Operating voltage[1]		V DC	24
System configuration		V DC	18 – 30
Rated operating current[1]	I_e	mA	40 per digital module 70 per analog module
Ambient temperature			
Operation		°C	0 – 55
Storage		°C	-20 to +85
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	15 – 95
Electromagnetic compatibility (EMC)			
Noise immunity			As per EN 50082-1 and IEC/EN 61000-6-2
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)			
Air discharge		kV	8
Contact discharge		kV	4
Electromagnetic fields (IEC/EN 61000-4-3, RFI)		V/m	10
Burst pulses (IEC/EN 61000-4-4, level 3)		kV	2
RFI suppression (EN 55011)[2]			10 V, as per requirements of EN 55011 Group 1, Class A, Emitted RFI as per EN 50081-2
Protection type (IEC/EN 60529)			IP20
Vibration resistance (IEC/EN 60068-2-6)			Yes
Shock resistance (IEC 60068-2-27)			20 m/s² (2 g) to IEC 60068-2-27
Repetitive shock resistance (IEC/EN 60068-2-29)			Yes
Approvals			UL

Notes

[1] Through bridge
[2] Individual permit required for use in residential areas (residential, business/commercial).

			Base modules
Base modules			
Standards			VDE 0611 Part 1/8.92 IEC/EN 60947-7-1
Rated voltage		V	250
Rated current	I_e	A	17.5 A ≙ continuous current via distribution strip ZVL
Conductor cross-section		mm²	1.5
Rated impulse withstand voltage	U_{imp}	kV	4
Pollution degree			3
Connections in TOP direction			Tension spring
Core stripping length		mm	8
Terminal capacity		mm²	0.13 – 2.5
Solid		mm²	0.5 – 2.5
Flexible		mm²	0.5 – 1.5
Fine-stranded with core-end ferrules[3]		mm²	0.5 – 1.5
Plug gauge IEC/EN 60947-1			A2

Notes

[3] Core-end ferrules (gas-tight crimp) to DIN 46228-1

Bridges			**CAN-BRIDGE**
Operating voltage		V DC	24
Operating current		mA	< 60
Data transfer rate/distance			10 kBit/s – 1.0 MBit/s
Weight			116 g

			CAN-8DI/P	CAN-16DI/P	CAN-16DI/P-2X8	CAN-32DI/P-2X16
Digital input modules						
Inputs as per standard			IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1
Status '1'						
High level	U_H		11 V DC – 30 V DC	11 V DC – 30 V DC	11 V DC – 30 V DC	15 V DC – 30 V DC
High level	I_H		2 mA – 4.5 mA	2 mA – 4.5 mA	2 mA – 3.5 mA	2 mA – 3.5 mA
Status '0'						
Low level	U_L		–30 V DC/+5 V DC	–30 V DC/+5 V DC	–30 V DC/+5 V DC	–30 V DC/+5 V DC
Input delay			Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms			
Weight			167 g ± 15 %	313 g ± 15 %	167 g ± 15 %	313 g ± 15 %

		CAN-4AI/UI	CAN-4AI/PT100	CAN-4AI/THERMO
Analog input modules				
Operating voltage	V DC	24	24	24
Admissible range	V DC	18 – 30	18 – 30	18 – 30
Field current (without load)		85 mA	85 mA	85 mA
Input resistance		$R_i \leqq 125\ \Omega$, $R_u = 100\ k\Omega$	–	–
Limit frequency (–3 db)	Hz	50	–	–
Resistance transmitter		–	0 – 409.5 Ω	–
Offset error		–	± 0.4 Ω	± 7 °C
Linearity	%	–	–	± 0.05
Temperature coefficient		≦ 360 ppm of full-scale value	± 0.03 % of range per °C	± 0.03 % of range per °C
Basic error limit at 23 °C		< 0.1 % of full-scale value	-200 to +400 °C: max. ± 1 °C, typ. ± 0.5 °C +400 – +850 °C: max. ± 1.5 °C	–
Conversion time		25 µs	–	45 µs
Cycle time	ms	–	–	–
Sensor current		–	< 1.5 mA	–
RFI suppression		–	–	60, 50 Hz
Weight		313 g ± 15 %	313 g ± 15 %	313 g ± 15 %

			CAN-4DO/2.0A-PK	CAN-8DO/0.5A-PK	CAN-16DO/0.5A-PK	CAN-16DO/0.5A-P2X8	CAN-32DO/0.5A-P2X16
Digital output modules							
Operating voltage		V DC	24	24	24	24	24
Admissible range		V DC	18 – 30	18 – 30	18 – 30	18 – 30	18 – 30
Electrical isolation			Operating voltage – field voltage: 500 V_{rms}/min				
Field current (without load)			≦ 20 mA	≦ 35 mA	70 mA	–	–
Output current		A	≦ 2	≦ 0.5	≦ 0.5	≦ 0.5	≦ 0.5
Output delay			≈ 3 ms, $R_L \leqq 250\ \Omega$	≈ 3 ms, $R_L \leqq 1\ k\Omega$	≈ 3 ms, $R_L \leqq 1\ k\Omega$	≈ 3 ms, $R_L \leqq 1\ k\Omega$	≈ 3 ms, $R_L \leqq 1\ k\Omega$
Utilization factor	g	%	100	100	100	50	50
Lamp load	R_{LL}	W	≦ 10	≦ 2	≦ 2	–	–
Fuse			–	–	–	630 mA/*F* per channel	630 mA/*F* per channel
Weight			167 g ± 15 %	167 g ± 15 %	313 g ± 15 %	167 g ± 15 %	313 g ± 15 %

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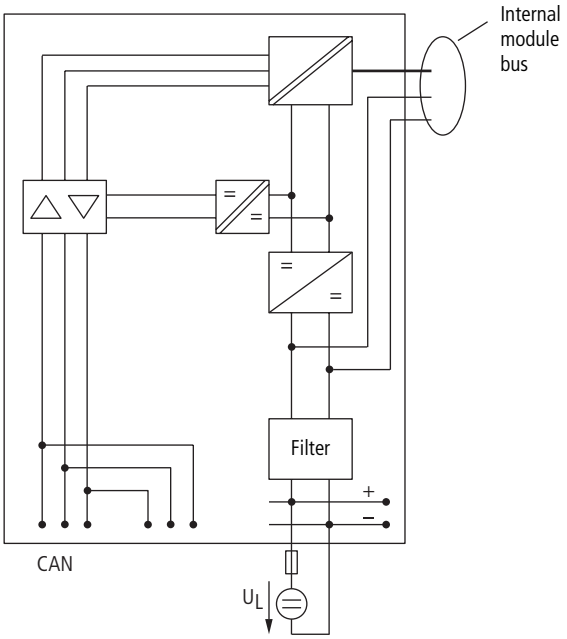
			CAN-8DO/R-NO	CAN-16DO/R-NO
Relay modules				
Operating voltage		V DC	24	24
Admissible range		V DC	18 – 30	18 – 30
Electrical isolation			Modbus – output (optocoupler/relay) 2 kV_{rms}/min, Modbus – auxiliary voltage (optocoupler) 500 V_{rms}/min	
Field current (without load)			≦ 35 mA	≦ 70 mA
Nominal load voltage			110 V DC/250 V AC	110 V DC/250 V AC
Continuous current			Max. current per output: 2 A, AC 1 Max. total current per group of 4: 6 A, AC 1 Max. contact rating: 60 W/500 VA Min. contact current: 100 µA	Max. current per output: 1 A, AC 1 Max. total current per group of 4: 4 A, AC 1 Max. contact rating: 60 W/500 VA Min. contact current: 100 µA
Lifespan, mechanical	Operations		2×10^7	2×10^7
Lifespan, electrical	Operations		10^5, at 250 V AC/2 A/AC	10^5, at 250 V AC/2 A/AC
Insulation test voltage, contact/coil		kV	1	1
Creepage and clearance distances			3 mm between relay pairs	3 mm between relay pairs
Switching frequency			20 min^{-1} at nominal load	20 min^{-1} at nominal load
Weight			167 g ± 15 %	313 g ± 15 %

		CAN-4AO/UI
Analog output modules		
Operating voltage	V DC	24
Admissible range	V DC	18 – 30
Field current (without load)		85 mA
Load resistance		R_u ≦ 600 Ω
Linearity	%	0.5
Basic error limit at 23 °C		< 0.8 % of full-scale value
Transmission frequency	Hz	≦ 50
Temperature coefficient		300 ppm of full-scale value per °C
Conversion time		5 µσ
Weight		313 g ± 15 %

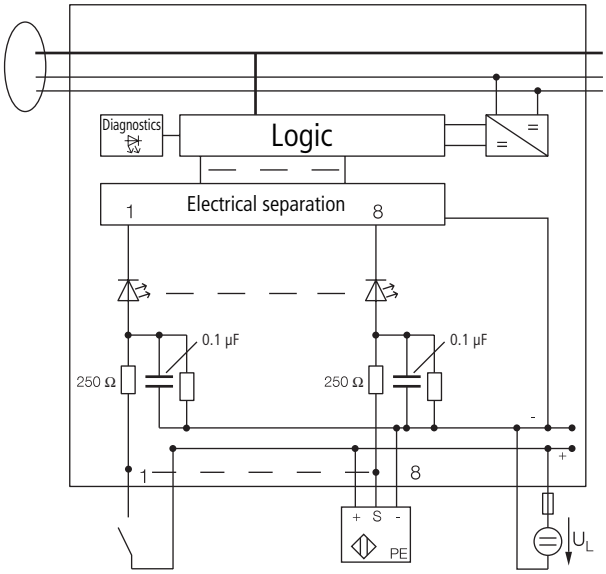
		CAN-3AI/1AO-UI
Analog combi-modules		
Operating voltage	V DC	24
Admissible range	V DC	18 – 30
Field current (without load)		Input: 70 mA, output: ≦ 35 mA
Input resistance		R_i ≦ 125 Ω, R_u ≧ 100kΩ
Linearity	%	Input: ≦ 0.5 , output: ± 0.5
Basic error limit at 23 °C		Input: ≦ 0.1 % of full-scale value Output: ≦ 0.8 % of full-scale value
Limit frequency (–3 db)	Hz	Input: ≦ 50, output: ≦ 50
Temperature coefficient		Input: ≦ 360 ppm of full-scale value. Output: 300 ppm of full-scale value
Conversion time		Input: 25 µs, output: 5 µs
Load resistance		R_u ≧ 1 kΩ, R_i ≦ 400 Ω
Weight		313 g ± 15 %

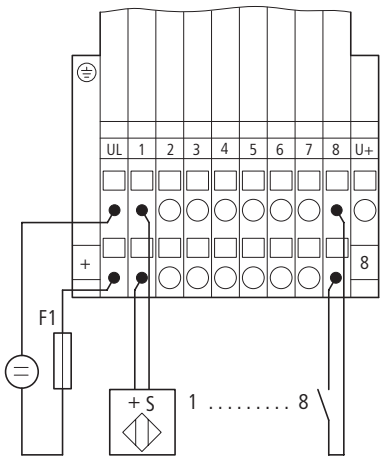
			CAN-4DI/4DO/0.5A-PK	CAN-24DI/8DO/0.5A-PK
Combi-modules				
Operating voltage		V DC	24	24
Admissible range		V DC	18 – 30	18 – 30
Input delay			Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms	
Electrical isolation			Operating voltage – field voltage: 500 V_{rms}/min	Operating voltage – field voltage: 500 V_{rms}/min
Input/output as per standard			Inputs: EN 61131-2, Type 1 Outputs: EN 61131	Inputs: EN 61131-2, Type 1
Field current (without load)			≦ 20 mA	≦ 35 mA
Status '1'				
High level	U_H		11 V DC – 30 V DC	15 V DC – 30 V DC
High level	I_H		2 mA – 4 mA	2 mA – 4 mA
Status '0'				
Low level	U_L		–30 V DC/+5 V DC	–30 V DC/+5 V DC
Lamp load	R_{LL}	W	≦ 2	≦ 2
Utilization factor	g	%	100	100
Output delay			≈ 1 ms, DO R_L ≦ 1 kΩ	≈ 3 ms, DO R_L ≦ 1 kΩ
Output current		A	≦0.5	≦0.5
Weight			167 g ± 15 %	313 g ± 15 %

CAN-BRIDGE

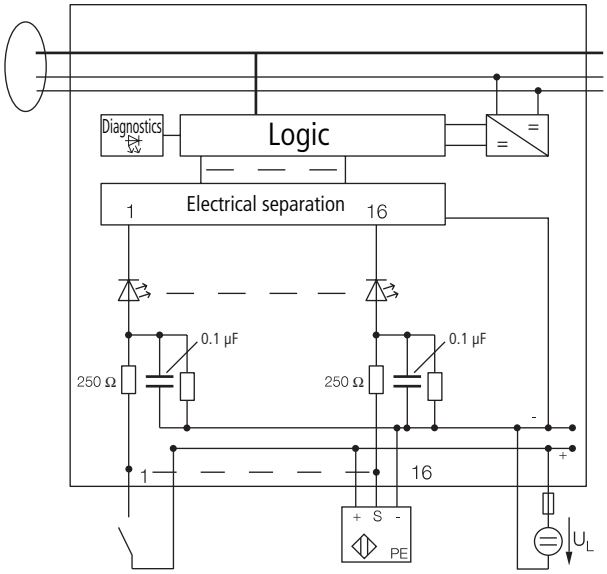


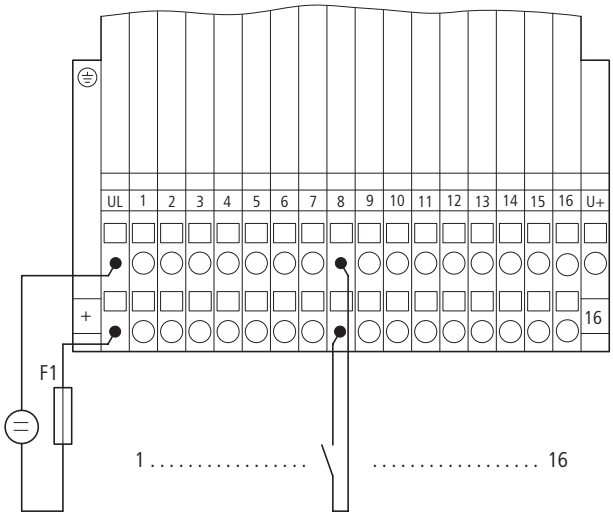
CAN-8DI/P





CAN-16DI/P





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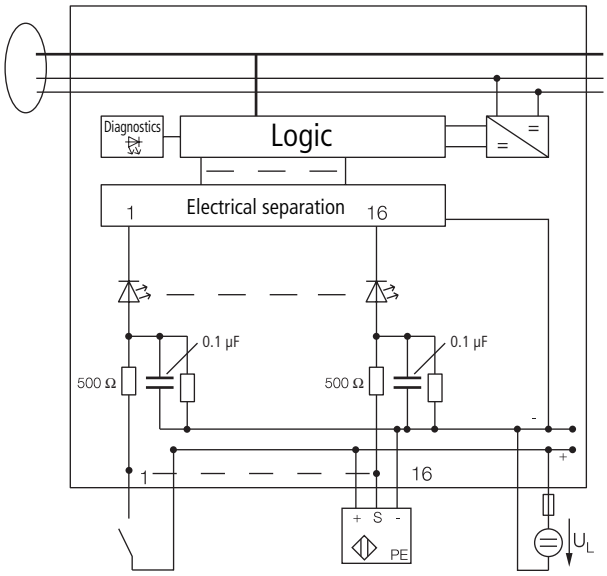
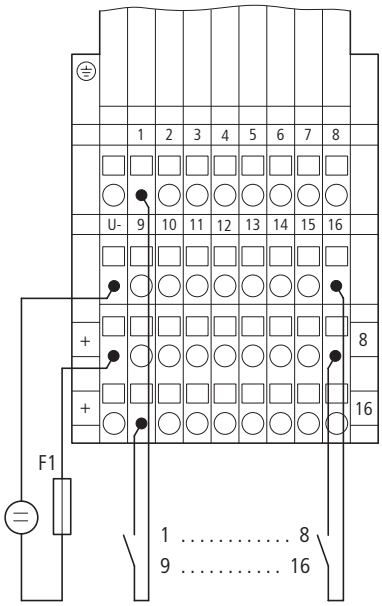
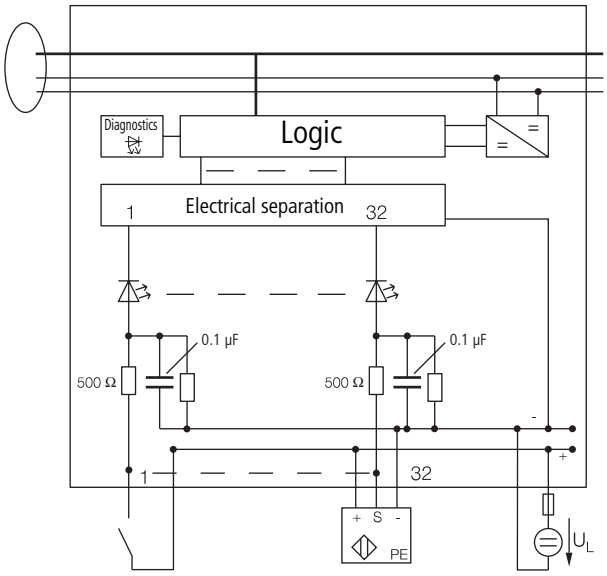
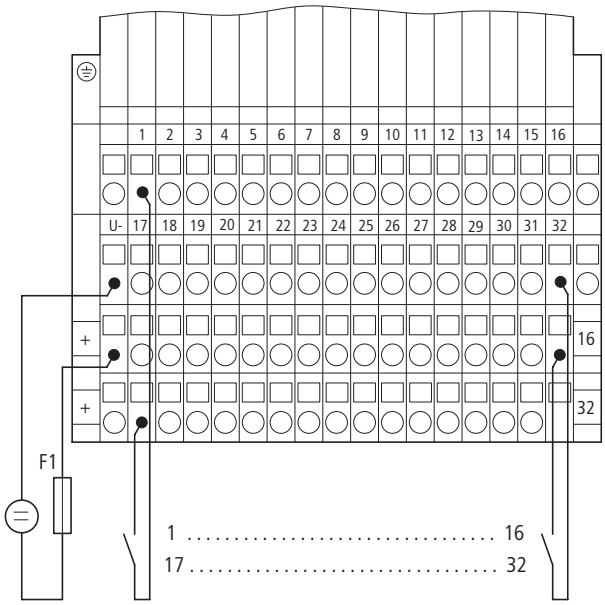
CAN-16DI/P-2X8



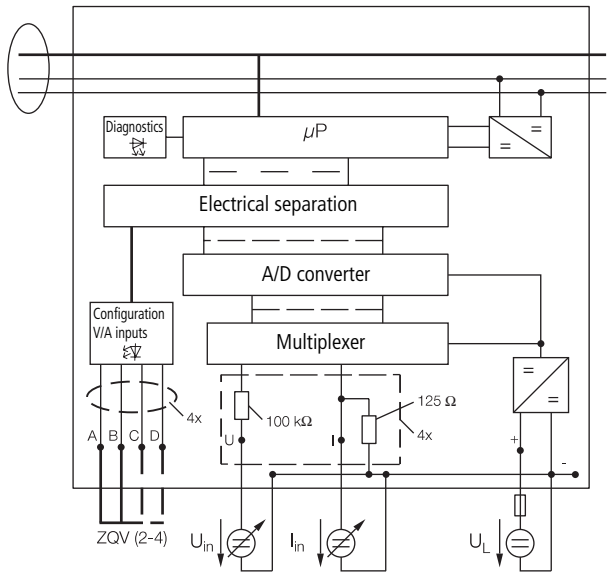


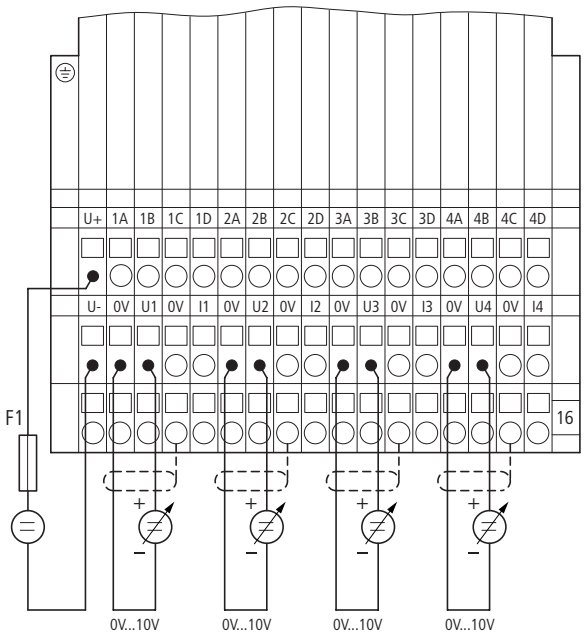
CAN-32DI/P-2X16





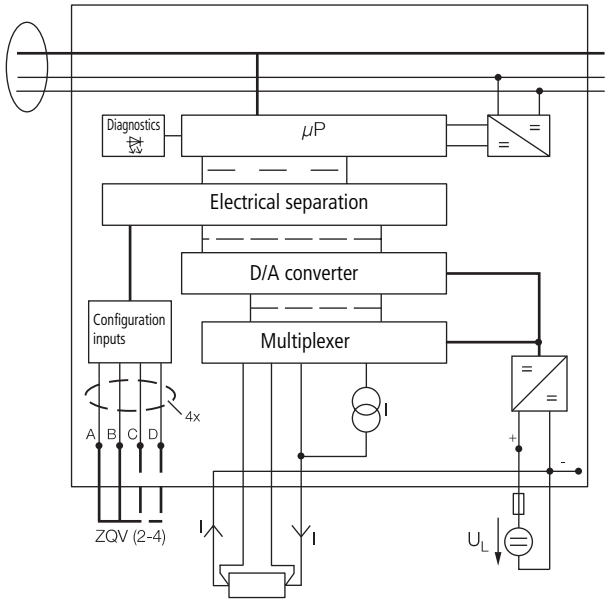
CAN-4AI/UI

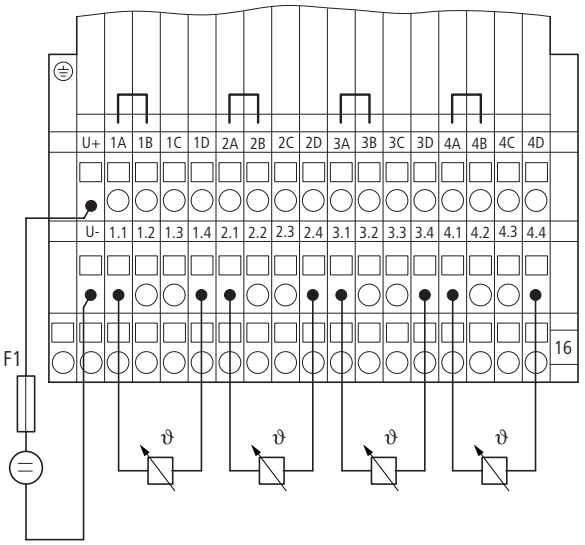




Range	CH1 1A	1B	1C	1D	CH2 2A	2B	2C	2D	CH3 3A	3B	3C	3D	CH4 4A	4B	4C	4D
0...10V	No jumper															
-10...+10V																
0...20mA																
4...20mA																

CAN-PT100





Range	CH1 1A	1B	1C	1D	CH2 2A	2B	2C	2D	CH3 3A	3B	3C	3D	CH4 4A	4B	4C	4D
4 AI Ohm	No jumper															
4 AI 2-cond.																
4 AI 3-cond.																
4 AI 4-cond.																

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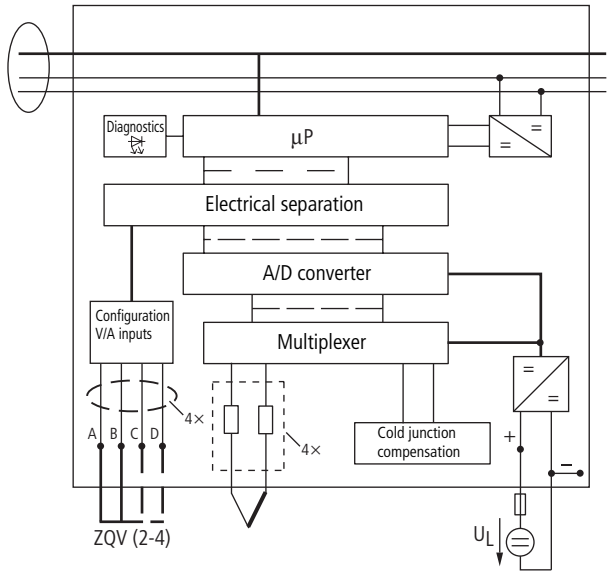
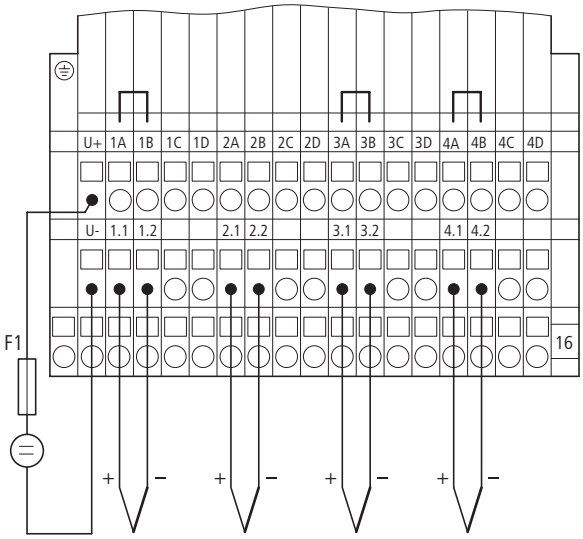
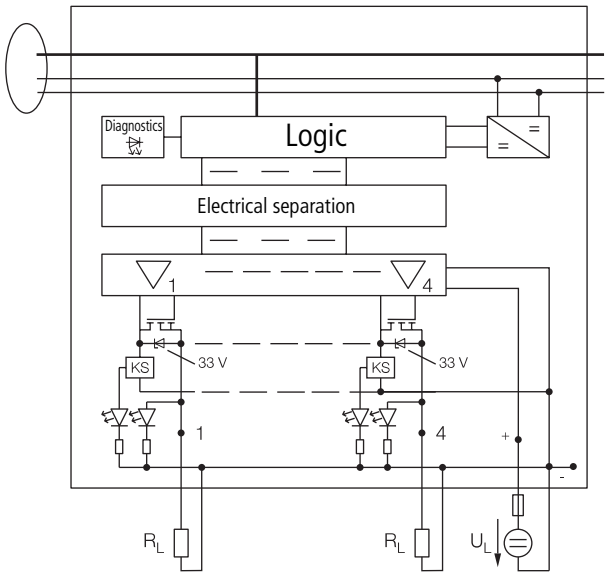
CAN-THERMO

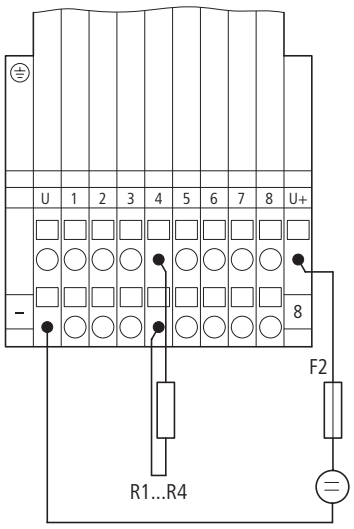




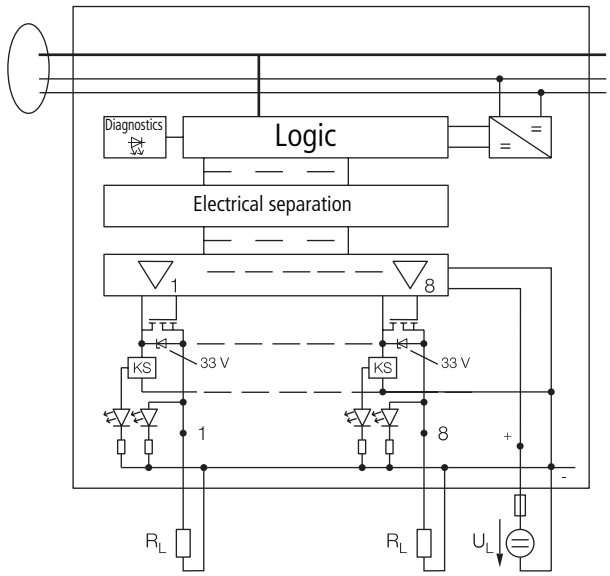
Range	CH1 IN 1A	1B	1C	1D	CH2 IN 2A	2B	2C	2D	CH3 IN 3A	3B	3C	3D	CH4 IN 4A	4B	4C	4D
K	No jumper															
J		⌐														
R		⌐	⌐													
S		⌐	⌐	⌐												
T					⌐											
N		⌐			⌐											
E		⌐	⌐		⌐											
B		⌐	⌐	⌐	⌐											
-80...+80mV					⌐	⌐	⌐									
50 Hz filtering									⌐							
60 Hz filtering									⌐							
Wire break on																
Wire break off													⌐			

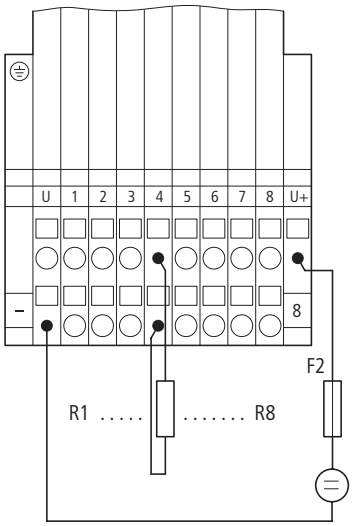
CAN-4DO/2.0A-PK



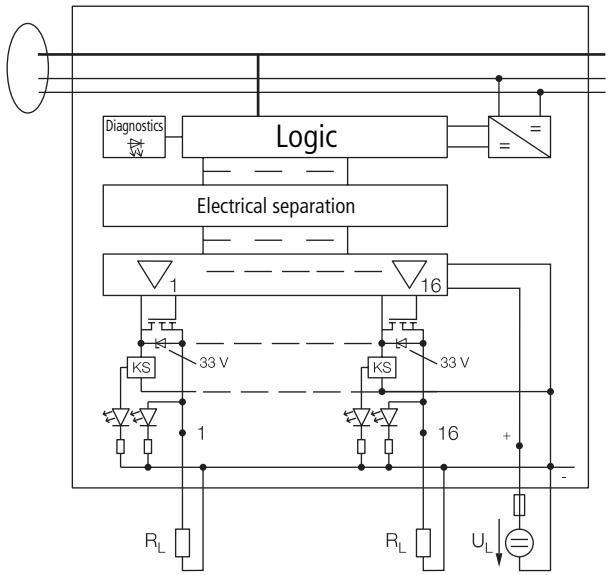


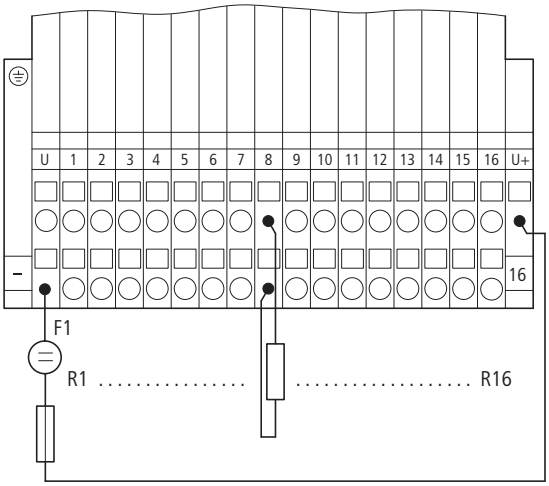
DP-8DO/0.5A-PK



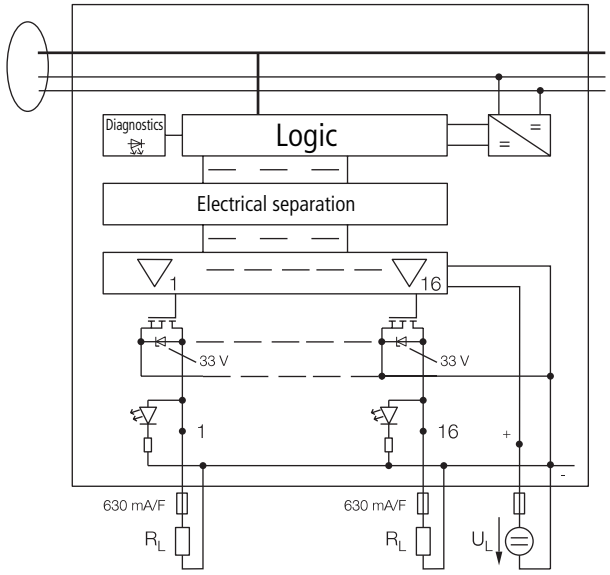


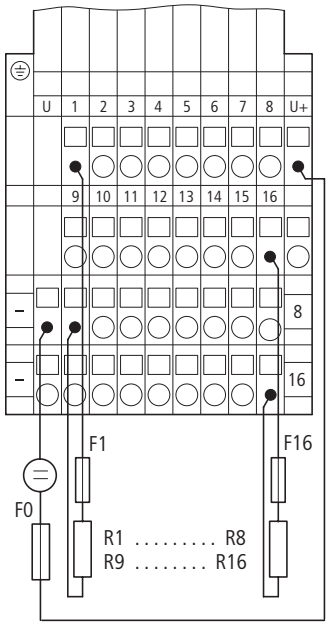
CAN-16DO/0.5A-PK





CAN-16DO/0.5A-P-2X8





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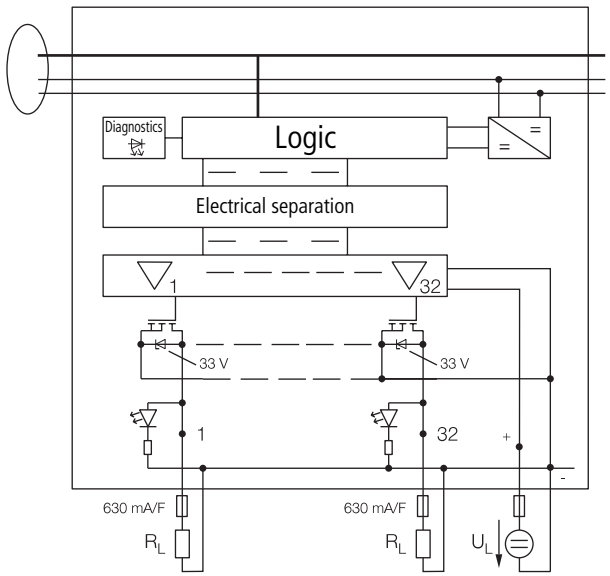
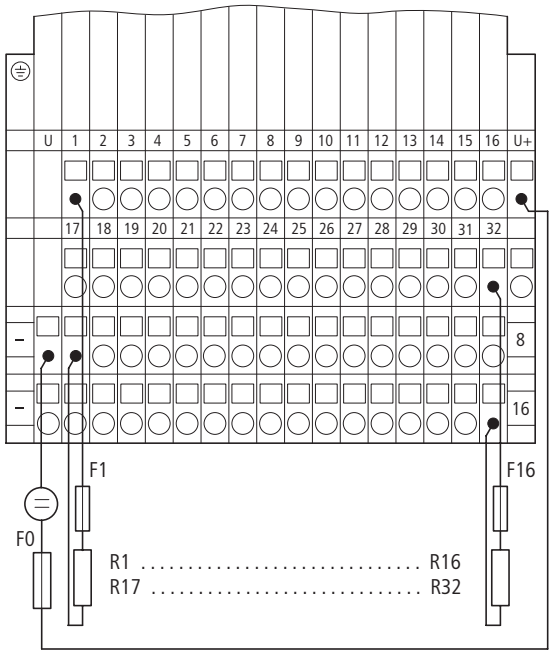
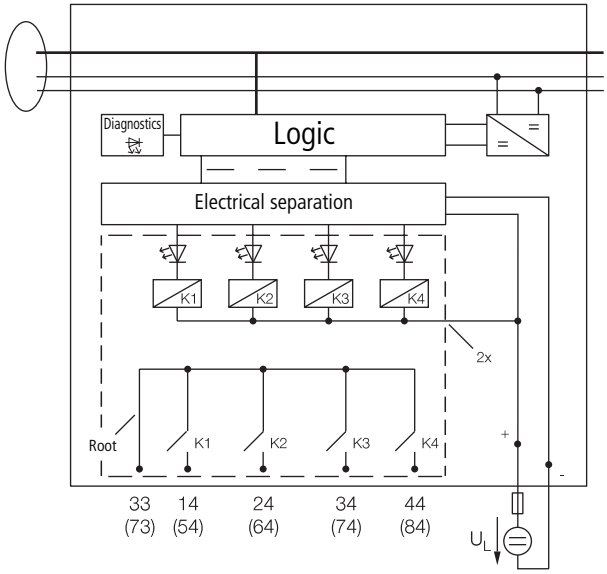
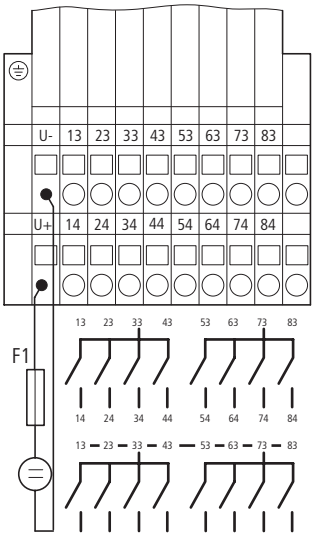
CAN-32DO/0.5A-P-2X16



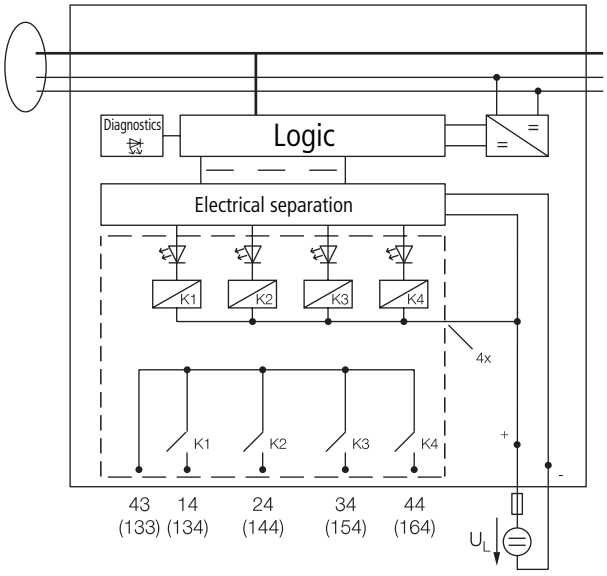


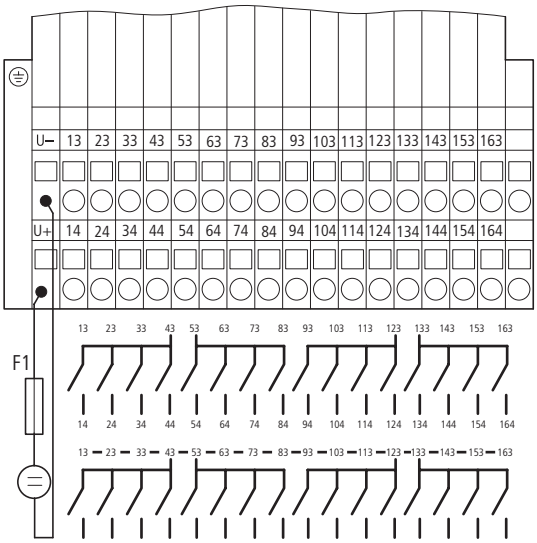
CAN-8DO/R-NO



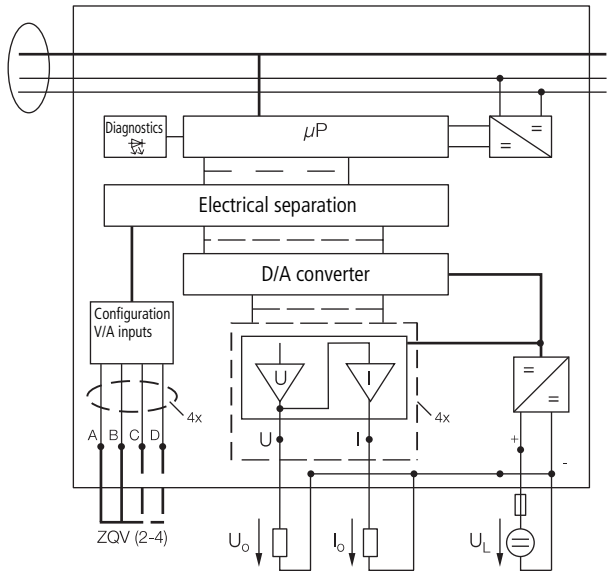


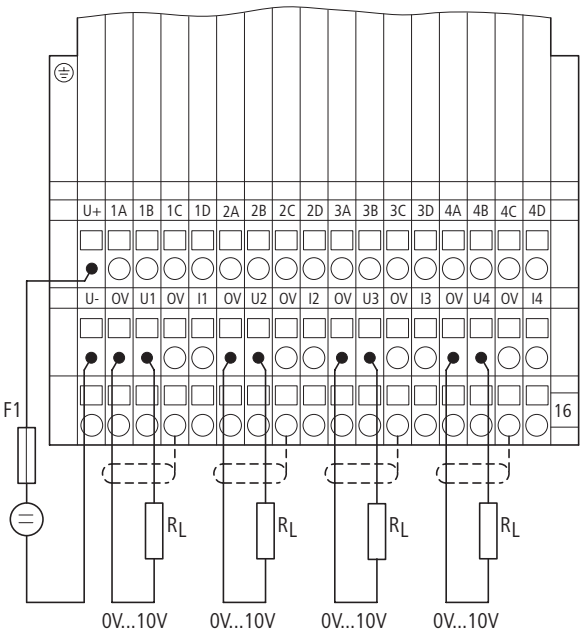
CAN-16DO/R-NO





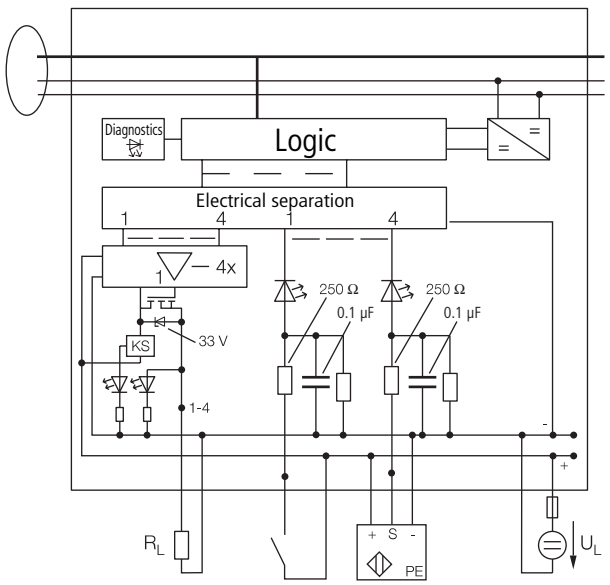
CAN-4AO/UI

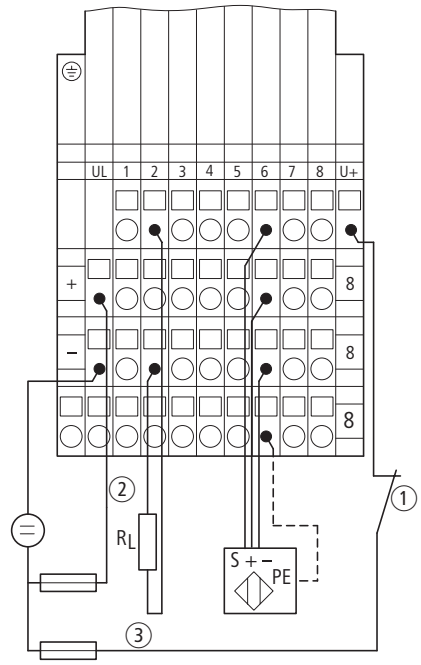




Range	CH1 1A	1B	1C	1D	CH2 2A	2B	2C	2D	CH3 3A	3B	3C	3D	CH4 4A	4B	4C	4D
0...10V	No jumper															
-10...+10V																
0...20mA																
4...20mA																

CAN-4DI/4DO/0.5A-PK





① External disconnection of all outputs
② Supply to inputs
③ Supply to outputs

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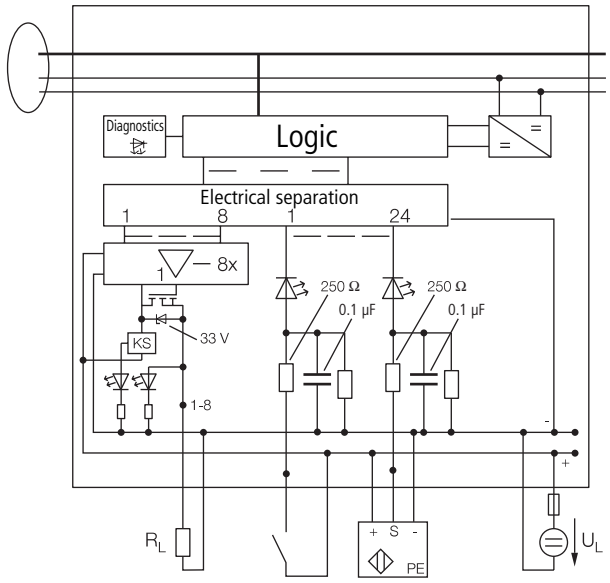
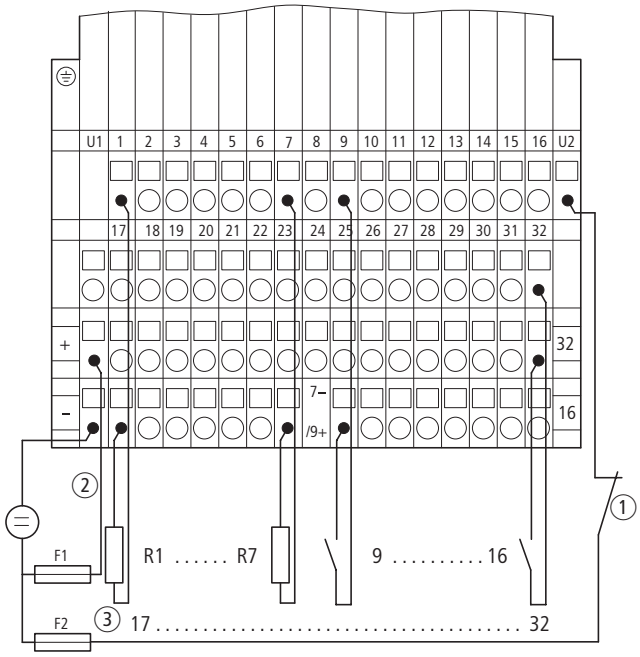
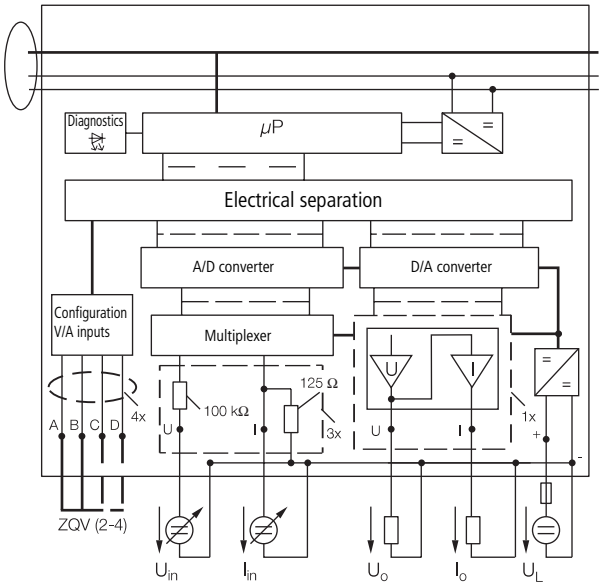
CAN-24DI/8DO/0.5A-PK

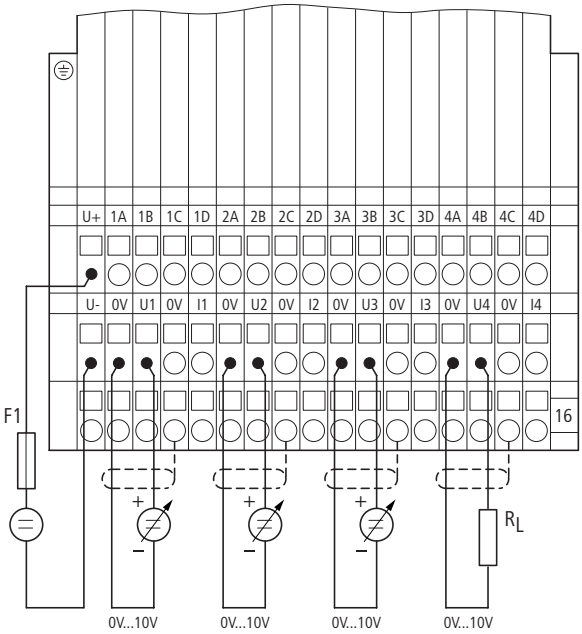




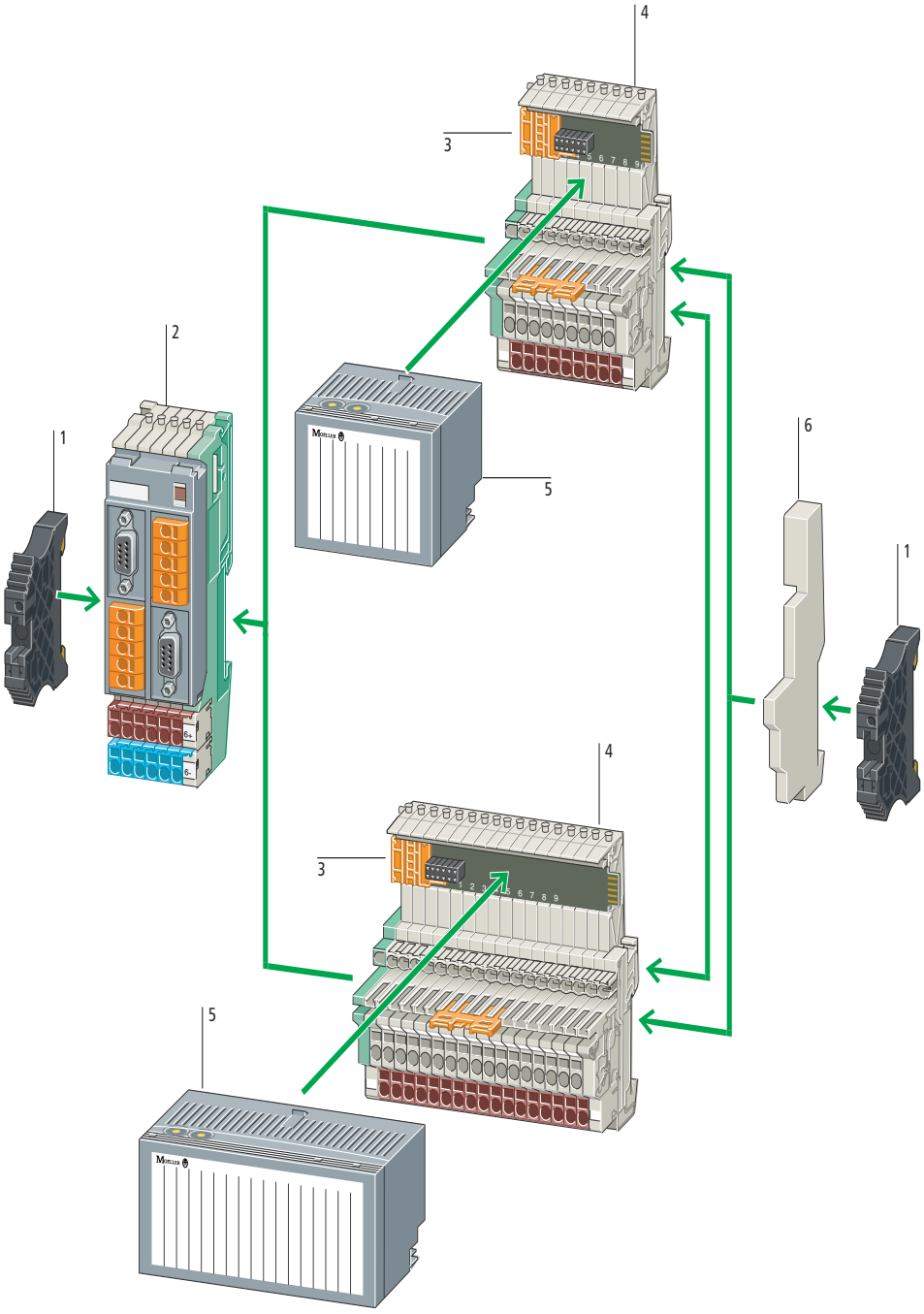
① External disconnection of all outputs
② Supply to inputs
③ Supply to outputs

CAN-3AI/1AO-UI





Range	CH1				CH2				CH3				CH4			
	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V	No jumper															
-10...+10V	⊓				⊓				⊓				⊓			
0...20mA	⊓	⊓			⊓	⊓			⊓	⊓			⊓	⊓		
4...20mA	⊓	⊓	⊓		⊓	⊓	⊓		⊓	⊓	⊓		⊓	⊓	⊓	



PROFIBUS-DP bridges 2

→ Page 6/66

Sliding bus link 3

Base modules 4

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Electronics modules 5

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Accessories

End plate ZAP-MA/25 6
End bracket WEW-35/2 1

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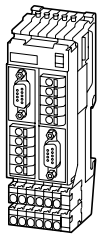
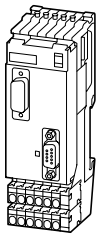
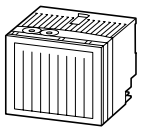
	2-wire connection													3-wire connection														4-wire connection								
	ZSB-1.5/8-S/+	ZSB-1.5/16-S/+	ZSB-1.5/8-S/S/+/+	ZSB-1.5/16-S/S/++	ZSB-1.5/8-S/-	ZSB-1.5/16-S/-	ZSB-1.5/8-S/S/-/-	ZSB-1.5/16-S/S/-/-	ZSB-1.5/8-S/S	ZSB-1.5/16-S/S	ZSB-1.5/16-S/S/+/-+	ZSB-1.5/16-S/-250V	ZSB-1.5/16-S/S-W	ZSB-1.5/16-S/S/PE	ZSB-1.5/8-S/+/-	ZSB-1.5/16-S/+/-	ZSB-1.5/8-S/S/+/+/-/-	ZSB-1.5/16-S/S/+/+/-/-	ZSB-1.5/8-S/-/PE	ZSB-1.5/16-S/-/PE	ZSB-1.5/8-S/S/PE/PE/-/-	ZSB-1.5/16-S/S/P/P/-/-	ZSB-1.5/16-S/S/+/-+/-	ZSB-1.5/16-S/-/PE+	ZSB-1.5/16-S/-/PE-Z	ZSB-1.5/16-S/S/PE-TF	ZSB-1.5/8-S/S/+/-/-	ZSB-1.5/8-S/+/-/PE	ZSB-1.5/16-S/+/-/PE	ZSB-1.5/8-S/S/+/P+/-/-	ZSB-1.5/16-S/S/PE-+	ZSB-1.5/8-S/S/-/PE	ZSB-1.5/16-S/S/-/PE	ZSB-1.5/8-S/+/-/PE/EI	ZSB-1.5/16-S/S/PE-+UI	ZSB-1.5/16-S/S/PE-PT100
Digital input																																			
DP-8DI/P	●														●													●							
DP-16DI/P		●														●													●						
DP-16DI/P-2x8			●														●																		
DP-32DI/P-2x16				●														●																	
DP-8DI/N					●																														
DP-8DI/115VAC												●																							
DP-8DI/230VAC												●																							
Digital output																																			
DP-4DO/2.0A-PK					●														●																
DP-8DO/0.5A-PK					●														●																
DP-16DO/0.5A-PK						●														●															
DP-16DO/0.5A-PK-2x8							●														●														
DP-32DO/0.5A-P-2x16								●														●													
Digital relay modules																																			
DP-8DO/R-NO									●																										
DP-16DO/R-NO										●																									
DP-8DO/R-CO													●																						
Analog input																																			
DP-4AI/UI														●																				●	
DP-4AI/PT100																																			●
DP-4AI/THERMO																											●								
Analog output																																			
DP-4AO/UI														●																				●	
Technology modules																																			
DP-1CNT/24V																									●										
Combi-modules																																			
DP-4DI/4DO/0,5A-PK																																		●	
DP-8DI/4DO/0,5A-PK																									●										
DP-8DI/4DO/2,0A-PK																									●										
DP-8DI/8DO/0,5A-PK																												●							
DP-24DI/8DO/0,5A-PK											●												●							●	●				
DP-3AI/1AO-UI														●																				●	

	Inputs Qty.	Outputs Qty.	Description	For use with	**Type** Article no.	**Price** See Price List	Std. pack
Bridges							
Maximum 10 I/O modules can be connected per bridge							
	–	–	PROFIBUS DP connection as per DIN 19245: 2 × SUB-D, 9-pole Bus connection for direct wiring: 2 × spring-loaded terminals, type LMZF Transfer rate: up to 1.5 Mbit/s	–	**DP-BRIDGE** 224006		1 off
	–	–	PROFIBUS DP connection as per DIN 19245: 2 × SUB-D, 9-pole Transfer rate: up to 12 Mbit/s	–	**DP-BRIDGE/12MB** 224007		1 off
Electronics modules							
Plugged onto the base modules 							
Digital input	8	–	Positive switching	ZSB-1.5/8-S/+ ZSB-1.5/8-S/+/- ZSB-1.5/8-S/+/-/PE	**DP-8DI/P** 224008		1 off
	16	–	Positive switching	ZSB-1.5/16-S/+ ZSB-1.5/16-S/+/- ZSB-1.5/16-S/+/-/PE	**DP-16DI/P** 224009		
	2 × 8	–	Positive switching, 2 channels per terminal	ZSB-1.5/8-S/S/+/+ ZSB-1.5/8-S/S/+/+/-/-	**DP-16DI/P-2X8** 224010		
	2 × 16	–	Positive switching, 2 channels per terminal	ZSB-1.5/16-S/S/+/+ ZSB-1.5/16-S/S/+/+/-/-	**DP-32DI/P-2X16** 224011		
	8	–	Negative switching	ZSB-1.5/8-S/-	**DP-8DI/N** 224013		
	8	–	120 V AC, 50 Hz	ZSB-1.5/16-S/-250V	**DP-8DI/115VAC** 224014		
	8	–	230 V AC, 50 Hz	ZSB-1.5/16-S/-250V	**DP-8DI/230VAC** 224012		
Digital output	–	4	Positive switching, short-circuit protected	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	**DP-4DO/2.0A-PK** 224015		
	–	8	Positive switching, short-circuit protected	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	**DP-8DO/0.5A-PK** 224017		
	–	16	Positive switching, short-circuit protected	ZSB-1.5/16-S/- ZSB-1.5/16-S/-/PE	**DP-16DO/0.5A-PK** 224020		
	–	2 × 8	Positive switching, not short-circuit protected, 2 channels per terminal	ZSB-1.5/8-S/S/-/- ZSB-1.5/8-S/S/PE/PE/-/-	**DP-16DO/0.5A-P-2X8** 224018		
	–	2 × 16	Positive switching, not short-circuit protected, 2 channels per terminal	ZSB-1.5/16-S/S/-/- ZSB-1.5/16-S/S/P/P/-/-	**DP-32DO/0.5A-P-2X16** 224021		

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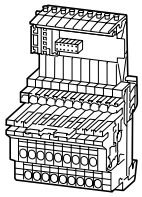
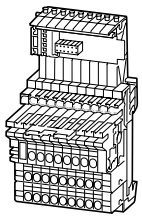
	Inputs Qty.	Outputs Qty.	Description	For use with	**Type** Article no.	**Price** See Price List	Std. pack
Electronics modules							
Combi-modules	4	4	Positive switching, digital input/ output, short-circuit protected	ZSB-1.5/8-S/+/-/PE-EI	**DP-4DI/4DO/0.5A-PK** 224024		1 off
	8	4	0.5 A, positive switching, digital input/output, short-circuit protected	ZSB-1.5/16-S/-/PE+	**DP-8DI/4DO/0.5A-PK** 224026		
	8	4	2 A, positive switching, digital input/ output, short-circuit protected	ZSB-1.5/16-S/-/PE+	**DP-8DI/4DO/2.0A-PK** 224027		
	8	8	Positive switching, digital input/ output, short-circuit protected	ZSB-1.5/8-S/S/+/-/-	**DP-8DI/8DO/0.5A-PK** 224025		
	24	8	Positive switching, digital input/ output, short-circuit protected	ZSB-1.5/16-S/S/+/-+ ZSB-1.5/16-S/S/+/-+/- ZSB-1.5/16-S/S/+/P+/-/- ZSB-1.5/16-S/S/PE-+	**DP-24DI/8DO/0.5A-PK** 224023		
Counter modules	–	–	1 channel, up/down, 25 kHz	ZSB-1.5/16-S/-/PE-Z	**DP-1CNT/24V** 224028		
Analog input	4	–	Input range, voltage –10/0 to +10 V	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	**DP-4AI/UI** 224030		
	4	–	Pt100, 2-, 3-, 4-wire	ZSB-1.5/16-S/S/PE-PT100	**DP-4AI/PT100** 224031		
	4	–	Thermo K, J, R, S, T, N, E, B	ZSB-1.5/16-S/S/PE-TF	**DP-4AI/THERMO** 224032		
Analog output	–	4	Output range, voltage –10/0 to +10 V Output range, current 0/4 – 20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	**DP-4AO/UI** 224033		
Relay module	–	8	8-way relay, make contact	ZSB-1.5/8-S/S ZSB-1.5/8-S/S/-/PE	**DP-8DO/R-NO** 224016		
	–	16	16-way relay, make contact	ZSB-1.5/16-S/S ZSB-1.5/16-S/S/-/PE	**DP-16DO/R-NO** 224019		
	–	8	8 × relay, changeover, floating	ZSB-1.5/16-S/S-W	**DP-8DO/R-CO** 224022		
Combi-modules	3	1	Input/output range, voltage -10/0 to +10 V Input/output range, current 0/4 – 20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	**DP-3AI/1AO-UI** 224311		

Connection types	For use with	**Type** Article no.	**Price** See Price List	Std. pack	**Notes**
Base modules					
For connection to electronics module; mounted on rails					
2-wire connection 	PROFIBUS: DP-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/+/-+** 224063		1 off	–
	PROFIBUS: DP-8DO/R-CO	**ZSB-1.5/16-S/S-W** 224100			–
	PROFIBUS: DP-16DO/R-NO	**ZSB-1.5/16-S/S** 224062			–
	PROFIBUS: DP-8DI/P	**ZSB-1.5/8-S/+** 224045			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-8DI/115V AC PROFIBUS: DP-8DI/230V AC	**ZSB-1.5/16-S/-250V** 224096			–
	PROFIBUS: DP-8DO/R-NO	**ZSB-1.5/8-S/S** 224061			–
	PROFIBUS: DP-16DI/P	**ZSB-1.5/16-S/+** 224048			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-16DI/P-2X8	**ZSB-1.5/8-S/S/+/+** 224049			–
	PROFIBUS: DP-32DI/P-2X16	**ZSB-1.5/16-S/S/+/+** 224051			–
	PROFIBUS: DP-16DO/0.5A-P-2X8	**ZSB-1.5/8-S/S/-/-** 224057			–
	PROFIBUS: DP-32DO/0.5A-P-2X16	**ZSB-1.5/16-S/S/-/-** 224059			–
	PROFIBUS: DP-8DI/N PROFIBUS: DP-4DO/2.0A-PK PROFIBUS: DP-8DO/0.5A-PK	**ZSB-1.5/8-S/-** 224055			–
	PROFIBUS: DP-16DO/0.5A-PK	**ZSB-1.5/16-S/-** 224056			–
3-wire connection 	PROFIBUS: DP-16DI/P	**ZSB-1.5/16-S/+/-** 224047			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-16DI/P-2X8	**ZSB-1.5/8-S/S/+/+/-/-** 224050			–
	PROFIBUS: DP-8DI/P	**ZSB-1.5/8-S/+/-** 224044			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-16DO/0.5A-P-2X8	**ZSB-1.5/8-S/S/PE/PE/-/-** 224058			–
	PROFIBUS: DP-16DO/0.5A-PK	**ZSB-1.5/16-S/-/PE** 224054			–
	PROFIBUS: DP-4AI/UI PROFIBUS: DP-4AO/UI PROFIBUS: DP-3AI/1AO-UI	**ZSB-1.5/16-S/S/PE** 224040			Cross-link (ZQV) for setting individual channels is included in delivery package

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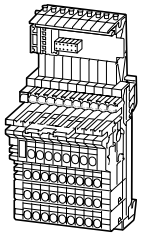
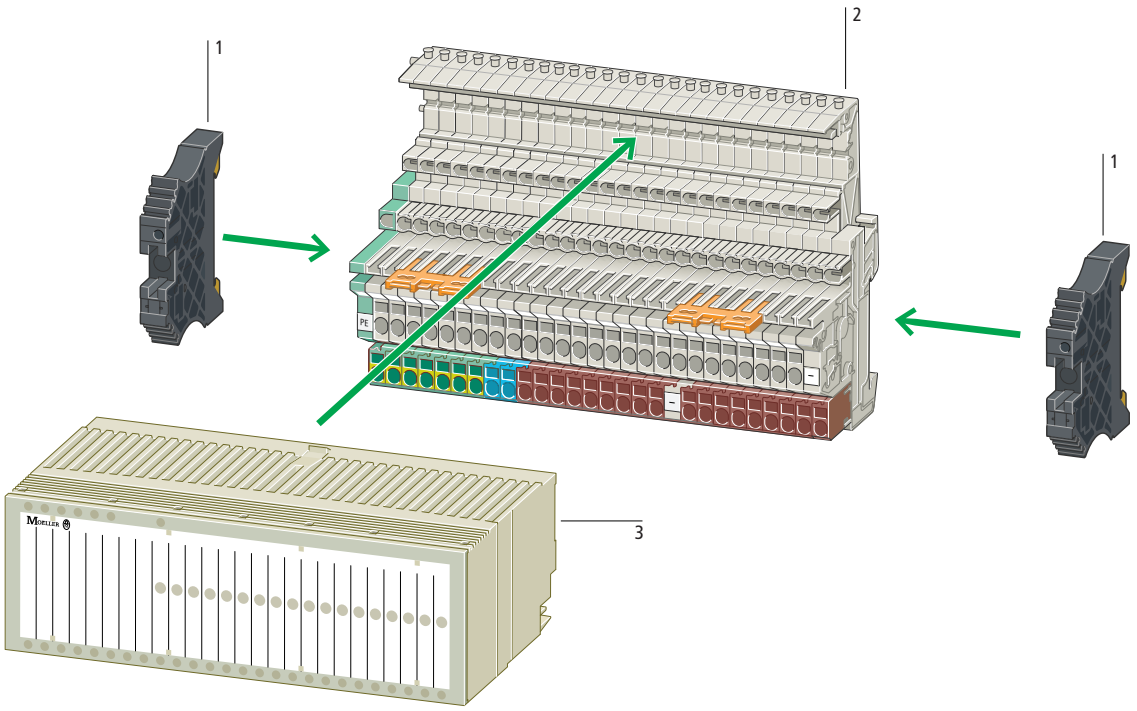
Connection types	For use with	**Type** Article no.	**Price** See Price List	Std. pack	**Notes**
Base modules					
4-wire connection 	PROFIBUS: DP-4DO/2.0A-PK PROFIBUS: DP-8DO/0.5A-PK	**ZSB-1.5/8-S/-/PE** 224053		1 off	–
	PROFIBUS: DP-32DI/P-2X16	**ZSB-1.5/16-S/S/+/+/-/-** 224052			–
	PROFIBUS: DP-32DO/0.5A-P-2X16	**ZSB-1.5/16-S/S/P/P/-/-** 224060			–
	PROFIBUS: DP-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/+/-+/-** 224064			–
	PROFIBUS: DP-1CNT/24V	**ZSB-1.5/16-S/-/PE-Z** 224073			Cross-link (ZQV) for setting individual channels is included in delivery package
	PROFIBUS: DP-8DI/8DO/0.5A-PK	**ZSB-1.5/8-S/S/+/-/-** 224086			Cross-link (ZQV) for setting individual channels is included in delivery package
	PROFIBUS: DP-8DI/4DO/0.5A-PK PROFIBUS: DP-8DI/4DO/2.0A-PK	**ZSB-1.5/16-S/-/PE+** 224072			Cross-link (ZQV) for setting individual channels is included in delivery package
	PROFIBUS: DP-4AI/THERMO	**ZSB-1.5/16-S/S/PE-TF** 224075			Cold-junction compensation and linearization Accuracy figures take account of linearity, hysteresis and cold-junction compensation error at T_a = 23 °C Cable break will be reliably detected Cross-link (ZQV) for setting individual channels is included in delivery package
	PROFIBUS: DP-4DI/4DO/0.5A-PK	**ZSB-1.5/8-S/+/-/PE-EI** 224071			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/+/P+/-/-** 224065			–
	PROFIBUS: DP-16DO/R-NO	**ZSB-1.5/16-S/S/-/PE** 224070			–
	PROFIBUS: DP-8DO/R-NO	**ZSB-1.5/8-S/S/-/PE** 224069			–
	PROFIBUS: DP-4AI/UI PROFIBUS: DP-4AO/UI PROFIBUS: DP-3AI/1AO-UI	**ZSB-1.5/16-S/S/PE-+UI** 224074			Cross-link (ZQV) for setting individual channels is included in delivery package
	PROFIBUS: DP-8DI/P	**ZSB-1.5/8-S/+/-/PE** 224043			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-16DI/P	**ZSB-1.5/16-S/+/-/PE** 224046			Also suitable for Bero ® 2-wire initiator
Pt100 2-, 3-, 4-wire connection, and Pt100 mixed operation	PROFIBUS: DP-4AI/PT100	**ZSB-1.5/16-S/S/PE-PT100** 224076			Cross-link (ZQV) for setting individual channels is included in delivery package
Special module for connecting 4 SAI modules	PROFIBUS: DP-24DI/8DO/0.5A-PK	**ZSB-1.5/16-S/S/PE-+** 224066			–



Electronics modules	5	Base modules	2	Accessories	1
→ Page 6/71		→ Page 6/71		End bracket WEW-35/2	
				→ Page 6/91	

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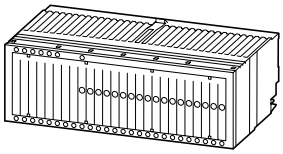
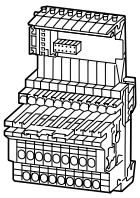
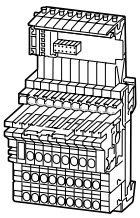
	Inputs Qty.	Outputs Qty.	Description	For use with	**Type** Article no.	**Price** See Price List	Std. pack
Electronics modules							
Plugged onto the base modules							
							
Digital input	16	–	Positive switching	ZSBE-1.5/25-S/PE-+ ZSBE-1.5/25-S/-/PE+	**DP-16DI/P-ECO** 224035		1 off
	32	–	Positive switching	ZSBE-1.5/25-S/S/+-+/PE+ ZSBE-1.5/25-2S/-/PE-/2+	**DP-32DI/P-ECO** 224037		
Digital output	–	16	Positive switching, short-circuit protected, bytewise provision of field voltage	ZSBE-1.5/25-S/PE-	**DP-16DO/0.5A-PK-ECO** 224036		
	–	32	Positive switching, short-circuit protected, bytewise provision of field voltage	ZSBE-1.5/25-S/S/+-/PE	**DP-32DO/0.5A-PK-ECO** 224038		
Combi-modules	16	16	Digital input/output, positive switching, short-circuit protected, bytewise provision of the field voltage	ZSBE-1.5/25-S/S/-/PE-/+	**DP-16DI-P/16DO/0.5A-PK-ECO** 224039		

Connection types	For use with	**Type** Article no.	**Price** See Price List	Std. pack
Base modules				
For connection to electronics module; mounted on rails				
2-wire connection	PROFIBUS eco: DP-16DO/0.5A-PK-ECO	**ZSBE-1.5/25-S/PE-** 224079		1 off
	PROFIBUS eco: DP-16DI/P-ECO	**ZSBE-1.5/25-S/PE-+** 224080		
	PROFIBUS eco: DP-32DO/0.5A-PK-ECO	**ZSBE-1.5/25-S/S/+-/PE-** 224082		
	PROFIBUS eco: DP-32DI/P-ECO	**ZSBE-1.5/25-S/S/+-+/PE+** 224083		
3-wire connection	PROFIBUS eco: DP-16DI/P-ECO	**ZSBE-1.5/25-S/-/PE+** 224081		
	PROFIBUS eco: DP-32DI/P-ECO	**ZSBE-1.5/25-2S/-/PE-/2+** 224084		
Input: 3-wire circuit, output: 2-wire circuit	PROFIBUS eco: DP-16DI-P/16DO/0.5A-PK-ECO	**ZSBE-1.5/25-S/S/-/PE-/+** 224078		

			PROFIBUS	PROFIBUS eco
General				
Standards			IEC/EN 61131	IEC/EN 61131-2 Type 1
Operating voltage[1]		V DC	24	24
System configuration		V DC	18 – 30	18 – 30
Rated operating current[1]	I_e	mA	40 per digital module 70 per analog module	70
Ambient temperature				
Operation		°C	0 – 55	0 – 60
Storage		°C	-20/85	-20/85
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	15 – 95	15 – 95
Electromagnetic compatibility (EMC)				
Noise immunity			As per EN 50082-1 and IEC/EN 61000-6-2	As per EN 50082-1 and IEC/EN 61000-6-2
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)				
Air discharge		kV	8	8
Contact discharge		kV	4	6
Electromagnetic fields (IEC/EN 61000-4-3, RFI)		V/m	10	10
Burst pulses (IEC/EN 61000-4-4, level 3)		kV	2	2
RFI suppression (EN 55011)[2]			10 V, as per requirements of EN 55011 Group 1, Class A, Emitted RFI as per EN 50081-2	
Protection type (IEC/EN 60529)			IP20	IP20
Vibration resistance (IEC/EN 60068-2-6)[3]			Yes	Yes
Shock resistance (IEC 60068-2-27)			20 m/s² (2 g) to IEC 60068-2-27	20 m/s² (2 g) to IEC 60068-2-27
Repetitive shock resistance (IEC/EN 60068-2-29)[4]			Yes	Yes
Approvals			UL	UL

Notes

[1] Through bridge
[2] Individual permit required for use in residential areas (residential, business/commercial).
[3] Applies to modules fitted with two end brackets and an electronic module lock for the base modules.
[4] These tests apply to all I/O modules with a locking clip, apart from relay modules.

			Base modules
Base modules			
Standards			VDE 0611 Part 1/8.92 IEC/EN 60947-7-1
Rated voltage		V	250
Rated current	I_e	A	17.5 A ≙ continuous current via distribution-trip ZVL
Conductor cross-section		mm²	1.5
Rated impulse withstand voltage	U_{imp}	kV	4
Pollution degree			3
Connections in TOP direction			Tension spring
Core stripping length		mm	8
Terminal capacity		mm²	0.13 – 2.5
Solid		mm²	0.5 – 2.5
Flexible		mm²	0.5 – 1.5
Fine-stranded with core-end ferrules[1]		mm²	0.5 – 1.5
Plug gauge IEC/EN 60947-1			A2

Notes

[1] For connection cross-sections, fine stranded with core-end ferrules: core-end ferrules, gas-tight crimp, to DIN 46228-1

Bridges		DP bridge	DP bridge/12MB
Operating voltage	V DC	24	24
Operating current	mA	< 80	< 80
Data transfer rate/distance		9.6 kBit/s – 1.5 MBit/s	9.6 kBit/s – 12 MBit/s
Weight		116 g	116 g

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			DP-8DI/P	DP-16DI/P	DP-16DI/P-2X8	DP-32DI/P-2X16	DP-8DI/N	DP-8DI/115VAC	DP-8DI/230VAC
Digital input modules									
Inputs as per standard			IEC/EN 61131-2 Type 1						IEC/EN 61131-2 Type 1
Status '1'									
High level	U_H		11 V DC – 30 V DC		15 V DC – 30 V DC		0 – 2 V DC	92 V AC – 133 V AC	184 V AC – 265 V AC
High level	I_H		2 mA – 5.5 mA		2 mA – 4.5 mA		1.5 mA – 2 mA	Typ. 8.5 mA/120 V AC ± 10 % 50/60 Hz	Typ. 5 mA/230 V AC
Status '0'									
Low level	U_L		–30 V DC/+5 V DC				15 V DC – 30 V DC	0 – 40 V AC	0 – 40 V AC
Low level	I_L		-50 µA to 1.5 mA				–	–	–
Input delay			Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms					500 ms	200 ms
Input power loss		mW/ channel	–	–	–	–	–	200	200
Input reactive current		VA/ channel	–	–	–	–	–	–	1.25
Weight			167 g ± 15 %	313 g ± 15 %	167 g ± 15 %	313 g ± 15 %	167 g ± 15 %	167 g ± 15 %	167 g ± 15 %

		DP-4AI/UI	DP-4AI/PT100	DP-4AI/THERMO
Analog input modules				
Operating voltage	V DC	24	24	24
Admissible range	V DC	18 – 30	18 – 30	18 – 30
Field current (no load)		70 mA	70 mA	70 mA
Input resistance		$R_i \leqq 125\ \Omega$, $R_u = 100\ k\Omega$	–	–
Limit frequency (–3 db)	Hz	50	–	–
Resistance transmitter		–	0 – 409.5 Ω	–
Offset error		≦ 0.1 %	± 0.4 Ω	± 7 °C
Linearity	%	≦ 0.05	–	± 0.05
Temperature coefficient		≦ 360 ppm of full-scale value per °C	± 0.03 % of range per °C	± 0.03 % of range per °C
Basic error limit at 23 °C		< 0.2 % of full-scale value	-200 to +400 °C: max. ± 1 °C, typ. ± 0.5 °C +400 – +850 °C: max. ± 1.5 °C	–
Conversion time		25 µσ	–	45 µσ
Cycle time	ms	7	1000	1000
Sensor current		–	< 1.5 mA	–
Interference suppression		–	–	60, 50 Hz
Weight		313 g ± 15 %	313 g ± 15 %	313 g ± 15 %

			DP-4DO/2.0A-PK	DP-8DO/0.5A-PK	DP-16DO/0.5A-PK	DP-16DO/0.5A-P2X8	DP-32DO/0.5A-P2X16
Digital output modules							
Operating voltage		V DC	24	24	24	24	24
Admissible range		V DC	18 – 30	18 – 30	18 – 30	18 – 30	18 – 30
Electrical isolation			Operating voltage – field voltage 500 $V_{r.m.s.}$/min as per EN 61131				
Field current (without load)			≦ 30 mA	≦ 40 mA	≦ 70 mA	–	–
Output current		A	≦2	≦0.5	≦0.5	≦0.5	≦0.5
Output delay			≈ 1 ms, $R_L \leqq 1\ k\Omega$	≈ 1 ms, $R_L \leqq 1\ k\Omega$	≈ 1 ms, $R_L \leqq 1\ k\Omega$	≈ 3 ms, $R_L \leqq 1\ k\Omega$	≈ 3 ms, $R_L \leqq 1\ k\Omega$
Utilization factor	g	%	100	100	100	50	50
Lamp load	R_{LL}	W	≦ 10	≦ 2	≦ 2	–	–
Fuse			–	–	–	630 mA/*F* per channel	630 mA/*F* per channel
Weight			167 g ± 15 %	167 g ± 15 %	313 g ± 15 %	167 g ± 15 %	313 g ± 15 %

			DP-8DO/R-NO	DP-16DO/R-NO	DP-8DO/R-CO
Relay modules					
Operating voltage		V DC	24	24	24
Admissible range		V DC	18 – 30	18 – 30	18 – 30
Electrical isolation			Modbus – output 2 kV_{rms}/min as per EN 61131, Modbus – auxiliary voltage (optocoupler) 500 V_{rms}/min		
Field current (without load)			≦ 35 mA	≦ 70 mA	≦ 30 mA
Nominal load voltage			110 V DC/250 V AC	110 V DC/250 V AC	30 V DC/250 V AC
Continuous current			Max. current per output: 2 A, resistive load Max. total current per group of 4: 6 A, resistive load Max. contact rating: 60 W/500 VA Min. contact current: 100 µA	Max. current per output: 1 A, resistive load Max. total current per group of 4: 4 A, resistive load Max. contact rating: 60 W/500 VA Min. contact current: 100 µA	Max. current per output: 2 A, resistive load Max. contact rating: 60 W/500 VA Min. contact current: 100 µA
Lifespan, mechanical	Operations		2×10^7	2×10^7	2×10^7
Lifespan, electrical	Operations		10^5, at 250 V AC/2 A, resistive load		
Insulation test voltage, contact/coil		kV	1	1	4
Creepage and clearance distances			3 mm between relay pairs	3 mm between relay pairs	3 mm between relay pairs
Switching frequency			20 min^{-1} at nominal load	20 min^{-1} at nominal load	20 min^{-1} at nominal load
Weight			167 g ± 15 %	313 g ± 15 %	167 g ± 15 %

		DP-4AO/UI
Analog output modules		
Operating voltage	V DC	24
Admissible range	V DC	18 – 30
Field current (without load)		70 mA
Load resistance		R_u ≧ 1 kΩ, R_i ≦ 400 Ω
Linearity	%	0.5
Basic error limit at 23 °C		< 0.8 % of full-scale value
Transmission frequency	Hz	≦ 50
Temperature coefficient		300 ppm of full-scale value per °C
Weight		313 g ± 15 %

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			DP-4DI/4DO/0.5A-PK	DP-8DI/4DO/0.5A-PK	DP-8DI/4DO/2.0A-PK	DP-8DI/8DO/0.5A-PK	DP-24DI/8DO/0.5A-PK
Combi-modules							
Operating voltage		V DC	24	24	24	24	24
Admissible range		V DC	18 – 30	18 – 30	18 – 30	18 – 30	18 – 30
Input delay			Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms	–	–	–	–
Electrical isolation			Operating voltage – field voltage 500 $V_{r.m.s.}$/min according to EN 61131	–	–	–	–
Input/output as per standard			Inputs: EN 61131-2, Type 1 Outputs: EN 61131				
Field current (without load)			≦ 30 mA	≦ 40 mA	≦ 40 mA	≦ 40 mA	≦ 35 mA
Status '1'							
High level	U_H		11 V DC – 30 V DC	11 V DC – 30 V DC	11 V DC – 30 V DC	11 V DC – 30 V DC	11 V DC – 30 V DC
High level	I_H		2 mA – 5.5 mA	2 mA – 4 mA	2 mA – 4 mA	2 mA – 4.5 mA	2 mA – 4 mA
Status '0'							
Low level	U_L		–30 V DC/+5 V DC	–30 V DC/+5 V DC	–30 V DC/+5 V DC	–30 V DC/+5 V DC	–30 V DC/+5 V DC
Low level	I_L		-50 µA to 1.5 mA	-50 µA to 700 µ	-50 µA to 700 µ	-50 µA to 700 µ	-50 µA to 700 µ
Output load capacity			–	2 × I_{out} for 5 min.	2 × I_{out} for 5 min.	–	–
Underload at I_{load}		mA	–	< 150/< 750	< 150/< 750	–	–
Lamp load	R_{LL}	W	≦ 2	≦ 12	≦ 20	≦ 2	≦ 2
Utilization factor	g	%	100	–	–	50	100
Output delay			≈ 1 ms, DO R_L ≦ 1 kΩ	< 1 ms	< 1 ms	≈ 1 ms, DO R_L ≦ 1 kΩ	≈ 1 ms, DO R_L ≦ 1 kΩ
Output current		A	≦0.5	≦0.5	≦2	≦0.5	≦0.5
Weight			167 g ± 15 %	313 g ± 15 %	313 g ± 15 %	167 g ± 15 %	313 g ± 15 %

			DP-3AI/1AO-UI
Analog combi-modules			
Operating voltage		V DC	24
Admissible range		V DC	18 – 30
Field current (without load)			Input: 70 mA, output: ≦ 35 mA
Input resistance			R_i ≦ 125 Ω, R_u = 100 kΩ
Linearity		%	Input: 0.5 , output: ± 0.5
Basic error limit at 23 °C			Input: < 0.2 % of full-scale value Output: ≦ 0.8 % of full-scale value
Limit frequency (–3 db)		Hz	Input: ≦ 50, output: ≦ 50
Temperature coefficient			Input: ≦ 360 ppm of full-scale value. Output: 300 ppm of full-scale value
Conversion time			Input: 25 µs, output: 5 µs
Load resistance			R_u ≧ 1 kΩ, R_i ≦ 400 Ω
Weight			313 g ± 15 %

			DP-1CNT/24V
Counter module			
Operating voltage		V DC	24
Admissible range		V DC	18 – 30
Input voltage			
Input voltage, nominal value		V DC	24 V DC
Low level	U_L		-1 – +4 V DC (sensor/transmitter: -1 to +1.5 V DC)
High level	U_H		+5 – +30 V DC (sensor/transmitter: +4 to +30 V DC)
Input current			
High level	I_H		Typically 4 mA (sensor/transmitter: 2.5 mA)
Frequency			≦ 100 Hz
Output current		mA	≦ 500, short-circuit protected
Nominal voltage on supply terminal	U_L		24 V DC
Residual ripple		%	± 5, permissible range (incl. ripple) 21.6 – 26.4 V DC
Nominal current drawn from Modulbus	I_{MB}	mA	≦ 60
Weight			313 g ± 5 %

			DP-16DI/P-ECO	DP-32DI/P-ECO
Digital input modules				
Inputs as per standard			IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1
Status '1'				
High level	U_H		15 V DC – 30 V DC	15 V DC – 30 V DC
High level	I_H		1.2 mA – 4 mA	1.2 mA – 4 mA
Status '0'				
Low level	U_L		–5 V DC – 5 V DC	–5 V DC – 5 V DC
Electrical isolation			To fieldbus 500 V_{rms}/min	To fieldbus 500 V_{rms}/min
Utilization factor	g	%	100	100
Weight			350 g, 370 g ± 15 %	450 g, 550 g ± 15 %

			DP-16DO/0.5A-PK-ECO	DP-32DO/0.5A-PK-ECO
Digital output modules				
Operating voltage		V DC	24	24
Admissible range		V DC	18 – 30	18 – 30
Electrical isolation			To fieldbus 500 V_{rms}/min	To fieldbus 500 V_{rms}/min
Field current (without load)			20 mA per U_L input	20 mA per U_L input
Output current		A	≦0.5	≦0.5
Output delay			< 100 µs (for R ≦ 1 kΩ)	< 100 µs (for R ≦ 1 kΩ)
Utilization factor	g	%	100	100
Lamp load	R_{LL}	W	≦ 3	≦ 3
Weight			350 g ± 15 %	450 g ± 15 %

			DP-16DI-P/16DO/0.5A-PK-ECO
Combi-modules			
Operating voltage		V DC	24
Admissible range		V DC	18 – 30
Input delay			3
Electrical isolation			To fieldbus 500 V_{rms}/min
Input/output as per standard			IEC/EN 61131
Field current (without load)			≦ 20 mA per U_L feed
Status '1'			
High level	U_H		15 V DC – 30 V DC
High level	I_H		1.2 mA – 4 mA
Status '0'			
Low level	U_L		–5 V DC – 5 V DC
Lamp load	R_{LL}	W	≦ 3
Output delay			< 100 µs (for R ≦ 1 kΩ)
Output current		A	≦0.5
Weight			550 g ± 15 %

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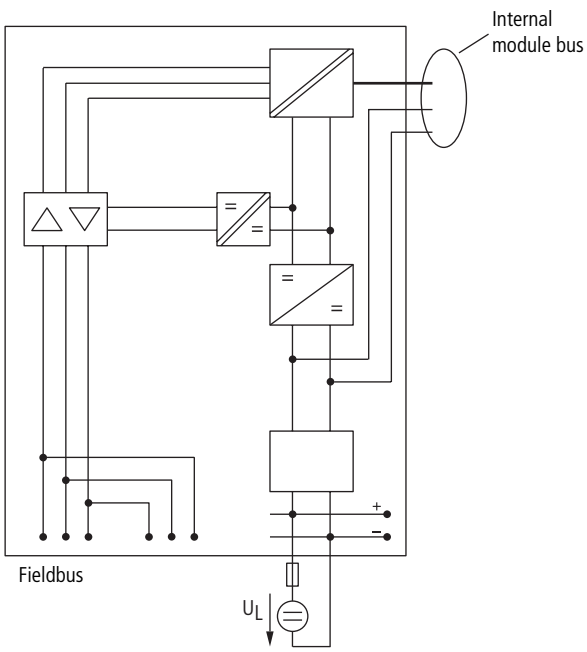
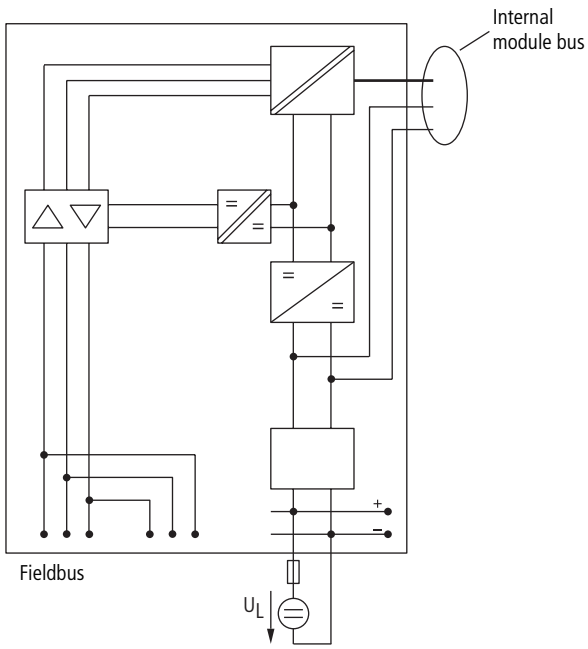
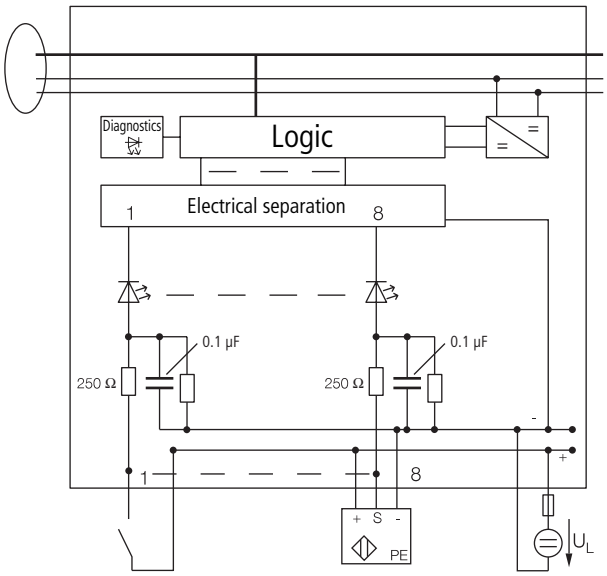
DP-BRIDGE

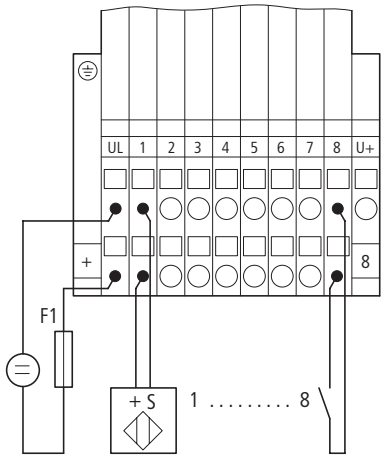


DP-BRIDGE/12MB

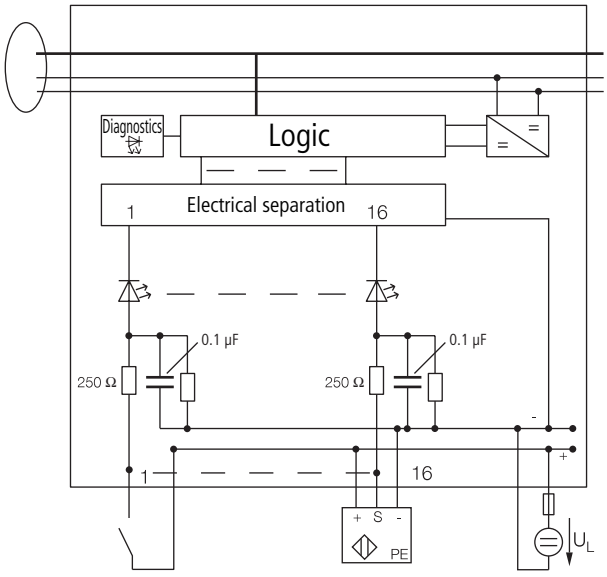


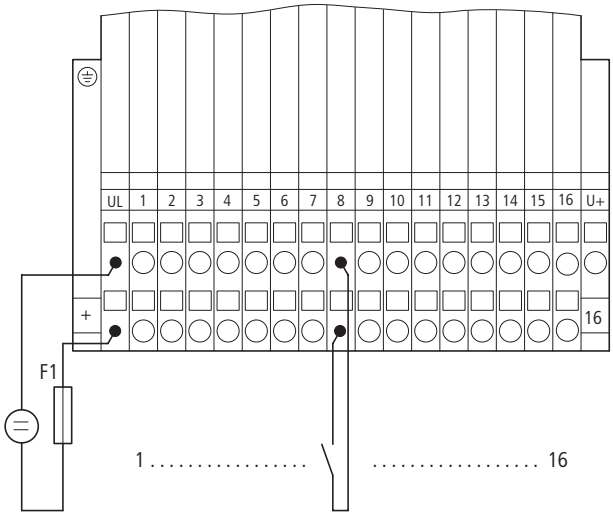
DP-8DI/P



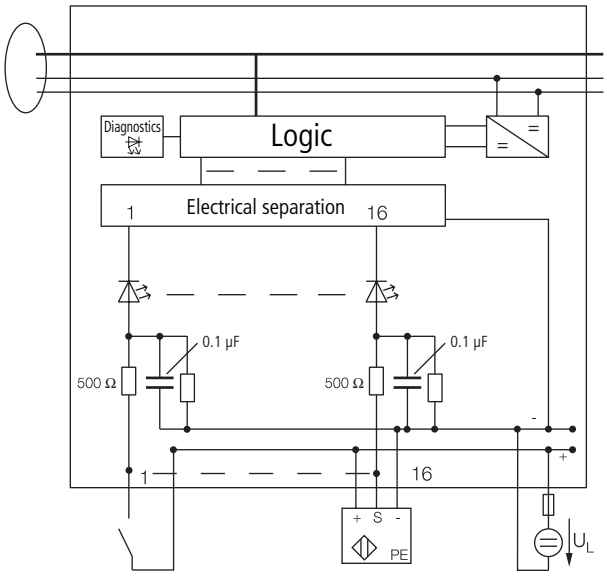


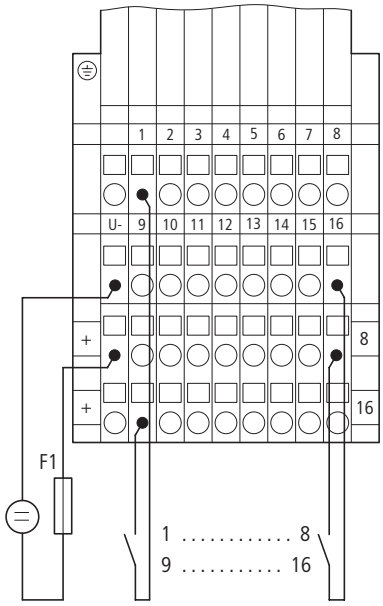
DP-16DI/P



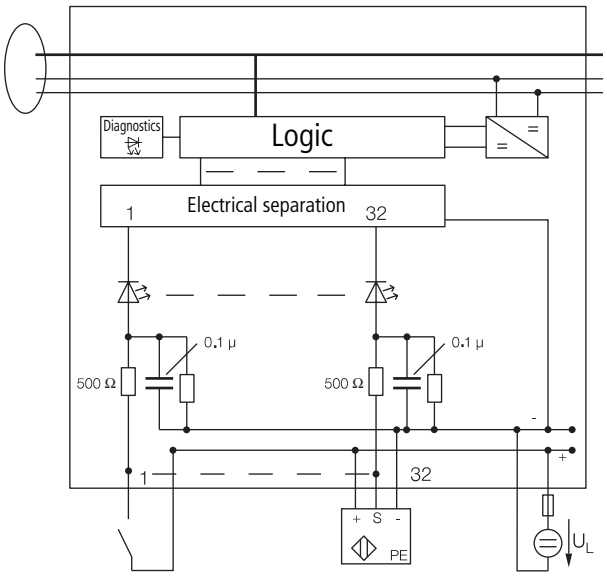


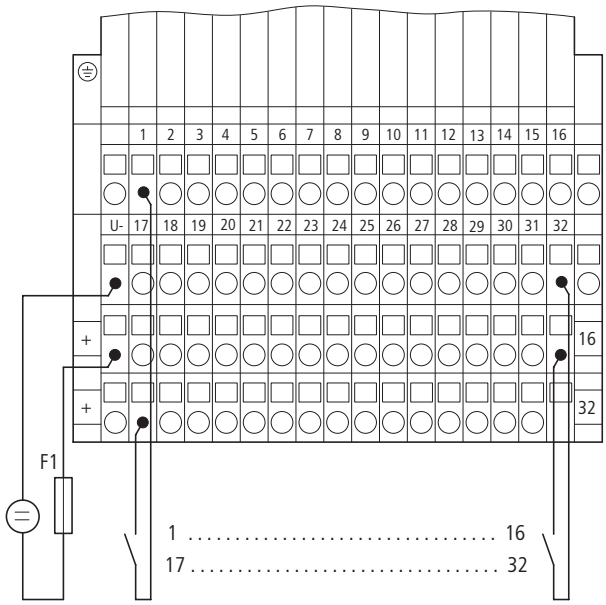
DP-16DI/P-2X8



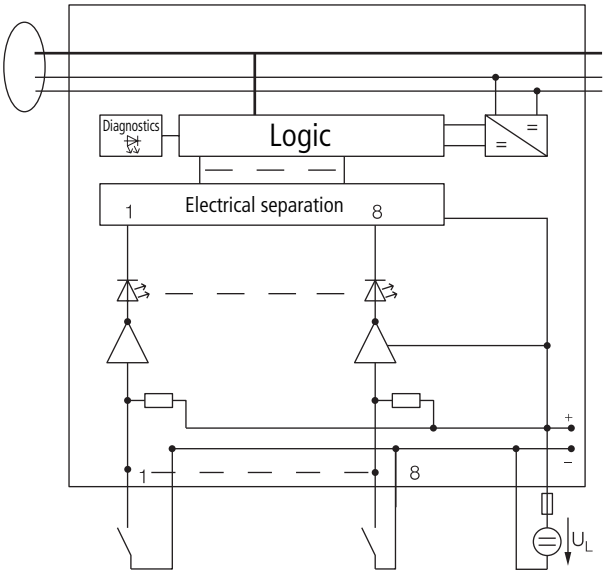


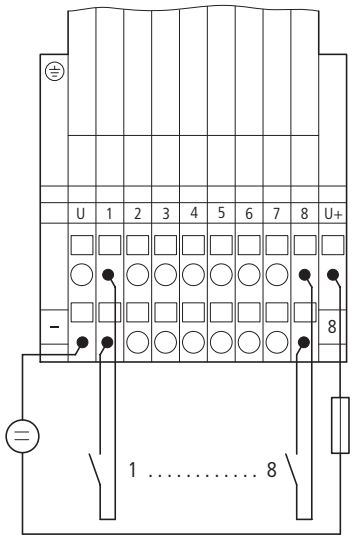
DP-32DI/P-2X16





DP-8DI/N





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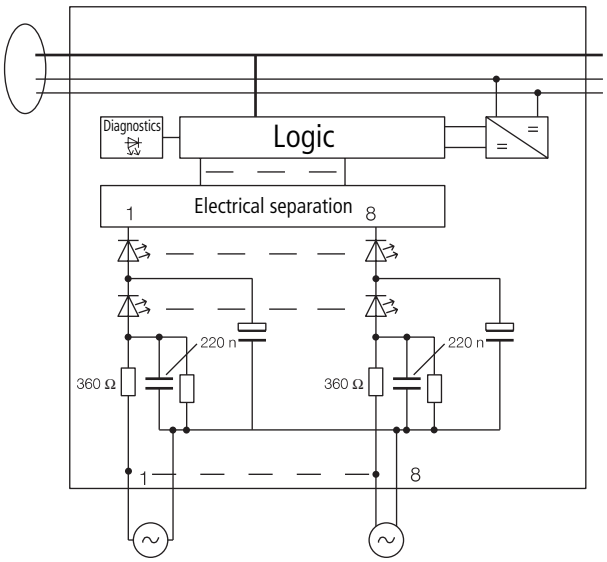
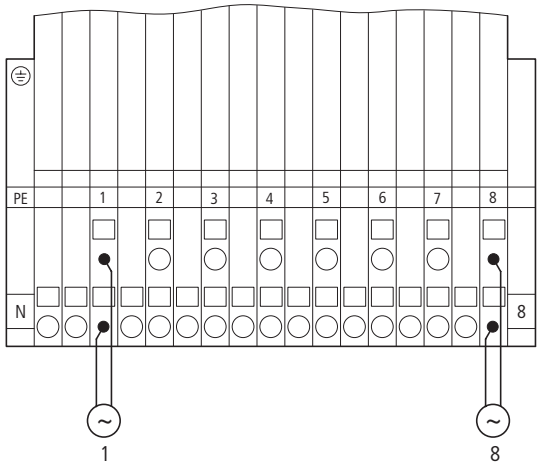
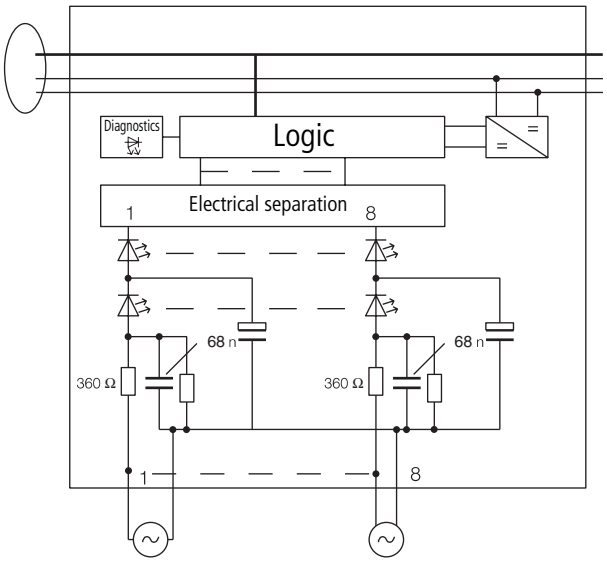
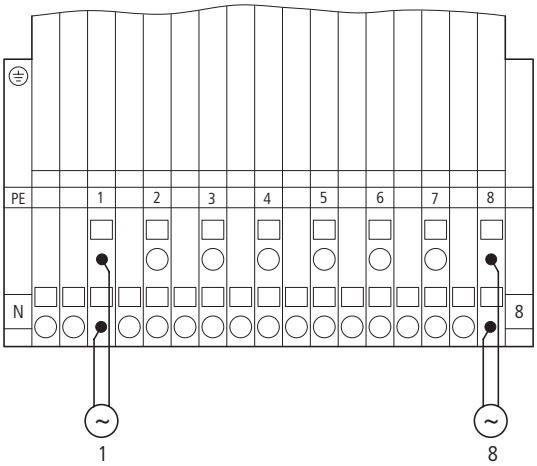
DP-8DI/115VAC



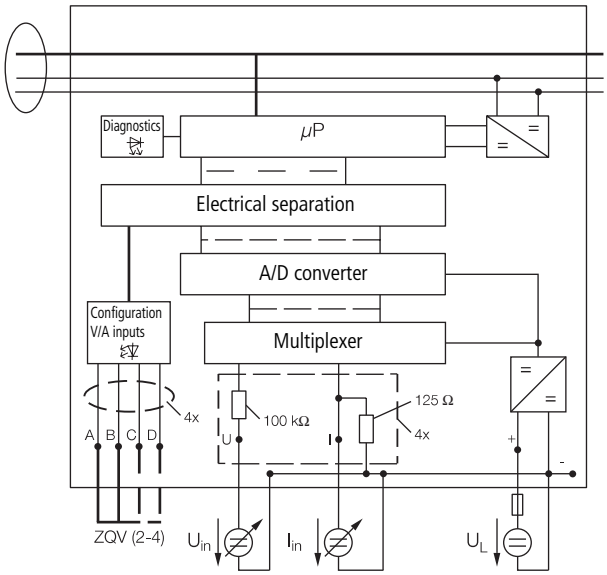


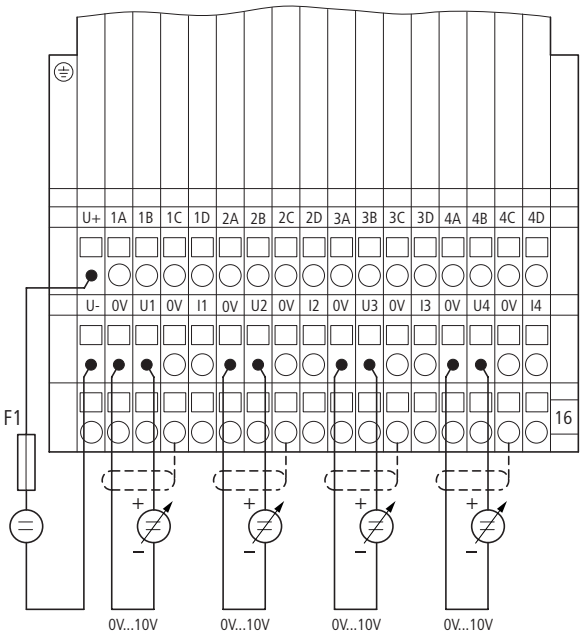
DP-8DI/230VAC





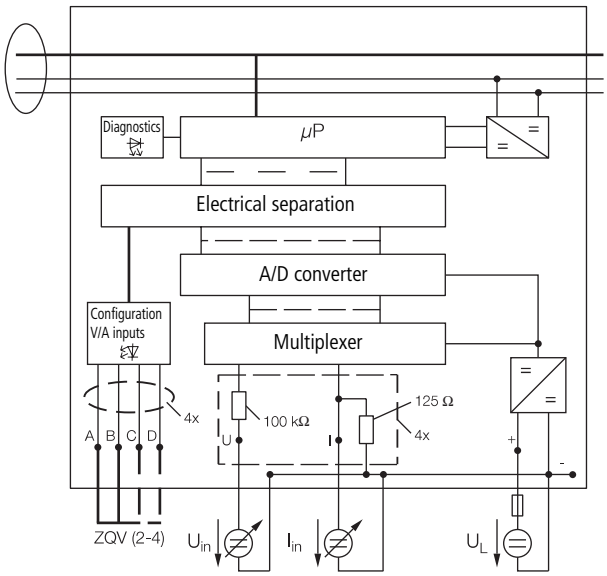
DP-4AI/UI

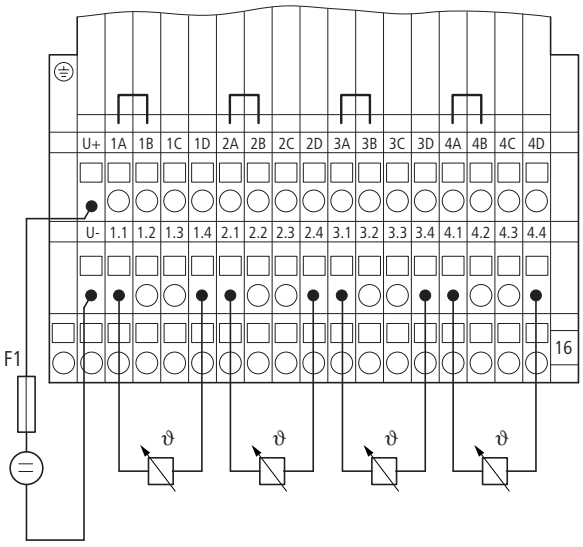




Range	CH1 1A	1B	1C	1D	CH2 2A	2B	2C	2D	CH3 3A	3B	3C	3D	CH4 4A	4B	4C	4D
0...10V	No jumper															
-10...+10V																
0...20mA																
4...20mA																

DP-4AI/PT100





Range	CH1 1A	1B	1C	1D	CH2 2A	2B	2C	2D	CH3 3A	3B	3C	3D	CH4 4A	4B	4C	4D
4 AI Ohm	No jumper															
4 AI 2-cond.																
4 AI 3-cond.																
4 AI 4-cond.																

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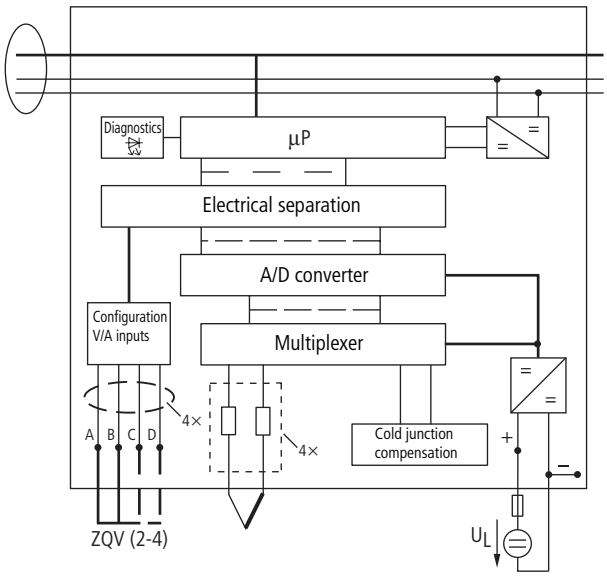
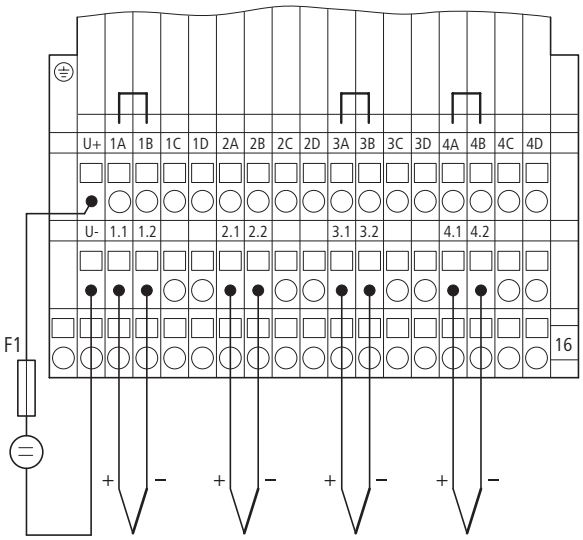
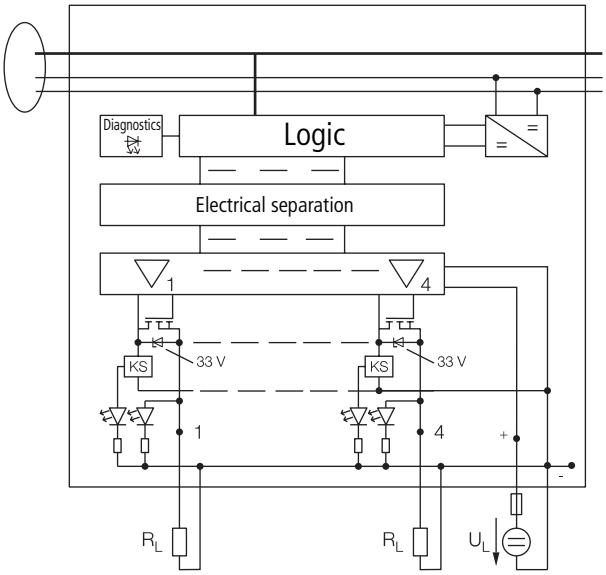
DP-4AI/THERMO

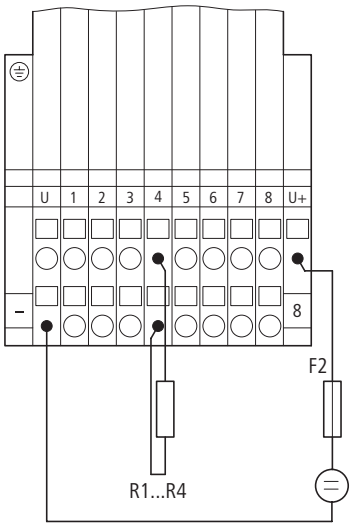




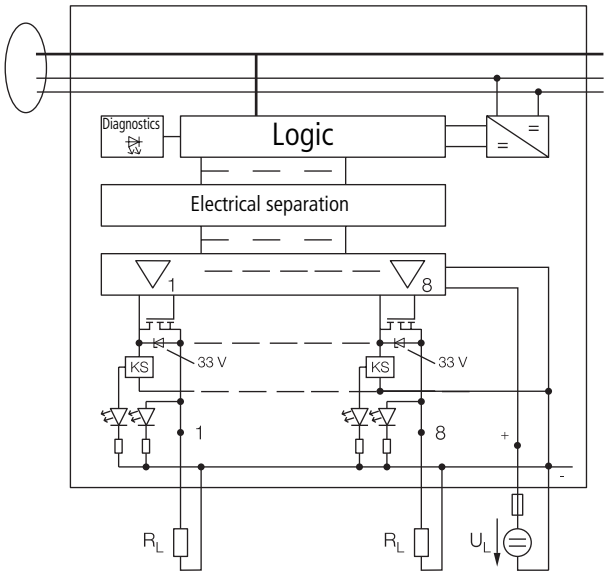
Range	CH1 IN 1A	1B	1C	1D	CH2 IN 2A	2B	2C	2D	CH3 IN 3A	3B	3C	3D	CH4 IN 4A	4B	4C	4D
K	No jumper															
J	⌐															
R	⌐	—														
S	⌐	—	—													
T					⌐											
N	⌐				⌐											
E	⌐	—			⌐											
B	⌐	—	—		⌐											
-80...+80mV					⌐	—										
50 Hz filtering																
60 Hz filtering									⌐							
Wire break on																
Wire break off													⌐			

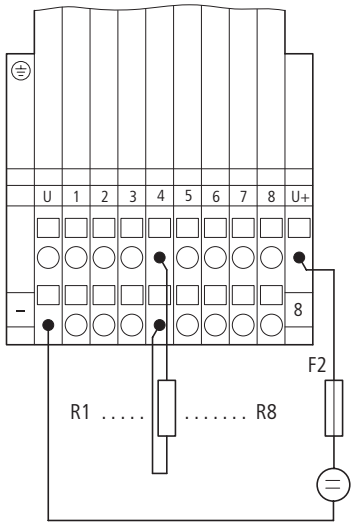
DP-4DO/2.0A-PK



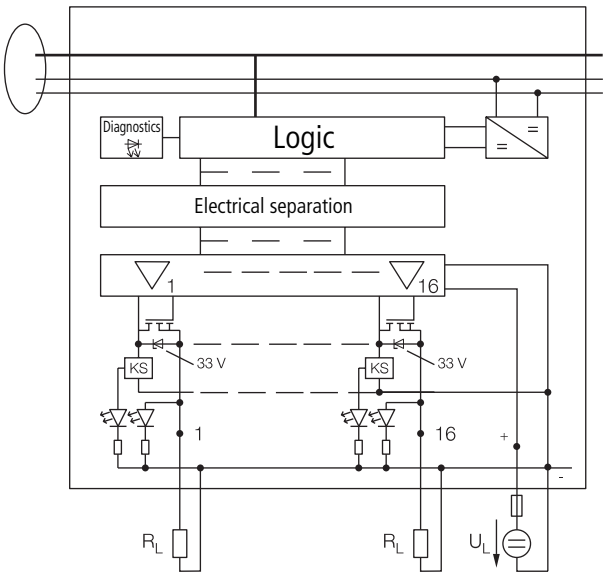


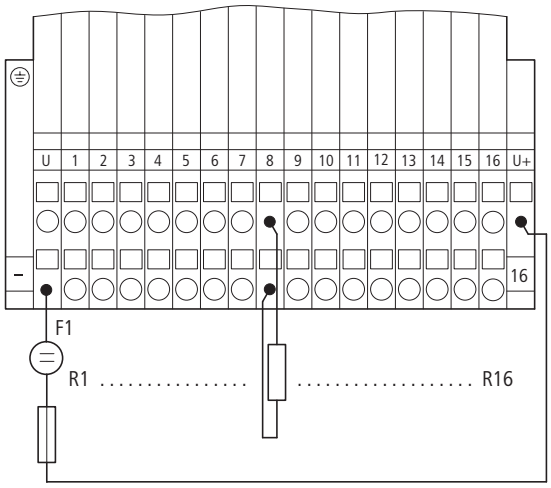
DP-8DO/0.5A-PK



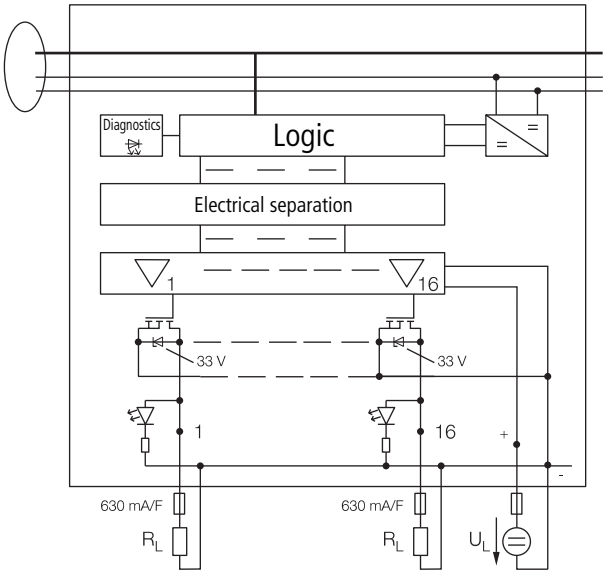


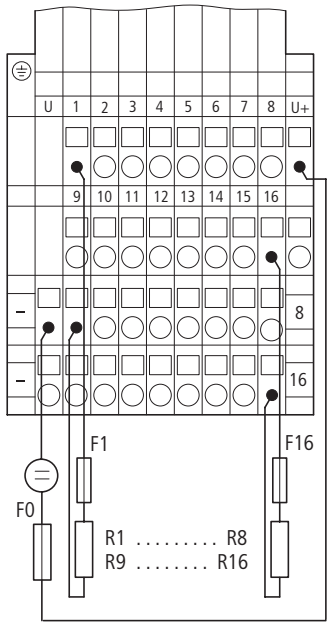
DP-16DO/0.5A-PK





DP-16DO/0.5A-PK-2X8





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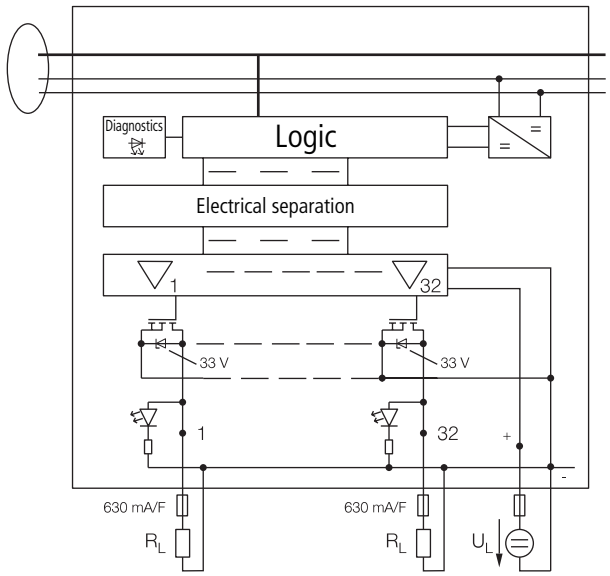
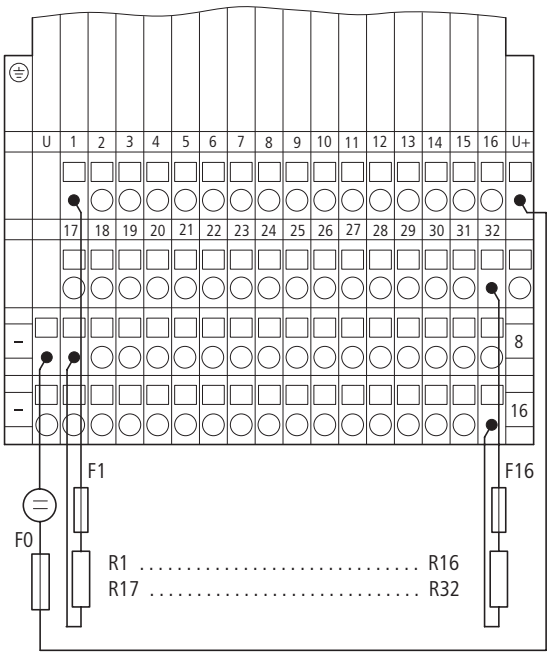
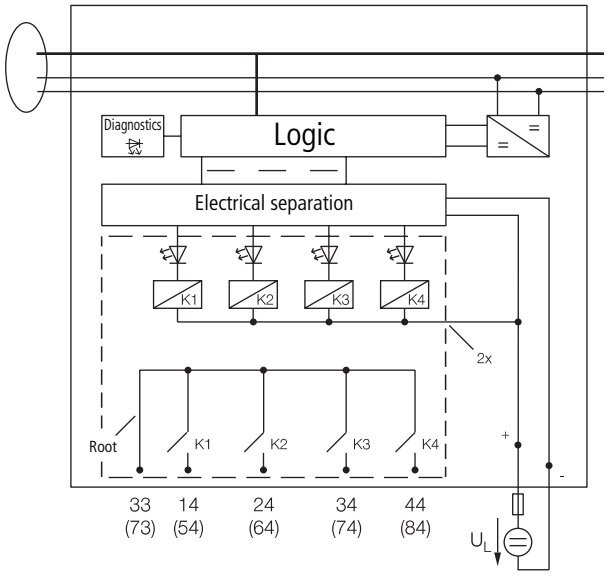
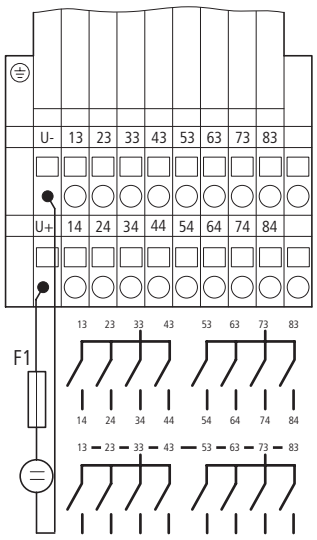
DP-32DO/0.5A-P-2X16



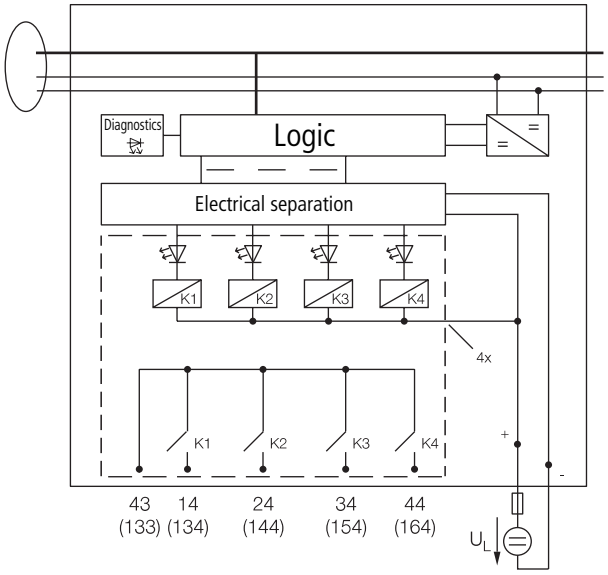


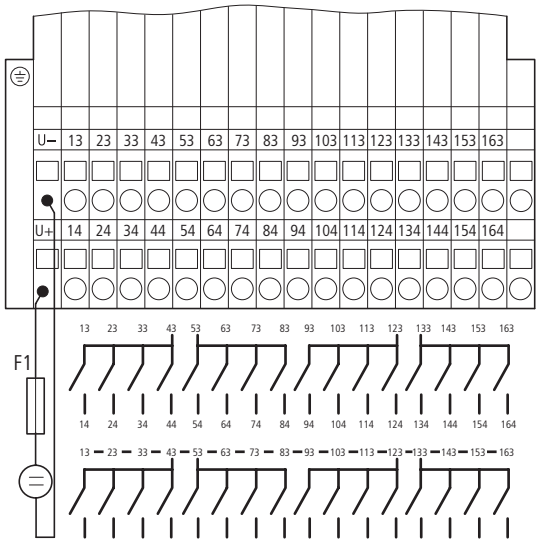
DP-8DO/R-NO



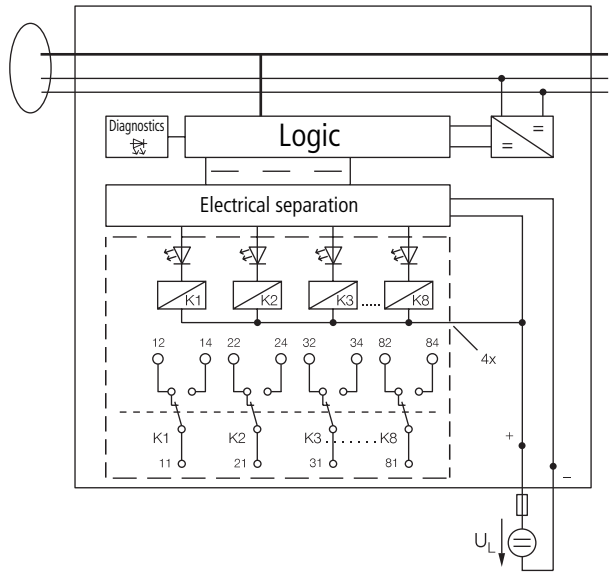


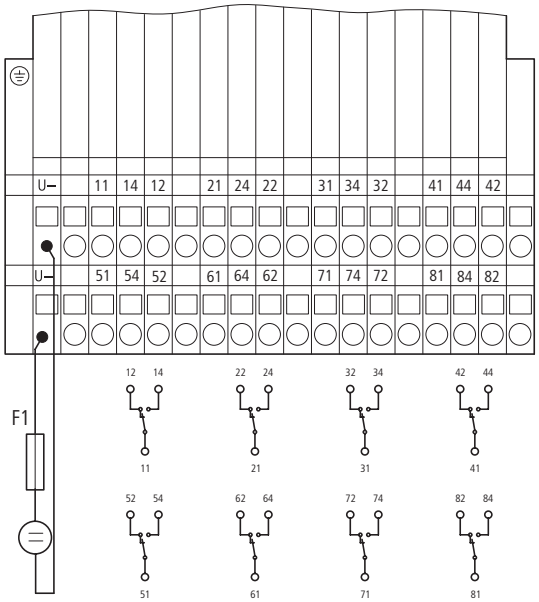
DP-16DO/R-NO



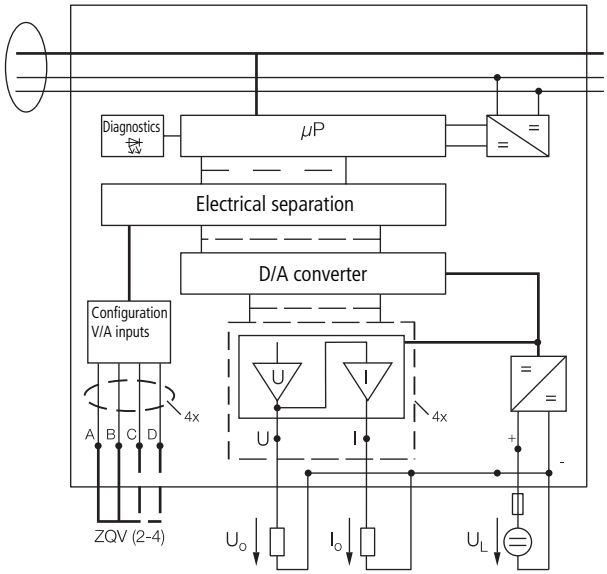


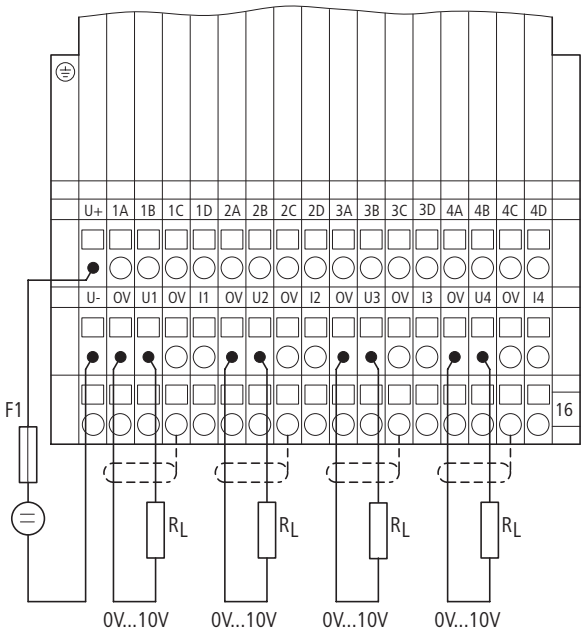
DP-8DO/R-CO





DP-4AO/UI





Range	CH1 1A	1B	1C	1D	CH2 2A	2B	2C	2D	CH3 3A	3B	3C	3D	CH4 4A	4B	4C	4D
0...10V	No jumper															
-10...+10V																
0...20mA																
4...20mA																

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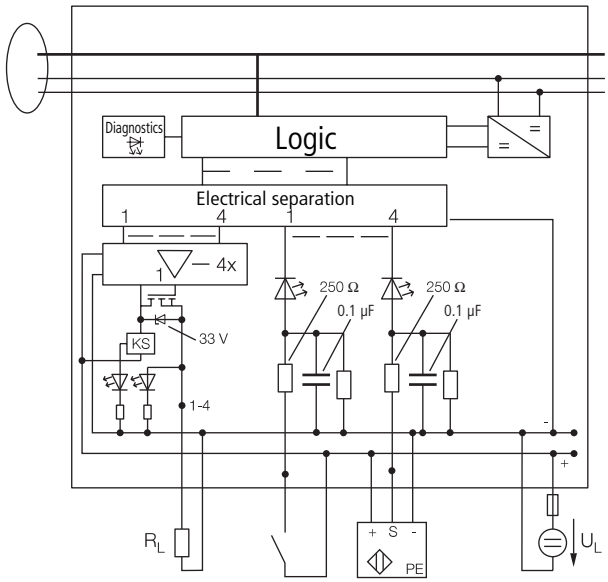
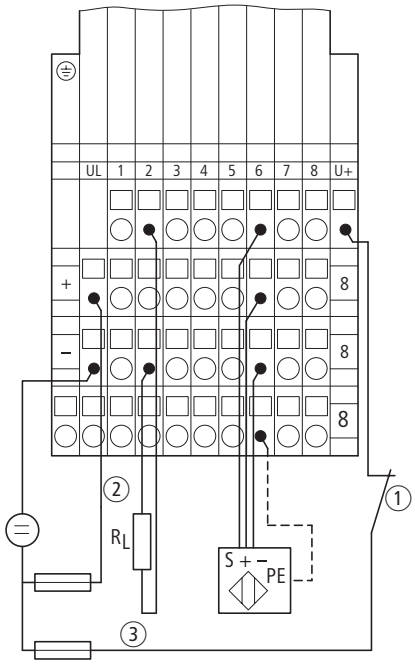
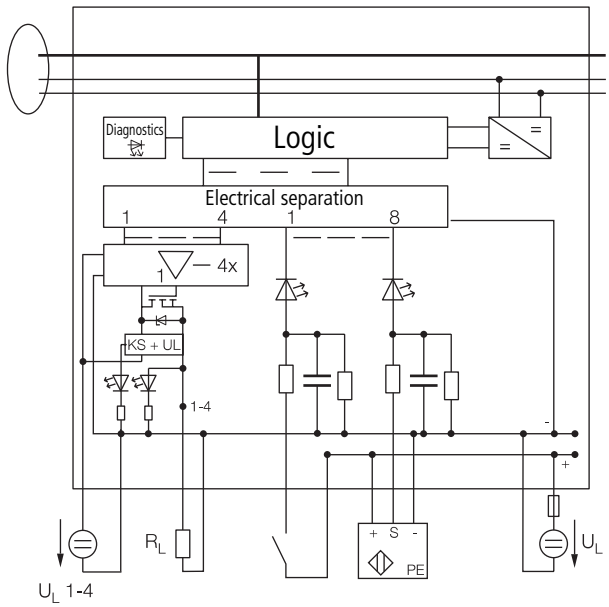
DP-4DI/4DO/0.5A-PK

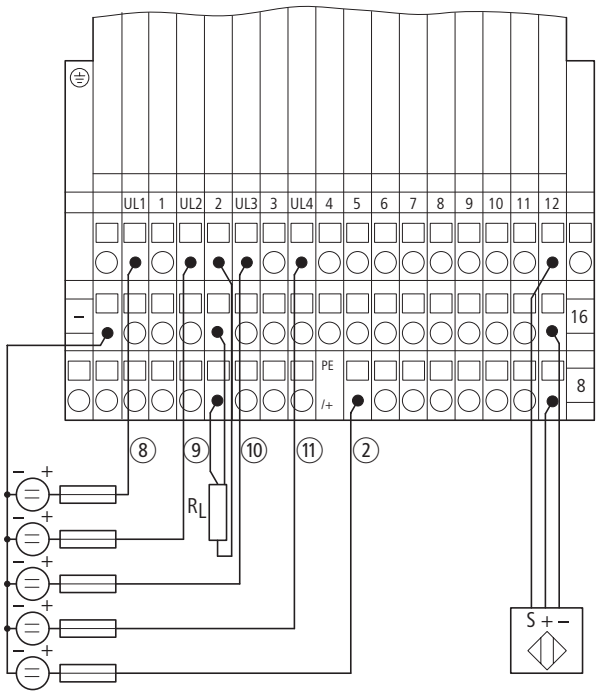




① External disconnection of all outputs
② Supply to inputs
③ Supply to outputs

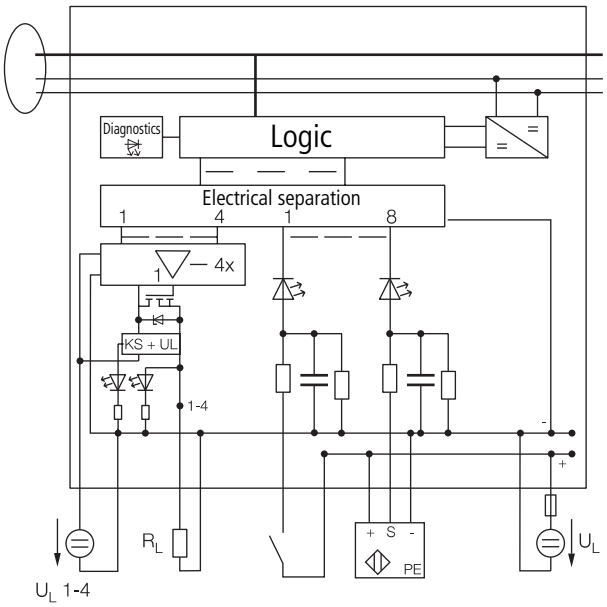
DP-8DI/4DO/0.5A-PK

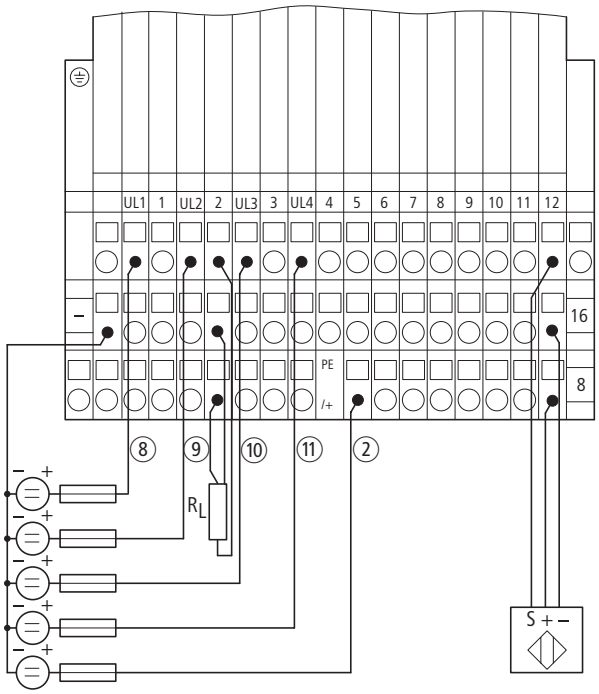




② Supply to inputs
⑧ Supply to output channel 1
⑧ Supply to output channel 2
⑧ Supply to output channel 3
⑧ Supply to output channel 4

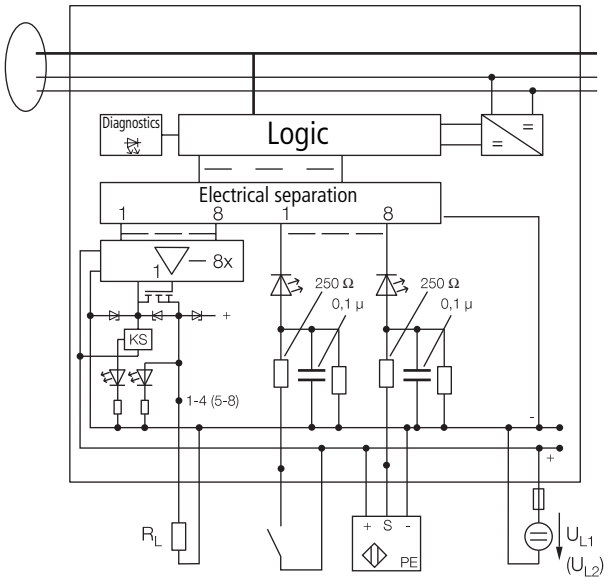
DP-8DI/4DO/2.0A-PK

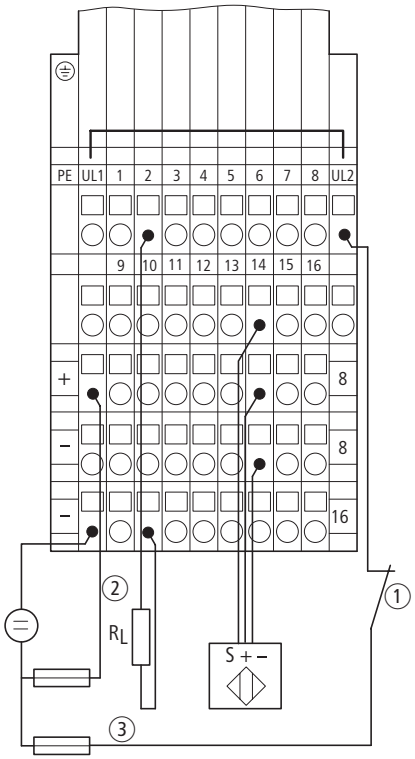




② Supply to inputs
⑧ Supply to output channel 1
⑧ Supply to output channel 2
⑧ Supply to output channel 3
⑧ Supply to output channel 4

DP-8DI/8DO/0.5A-PK





① External disconnection of all outputs
② Supply to inputs
③ Supply to outputs

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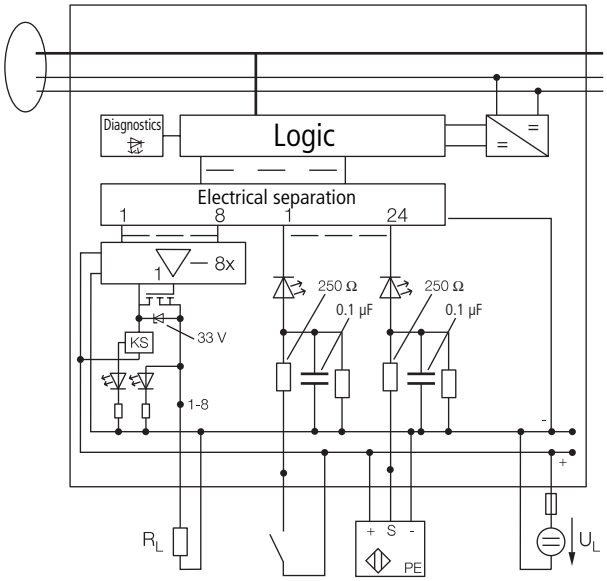
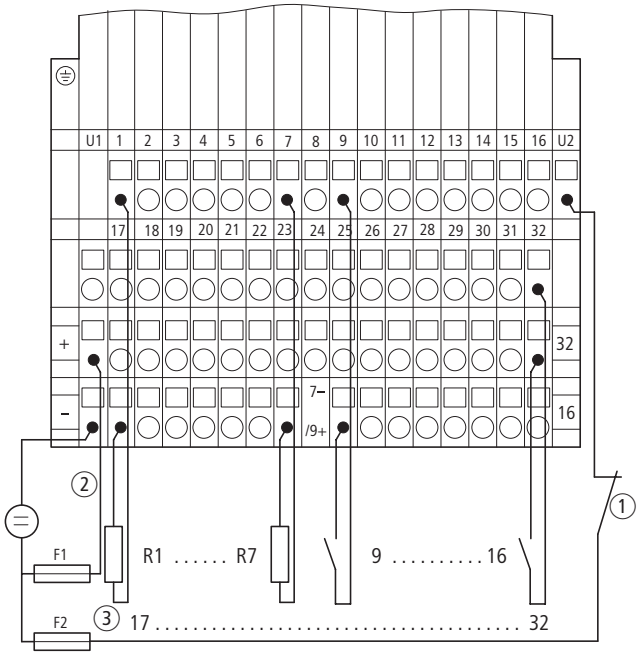
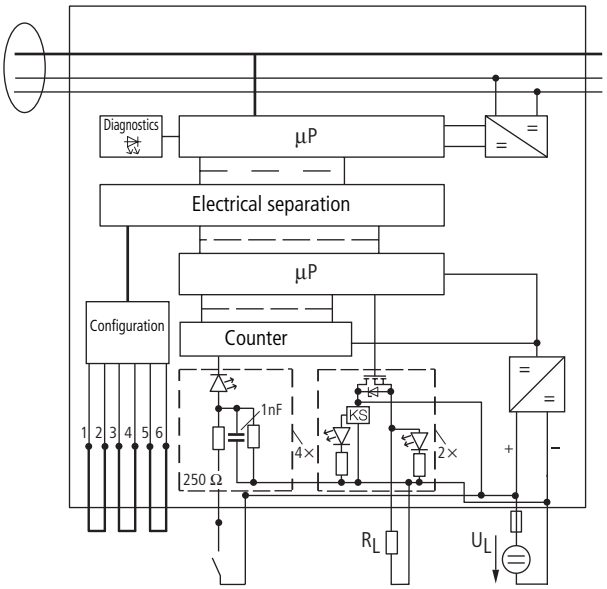
DP-24DI/8DO/0.5A-PK

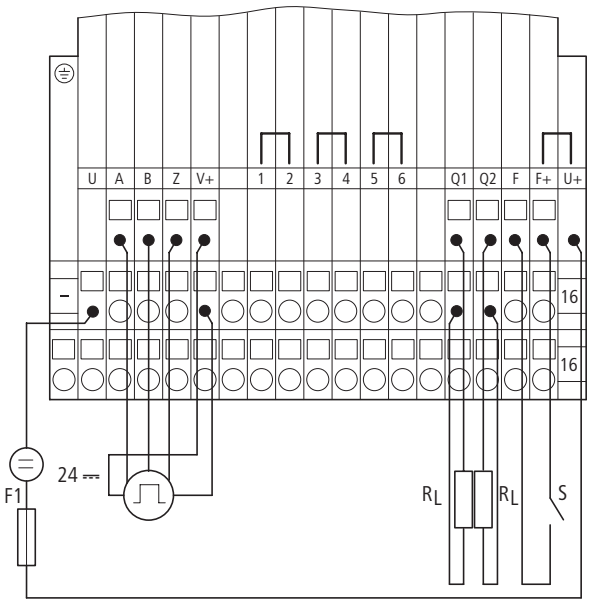




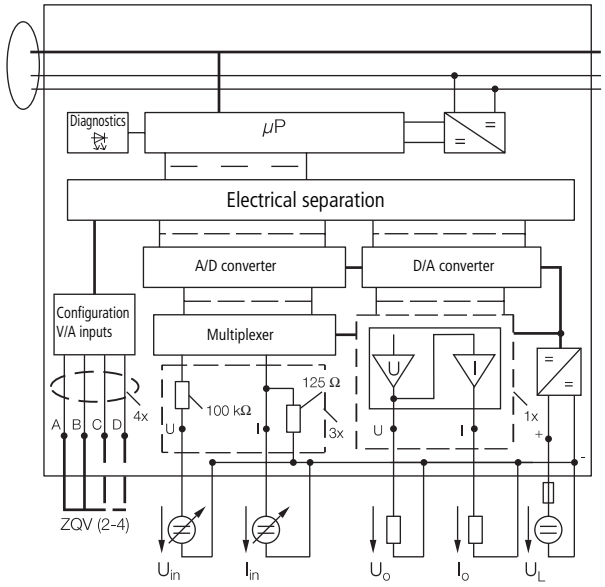
① External disconnection of all outputs
② Supply to inputs
③ Supply to outputs

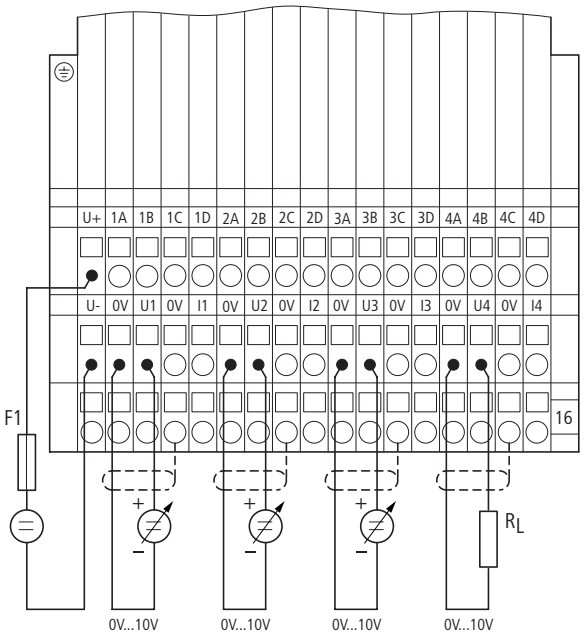
DP-1CNT/24V





DP-3AI/1AO-UI





Range	CH1				CH2				CH3				CH4			
	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V	No jumper															
-10...+10V	⊓				⊓				⊓				⊓			
0...20mA	⊓				⊓				⊓				⊓			
4...20mA	⊓				⊓				⊓				⊓			

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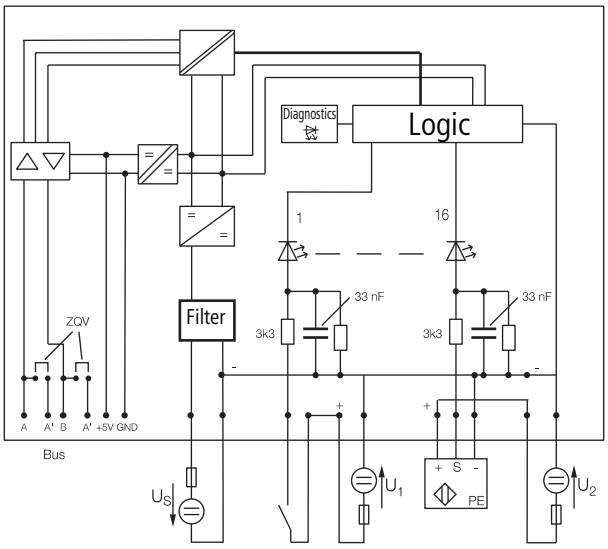
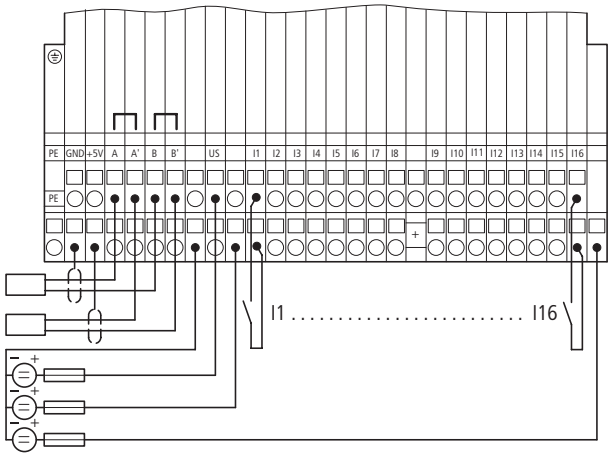
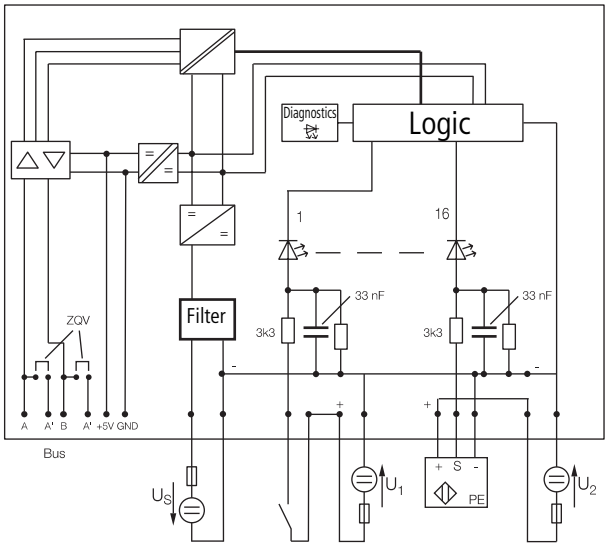
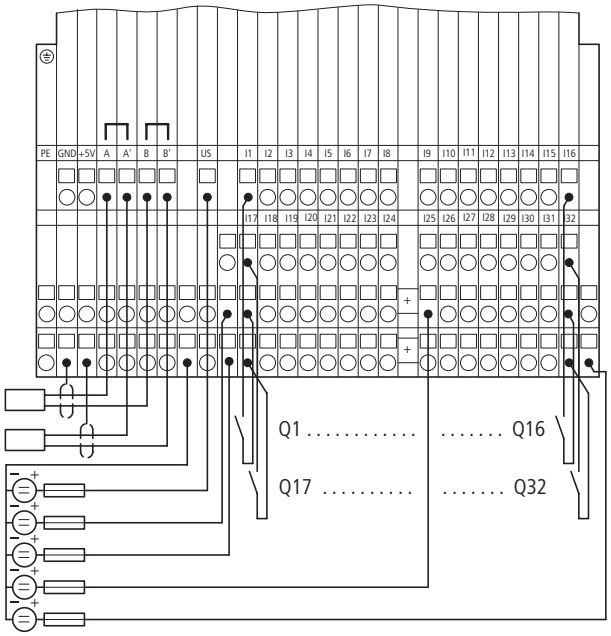
DP-16DI/P-ECO



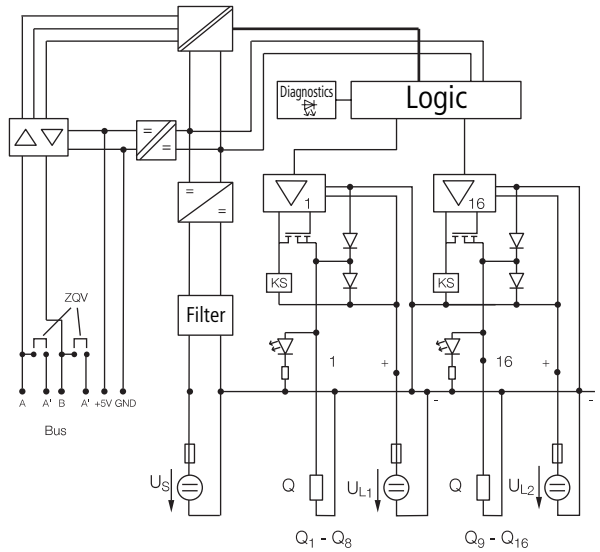


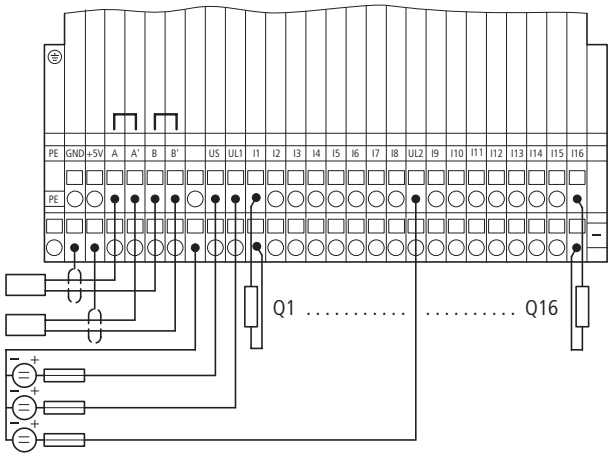
DP-32DI/P-ECO



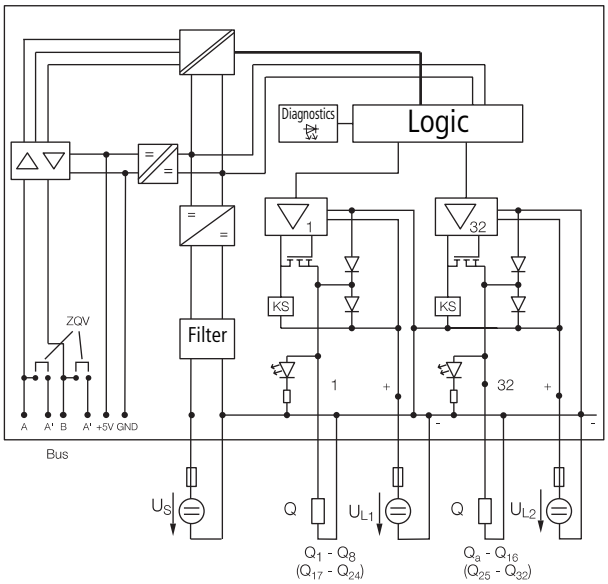


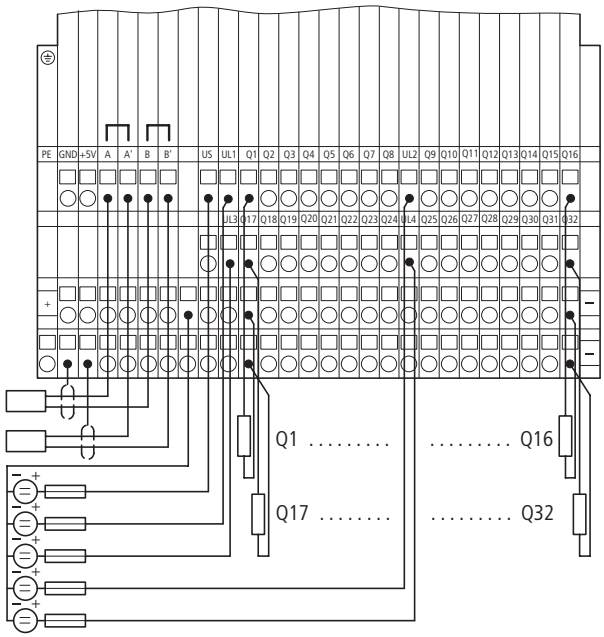
DP-16DO/0.5A-PK-ECO



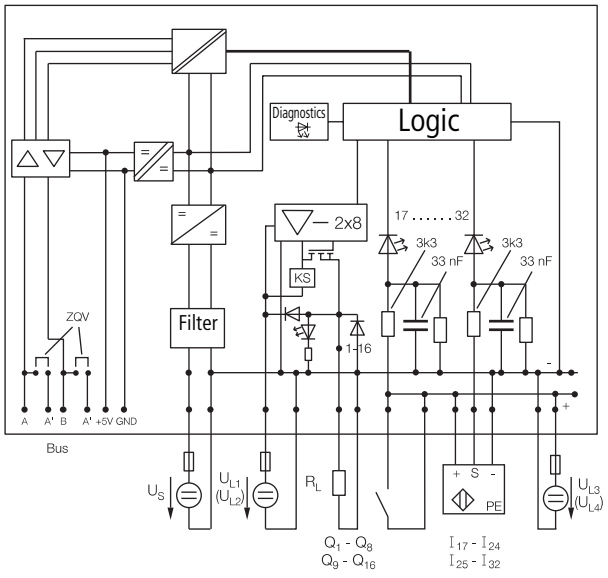


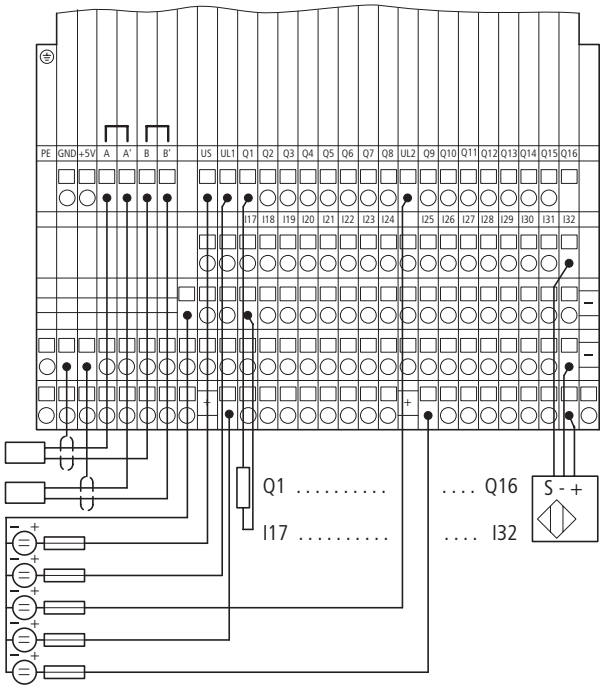
DP-32DO/0.5A-PK-ECO





DP-16DI-P/16DO/0.5A-PK-ECO





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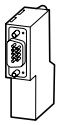
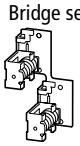
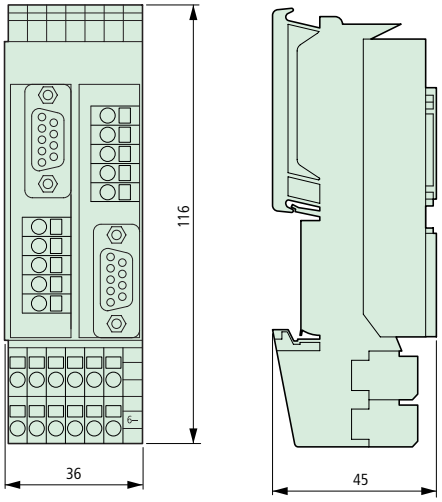
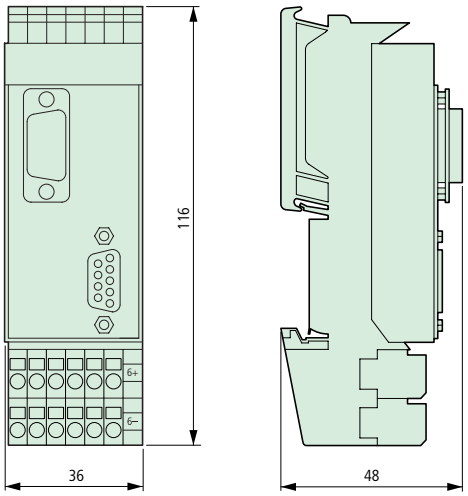
	Description	For use with	Type Article no.	Price See Price List	Std. pack
Accessories					
ERbic PROFIBUS connector 	Without termination resistor (grey)	PROFIBUS	**ERBIC-PB-CONNECTOR/WITHOUT-TERMINAT.** 231005		1 off
	With termination resistor (yellow)		**ERBIC-PB-CONNECTOR/WITH-TERMINATION** 231006		1 off
Software	Service package: DIAMON diagnostics software and service cable for PROFIBUS-DP		**SW-DIAMON-DP-WIN95-NT-KIT** 224161		1 off
	Adapter cable for DIAmon		**DP-DIAMON-ADAPTER** 224162		
	Monitoring/commissioning software for PROFIBUS-DP and CANopen Graphic representation of stations, fault diagnosis, fieldbus communication through various standard interfaces	PROFIBUS CANopen	**CD-SW-DIAMON/DP-WIN95-NT** 224164		
	Service package: DIAmon software, dongle and service cable for CANopen	CANopen	**CAN/DIAMON-KIT** 224222		
End bracket 	For fixing the sides of the modules to the mounting rails	PROFIBUS PROFIBUS eco CANopen	**WEW-35/2** 224107		50 off
Screen connection	Fo analog modules	PROFIBUS PROFIBUS eco CANopen	**KLBU-4-6Z** 224141		10 off
End plate, separate 	With terminating resistor Included in package for PB-DP-BRIDGE and DP-BRIDGE/12MB.	PROFIBUS	**ZAP-MA/2S** 224124		25 off
	Included in package for CAN-BRIDGE.	CANopen	**ZAP-ZSB1.5/2S** 224125		25 off
Bridge section 	Screen connection for direct bus connection	PROFIBUS CANopen	**SCH-1-WINBLOC** 224089		1 off
Termination resistor	Set WINbloc eco (1 × ZBW-6, 2 × DP-ASW)	PROFIBUS eco	**DP-ECO-ASW-SET** 224157		1 off
Termination resistor	–		**DP-ASW** 224156		
Fitting tool	–		**ZBW-6** 224123		

BRIDGES

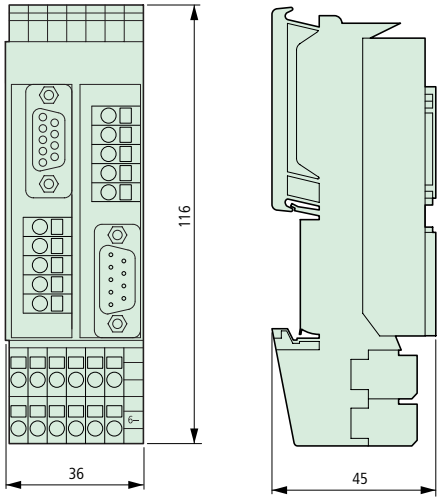
PB-DP-BRIDGE



DP-BRIDGE/12MB



CAN-BRIDGE



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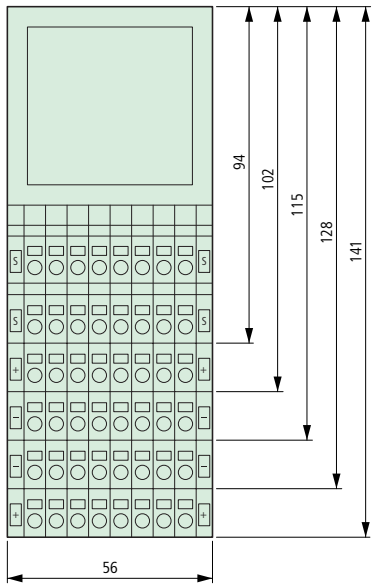
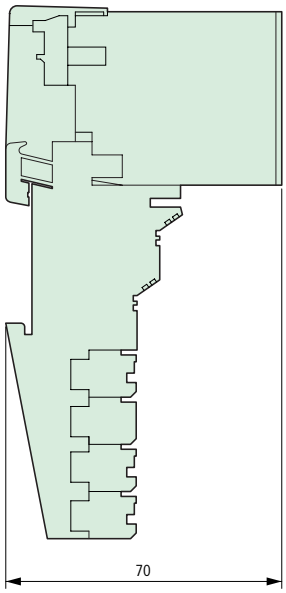
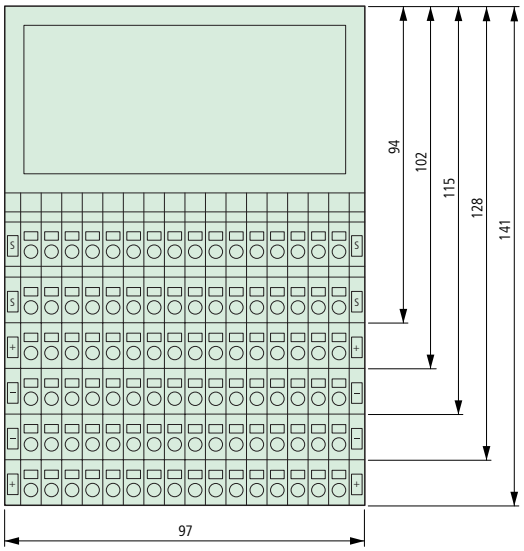
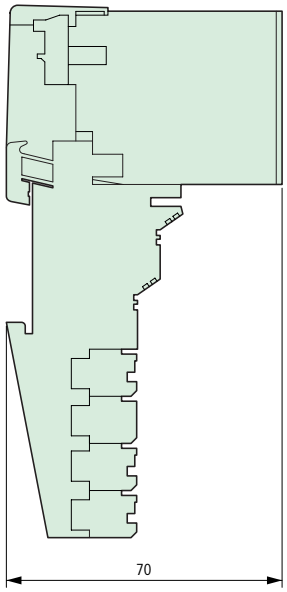
WINbloc base module

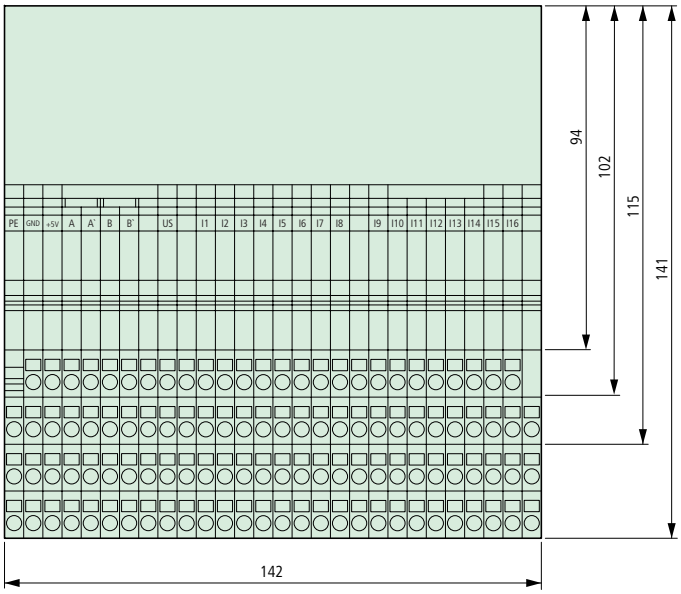


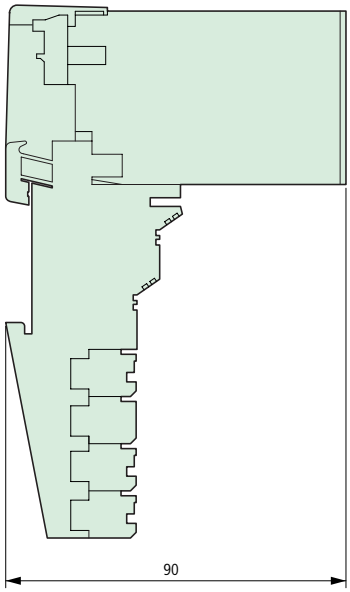






WINbloc PROFIBUS eco





XC600

XC-CPU-601

In view of their high processing speed, the XC600 series controllers are particularly suited to applications with great data and program volumes.

Memory card:
CF

Expandability:
Maximum 74 XION slice modules

OPC server

Further interfaces:
RS232, USB, Ethernet

XC-CPU601-E1M
Program memory: 1 MByte
Data memory: 1 MByte

XC-CPU601-E2M
Program memory: 2 MByte
Data memory: 1 MByte

XC-CPU601-E4M
Program memory: 4 MByte
Data memory: 1 MByte

XC-CPU601-E4M-XV
Program memory: 4 MByte
Data memory: 1 MByte
Integrated WEB server

XC-ADP
Base module

XC-ADP-XION
Base module for local XION connection

XC-POW-50-UPS
Power supply module

XC-POW-50-XION-UPS
Power supply module for local XIOC connection

XC-SYS1
Operator unit with display, slot for Compact Flash, real-time clock, battery connector

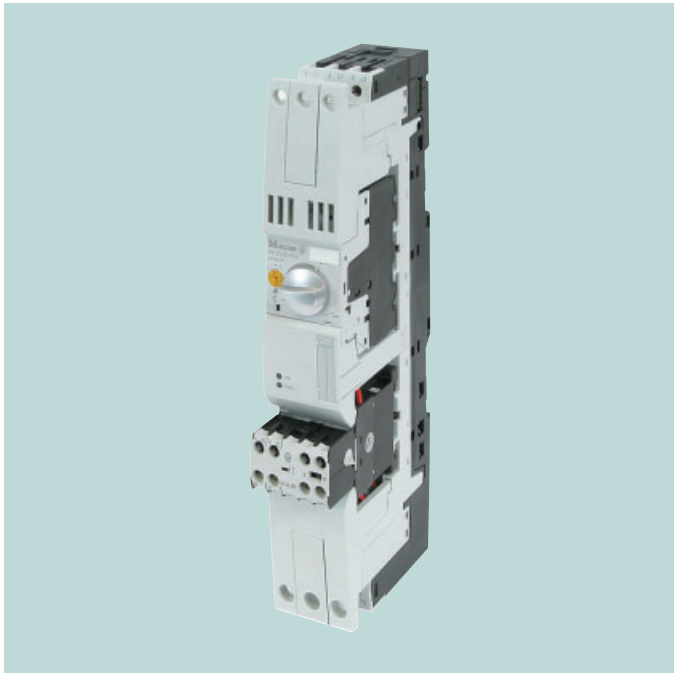
XC-NET-CAN
CAN master, max. 1 MBaud

XC-NET-DP-M
PROFIBUS-DP master, max. 12 MBaud

XC600 the high-performance PLC
Modern automation concepts demand up-to-date automation equipment. In addition to speed and the capability of processing large volumes of data, the requirement is for direct and high-speed connection to higher level IT structures. XC600 is a modular high-performance controller that combines the known qualities of a PLC with the latest communication possibilities.

Operator guidance on the screen
The new operating method is unique. Many pieces of information can now be displayed directly on the operator panel screen, without requiring a programming unit. The four-line display gives information about operating status and fault situations in several languages.

High-speed 100 MB Ethernet interface built in
The Ethernet interface can deliver versatility and efficiency in communication, whether you require a simple data exchange between PLCs via global network variables, data transfer to PC applications, linkage to OPC client applications or quick access for programming.



System Description

xStart-XS1 transfers the advantages of the XI/ON concept to industrial-quality motor starters, to enable flexible availability of plant throughout all systems. The XI/ON gateway provides openness and independence from the fieldbus.
Installation is quick and easy: the base modules are simply snapped on and slid into place to make the connections. No additional wiring is necessary. The power modules are pluggable and convenient and simple to service. In addition, the object-oriented properties keep the engineering times and costs low.
AS a direct and reversing starter, xStart-XS1 meets the requirements of the IEC/EN 60947-4-1 standard for industrial switchgear.

Features

xStart-XS1 currently offers motor starters in the following versions:

- Standard
  - Direct starter with/without AGM (trip indicator signal)
  - Reverse starter with/without AGM
  - Unambiguous switch position indication through rotary handle
  - The isolating properties in the 0 position are fulfilled.
  - Type-tested motor-starter combinations with AC-3 up to 415 V
  - xStart-XS1 reliably disconnects even high short-circuit currents, avoiding danger to both people and equipment.
  - The power modules are fitted directly onto the base module and each have one power and one status and diagnostics LED.
  - Power distribution up to 63 A is through three-phase commoning links.
  - Depending on the application, I/O modules can be added to the row before or after the xStart-XS1.
- Safety engineering
  - EMERGENCY STOP disconnection as per IEC/EN 954-1, Switching Category 2
  - Version with positive-action auxiliary contacts
  - Completely wired unit, no additional modules required

Description

DOL starters

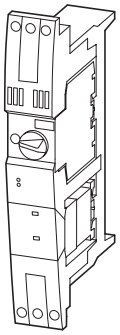
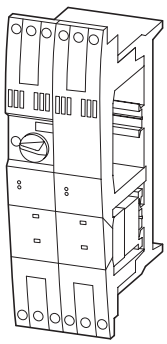
- Available with and without AGM
- For unidirectional drives
- Switch and protect motors from 0.06 kW to 4.0 kW
- Mounting width only 45 mm without AGM and only 90 mm with AGM
- Consists of a motor circuit breaker PKZM and a DILEM power contactor

Reversing starters

- Available with and without AGM
- For bidirectional drives
- Switch and protect motors from 0.06 kW to 4.0 kW
- Mounting width: only 90 mm
- Consists of a motor circuit breaker PKZM and two DILEM power contactors

Notes

Operation of the networkable xStart-XS1 motor starter always requires a gateway XN-GW-... and a control voltage supply XN-BR (bus refreshing module) or an XN-PF (power feeding module).

		Motor data		Setting range		Type Article no.	Price See Price List	Std. pack
		Rated operating power, motor switch AC-3	Rated operating current, AC-3 400 V	Overload releases	Short-circuit trip			
		400 V P kW	I_e A	I_r A	I_{rm} A			
Direct starter, power section								
	Without AGM	0.06	0.21	0.16 – 0.25	3.5	**XS1-DS0-340-K06** 231250		1 off
		0.09	0.31	0.25 – 0.4	5.6	**XS1-DS0-340-K09** 231251		
		0.18	0.6	0.4 – 0.63	8.8	**XS1-DS0-340-K18** 231252		
		0.25	0.8	0.6 – 1	14	**XS1-DS0-340-K25** 231254		
		0.55	1.5	1 – 1.6	22	**XS1-DS0-340-K55** 231255		
		0.75	1.9	1.6 – 2.5	35	**XS1-DS0-340-K75** 231256		
		1.5	3.6	2.5 – 4	56	**XS1-DS0-340-1K5** 231257		
		2.2	5	4 – 6.3	88	**XS1-DS0-340-2K2** 231258		
		3	6.6	6.3 – 10	140	**XS1-DS0-340-3K0** 265682		
		4	8.5	6.3 – 10	140	**XS1-DS0-340-4K0** 265683		
	With AGM	0.06	0.21	0.16 – 0.25	3.5	**XS1-DS0-341-K06** 231520		
		0.09	0.32	0.25 – 0.4	5.6	**XS1-DS0-341-K09** 231521		
		0.18	0.6	0.4 – 0.63	8.8	**XS1-DS0-341-K18** 231522		
		25	0.8	0.6 – 1	14	**XS1-DS0-341-K25** 231523		
		0.55	1.5	1 – 1.6	22	**XS1-DS0-341-K55** 231524		
		0.75	1.9	1.6 – 2.5	35	**XS1-DS0-341-K75** 231525		
		1.5	3.6	2.5 – 4	56	**XS1-DS0-341-1K5** 231526		
		2.2	5	4 – 6.3	88	**XS1-DS0-341-2K2** 231527		
		3	6.6	6.3 – 10	140	**XS1-DS0-341-3K0** 265684		
		4	8.5	6.3 – 10	140	**XS1-DS0-341-4K0** 265685		

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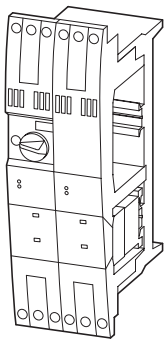
		Motor data		Setting range		Type Article no.	Price See Price List	Std. pack
		Rated operating power, motor switch AC-3	Rated operating current, AC-3 400 V	Overload releases	Short-circuit trip			
		400 V P kW	I_e A	I_r A	I_{rm} A			
Reversing starter, power section								
	Without AGM	0.06	0.21	0.16 – 0.25	3.5	**XS1-RS0-340-K06** 231259		1 off
		0.09	0.31	0.25 – 0.4	5.6	**XS1-RS0-340-K09** 231260		
		0.18	0.6	0.4 – 0.63	8.8	**XS1-RS0-340-K18** 231261		
		0.25	0.8	0.6 – 1	14	**XS1-RS0-340-K25** 231262		
		0.55	1.5	1 – 1.6	22	**XS1-RS0-340-K55** 231263		
		0.75	1.9	1.6 – 2.5	35	**XS1-RS0-340-K75** 231264		
		1.5	3.6	2.5 – 4	56	**XS1-RS0-340-1K5** 231265		
		2.2	5	4 – 6.3	88	**XS1-RS0-340-2K2** 231266		
		3	6.6	6.3 – 10	140	**XS1-RS0-340-3K0** 265686		
		4	8.5	6.3 – 10	140	**XS1-RS0-340-4K0** 265687		
	With AGM	0.06	0.21	0.16 – 0.25	3.5	**XS1-RS0-341-K06** 231528		
		0.09	0.32	0.25 – 0.4	5.6	**XS1-RS0-341-K09** 231529		
		0.18	0.6	0.4 – 0.63	8.8	**XS1-RS0-341-K18** 231530		
		0.25	0.8	0.6 – 1	14	**XS1-RS0-341-K25** 231531		
		0.55	1.5	1 – 1.6	22	**XS1-RS0-341-K55** 231532		
		0.75	1.9	1.6 – 2.5	35	**XS1-RS0-341-K75** 231533		
		1.5	3.6	2.5 – 4	56	**XS1-RS0-341-1K5** 231534		
		2.2	5	4 – 6.3	88	**XS1-RS0-341-2K2** 231535		
		3	6.6	6.3 – 10	140	**XS1-RS0-341-3K0** 265688		
		4	8.5	6.3 – 10	140	**XS1-RS0-341-4K0** 265690		

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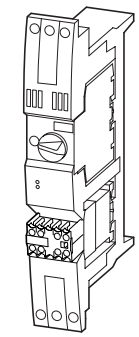
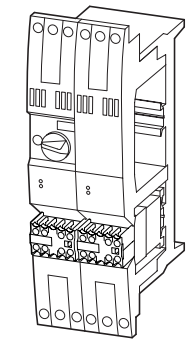
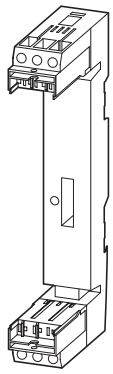
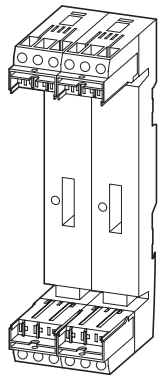
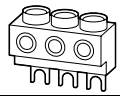
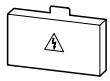
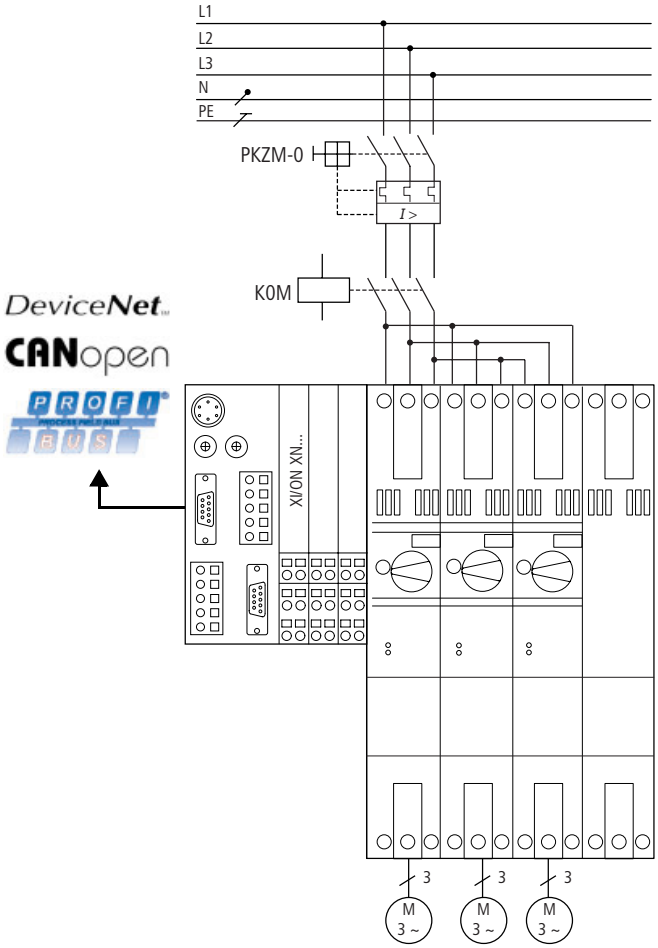
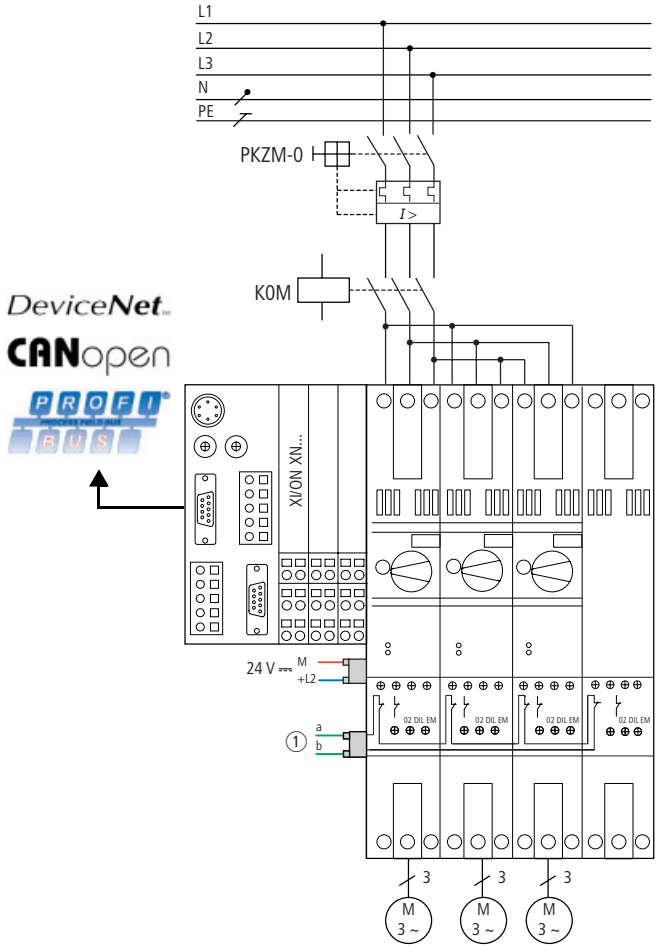
		Motor data Rated operating power, motor switch AC-3 400 V P kW	Rated operating current, AC-3 400 V I_e A	Setting range Overload trip I_r A	Short-circuit trip I_{rm} A	**Type** Article no.	**Price** See Price List	Std. pack
Direct starter, power section								
	Without AGM	0.06	0.21	0.16 – 0.25	3.5	**XS1-DS1-340-K06** 274225		1 off
		0.09	0.31	0.25 – 0.4	5.6	**XS1-DS1-340-K09** 274226		
		0.18	0.6	0.4 – 0.63	8.8	**XS1-DS1-340-K18** 274228		
		0.25	0.8	0.6 – 1	14	**XS1-DS1-340-K25** 274229		
		0.55	1.5	1 – 1.6	22	**XS1-DS1-340-K55** 274250		
		0.75	1.9	1.6 – 2.5	35	**XS1-DS1-340-K75** 274252		
		1.5	3.6	2.5 – 4	56	**XS1-DS1-340-1K5** 274253		
		2.2	5	4 – 6.3	88	**XS1-DS1-340-2K2** 274254		
		3	6.6	6.3 – 10	140	**XS1-DS1-340-3K0** 274256		
		4	8.5	6.3 – 10	140	**XS1-DS1-340-4K0** 274257		
Reversing starter, power section								
	Without AGM	0.06	0.21	0.16 – 0.25	3.5	**XS1-RS1-340-K06** 274260		1 off
		0.09	0.31	0.25 – 0.4	5.6	**XS1-RS1-340-K09** 274261		
		0.18	0.6	0.4 – 0.63	8.8	**XS1-RS1-340-K18** 274262		
		0.25	0.8	0.6 – 1	14	**XS1-RS1-340-K25** 274263		
		0.55	1.5	1 – 1.6	22	**XS1-RS1-340-K55** 274264		
		0.75	1.9	1.6 – 2.5	35	**XS1-RS1-340-K75** 274265		
		1.5	3.6	2.5 – 4	56	**XS1-RS1-340-1K5** 274266		
		2.2	5	4 – 6.3	88	**XS1-RS1-340-2K2** 274267		
		3	6.6	6.3 – 10	140	**XS1-RS1-340-3K0** 274268		
		4	8.5	6.3 – 10	140	**XS1-RS1-340-4K0** 274269		
	With AGM	0.06	0.21	0.16 – 0.25	3.5	**XS1-RS1-341-K06** 274270		
		0.09	0.31	0.25 – 0.4	5.6	**XS1-RS1-341-K09** 274271		
		0.18	0.6	0.4 – 0.63	8.8	**XS1-RS1-341-K18** 274272		
		0.25	0.8	0.6 – 1	14	**XS1-RS1-341-K25** 274273		
		0.55	1.5	1 – 1.6	22	**XS1-RS1-341-K55** 274274		
		0.75	1.9	1.6 – 2.5	35	**XS1-RS1-341-K75** 274275		
		1.5	3.6	2.5 – 4	56	**XS1-RS1-341-1K5** 274276		
		2.2	5	4 – 6.3	88	**XS1-RS1-341-2K2** 274277		
		3	6.6	6.3 – 10	140	**XS1-RS1-341-3K0** 274278		
		4	8.5	6.3 – 10	140	**XS1-RS1-341-4K0** 274279		

		Description	Type Article no.	Price See Price List	Std. pack
Base modules					
	For DOL starters without AGM	–	**XS1-XBMS-DS0-A** 231267		1 off
	For direct starters without AGM – Safety engineering –	–	**XS1-XBMS-DS1-A** 274258		1 off
	For DOL starters with AGM and for reversing starters with/without AGM	–	**XS1-XBMS-RS0-A** 231268		1 off
	For direct starters with AGM, and for reversing starters with/without AGM – Safety engineering –	–	**XS1-XBMS-RS1-A** 274280		1 off
Accessories					
	3-phase busbar block	Contact-protected, U_e = 690 V, I_u = 63 A Can be extended by angled mounting Length 90 mm	**B3.0/2-PKZ0** 063961		10 off
	3-phase busbar block	Contact-protected, U_e = 690 V, I_u = 63 A Can be extended by angled mounting Length 180 mm	**B3.0/4-PKZ0** 063960		10 off
	Incoming terminal	For 3-phase busbar block Contact-protected, U_e = 690 V, I_u = 63 A	**BK25/3-PKZ0** 032720		5 off
	Shroud for unused terminals	Protection against direct contact. To cover unused connections on a 3-phase busbar block	**H-B3-PKZ0** 032721		20 off

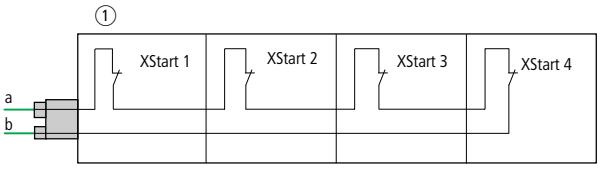
Standard version



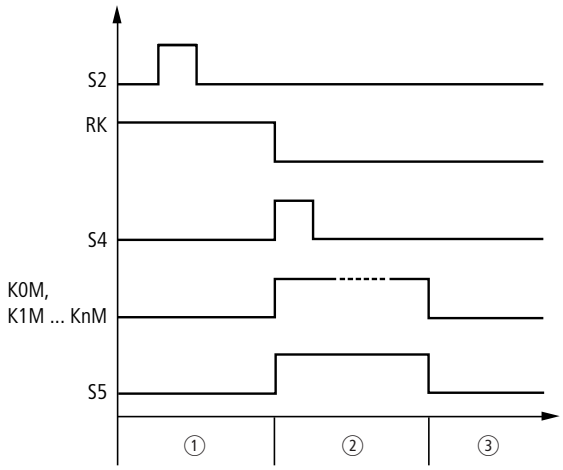
Safety engineering



Signal loop

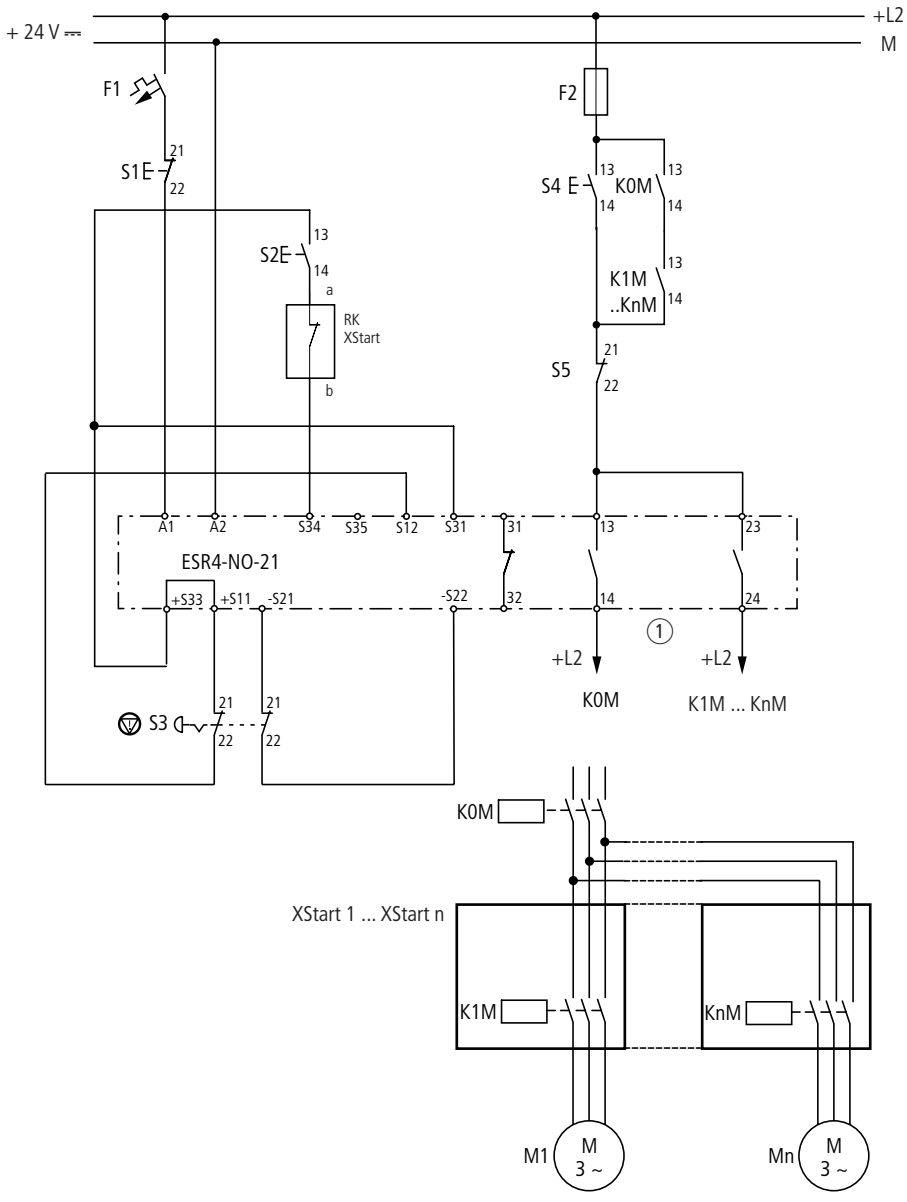


Sequential diagram, xStart-XS1 with safety engineering



① Check contactor status, signal loop of xStart-XS1
② Switch ON command
③ Switch OFF command

xStart-XS1 with safety engineering and ESR4 safety relay



RK:	Signal loop
S1:	OFF
S2:	ON
S3:	Emergency-stop
S4:	Start
S5:	Stop
K0M:	Group contactor
K1M..KnM:	xStart-XS1 modules

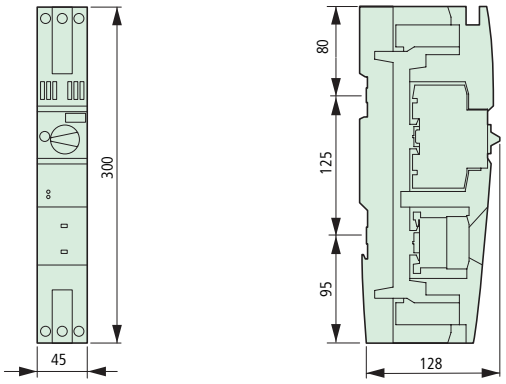
Moeller HPL0213-2004/2005

			DOL starters	Reversing starters	Base modules
General					
Standards			IEC/EN 60947-1 and IEC/EN 60947-4-1 EN 50081-1, EN 50082-2		
Radio interference suppression (EN 55011)			Yes	Yes	Yes
Limit class			B	B	B
Degree of protection			IP20	IP20	IP20
Overvoltage category/pollution degree			III/3	III/3	III/3
Climatic proofing			Humid warmth, constant as per IEC 60068-2-3		
Ambient temperature					
Storage		°C	-25/70	-25/70	-25/70
Operation		°C	0 – 55	0 – 55	0 – 55
Half-sinusoidal shock 20 ms to IEC 60068-2-27		g	8	8	8
Mounting position			Vertical or horizontal		
Top-hat rail spacing (centers) (vertical: xStart rotated 90° to left)			125 mm	125 mm	125 mm
Main circuit					
Rated operating voltage	U_e	V AC	415, AC-3	415, AC-3	415, AC-3
Rated insulation voltage	U_i	V	690	690	690
Rated operational current of three-phase block	I_e	A	63	63	63
Assignment type					
Up to 1.6 A			2	2	–
Up to 10 A			1	1	–
Motor starting current		A	max. 70	max. 70	–
Auxiliary circuit					
Rated operating voltage	U_e	V DC	24	24	24
Terminal capacity					
Incoming terminal					
Stranded		mm^2	2.5 – 25	2.5 – 25	2.5 – 25
Flexible with ferrule		mm^2	2.5 – 16	2.5 – 16	2.5 – 16
Motor connection					
Solid		mm^2	1 × (1 – 6) 2 × (1 – 2.5)	1 × (1 – 6) 2 × (1 – 2.5)	1 × (1 – 6) 2 × (1 – 2.5)
Flexible with ferrule		mm^2	1 × (1 – 4) 2 × (1 – 2.5)	1 × (1 – 4) 2 × (1 – 2.5)	1 × (1 – 4) 2 × (1 – 2.5)

Standard

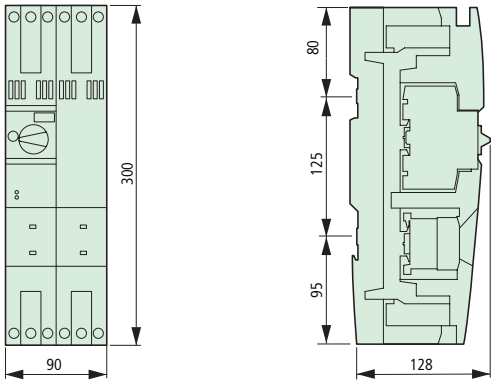
DOL starters

XS1-DS0-340-...
XS1-DS0-341-...



Reversing starters

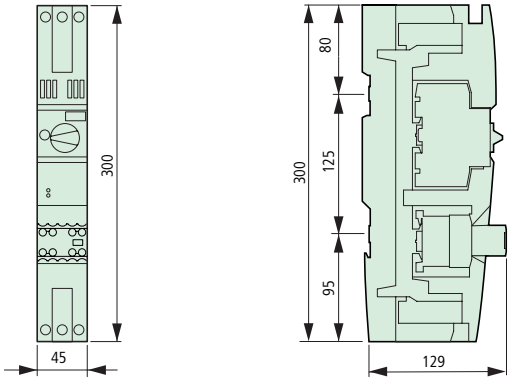
XS1-RS0-340-...
XS1-RS0-341-...



Safety engineering

DOL starters

XS1-DS1-340-...



Reversing starters

XS1-RS1-340-...
XS1-RS1-341-...