

Automation Catalogue
2006/2007

Future-Proof Automation with **xSystem**

With
xSystem

Micro Innovation AG
offers you a perfectly
matched product
range for control
and visualization
solutions.

xSystemV



xSystemN



micro innovation
A MOELLER  Company

INNOVATION IN AUTOMATION

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The information provided in this brochure may not always apply in the described form in actual applications or may change slightly as a result of further developments of the products.
An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

Subject to availability and technical modifications.

Automation Catalogue 2006/2007

xSystem

Automation and visualization



1 HMI and HMI-PLC
XV200 XVH300
XV400 XVC600
XVS400 XVC100



2 Remote I/O XI/ON



3 Remote I/O WINbloc

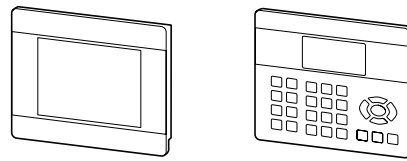


4 Software
GALILEO MXpro
GALILEO OPEN Additional software
EPAM

Information



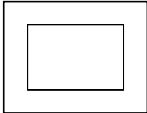
5 International sales offices, services



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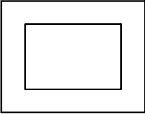
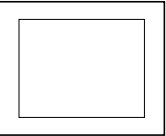
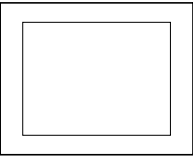




Display	Version front	Screen diagonal Inch	Display area mm	Resolution Pixels	Communication interface	Type Order No.	Price See price sheet	Std. pack
XV200 Processor RISC CPU, 32-bit, 200 MHz OS, program und data memory 32 MB Display: 5.7" FSTN-LCD (monochrome display), 256 grayscales or 5.7" CSTN-LCD (color display), 256 colors Integrated interfaces depending on type: Ethernet, USB Device, communication interface(s) Software: Visualization = GALILEO, PLC = <i>MXpro</i> Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options and PLC functionality → Licensing. WinCE license required → Accessories. Compact Flash™ required → Accessories.								
 Resistive touch, 5.7" FSTN-LCD (monochrome display), 256 grayscales	Standard film	5.7	115 × 86	320 x 240	CAN	XV-230-57CNN-1-10 85 28 200010		1 off
	Standard film	5.7	115 × 86	320 x 240	Profibus ¹⁾	XV-230-57MPN-1-10 85 28 200050		
	Standard film	5.7	115 × 86	320 x 240	RS232	XV-232-57BAS-1-10 85 28 200000		
	Standard film	5.7	115 × 86	320 x 240	CAN, RS232	XV-252-57CNN-1-10 85 28 200510		
	Standard film	5.7	115 × 86	320 x 240	Profibus ¹⁾ , RS232	XV-252-57MPN-1-10 85 28 200550		

Notes: 1) Possible protocols via Profibus: MPI, PPI, DP master

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Display	Version front	Screen diagonal	Display area	Resolution	Slots for communication modules	Type Order No.	Price See price sheet	Std. pack
		Inch	mm	Pixels	Number			
XV400 Processor RISC CPU, 32-bit, 400 MHz OS, program und data memory 64 MB Display: 5.7" CSTN-LCD (color), 256 colors; 10.4"/12.1" TFT-LCD (color), adjustable: 65536 or 256 colors Integrated interfaces: Ethernet, RS 232, CAN, USB Host, USB Device Communication slots for communication modules Software: Visualization = GALILEO or EPAM ¹⁾ , PLC = MX ^{pro} Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options and PLC functionality → Licensing. WinCE license required → Accessories. Compact Flash TM required → Accessories.								
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	5.7	115 × 86	320 × 240	1	XV-442-57CQB-1-10 85 17 200110	1 off
		Brushed satin finished stainless steel ²⁾	5.7	115 × 86	320 × 240	1	XV-442-57CQB-1-50 85 17 200280	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	5.7	115 × 86	320 × 240	1	XV-432-57CQB-1-10 85 17 200010	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	10.4	211 × 158	640 × 480	2	XV-440-10TVB-1-10 85 17 200400	
		Brushed satin finished stainless steel ³⁾	10.4	211 × 158	640 × 480	2	XV-440-10TVB-1-50 85 17 200575	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	10.4	211 × 158	640 × 480	2	XV-430-10TVB-1-10 85 17 200300	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	12.1	246 × 185	800 × 600	2	XV-440-12TSB-1-10 85 17 200700	
		Brushed satin finished stainless steel ³⁾	12.1	246 × 185	800 × 600	2	XV-440-12TSB-1-50 85 17 200875	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	12.1	246 × 185	800 × 600	2	XV-430-12TSB-1-10 85 17 200600	

Notes:

- 1) A LIC-HMI-EPAM-STD license product paper is required for operation of EPAM → Licensing.
- 2) Is also approved for IP69K
- 3) Is also approved for II 2G EEx p II IP5x (ATEX 94/9/EC):
 - Zone 1, category 2G (only for mounting in a pressurized housing! Max. permissible pressure: 10 mbar continuous.)
 - Zone 2, category 3G (only for mounting in a pressurized housing! Max. permissible pressure: 10 mbar continuous.)



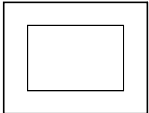


Display	Version front	Screen diagonal Inch	Display area mm	Resolution Pixels	Type Order No.	Price See price sheet	Std. pack
XVS400 Processor RISC CPU, 32-bit, 400 MHz OS, program und data memory 64 MB Display: 5.7" CSTN-LCD (color), 256 colors; 10.4"/12.1" TFT-LCD (color), adjustable: 65536 or 256 colors Integrated interfaces: Ethernet, RS 232, Profibus ¹⁾ (up to 1.5 Mbaud), USB Host, USB Device Software: Visualization = GALILEO or EPAM ²⁾ , PLC = MXpro Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options and PLC functionality → Licensing. WinCE license required → Accessories. Compact Flash TM required → Accessories.							
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	5.7	115 × 86	320 x 240	XVS-440-57MPI-1-10 85 31 200100	1 off
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	5.7	115 × 86	320 x 240	XVS-430-57MPI-1-10 85 31 200000	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	10.4	211 × 158	640 × 480	XVS-440-10MPI-1-10 85 31 200300	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	10.4	211 × 158	640 × 480	XVS-430-10MPI-1-10 85 31 200200	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	12.1	246 × 185	800 × 600	XVS-440-12MPI-1-10 85 31 200500	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	12.1	246 × 185	800 × 600	XVS-430-12MPI-1-10 85 31 200400	

Notes:

- 1) Possible protocols via Profibus: MPI, PPI, DP master
- 2) A LIC-HMI-EPAM-STD license product paper is required for operation of EPAM → Licensing.

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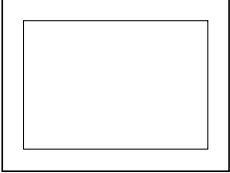
Display	Version front	Screen diagonal	Display area	Resolution	Communication interface	Type Order No.	Price See price sheet	Std. pack
		Inch	mm	Pixels				
XVH300 Processor: RISC CPU, 32-bit, 200 MHz OS, program und data memory 64 MB Display: 5.7" CSTN-LCD (color), 256 colors Integrated interfaces depending on type: Ethernet, USB Device, communication interface(s) Software: Visualization: GALILEO or EPAM ¹⁾ Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options → Licensing. WinCE license required → Accessories. Compact Flash TM required → Accessories.								
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	5.7	115 × 86	320 x 240	CAN	XVH-340-57CAN-1-10 85 16 200610	1 off
		Standard film	5.7	115 × 86	320 x 240	Suconet K, RS 232	XVH-342-57SKS-1-10 85 16 200950	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	5.7	115 × 86	320 x 240	CAN	XVH-330-57CAN-1-10 85 16 200110	

Notes:

1) A LIC-HMI-EPAM-STD license product paper is required for operation of EPAM → Licensing.



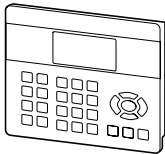


Display	Screen diagonal Inch	Display area mm	Resolution Pixels	Additional interface	Type Order No.	Price See price sheet	Std. pack
XVC600 Processor: Pentium 200 MHz, ETX form factor, 64 MByte DRAM, 32 KByte SRAM Data/program memory: removable Compact Flash™ Integrated interfaces: CAN, Ethernet, RS 232 IP65 front incl. Compact Flash with PLC and EPAM runtime system incl. battery for real-time clock TFT color display Software: Visualization = EPAM ¹⁾ , PLC = MX ^{pro} ¹⁾ 							
IR touch (Infra-red light matrix) robust, scratchproof front (safety glass)	10.4	211 × 158	640 × 480 VGA	–	XVC-601-GTI-10-V1-000 85 32 000000		1 off
	10.4	211 × 158	640 × 480 VGA	PROFIBUS-DP	XVC-601-GTI-10-DPM-V1-000 85 32 000100		
	15	304 × 228	1024 × 768 XGA	–	XVC-601-GTI-15-V1-000 85 32 000500		
	15	304 × 228	1024 × 768 XGA	PROFIBUS-DP	XVC-601-GTI-15-DPM-V1-000 85 32 000600		

Notes: 1) No license product paper required

For information on additional products such as:
■ Infra-red touch DVI panel
■ Compact devices without display
Please contact your Micro Innovation agent.

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Description		Type Order No.	Price See price sheet	Std. pack
HMI-PLC XVC100 Text display HMI-PLC with small mounting depth for use in restricted spaces.		XVC-101-C192K-K82 85 23 200000		1 off
	8 × 20 or 4 × 10 characters 28 keys, 8 of which are function keys 1 × CompactFlash slot 1 × CAN interface 1 × RS232 interface 10 × digital inputs, 24 V 2 × counter inputs, 50 kHz 2 × interrupt inputs 1 encoder input, max. 50 kHz 8 × digital outputs, 24 V DC/0.5 A 8 × digital inputs/outputs, 24 V DC/0.5 A, can be configured individually 2 × analog inputs, 0 – 10 V/0 – 20 mA, 10-bit 2 × analog outputs ±10 V/12-bit incl. battery			





Description		For use with	Type Order No.	Price See price sheet	Std. pack
Windows CE licenses					
WinCE 3.0	License with license sticker	XV-2... XV-4... XVS-4... XVH-3...	LIC-OS-CE30 91 30 600000		1 off
WinCE 5.0	Standard license with license sticker	XV-2... XV-4... XVS-4... XVH-3...	LIC-OS-CE50-C In preparation		
	Professional license with license sticker	XV-2... XV-4... XVS-4... XVH-3...	LIC-OS-CE50-P In preparation		
Memory cards					
–	Compact Flash without operating system	XV-2... XV-4... XVS-4... XVH-3... XVC-1...	MEMORY-CF-A1-S 50 61 000400		1 off
–	Compact Flash, bootable with Windows CE, without Windows CE license	XV-2... XV-4... XVS-4... XVH-3...	OS-FLASH-A1-S 90 17 000060		
–	Compact Flash, bootable without operating system and without runtime systems, for storing applications and data	XVC-6...	MEMORY-CF-BRS-1 50 61 000510		
XV license product papers					
–	PLC license product paper with license sticker	XV-2xx-57BAS... XV-2xx-57CNN...	LIC-PLC-MXP-LIGHT 91 30 000050		1 off
–	PLC license product paper with license sticker	XV-2xx-57MPN... XV-4xx-57... XVS-4xx-57...	LIC-PLC-MXP-SMALL 91 30 000100		
–	PLC license product paper with license sticker	XV-4xx-10... XV-4xx-12... XVS-4xx-10... XVS-4xx-12...	LIC-PLC-MXP-MEDIUM 91 30 000110		
–	EPAM license product paper with license sticker	XV-4... XVS-4... XVH-3...	LIC-HMI-EPAM-STD 91 30 000012		
–	License product paper 40 POINTS	XV-2... XV-4... XVS-4... XVH-3...	LIC-OPT-1ST-LEVEL 91 30 000400		
–	License product paper 80 POINTS	XV-2... XV-4... XVS-4... XVH-3...	LIC-OPT-2ND-LEVEL 91 30 000420		
Communication modules					
–	Multiprotocol board	XV-4...	COM-MPB1-TP 85 12 000009		1 off
–	Multiprotocol board MPI	XV-4...	COM-MPB2-TP 85 12 000004		
–	PROFIBUS DP Master (12Mbaud)	XV-4...	COM-DPM-MC2 85 12 000200		
–	PROFIBUS DP Slave (12Mbaud)	XV-4...	COM-PDP-TP 85 12 000008		
–	EIB	XV-4...	COM-EIB2-TP 85 12 000011		
Additional fixing brackets					
–	Additional fixing brackets for IP65	XV-4... XVS-4... XVH-3...	ACCESSORIES-HKS-IP65 65 01 000002		1 off
Batteries					
–	Spare batteries	XVC-6... XVC-1...	ACCESSORIES-BAT01x 45 60 000001		1 off

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Description		For use with	Type Order No.	Price See price sheet	Std. pack
Device accessories (supplied with the devices)					
–	Device accessories as replacement	XV-2...	ACCESSORIES-TP-57-KG-1 83 17 000018		1 off
	8 Retaining brackets for mounting the device				
	8 Threaded pins for mounting the device				
	1 Sealing strip for mounting the device				
	1 Power supply connector				
	1 Touch pen				
–	Device accessories as replacement ¹⁾	XV-4xx-57... XVS-4xx-57... XVH-3...	ACCESSORIES-TP-57-RES-1¹⁾ 83 17 000001		
	1 Set of retaining brackets for mounting the device (4 retaining brackets with threaded pin)				
	1 Sealing strip for mounting the device				
	1 Power supply connector				
	1 Touch pen				
–	Device accessories as replacement	XV-4xx-10... XV-4xx-12... XVS-4xx-10... XVS-4xx-12...	ACCESSORIES-TP-10/12-RES-1 83 17 000007		
	2 Set of retaining brackets for mounting the device (4 retaining brackets with threaded pin)				
	1 Sealing strip for mounting the device				
	1 Power supply connector				
	1 Touch pen				

Notes 1) XV-442-57-CQB-1-50 have a special seal



Licensing XV200, XV400, XVS400 and XVH300

The range of functions possible for each device is determined by means of license points that are uniquely assigned to the device concerned. Additional license points can be assigned to the device by means of license product papers (see Accessories XV license product papers). Licensing is carried out via the Internet at www.microinnovation.com/license.

Entering the license product paper and device series number on the web page provides you with the license code and a license confirmation via email for your production documents. You enter the license code via the licensing menu on the device and thus increase the number of internal license points on the device.

Note:

If there are not enough license points on the device for the required functionality, a message box of the touch display will prompt you at regular intervals to extend the license for the device.

Calculation of the required license points

To use the PLC function in accordance with the applicable license conditions, the device license must be extended explicitly using a specific license product paper, see table „XV license product papers“. These license product papers contain a PLC license sticker which must be affixed to the device.

Add the required license points for each of the external communication options you use. Communication to several devices with the same protocol only has to be counted once. Deduct the number of points already on the device (e.g. 140) from the total. The resulting difference is the number of license points that must be added using the license product papers.

Number of required license points depending on the required functionality:

Runtime / Tools	Onboard interface	License points
GALILEO runtime	–	100
EPAM runtime	–	100 ¹⁾
MX _{pro} runtime	–	100
CE Telediag	RS232	40
S7 PG Router	Ethernet and Profibus	80
CAN Monitor	CAN	–
DXS Remote (DXS communication)	Ethernet	80

Communication	Onboard interface	License points		
		MX _{pro}	GALILEO	EPAM
Programming access	Ethernet	0	0	0
CoDeSys-SYMArti local (GALILEO / EPAM ↔ MX _{pro})	Local	0	0	0
CoDeSys-SYMArti external	Ethernet	0	40	0
A.Bradley DF1	RS232	–	40	–
A.Bradley EtherNet/IP	Ethernet	–	120	–
Beckhoff TwinCAT ADS	Ethernet	–	80	–
CANopen, Master	CAN	0	–	–
CANopen, Device (Slave)	CAN	0	40	–
DXS Remote (DXS communication)	Ethernet	–	80	–
Modbus TCP/IP	Ethernet	–	80	–
Modbus RTU	RS232	–	40	–
Moeller easy800/MFD	RS232	–	40	–
Moeller Sucom A	RS232	–	40	–
Moeller Suconet K on XVH342-57SKS	Suconet K	–	0	–
Profibus DP Master (1.5 Mbaud)	PROFIBUS	40	–	–
Siemens Industrial Ethernet	Ethernet	–	80	–
Siemens MPI	PROFIBUS	–	40	–
Siemens PPI	PROFIBUS	–	40	–
Siemens S7 Profibus Standard Profile	PROFIBUS	–	40	–

Notes:

1) A LIC-HMI-EPAM-STD license product paper is required for the operation of EPAM runtime on XV400, XVS400 and XVH300 devices. The sticker provided on the license product paper must be affixed to the device. Validation of the certificate via the Internet is unnecessary.

Contact your Micro Innovation representative for any enquiries about other protocols.



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List of the most common protocols

The following is a list of the most common protocols that can be implemented on XV400 devices by using optional plug-in communication modules (no license points required).

Protocol	Required communication modules for XV400
EIB (3rd release)	COM-EIB2-TP
Matsushita FP Series	COM-MPB1-TP / COM-MPB2-TP
Mitsubishi A Series / F Series	COM-MPB1-TP / COM-MPB2-TP
Moeller Suconet K	COM-MPB1-TP / COM-MPB2-TP
Omron C H K Series	COM-MPB1-TP / COM-MPB2-TP
Profibus DP Master (12 Mbaud)	COM-DPM-MC2
Profibus DP Slave (12 Mbaud)	COM-PDP-TP
Siemens MPI	COM-MPB2-TP
Telemecanique Unitelway new	COM-MPB1-TP / COM-MPB2-TP

Contact your Micro Innovation representative for any enquiries about other protocols.

XV license product papers

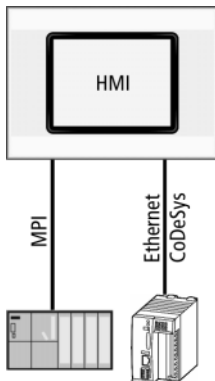
The following license product papers are available depending on the functions required (→ Accessories):

XV license product papers	For use with	Type
PLC function		
PLC license product paper with license sticker	XV-2xx-57BAS... XV-2xx-57CNN...	LIC-PLC-MXP-LIGHT
PLC license product paper with license sticker	XV-2xx-57MPN... XV-4xx-57... XVS-4xx-57...	LIC-PLC-MXP-SMALL
PLC license product paper with license sticker	XV-4xx-10... XV-4xx-12... XVS-4xx-10... XVS-4xx-12...	LIC-PLC-MXP-MEDIUM
EPAM		
EPAM license product paper with license sticker	XV-4... XVS-4... XVH-3...	LIC-HMI-EPAM-STD
Communication		
40 license points	XV-2... XV-4... XVS-4... XVH-3...	LIC-OPT-1ST-LEVEL
80 license points	XV-2... XV-4... XVS-4... XVH-3...	LIC-OPT-2ND-LEVEL



Licensing examples:

HMI application: XV200, XVS400

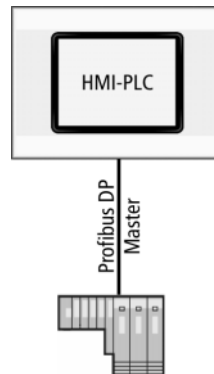


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication MPI	40 Points
Communication CoDeSys external	40 Points
Total	180 Points
Already provided in the device on delivery	-140 Points
Additional points required for communication	40 Points

PLC	
PLC application	No

Required license product papers:
1 × LIC-OPT-1ST-LEVEL (40 points)

HMI-PLC application: XV200 Profibus and XVS400 5.7"

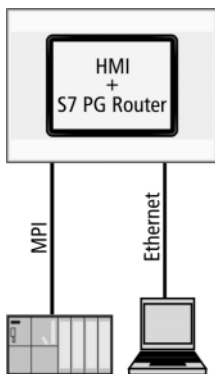


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication HMI ↔ PLC local	0 Points
Communication Profibus DP Master (MX _{pro})	40 Points
Total	140 Points
Already provided in the device on delivery	-140 Points
Additional points required for communication	0 Points

PLC	
PLC application	100 Points

Required license product papers:
1 × LIC-PLC-MXP-SMALL (100 points, only for XV-2xx-57MPN..., XV-4xx-57... and XVS-4xx-57...)

HMI application: XV200, XVS400, with additional software, e.g. S7 PG Router

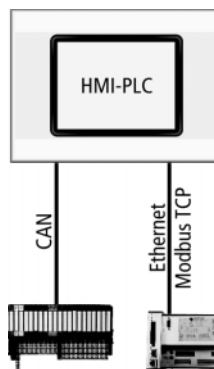


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication MPI	40 Points
S7 PG Router	80 Points
Total	220 Points
Already provided in the device on delivery	-140 Points
Additional points required for communication	80 Points

PLC	
PLC application	No

Required license product papers:
1 × LIC-OPT-2ND-LEVEL (80 points)

HMI-PLC application: XV400 10.4"

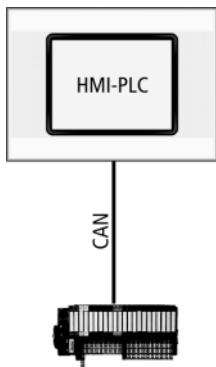


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication HMI ↔ PLC local	0 Points
Communication Modbus TCP client (GALILEO)	80 Points
Communication CANopen (MX _{pro})	0 Points
Total	180 Points
Already provided in the device on delivery	-140 Points
Additional points required for communication	40 Points

PLC	
PLC application	100 Points

Required license product papers:
1 × LIC-OPT-1ST-LEVEL (40 points)
1 × LIC-PLC-MXP-MEDIUM (100 points for XV-4xx-10... and XV-4xx-12... and XVS-4xx-10... and XVS-4xx-12...)

HMI-PLC application: XV200 CAN



Visualization, communication	
Visualization (GALILEO)	100 Points
Communication HMI ↔ PLC local	0 Points
Communication CANopen (MX _{pro})	0 Points
Total	100 Points
Already provided in the device on delivery	-140 Points
Additional points required for communication	0 Points

PLC	
PLC application	100 Points

Required license product papers:
1 × LIC-PLC-MXP-LIGHT (60 points for XV-2xx-57BAS... and XV-2xx-57CAN...)



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Validating license product papers

The validation of license product paper couldn't be simpler. Once you have entered the license product paper and the device series number on the Internet page www.microinnovation.com/license the license code is issued immediately for activating the device functions required. After the license code is entered on the XV200, XV400, XVS400 or XVH300 device, the additional license points are added directly to the device.

The process is shown in four steps:

- License Product Paper:** A physical document titled 'Lizenzproduktsschein' with a QR code and license details.
- Website Interface:** The 'Lizenz' page on the Micro Innovation website, showing the 'Aktivieren eines Lizenzproduktsscheins' section.
- Licensing Page:** The 'Lizenzierung' page showing the entered license details and the generated license code: **280-33E1-B179-45ED-BB6B**.
- License Administrator:** The 'License Administrator 2.14.0' software interface where the license code is entered into the 'Serial' field.





		XV-230-57CNN-1-10	XV-230-57MPN-1-10
Display			
Screen diagonal / type		5.7" FSTN-LCD (monochrome display)	
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)	
Visible display area		115 mm × 86 mm	
Color resolution (grayscale and colors)		256 grayscales	
Contrast ratio		Normally 10:1	
Brightness		Normally 150 cd/m ²	
Backlight		1x CCFL, dimmable via software	
Lifespan of backlight		Normally 50000 h	
Back panel		Glass with film	
Operation			
Technology		Resistive touch, 4-wire	
System			
Processor		RISC, 32-bit, 200 MHz	
Internal memory	DRAM (OS, program, data memory)	32 MByte	
	FLASH (can be used for data storage)	Approx. 1.5 MByte available	
	SRAM (retain data)	Approx. 100 byte available	
External memory	CF slot	CompactFlash Card Type I for operating system, programs and data	
Real-time clock (battery backup)	Battery	Maintenance-free	
	Backup time in de-energized state	Normally 10 years	
Operating system		Windows CE	
Software			
Visualization software		GALILEO	
PLC programming software		MXpro	
Interfaces, communication			
Ethernet		100Base-TX / 10Base-T	
System Port		–	
CAN		CAN, not electrically isolated (9-pin, D-Sub connector, male, UNC)	–
PROFIBUS		–	Profibus ¹⁾ , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)
USB Device		USB 1.1, not electrically isolated	
Power supply			
Rated voltage		24 VDC SELV (safety extra low voltage)	
Permissible voltage		RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %)	
		Absolute with ripple: 19.2 ... 30.0 VDC	
		35 VDC for a period < 100 ms	
Voltage dips		20 ms from rated voltage (24 VDC), 10 ms from undervoltage (20.4 VDC)	
Power consumption		Max. 8 W	
Protection against reverse polarity		Yes	
Fuse protection		Yes (maintenance-free)	
Potential isolation		No	
General			
IP protection classes	Front	IP65	
	Rear	IP20	
Approvals	Certificates	UL	
	Explosion protection (to ATEX 94/9/EC)	II 3D EEx II T70°C IP5x: Zone 22, category 3D	
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2	
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
	Safety	EN 60950 / UL 60950	
	Product standards	EN 50178, EN 61131-2	
Weight		Approx. 0.7 kg	
Ambient conditions			
Temperature	Operation	0...+50°C	
	Storage / Transport	-20...60°C	
Relative air humidity		10...95%, non-condensing	
Shock		according to IEC68-2-27	
Vibration		according to IEC68-2-6	

Notes: 1) Possible protocols via Profibus: MPI, PPI, DP master

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XV-232-57BAS-1-10	XV-252-57CNN-1-10	XV-252-57MPN-1-10
5.7" FSTN-LCD (monochrome display)	5.7" CSTN-LCD (color display)	
QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)		
115 mm × 86 mm		
256 greyscale	256 colors	
Normally 10:1	Normally 35:1	
Normally 150 cd/m ²		
1 × CCFL, dimmable via software		
Normally 50000 h		
Glass with film		
Resistive touch, 4-wire		
RISC, 32-bit, 200 MHz		
32 MByte		
Approx. 1.5 MByte available		
Approx. 100 byte available		
CompactFlash Card Type I for operating system, programs and data		
Maintenance-free		
Normally 10 years		
Windows CE		
GALILEO		
MX _{pro}		
100Base-TX / 10Base-T		
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)		
–	CAN, not electrically isolated (9-pin, D-Sub connector, male, UNC)	–
–	–	Profibus ¹⁾ , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)
USB 1.1, not electrically isolated		
24 VDC SELV (safety extra low voltage)		
RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %)		
Absolute with ripple: 19.2 ... 30.0 VDC		
35 VDC for a period < 100 ms		
20 ms from rated voltage (24 VDC), 10 ms from undervoltage (20.4 VDC)		
Max. 8 W		
Yes		
Yes (maintenance-free)		
No		
IP65		
IP20		
UL		
II 3D EEx II T70°C IP5x:		
Zone 22, category 3D		
EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2		
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463		
EN 60950 / UL 60950		
EN 50178, EN 61131-2		
Approx. 0.7 kg		
0...+50°C		
-20...60°C		
10...95%, non-condensing		
according to IEC68-2-27		
according to IEC68-2-6		





		XV-442-57CQB-1-10	XV-442-57CQB-1-50	XV-432-57CQB-1-10
Display				
Screen diagonal / type		5.7 " CSTN-LCD (color)		
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)		
Visible display area		115 mm × 86 mm		
Color resolution (grayscale and colors)		256 colors		
Contrast ratio		Normally 35:1		
Brightness		Normally 150 cd/m ²		
Backlight		1x CCFL, dimmable via software		
Lifespan of backlight		Normally 50000 h		
Protective panel / back panel		Non-reflective safety glass		Glass with film, absolutely flat (seamless)
Operation				
Technology		Infra-red touch, 47 × 31 logic channels		Resistive touch, 4-wire
System				
Processor		RISC, 32-bit, 400 MHz		
Internal memory	DRAM (OS, program, data memory)	64 MByte		
	FLASH (can be used for data storage)	Approx. 1.5 MByte available		
	SRAM (retain data)	Approx. 32 KByte available		
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data		
Real-time clock (battery backup)	Battery	Maintenance-free		
	Backup time in de-energized state	Normally 10 years		
Operating system		Windows CE		
Software				
Visualization software		GALILEO / EPAM		
PLC programming software		MX _{pro}		
Interfaces, communication				
Ethernet		100Base-TX / 10Base-T		
System Port		RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)		
CAN		CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)		
PROFIBUS		—		
USB Host		USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated		
USB Device		USB 1.1, not electrically isolated		
Slots for communication modules		1		
Power supply				
Rated voltage		24 VDC SELV (safety extra low voltage)		
Permissible voltage		RMS value: 20.4...28.8 VDC (rated voltage +20 % / -15 %) Absolute with ripple: 19.2...30.0 VDC 35 VDC for a period < 100 ms		
Voltage dips		20 ms from rated voltage (24 VDC), 2 ms from undervoltage (20.4 VDC)		
Power consumption		Max. 24 W (normally 13 W)		
Protection against reverse polarity		Yes		
Fuse protection		Yes (fuse cut-out, not accessible)		
Potential isolation		No (0V connected to housing potential)		
General				
IP protection classes	Front	IP65 ¹⁾	IP65	IP65 ¹⁾
	Rear	IP20		
Approvals	Certificates	UL		
	Explosion protection (to ATEX 94/9/EC)	II 3D EEx II T70°C IP5x: Zone 22, category 3D ¹⁾	II 3D EEx II T70°C IP5x: Zone 22, category 3D	II 3D EEx II T70°C IP5x: Zone 22, category 3D ¹⁾
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2		
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463		
	Safety	EN 60950 / UL 60950		
	Product standards	EN 50178, EN 61131-2		
Weight		Approx. 1.9 kg		
Ambient conditions				
Temperature	Operation	0...+50°C		
	Storage / Transport	-20...+60°C		
Relative air humidity		10...95%, non-condensing		
Shock		according to IEC68-2-27		
Vibration		according to IEC68-2-6		

Notes

- 1) Additional set of retaining brackets required for mounting (→ Accessories)
- 2) Only for mounting in a pressurized housing! Max. permissible pressure: 10 mbar continuous

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XV-440-10TVB-1-10	XV-440-10TVB-1-50	XV-430-10TVB-1-10	XV-440-12TSB-1-10	XV-440-10TVB-1-50	XV-430-12TSB-1-10
10.4" TFT-LCD (color)			12.1" TFT-LCD (color)		
VGA (640 × 480 pixels and 480 × 640 pixels with portrait format)			SVGA (800 × 600 pixels and 600 × 800 pixels with portrait format)		
211 mm × 158 mm			246 mm × 185 mm		
Adjustable: 65536 or 256 colors					
Normally 350:1					
Normally 350 cd/m ²					
2× CCFL, dimmable via software					
Normally 50000 h					
Non-reflective safety glass		Glass with film, absolutely flat (seamless)	Non-reflective safety glass		Glass with film, absolutely flat (seamless)
Infra-red touch, 79 × 59 logic channels		Resistive touch, 4-wire	Infra-red touch, 95 × 71 logic channels		Resistive touch, 4-wire
RISC, 32-bit, 400 MHz					
64 MByte					
Approx. 1.5 MByte available					
Approx. 32 KByte available					
2× CompactFlash Cards Type I/II for operating system, programs and data					
Maintenance-free					
Normally 10 years					
Windows CE					
GALILEO / EPAM					
MX _{pro}					
100Base-TX / 10Base-T					
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)					
CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)					
–					
2× USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated					
USB 1.1, not electrically isolated					
2					
24 VDC SELV (safety extra low voltage)					
RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %)					
Absolute with ripple: 19.2 ... 30.0 VDC					
35 VDC for a period < 100 ms					
10 ms from rated voltage (24 VDC), 5 ms from undervoltage (20.4 VDC)					
Max. 32 W (normally 14 W)					
Yes					
Yes (fuse cut-out, not accessible)					
No (0V connected to housing potential)					
IP65 ¹⁾	IP65	IP65 ¹⁾	IP65 ¹⁾	IP65	IP65 ¹⁾
IP20					
UL					
II 3D EEx II T70°C IP5x: Zone 22, category 3D ¹⁾	II 2G EEx p II IP5x: Zone 1, category 2G ²⁾ Zone 2, category 3G ²⁾ Zone 22, category 3D	II 3D EEx II T70°C IP5x: Zone 22, category 3D ¹⁾	II 3D EEx II T70°C IP5x: Zone 22, category 3D ¹⁾	II 2G EEx p II IP5x: Zone 1, category 2G ²⁾ Zone 2, category 3G ²⁾ Zone 22, category 3D	II 3D EEx II T70°C IP5x: Zone 22, category 3D ¹⁾
EN 10000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2					
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463; XV-440-10TVB-X-50-1 and XV-440-10TVB-X-50-1 also comply with: EN 1127, EN 50016					
EN 60950 / UL 60950					
EN 50178, EN 61131-2					
Approx. 4.1 kg			Approx. 4.5 kg		
0...+50°C					
-20...60°C					
10...95%, non-condensing					
according to IEC68-2-27					
according to IEC68-2-6					





		XVS-440-57MPI-1-10	XVS-430-57MPI-1-10
Display			
Screen diagonal / type		5.7 " CSTN-LCD (color)	
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)	
Visible display area		115 mm × 86 mm	
Color resolution (grayscale and colors)		256 colors	
Contrast ratio		Normally 35:1	
Brightness		Normally 150 cd/m ²	
Backlight		1x CCFL, dimmable via software	
Lifespan of backlight		Normally 50000 h	
Protective panel / back panel		Non-reflective safety glass	Glass with film, absolutely flat (seamless)
Operation			
Technology		Infra-red touch, 47 × 31 logic channels	Resistive touch, 4-wire
System			
Processor		RISC, 32-bit, 400 MHz	
Internal memory	DRAM (OS, program, data memory)	64 MByte	
	FLASH (can be used for data storage)	Approx. 1.5 MByte available	
	SRAM (retain data)	Approx. 32 KByte available	
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data	
Real-time clock (battery backup)	Battery	Maintenance-free	
	Backup time in de-energized state	Normally 10 years	
Operating system		Windows CE	
Software			
Visualization software		GALILEO / EPAM	
PLC programming software		MX ^{pro}	
Interfaces, communication			
Ethernet		100Base-TX / 10Base-T	
System Port		RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	
CAN		–	
PROFIBUS		Profibus ¹⁾ , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)	
USB Host		USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated	
USB Device		USB 1.1, not electrically isolated	
Slots for communication modules		1	
Power supply			
Rated voltage		24 VDC SELV (safety extra low voltage)	
Permissible voltage		RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %)	
		Absolute with ripple: 19.2 ... 30.0 VDC	
		35 VDC for a period < 100 ms	
Voltage dips		20 ms from rated voltage (24 VDC), 2 ms from undervoltage (20.4 VDC)	
Power consumption		Max. 19 W (normally 12 W)	
Protection against reverse polarity		Yes	
Fuse protection		Yes (fuse cut-out, not accessible)	
Potential isolation		No (0V connected to housing potential)	
General			
IP protection classes	Front	IP65 ²⁾	
	Rear	IP20	
Approvals	Certificates	UL	
	Explosion protection (to ATEX 94/9/EC)	III 3D EEx II T70°C IP5x: Zone 22, category 3D ²⁾	
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2	
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
	Safety	EN 60950 / UL 60950	
	Product standards	EN 50178, EN 61131-2	
Weight		Approx. 1.8 kg	
Ambient conditions			
Temperature	Operation	0...+50°C	
	Storage / Transport	-20...+60°C	
Relative air humidity		10...95%, non-condensing	
Shock		according to IEC68-2-27	
Vibration		according to IEC68-2-6	
Notes		1) Possible protocols via Profibus: MPI, PPI, DP master 2) Additional set of retaining brackets required for mounting (→ Accessories)	

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XVS-440-10MPI-1-10	XVS-430-10MPI-1-10	XVS-440-12MPI-1-10	XVS-430-12MPI-1-10
10.4" TFT-LCD (color)		12.1" TFT-LCD (color)	
VGA (640 × 480 pixels and 480 × 640 pixels with portrait format)		SVGA (800 × 600 pixels and 600 × 800 pixels with portrait format)	
211 mm × 158 mm		246 mm × 185 mm	
Adjustable: 65536 or 256 colors			
Normally 350:1			
Normally 350 cd/m ²			
2× CCFL, dimmable via software			
Normally 50000 h			
Non-reflective safety glass	Glass with film, absolutely flat (seamless)	Non-reflective safety glass	Glass with film, absolutely flat (seamless)
Infra-red touch, 79 × 59 logic channels	Resistive touch, 4-wire	Infra-red touch, 95 × 71 logic channels	Resistive touch, 4-wire
RISC, 32-bit, 400 MHz			
64 MByte			
Approx. 1.5 MByte available			
Approx. 32 KByte available			
2× CompactFlash Cards Type I/II for operating system, programs and data			
Maintenance-free			
Normally 10 years			
Windows CE			
GALILEO / EPAM			
MX _{pro}			
100Base-TX / 10Base-T			
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)			
–			
Profibus ¹⁾ , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)			
2× USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated			
USB 1.1, not electrically isolated			
2			
24 VDC SELV (safety extra low voltage)			
RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %)			
Absolute with ripple: 19.2 ... 30.0 VDC			
35 VDC for a period < 100 ms			
10 ms from rated voltage (24 VDC), 5 ms from undervoltage (20.4 VDC)			
Max. 24 W (normally 14 W)			
Yes			
Yes (fuse cut-out, not accessible)			
No (0V connected to housing potential)			
IP65 ²⁾			
IP20			
UL			
II 3D EEx II T70°C IP5x:			
Zone 22, category 3D ²⁾			
EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2			
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463			
EN 60950 / UL 60950			
EN 50178, EN 61131-2			
Approx. 3.7 kg		Approx. 4.1 kg	
0...+50°C			
-20...60°C			
10...95%, non-condensing			
according to IEC68-2-27			
according to IEC68-2-6			





		XVH-340-57CAN-1-10	XVH-342-57SKS-1-10	XVH-330-57CAN-1-10
Display				
Screen diagonal / type		5.7 "CSTN-LCD (color)		
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)		
Visible display area		115 mm × 86 mm		
Color resolution (grayscale and colors)		256 colors		
Contrast ratio		Normally 35:1		
Brightness		Normally 150 cd/m ²		
Backlight		1x CCFL, dimmable via software		
Lifespan of backlight		Normally 50000 h		
Protective panel / back panel		Non-reflective safety glass		Glass with film, absolutely flat (seamless)
Operation				
Technology		Infra-red touch, 47 × 31 logic channels		Resistive touch, 4-wire
System				
Processor		RISC, 32-bit, 200 MHz		
Internal memory	DRAM (OS, program, data memory)	64 MByte		
	FLASH (can be used for data storage)	Approx. 1.5 MByte available		
	SRAM (retain data)	–		
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data		
Real-time clock (battery backup)	Battery	Maintenance-free		
	Backup time in de-energized state	Normally 10 years		
Operating system		Windows CE		
Software				
Visualization software		GALILEO / EPAM		
PLC programming software		–		
Interfaces, communication				
Ethernet		100Base-TX / 10Base-T		
System Port		–	RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	–
Suconet K		–	Suconet K (RS485), electrically isolated (9-pin, D-Sub connector, female, UNC)	–
CAN		CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)	–	CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)
PROFIBUS		–		
USB Device		USB 1.1, not electrically isolated		
Power supply				
Rated voltage		24 VDC SELV (safety extra low voltage)		
Permissible voltage		RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %) Absolute with ripple: 19.2 ... 30.0 VDC 35 VDC for a period < 100 ms		
Voltage dips		20 ms from rated voltage (24 VDC), 2 ms from undervoltage (20.4 VDC)		
Power consumption		Max. 19 W (normally 12 W)		
Protection against reverse polarity		Yes		
Fuse protection		Yes (fuse cut-out, not accessible)		
Potential isolation		No (0V connected to housing potential)		
General				
IP protection classes	Front	IP65 ¹⁾		
	Rear	IP20		
Approvals	Certificates	UL		
	Explosion protection (to ATEX 94/9/EC)	III 3D EEx II T70°C IP5x: Zone 22, category 3D ¹⁾		
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2		
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463		
	Safety	EN 60950 / UL 60950		
	Product standards	EN 50178, EN 61131-2		
Weight		Approx. 1.8 kg		
Ambient conditions				
Temperature	Operation	0...+50°C		
	Storage / Transport	-20...60°C		
Relative air humidity		10...95%, non-condensing		
Shock		according to IEC68-2-27		
Vibration		according to IEC68-2-6		
Notes		1) Additional set of retaining brackets required for mounting (→ Accessories)		





		XVC-601-GTI-10-V1-000	XVC-601-GTI-10-DPM-V1-000
Display			
Screen diagonal / type		10.4" TFT-LCD (color)	
Resolution		VGA (640 × 480 pixels)	
Visible display area		211 mm × 158 mm	
Color resolution (grayscale and colors)		256K colors	
Contrast ratio		Normally 250:1	
Brightness		Normally 400 cd/m ²	
Backlight		2 × CCFL	
Lifespan of backlight		Normally 50000 h	
Protective panel / back panel		Non-reflective safety glass	
Operation			
Technology		Infra-red touch, 81 × 61 logic channels	
System			
Processor		Pentium 200 MHz, ETX form factor	
Internal memory	DRAM (OS, program, data memory)	64 MByte	
	FLASH (can be used for data storage)		
	SRAM (retain data)	Approx. 32 KByte available	
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data	
Real-time clock (battery backup)	Battery	ACCESSORIES-BAT01x	
	Backup time in de-energized state	Normally 5 years	
Operating system		VxWorks	
Software			
Visualization software		EPAM	
PLC programming software		MX _{pro}	
Interfaces, communication			
Ethernet		100Base-TX / 10Base-T	
RS232 serial interface		RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	
CAN		CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)	
PROFIBUS		–	Profibus DP Master, not electrically isolated, max. 12 Mbit/s (9-pin D-Sub connector, female, UNC)
Keyboard (only for service tasks)		PS2	
Power supply			
Rated voltage		24 VDC	
Permissible voltage		RMS value: 20.4 ... 8.8 DC Ripple: ≤ 5 %	
Voltage dips		10 ms	
Power consumption		Max. 25 W	
Protection against reverse polarity		Yes	
Fuse protection		4 A, slow blow fuse	
Power loss		25 W	
Potential isolation		No (0V connected to housing potential)	
General			
IP protection classes	Front	IP65	
	Rear	IP20	
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-4, EN 61131-2	
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
	Safety	EN 60950	
	Product standards	EN 50178, EN 61131-2	
Weight		Approx. 5.2 kg	
Ambient conditions			
Temperature	Operation	0...+50°C with vertical mounting, 0...+40°C with diagonal mounting position up to max. 35°	
	Storage / Transport	-20...60°C	
Relative air humidity		10...90%, non-condensing	
Shock		according to IEC68-2-27	
Vibration		according to IEC68-2-6	

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XVC-601-GTI-15-V1-000	XVC-601-GTI-15-DPM-V1-000
15" TFT-LCD (color)	
XGA (1024 × 768)	
304 mm × 228 mm	
256K colors	
Normally 300:1	
Normally 250 cd/m ²	
2 × CCFL	
Normally 35000	
Non-reflective safety glass	
Infra-red touch, 115 × 87 logic channels	
Pentium 200 MHz, ETX form factor	
64 MByte	
Approx. 32 KByte available	
CompactFlash Card Type I/II for operating system, programs and data	
ACCESSORIES-BAT01x	
Normally 5 years	
VxWorks	
EPAM	
MX _{pro}	
100Base-TX / 10Base-T	
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	
CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)	
–	Profibus DP Master, not electrically isolated, max. 12 Mbit/s (9-pin D-Sub connector, female, UNC)
PS2	
24 VDC	
RMS value: 20.4 ... 28.8 DC	
Ripple: ≤ 5 %	
10 ms	
Max. 38 W	
Yes	
4 A, slow blow fuse	
38 W	
No (0V connected to housing potential)	
IP65	
IP20	
EN 61000-6-2, EN 61000-6-4, EN 61131-2	
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
EN 60950	
EN 50178, EN 61131-2	
Approx. 7 kg	
0...+50°C with vertical mounting, 0...+40°C with diagonal mounting position up to max. 35°	
-20...60°C	
10...90%, non-condensing	
according to IEC68-2-27	
according to IEC68-2-6	





		XVC-101-C192K-K82
General		
Ambient temperature		
Operation		0...60°C
Storage / Transport		-25...85°C
Relative air humidity		10...95%, non-condensing
Immunity		EN 61000-6-2
Emission		EN 50081-2, class A
Protection type		
Front (NEMA 12) IEC/EN 60529		IP65
Rear		IP20
Weight		Approx. 0.9 kg
Power supply		
Rated value		24 VDC SELV, safety extra low voltage
Rated voltage	U_e	24 VDC to DIN 19240
Permissible voltage		
Voltage dips		max. 100 ms (with 20.4 VDC to 0 VDC, repetition rate 1 s)
Protection against reverse polarity		Yes
Fuse protection		Yes
Fuse protection		2 A, slow blow fuse
Breaking capacity		30 A
Potential isolation		No, 0V connected to housing potential (GND)
Current consumption		Normally 160 mA
Power consumption		Normally 4 W
Real-time clock		
Counter		Seconds, minutes, hours, day, month, year, decade
Leap year change		Automatic
DST change		via software
Deviation with $T_{amb} = 25^\circ\text{C}$		Normally ± 100 ppm
Display		
Type		Passive Matrix Mono LC-Display (Mono STN-LCD Yellow-Green)
Resolution		128 × 64 pixels
Display area		71 × 39 mm
Backlight		LED
Operation		
Membrane keyboard		28 keys; 3 LEDs
CompactFlash card		Type 1, ATA Flash, 5 V
Interfaces		
Programming interface		RS 232, not electrically isolated (D subminiature 9-pin male)
Communication interface		CAN, not electrically isolated (D subminiature 9-pin male)
Connector X1 (digital inputs, outputs)		
Number of digital I/Os		8
Number of supply terminals		1
Number of 0V terminals		1
Power supply		
Outputs		Normally 24 VDC
Permissible range		18.5...30.2 VDC
Max. output current per channel		0.5 A
Inductive loads		Max. 150 mJ
Input voltage		
High signal	U_H	-14...32.0 VDC
Low signal	U_L	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	I_H	2...15 mA
Low signal	I_L	0...1 mA

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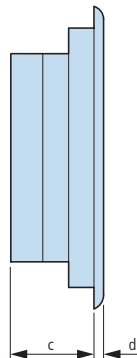
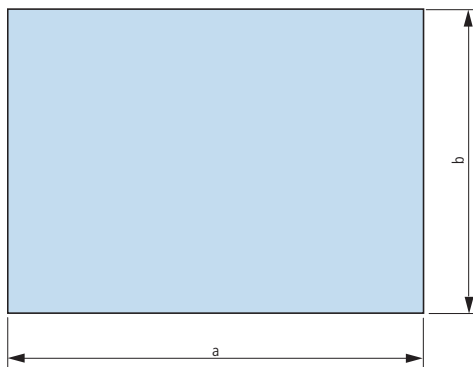
XVC-101-C192K-K82		
Protection against reverse polarity		Yes
Electrical isolation		No
Short-circuit proof		Yes
Power supply monitoring		Yes
Status error		Group for all outputs
Connector X2 (digital outputs)		
Number of digital I/Os		8
Number of supply terminals		1
Number of 0V terminals		1
Power supply		Normally 24 VDC
Max. output current per channel		0.5 A
Inductive loads		Max. 150 mJ
Protection against reverse polarity		Yes
Electrical isolation		No
Short-circuit proof		Yes
Power supply monitoring		Yes
Status error		Group for all outputs
Connector X3		
Digital inputs		
Number		10, of which all have a second function
Number of 0V terminals		1
Input voltage		
High signal	U_H	-14...32.0 VDC
Low signal	U_L	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	I_H	2...15 mA
Low signal	I_L	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No
Counter input		
Number		2
Input voltage		
High signal	U_H	-14...32.0 VDC
Low signal	U_L	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	I_H	2...15 mA
Low signal	I_L	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No
Maximum counter frequency		50 kHz
Direction change		Yes
Interrupt input		
Number		2
Input voltage		
High signal	U_H	-14...32.0 VDC
Low signal	U_L	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	I_H	2...15 mA
Low signal	I_L	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No



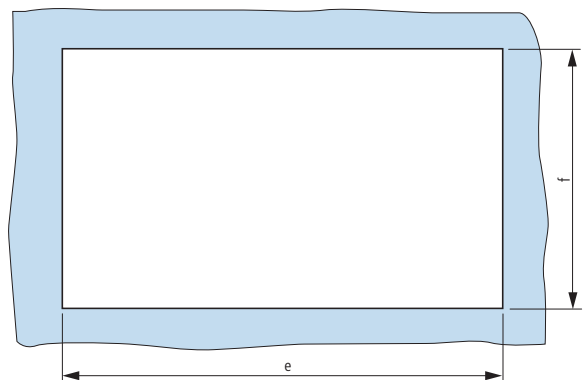


		XVC-101-C192K-K82
Incremental encoder		
Number		1
Signals		A, B, zero mark, zero mark active
Decoding		Dual, quadrature signal
Input voltage		
High signal	U_H	-14...32.0 VDC
Low signal	U_L	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	I_H	2...15 mA
Low signal	I_L	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No
Max. input frequency		50 kHz
Incremental encoder output		Push-pull
Connector X4		
Analog inputs		
Number		2
Connections		3 per input (0V, voltage, current) 1 reference output
Input voltage		0...10 VDC
Input resistance		1000 k Ω
Input current		0...20 mA
Input resistance		500 Ω
Resolution		10-bit
Reference output		4.096 V $\pm$ 0.2%
Short-circuit proof		Yes
Electrical isolation		No
Analog outputs		
Number		2
Connections		2 per output (0V, voltage)
Output voltage		-10...+10 VDC
Output current		1 mA (10 k Ω load)
Resolution		12-bit
Short-circuit proof		Yes
Electrical isolation		No

Dimensions



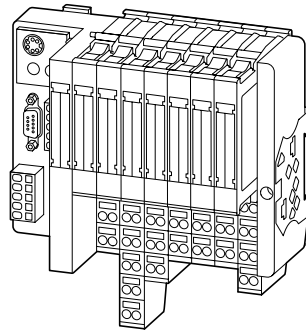
Mounting dimensions



Type	a	b	c	d	e	f
XV-2xx-57	212	156	50	5	198	142
XV-4xx-57	212	156	76	5	198	142
XV-4xx-10	345	260	88	5	329	238
XV-4xx-12	361	279	88	5	344	262
XVS-400-57	212	156	55	5	198	142
XVS-400-10	345	260	62	5	329	238
XVS-400-12	361	279	62	5	344	262
XVH-3xx-57CAN	212	156	55	6	198	142
XVH-3xx-57SKS	212	156	75.5	6	198	142
XVC-601-GTI-10	345	260	104	5	329	238
XVC-601-GTI-15	427	332	104	5	410	315
XVC-1xx	212	156	50	5	198	142

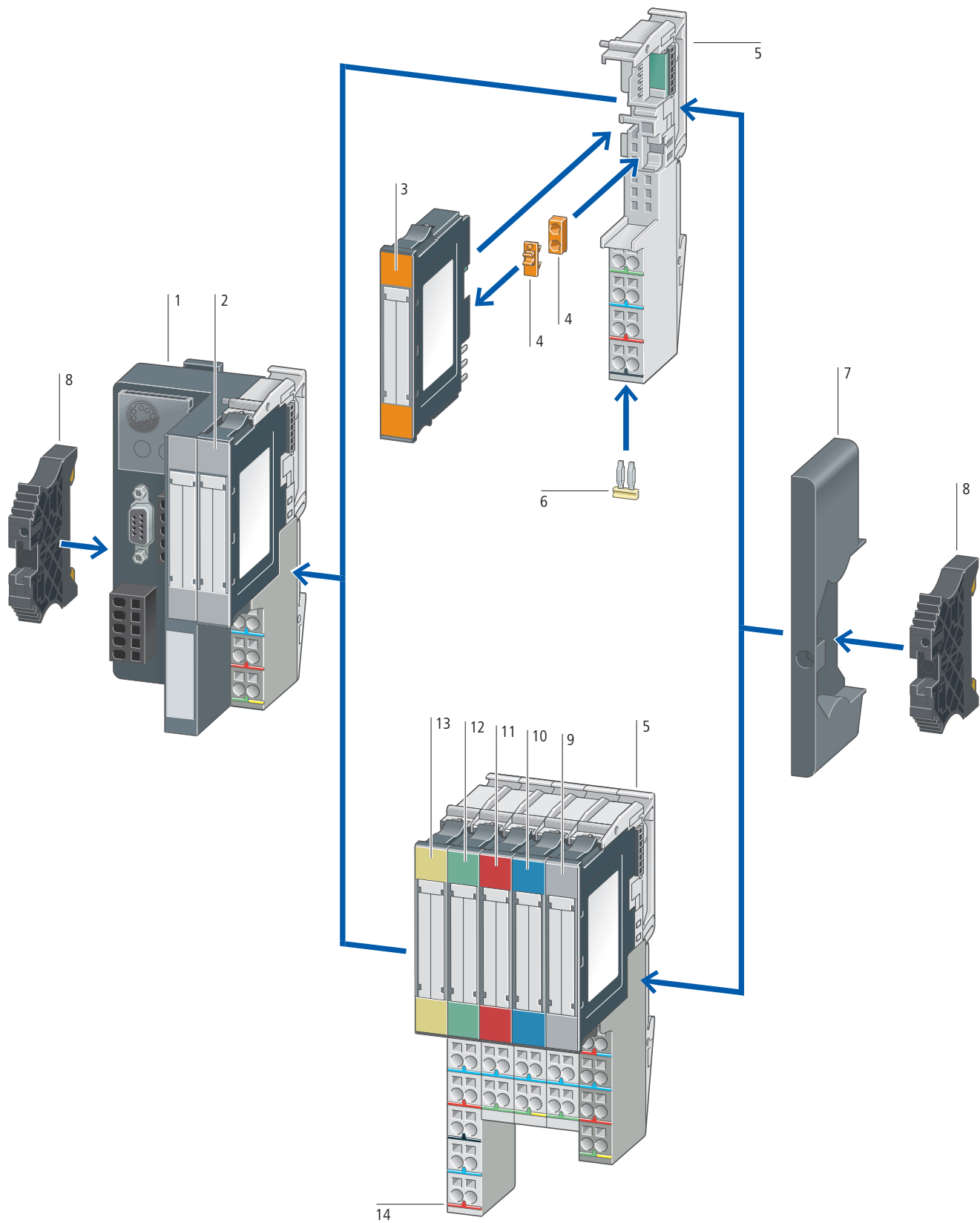






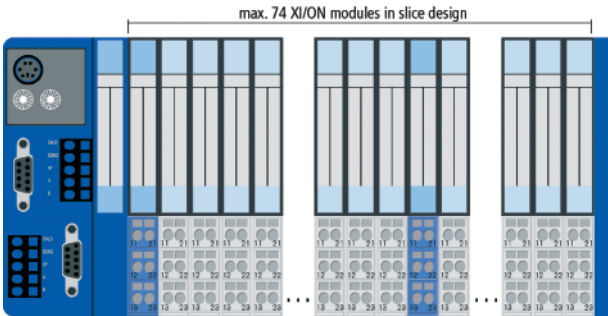
	Page
System overview	2/2
Description	
Maximum system configuration	2/4
Selection guide	2/5
Electronic modules	2/7
Base modules	2/10
Accessories	2/12
Technical data	2/14
Engineering	2/27
Dimensions	2/38





Gateways	1	Power feeding module	9	Analog output	12
XN-GW-PBDP-1.5MB(-S)		XN-PF-24VDC-D		XN-1AO-I(0/4...20MA)	
XN-GW-PBDP-12MB		XN-PF-120/230VAC-D		XN-2AO-I(0/4...20MA)	
XN-GW-PBDP-12MB-STD				XN-2AO-U(-10/0...+10VDC)	
XN-GW-CANOPEN		→ Page 2/8			
XN-GW-DNET				→ Page 2/9	
XN-GWBR-PBDP					
XN-GWBR-CANOPEN		Analog input	10	Technology modules	13
XN-GWBR-DNET		XN-1AI-I(0/4...20MA)		XN-1RS232	
XN-GWBR-MODBUS-TCP		XN-2AI-I(0/4...20MA)		XN-1RS485/422	
XN-PLC-CANOPEN		XN-1AI-U(-10/0...+10VDC)		XN-1SSI	
		XN-2AI-U(-10/0...+10VDC)		XN-1SWIRE	
→ Page 2/7		XN-2AI-PT/NI-2/3		XN-1CNT-24VDC	
		XN-2AI-THERMO-PI			
		XN-4AI-U/I		→ Page 2/9	
		→ Page 2/9			
Digital input	2				
XN-2DI-24VDC-P				Accessories	
XN-2DI-24VDC-N		Digital output	11	End plate	7
XN-2DI-120/230VAC		XN-2DO-24VDC-2A-P		End bracket	8
XN-4DI-24VDC-P		XN-2DO-24VDC-0,5A-P		Relay jumpers	6
XN-4DI-24VDC-N		XN-4DO-24VDC-0,5A-P		Marker	14
XN-16DI-24VDC-P		XN-2DO-24VDC-0,5A-N		Coding element	4
XN-32DI-24VDC-P		XN-2DO-120/230VAC-0,5A			
XNE-8DI-24VDC-P		XN-16DO-24VDC-0,5A-P		→ Page 2/12	
XNE-16DI-24VDC-P		XN-32DO-24VDC-0,5A-P			
		XNE-8DO-24VDC-0,5A-P			
→ Page 2/8		XNE-16DO-24VDC-0,5A-P			
		→ Page 2/8			
Relay modules	3				
XN-2DO-R-CO					
XN-2DO-R-NC					
XN-2DO-R-NO					
→ Page 2/9					
Base modules	5				
2/3-wire					
4-wire					
4 × 2/3-wire					
→ Page 2/10					





Design your XI/ON station simply with the "I/O Assistant" software (free download from www.microinnovation.com).

Benefit 1:

A complete parts list is generated automatically for your order.

Benefit 2:

Menu item [Station] > [Verify] will generate an error message as soon as any system limits are exceeded.

A XI/ON station can consist of the gateway and a maximum of 74 modules in slice design (corresponds to a 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).

For the maximum system configuration, the use of a sufficient number of bus refreshing and power feeding modules must be taken into account.

CANopen system configuration

Module type	Channels max. no./station	Modules max. no./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, dependent on process data

Module type	Channels max. no./station	Modules max. no./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-I-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, dependent on diagnostics data

Module type	Channels max. no./station	Modules max. no./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-I-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. no./station	Modules max. no./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

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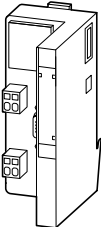
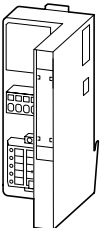
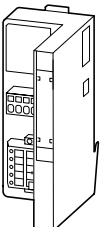
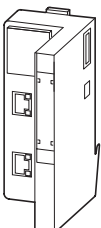
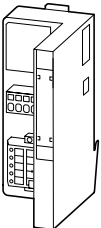
Electronic modules	Base modules	Spring-loaded terminal (T) or screw terminal (S)															
		XN-S3x-SBB	XN-S3x-SBC	XN-S4x-SBBC	XN-S4x-SBBS	XN-S4x-SBCS	XN-S6x-SBBSBB	XN-S4x-SBBS-CJ	XN-S6x-SBCSBC	XN-B3x-SBB	XN-B3x-SBC	XN-B4x-SBBC	XN-B6x-SBBSBB	XN-B6x-SBCSBC	XN-P3x-SBB	XN-P4x-SBBC	XN-P4x-SBBC-B
Digital 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												●					
XNE-8DI-24VDC-P ¹⁾																	
XNE-16DI-24VDC-P ¹⁾																	
Digital output																	
XN-2DO-24VDC-2A-P			●			●											
XN-2DO-24VDC-0,5A-P			●			●											
XN-2DO-24VDC-0,5A-N			●			●											
XN-4DO-24VDC-0,5A-N						●		●									
XN-16DO-24VDC-P										●							
XN-32DO-24VDC-0.5A-P													●				
XNE-8DO-24VDC-0.5A-P ¹⁾																	
XNE-16DO-24VDC-0.5A-P ¹⁾																	
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							●										
XN-4AI-U/I								●									
Analog output																	
XN-1AO-I(0/4...20MA)		●															
XN-2AO-I(0/4...20MA)		●															
XN-2AO-U(-10/0...+10V)		●															
Technology module																	
XN-1CNT-24VDC				●													
XN-1RS232				●													
XN-1RS485/422				●													
XN-1SSI				●													
XNE-1SWIRE ¹⁾																	
Power supply modules																	
XN-BR-24VDC-D														● ²⁾	● ²⁾	● ³⁾	
XN-PF-24VDC-D														●	●		
XN-PF-120/230VAC-D														●	●		

Notes

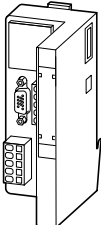
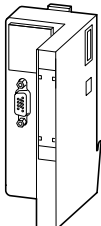
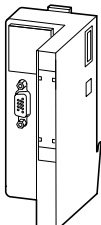
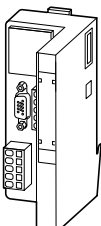
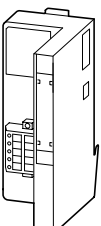
- 1) No base module required
- 2) Base modules for gateway power supply
- 3) Base modules for bus refreshing within the station



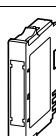
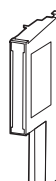


Description		Type Order No.	Price See price sheet	Std. pack
Gateways with integrated power supply module				
	Gateway with integrated power supply Connection to PROFIBUS-DP Supports up to 74 modules in slice design Transmission rate: 9.6 Kbit/s to 12 Mbit/s 1 × 9-pin SUB-D socket Connection of the power supply via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 decimal rotary switches Address range: 1...99 Bus refreshing module is already integrated	XN-GWBR-PBDP 85 50 270324		1 off
	Gateway with integrated power supply Connection to CANopen Supports up to 74 modules in slice design Transmission rate selectable up to 1Mbit/s 1 × open style connector Connection of the power supply via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 decimal rotary switches Address range: 1...99 Bus refreshing module is already integrated	XN-GWBR-CANOPEN 85 50 270325		
	Gateway with integrated power supply Connection to DeviceNet Supports up to 74 modules in slice design Transmission rate: 125 Kbit/s, 250 Kbit/s, 500 Kbit/s 1 × open style connector Connection of the power supply via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 decimal rotary switches Address range: 1...63 Bus refreshing module is already integrated	XN-GWBR-DNET 85 50 270326		
	Gateway with integrated power supply Connection to Ethernet-IP Supports up to 74 modules in slice design Transmission rate 10/100 Mbit/s 1 × RJ45 Connection of the power supply via spring-loaded terminals PS/2 socket (programming interface for connecting to MXpro) Address setting via rotary switches, BootIP, DHCP or IOassistant Bus refreshing module is already integrated	XN-GWBR-MODBUS-TCP In preparation		
	In preparation Gateway with integrated power supply and connection to Profinet	XN-GWBR-PROFINET In preparation		
	In preparation Gateway with integrated power supply and connection to Ethernet	XN-GWBR-ETHERNET-IP In preparation		
	In preparation Gateway with integrated power supply and connection to PROFIBUS-DP V1	XN-GWBR-PBDP-V1 In preparation		
Programmable gateways				
	Gateway with integrated power supply Connection to CANopen Supports up to 74 modules in slice design Transmission rate selectable up to 1Mbit/s 1 x open style connector Connection of the power supply via spring-loaded terminals PS/2 socket (programming interface for connecting to MXpro) 2 decimal rotary switches (operating mode and user) Bus refreshing module is already integrated	XN-PLC-CANOPEN 85 50 274124		1 off
Notes	Supplied with all gateways: 2 × end brackets XN-WEW-32/2-SW, 1 × end plate XN-ABPL			

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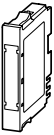
Description	Type Order No.	Price See price sheet	Std. pack
Gateways without integrated power supply module			
 Connection to PROFIBUS-DP Supports up to 74 modules in slice design Transmission rate: 9.6 Kbit/s to 1.5 Mbit/s 2 × 9-pin SUB-D sockets 2 × spring-loaded terminal strips for direct wiring PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.	XN-GW-PBDP-1.5MB 85 50 225162		1 off
 Connection to PROFIBUS-DP Supports up to 74 modules in slice design Transmission rate: 9.6 Kbit/s to 12 Mbit/s 1 × 9-pin SUB-D socket PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.	XN-GW-PBDP-12MB 85 50 225161		
 Connection to PROFIBUS-DP Supports up to 15 modules (incl. max. 4 modules in block design) Transmission rate: 9.6 Kbit/s to 12 Mbit/s 1 × 9-pin SUB-D socket PS/2 socket (service interface only for firmware download via I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.	XN-GW-PBDP-12MB-STD 85 50 229499		
 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-pin SUB-D socket, 1 × 9-pin SUB-D plug 2 × spring-loaded terminal strips for direct wiring PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.	XN-GW-CANOPEN 85 50 225163		
 Connection to DeviceNet via 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 setting via 2 decimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.	XN-GW-DNET 85 50 225164		
Notes Supplied with all gateways: 2 × end brackets XN-WEW-32/2-SW, 1 × end plate XN-ABPL			



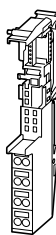
Description		For use with base module	Type Order No.	Price See price sheet	Std. pack
Power supply modules					
	Bus refreshing module	Module for supply/refreshing the (nominal) 5 V DC system voltage, via internal module bus. Supply for XI/ON modules with 24 V DC nominal voltage. Gateways of type XN-GW-... require a bus refreshing module directly 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-P4T-SBBC-B XN-P4S-SBBC-B	XN-BR-24VDC-D 85 50 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 85 50 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 85 50 225188	
I/O modules					
 	Digital input	2 digital inputs, 24 V DC Positive switching	XN-S3T-SBB XN-S3S-SBB	XN-2DI-24VDC-P 85 50 225169	1 off
		2 digital inputs, 24 V DC Negative switching	XN-S4T-SBBC XN-S4S-SBBC	XN-2DI-24VDC-N 85 50 225170	
		2 digital inputs, 120/230 V AC		XN-2DI-120/230VAC 85 50 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 85 50 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 85 50 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 85 50 229434	
		32 digital inputs, 24 V DC Positive switching Block module	XN-B6T-SBBSBB XN-B6S-SBBSBB	XN-32DI-24VDC-P 85 50 230879	
		8 digital inputs, 24 V DC Positive switching	–	XNE-8DI-24VDC-P 85 50 100794	
		16 digital inputs, 24 V DC Positive switching	–	XNE-16DI-24VDC-P 85 50 101439	
	Digital output	2 digital outputs, 24 V DC/2 A Positive switching	XN-S3T-SBC XN-S3S-SBC	XN-2DO-24VDC-2A-P 85 50 225168	
		2 digital outputs, 24 V DC/0.5 A Positive switching	XN-S4T-SBCS XN-S4S-SBCS	XN-2DO-24VDC-0.5A-P 85 50 225166	
		2 digital outputs, 24 V DC/0.5 A Negative switching		XN-2DO-24VDC-0.5A-N 85 50 225174	
		2 digital outputs, 120/230 V AC/0.5 A		XN-2DO-120/230VAC-0.5A 85 50 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 85 50 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 85 50 229433	
		32 digital outputs, 24 V DC/0.5 A Positive switching Block module	XN-B6T-SBCSBC XN-B6S-SBCSBC	XN-32DO-24VDC-0.5A-P 85 50 289790	
		8 digital outputs, 24 V DC/0.5 A Positive switching	–	XNE-8DO-24VDC-0.5A-P 85 50 100795	
		16 digital outputs, 24 V DC/0.5 A Positive switching	–	XNE-16DO-24VDC-0.5A-P 85 50 101438	



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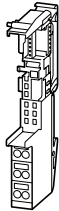
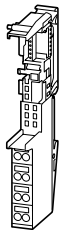
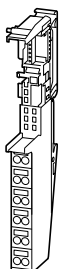
		Description	For use with base module	Type Order No.	Price See price sheet	Std. pack
I/O modules						
 	Relay modules	2 changeover contacts, isolated 230 V AC/30 V DC	XN-S4T-SBBS XN-S4S-SBBS	XN-2DO-R-CO 85 50 225167		1 off
		2 break contacts 230 V AC/30 V DC	XN-S4T-SBBS XN-S4S-SBBS XN-S4T-SBCS XN-S4S-SBCS	XN-2DO-R-NC 85 50 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 85 50 225176		
	Analog input	1 analog input 0/4 to 20 mA	XN-S3T-SBB XN-S3S-SBB	XN-1AI-I(0/4...20MA) 85 50 225177		
		2 analog inputs 0/4 to 20 mA	XN-S4T-SBBS XN-S4S-SBBS	XN-2AI-I(0/4...20MA) 85 50 230869		
		1 analog input -10/0 to +10 V DC		XN-1AI-U(-10/0...+10VDC) 85 50 225178		
		2 analog inputs -10/0 to +10 V DC		XN-2AI-U(-10/0...+10VDC) 85 50 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 85 50 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 85 50 225182		
		4 analog inputs -10/0 to +10 V DC, 0/4 to 20 mA Selectable by channel	XN-S6T-SBCSBC XN-S6S-SBCSBC	XN-4AI-U/I 85 50 289162		
	Analog output	1 analog output 0/4 to 20 mA	XN-S3T-SBB XN-S3S-SBB	XN-1AO-I(0/4...20MA) 85 50 225179		
		2 analog outputs 0/4 to 20 mA		XN-2AO-I(0/4...20MA) 85 50 230871		
		2 analog outputs -10/0 to +10 V DC		XN-2AO-U(-10/0...+10VDC) 85 50 225180		
	Counter module	1 digital input/24 V DC 1 digital output/24 V DC Counter modes: endless, once only, or periodic count Frequency, speed or period measurement Acquisition of signals from rotary encoders (channel A/B)	XN-S4T-SBBS XN-S4S-SBBS	XN-1CNT-24VDC 85 50 225183		
	Serial interface RS232	Transmission rate selectable up to 115200 bit/s		XN-1RS232 85 50 270321		
	Serial interface RS485/422	Transmission rate selectable up to 115200 bit/s		XN-1RS485/422 85 50 270322		
	Serial interface SSI	Connection of SSI encoders up to max. 32-bit. Transmission rate selectable up to 1 Mbit/s		XN-1SSI 85 50 270323		
	Smartwire interface	Connection to up to 16 motor starters (Moeller) Maximum 3 XNE-1SWIRE per XI/ON station	—	XNE-1SWIRE 85 50 107590		



Description		For use with module	Type Order No.	Price See price sheet	Std. pack
Spring-loaded terminal					
2/3-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 85 50 225190	1 off
	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 85 50 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 85 50 225195		
	Block module	XN-16DI-24VDC-P	XN-B3T-SBB 85 50 227751		
	Block module Connection to C rail	XN-16DO-24VDC-0.5-P	XN-B3T-SBC 85 50 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 85 50 225192	1 off
	Base modules for bus refreshing within the stations Connection to C rail	XN-BR-24VDC-D	XN-P4T-SBBC-B 85 50 225191		
	Connection to C rail	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC	XN-S4T-SBBC 85 50 225194		
	Connection to C rail	XN-2DO-24VDC-0.5A-P XN-2DO-24VDC-0.5A-N XN-2DO-24VDC-2A-P XN-2DO-R-NO XN-2DO-R-NC XN-2DO-120/230VAC-0.5A	XN-S4T-SBCS 85 50 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 85 50 225197		
	Cold junction compensation	XN-2AI-THERMO-PI	XN-S4T-SBBS-CJ 85 50 225200		
	Block module Connection to C rail	XN-16DI-24VDC-P XN-4AI-U/I	XN-B4T-SBBC 85 50 227753		
	4 (32) × 2/3-wire				
	Base modules	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N	XN-S6T-SBBSBB 85 50 225198	1 off
	Connection to C rail	XN-4DO-24VDC-0.5A-P	XN-S6T-SBCSBC 85 50 225199		
	Block module	XN-32DI-24VDC-P	XN-B6T-SBBSBB 85 50 227754		
	Block module	XN-32DO-24VDC-0.5A-P	XN-B6T-SBCSBC 85 50 289164		



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Description		For use with module	Type Order No.	Price See price sheet	Std. pack
Screw terminal					
2/3-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-PF-24VDC-D XN-PF-120/230VAC-D XN-PF-120/230VAC-D	XN-P3S-SBB 85 50 225202	1 off
	Slice module	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC XN-2AI-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 85 50 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 85 50 225207		
	Block module	XN-16DI-24VDC-P	XN-B3S-SBB 85 50 227755		
	Block module Connection to C rail	XN-16DO-24VDC-0.5-P	XN-B3S-SBC 85 50 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 85 50 225204	1 off
	Base modules for bus refreshing within the stations Connection to C rail	XN-BR-24VDC-D	XN-P4S-SBBC-B 85 50 225203		
	Connection to C rail	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC	XN-S4S-SBBC 85 50 225206		
	Connection to C rail	XN-2DO-24VDC-0.5A-P XN-2DO-24VDC-0.5A-N XN-2DO-24VDC-2A-P XN-2DO-R-NO XN-2DO-R-NC XN-2DO-120/230VAC-0.5A	XN-S4S-SBCS 85 50 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 85 50 225209		
	Cold junction compensation Suitable for XN-2AI-THERMO-PI	XN-2AI-THERMO-PI	XN-S4S-SBBS-CJ 85 50 225212		
	Block module Connection to C rail	XN-16DI-24VDC-P	XN-B4S-SBBC 85 50 227757		
	4 (32) × 2/3-wire				
	Base modules	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N	XN-S6S-SBBSBB 85 50 225210	1 off
	Connection to C rail	XN-4DO-24VDC-0.5A-P XN-4AI-U/I	XN-S6S-SBCSBC 85 50 225211		
	Block module	XN-32DI-24VDC-P	XN-B6S-SBBSBB 85 50 227758		
	Block module	XN-32DO-24VDC-0.5A-P	XN-B6S-SBCSBC 85 50 289166		





For use with	Type Order No.	Price See price sheet	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 85 50 225233		10 off
XN-2DI-120/230VAC	XN-KO/5 85 50 225236		
XN-xDO-24VDC	XN-KO/6 85 50 225237		
XN-2DO-120/230VAC-0.5A	XN-KO/7 85 50 225238		
XN-2DO-R-NO	XN-KO/8 85 50 225239		
XN-2DO-R-NC	XN-KO/9 85 50 225240		
XN-2DO-R-CO	XN-KO/10 85 50 225241		
XN-xAI-I	XN-KO/11 85 50 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 85 50 225243		
XN-1AO-I(0/4...20MA)	XN-KO/13 85 50 225244		
XN-2AO-U(-10/0...+10V)	XN-KO/14 85 50 225245		
XN-1CNT-24VDC XN-1RS232 XN-1RS485/422 XN-1SSI	XN-KO/15 85 50 225246		
XN-BR-24VDC-D XN-PF-24VDC-D	XN-KO/16 85 50 225247		
XN-PF-120/230VAC-D	XN-KO/17 85 50 225248		

Description	Type Order No.	Price See price sheet	Std. pack
Relay jumpers The relay jumper are for bridging relay roots.			
1-pin	XN-QV/1 85 50 225216		10 off
2-pin	XN-QV/2 85 50 225217		
3-pin	XN-QV/3 85 50 225218		
4-pin	XN-QV/4 85 50 225219		
5-pin	XN-QV/5 85 50 225220		
6-pin	XN-QV/6 85 50 225221		
7-pin	XN-QV/7 85 50 225222		
8-pin	XN-QV/8 85 50 225223		

End plate

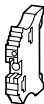


For covering a XI/ON station
An end plate is supplied as part of the gateway package.

XN-ABPL
85 50 225250

2 off

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Description		Type Order No.	Price See price sheet	Std. pack
End bracket				
	For fixing the sides of the XI/ON station to the mounting rails	XN-WEW-35/2-SW		100 off
	2 end brackets are supplied as standard with the gateways	85 50 225254		
Connection level marking on the base				
	Blue	XN-ANBZ-BL		10 off
	Red	XN-ANBZ-RT		
	Green	XN-ANBZ-GN		
	Black	XN-ANBZ-SW		
	Brown	XN-ANBZ-BR		
	Red/blue	XN-ANBZ-RT/BL-BED		
	Green/yellow	XN-ANBZ-GN/GE-BED		
	White	XN-ANBZ-WS		
		85 50 225224 85 50 225225 85 50 225226 85 50 225227 85 50 225228 85 50 225229 85 50 225230 85 50 225231		
Shield connection for gateway				
	Shield connection for direct bus connection	SCH-1-WINBLOC		1 off
		85 50 224089		
Shield connection spring-loaded base modules				
	2-pin shield connection for analog signals	XN-KLBU/T		10 off
		85 50 225251		
Service cable				
	Provides the connection between the PC with I/O assistant and the service interface at the gateway	XN-PS2-CABLE		1 off
		85 50 225215		
Labels				
For labelling the electronics modules	DIN A5 sheet, perforated, 10 × 57 labels	XN-LABEL/SCHEIBE		5 off
	DIN A5 sheet, perforated, 10 × 6 labels	XN-LABEL/BLOCK		
		85 50 225255 85 50 225256		





General		
Standards		DIN 19245 EN 61131 DIN IEC 68-2 EN 50082-2
Supported fieldbus systems		PROFIBUS-DP, CANopen, DeviceNet
Potential isolation		Yes, via optocouplers
Ambient temperature	°C	0...55
Ambient temperature, storage	°C	-25...85
Relative air humidity	%	5...95 (indoor), Level RH-2, no condensation (at 45°C for storage)
Harmful gases		
SO ₂	ppm	10 (relative humidity < 75%, no condensation)
H ₂ S	ppm	1.0 (relative humidity < 75%, no condensation)
Vibration resistance, operating conditions		To IEC/EN 61131
Shock resistance		To IEC 60068-2-27
Repetitive shock resistance		To IEC 60068-2-29
Tipping and falling		To IEC 60068-2-31, free fall to IEC 60068-2-32
Protection type		IP20
Electromagnetic compatibility (EMC)		
ESD		EN 61131-2
Electromagnetic fields		EN 61131-2
Burst		EN 61131-2
Surge		EN 61000-6-2
HF asymmetric		EN 61000-6-2
Radiated interference / conducted interference		EN 61000-6-4
Radiated interference (radiated, high frequency)		EN 61000-6-4
Type test		To EN 61131-2
Base modules		
Rated data		To VDE 0611 Part 1/8.92 / IEC 947-7-1/1989
Connections in TOP direction		Spring-loaded/screw terminal
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
Power 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
Permissible range			—	—	To EN 61131-2
Permissible range		V DC	18...30	18...30	—
Nominal current drawn from module bus	I_{MB}	mA	—	≤ 28	≤ 25
Insulation test voltage	U_i	V AC	—	—	1780
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 diagnostics bits			4	4	4
Base module without gateway supply					
Without C connection			—	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 to 30 V DC (to EN 61 131-2)
for U_{sys} = 5 V DC: 4.7 to 5.3 V DC (only XN-BR-24VDC-D)
Permissible range for field supply U_L :
To EN 61 131-2 (18 to 30 V DC)
Permissible range for nominal voltage and field supply U_L :
To EN 61 131-2

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			XN-GWBR-PBDP	XN-GWBR-CANOPEN	XN-GWBR-DNET	XN-GWBR-MODBUS-TCP	XN-PLC-CANOPEN
Networking							
Fieldbus			PROFIBUS-DP	CANopen	DeviceNet	Modbus TCP	CANopen
System supply	U_{sys}	V DC	24 V DC / 5 V DC	24 V DC / 5 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	4.7 ... 5.3	4.7 ... 5.3
Permissible range 24 V DC	U_{sys}	V DC	18 ... 30	18 ... 30	18 ... 30	18 ... 30	18 ... 30
Field voltage	U_L		24	24	24	24	24
Permissible range		V DC	18 ... 30	18 ... 30	18 ... 30	18 ... 30	18 ... 30
Ripple		%	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)	< 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	PS/2 socket	PS/2 socket
Connections, fieldbus			1 × SUB-D connector, 9-pin	Open style connector	Open style connector	RJ45	Open style connector
Data transmission rate		Kbit/s	9.6 ... 12000	20, 50, 125, 250, 500, 800, 1000	125, 250, 500	10/100 Mbit/s	20, 50, 125, 250, 500, 800, 1000
Selecting the data transmission rate			–	Via DIP switch	Via DIP switch	Automatic	Software
Addressing			2 rotary coding switches			Coding switch, BootIP, DHCP	Software
Fieldbus termination			External	External	External	Automatic	External
Number of parameter bytes			5 bytes	–	–	–	–
Number of diagnostics bytes			3 bytes	–	–	–	–
Address range			1 ... 99 dec.	1 ... 99 dec.	1 ... 63 dec.	1 ... 4.162.314.256	1 ... 127 dec.
Program code		KByte	–	–	–	–	128
Program data		KByte	–	–	–	–	128
Cycle time 1k instructions		ms	–	–	–	–	0.5
Real-time clock			–	–	–	–	Yes

			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)				
Permissible range		V DC	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3
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 only for firmware download	PS/2 socket	PS/2 socket
Connections, fieldbus			2 × SUB-D connectors, 9-pin 2 × spring-loaded terminal strips for direct wiring	1 × SUB-D connector, 9-pin	1 × SUB-D connector, 9-pin	1 × SUB-D connector, 9-pin 1 × SUB-D connector, 9-pin 2 × direct wiring, 5-pin; spring-loaded	Open style connector
Data transmission rate		Kbit/s	9.6 ... 1500	9.6 ... 12000	9.6 ... 12000	20, 50, 125, 250, 500, 800, 1000	125, 250, 500
Selecting the data trans- mission rate			–	–	–	Via DIP switch	Via DIP switch
Addressing			2 hex rotary coding plugs			2 rotary coding switches	2 decimal coding switches
Fieldbus termination			Via SUB-D connector	Via SUB-D connector	Via SUB-D connector	Via SUB-D connector	Via DIP switch
Number of parameter bytes			5 bytes	5 bytes	5 bytes	–	–
Number of diagnostics 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-2DI-24VDC-P	XN-2DI-24VDC-N	XN-2DI-120/230VAC
Digital input modules					
Channels		Number	2	2	2
Nominal voltage on supply terminal	U_L		24 V DC	24 V DC	120/230 V AC
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 voltage	U_i	V AC	–	–	1780
Power loss		W	0.7	0.7	1
Input voltage					
Input voltage nominal value		V DC	24 V DC	24 V DC	120/230 V AC
Low signal	U_L		-30 V ... +5 V	0 V ... +5 V	0 ... 20 V AC
High signal	U_H		11 ... 30 V	$> (U_{PF} - 11 \text{ V})$	79 V AC ... 265 V AC
Frequency range		Hz	–	–	48 ... 63
Input current					
Low signal / active signal	I_L		0 mA ... 1.5 mA	1.8 mA ... 10 mA	0 mA ... 1 mA
High signal / active signal	I_H		2 mA ... 10 mA	0 mA ... 1.7 mA	3 mA ... 8 mA
Input delay					
$t_{\text{rising edge}}$		μs	< 200	< 200	< 20000
$t_{\text{falling edge}}$		μs	< 200	< 200	< 20000
Maximum permissible cable capacitance			–	–	141 nF at 79 V AC/50 Hz; 23 nF at 265 V AC/50 Hz;
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.		2 / 3-wire XN-S3x-SBB
With C connection			4-wire XN-S4x-SBBC	4-wire XN-S4x-SBBC	4-wire XN-S4x-SBBC

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XN-4DI-24VDC-P	XN-4DI-24VDC-N	XN-16DI-24VDC-P	XN-32DI-24VDC-P	XNE-8DI-24VDC-P	XNE-16DI-24VDC-P
4	4	16	32	8	16
24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
≤ 40	≤ 40	≤ 40	≤ 30	1.5 mA ¹⁾	13 mA ¹⁾
≤ 28	≤ 28	≤ 45	≤ 30	15 mA ²⁾	15 mA ²⁾
–	–	–	–	–	–
1	1	2.5	4.2	< 1.5	< 2.5
24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
-30 V...+5 V	0 V...+5 V	-30 V...+5 V	-30 V...+5 V	-U _L ...+5 V	-U _L ...+5 V
15 V...30 V	> (U _{PF} -11 V)	15 V...30 V	15 V...30 V	11 V...U _L	11 V...U _L
–	–	–	–	–	–
0 mA...1.5 mA	1.3 mA...6 mA	0 mA...1.5 mA	< 1.5 mA	-1 mA...1.5 mA	-1 mA...1.5 mA
2 mA...10 mA	20mA...1.2 mA	2 mA...10 mA	2 mA...10 mA	2 mA...5 mA	2 mA...5 mA
< 200	< 200	< 200	< 200	< 100	< 150
< 200	< 200	< 200	< 200	< 200	< 300
–	–	–	–	–	–
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	Already integrated	Already integrated
–	–	4-wire XN-B4x-SBBC	–	–	–

Notes

- 1) The supply terminal (U_L) supplies the current for the module electronics and the loads at the outputs. The total current required for each module is the sum of all partial currents.
- 2) Part of the electronics of the XI/ON module is supplied by the module bus voltage (5 V DC), and the other part by the supply terminal (U_L).



			XN-2DO-24VDC-0.5A-P	XN-2DO-24VDC-0.5A-N	XN-2DO-24VDC-2A-P
Digital output modules					
Channels		Number	2	2	2
Nominal voltage on supply terminal	U_L		24 V DC	24 V DC	24 V DC
Nominal current drawn from the supply terminal (at load current = 0 mA)	I_L	mA	≤ 20	≤ 20	≤ 50
Nominal current drawn from module bus	I_{MB}	mA	≤ 32	≤ 32	≤ 33
Insulation test voltage			–	–	–
Power loss		W	Normally 1	Normally 1	Normally 1
Output voltage					
High signal	U_H / U_A		min. L+ (-1 V)	max. GND (+1 V)	min. L+ (-1 V)
Output current					
High signal (nominal value)	I_H		0.5	0.5 A	2
High signal (permissible range)	I_H	A	< 0.6	< 0.6	< 2.4
Low signal	I_A	mA	–	–	–
Backup fuse			–	–	–
Surge current	I_S	A	–	–	–
Number of outputs that can be switched in parallel	max.		–	–	–
Total module current		A	–	–	–
Delay on signal change and resistive load					
from Low to High		μs	< 100	< 100	< 100
From High to Low		μs	< 100	< 100	< 100
Load resistance range			48 Ω ... 1 k Ω	–	12 Ω ... 1 k Ω
Utilization factor	g	%	100	100	100
Connectable equipment			Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads
Resistive load		O	≥ 48	≥ 48	≤ 12
Inductive load		H	≤ 1.2	≤ 1.2	≤ 1.2
Lamp load	R_{LL}	W	≤ 3	≤ 12	≤ 6
Switching frequency					
With resistive load	f	Hz	5000 ($R_{LO} < 1$ k Ω)	100 ($R_{LO} < 1$ k Ω)	5000 ($R_{LO} < 1$ k Ω)
Inductive load		Hz	2	2	2
With lamp load		Hz	≤ 10	≤ 10	≤ 10
Number of diagnostics bits			2	2	2
Diagnostics			–	–	–
Short-circuit proof to EN 61131-2			–	–	–
Restart after short-circuit rectified	I_i		–	–	–
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	2 / 3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS

Note

Output delay on signal change and resistive load/operating frequency, resistive load: $R_{LO} < 1$ k Ω


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XN-2DO-120/230VAC-0.5A	XN-4DO-24VDC-0.5A-P	XN-16DO-24VDC-0.5A-P	XN-32DO-24VDC-0.5A-P	XNE-8DO-24VDC-0.5A-P	XNE-16DO-24VDC-0.5A-P
2	4	16	32	8	16
120/230 V AC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
≤ 20	≤ 25	≤ 30	≤ 30	3 mA ²⁾	3 mA ²⁾
≤ 35	≤ 30	≤ 45	≤ 50	15 mA ³⁾	25 mA ³⁾
–	–	–	–	–	–
Normally 1	Normally 1	Normally 4	Normally 5	Normally 1.5	Normally 2.5
$> U_L$ (-2 V)	min. L+ (-1 V)	min. L+ (-1 V)	min. L+ (-1 V)	$U_L \dots 1$ V DC	$U_L \dots 1$ V DC
0.5 A	0.5 A	0.5 A	0.5 A	0.5 A ¹⁾	0.5 A ¹⁾
0.02 ... 0.5	1.0 A for max. 5 minutes	< 0.6	1.0	1.0	1.0
< 1.5	–	–	–	–	–
500 mA FF	–	–	–	–	–
8 (1 period at 60 Hz)	–	–	–	–	–
–	–	–	2	–	–
–	–	–	10	–	–
$< T/2 + 1$ ms	< 250	< 100	< 300	< 300	< 300
$< T/2 + 1$ ms	< 250	< 100	< 300	< 300	< 300
at 120 VAC: 240 $\Omega \dots 6$ k Ω at 230 VAC: 460 $\Omega \dots 11.5$ k Ω	48 $\Omega \dots 1$ k Ω	–	48 $\Omega \dots 1$ k Ω	–	–
100	100	100	See Total module current	100	50%, max. 4 A ²⁾
Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads
≥ 48	≥ 48	≥ 48	≥ 48	≥ 48	≥ 48
≤ 1.2	≤ 1.2	Category DC 13 to EN 60947-5-1	≤ 1.2	To DC13 in accordance with IEC 60947-5-1	To DC13 in accordance with IEC 60947-5-1
–	≤ 6	≤ 3	≤ 6	≤ 6	≤ 6
–	5000 ($R_{LO} < 1$ k Ω)	100 ($R_{LO} < 1$ k Ω)	100 ($R_{LO} < 1$ k Ω)	< 100	< 100
–	2	–	–	To DC13 in accordance with IEC 60947-5-1	To DC13 in accordance with IEC 60947-5-1
–	≤ 10	–	–	< 10	< 10
0	1	4	8	–	–
–	–	–	Yes	–	–
–	–	–	Yes	Yes	Yes
–	–	–	Automatic	Automatic	Automatic
2 / 3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS	4-wire XN-S4x-SBCS 4 $\times$ 2 / 3-wire XN-S4x-SBCSBC	2 / 3-wire XN-B3x-SBC	2 / 3-wire XN-B6x-SBCSBC	–	–

Notes:

- 1) Two outputs can be switched in parallel to increase the maximum output current up to 1 A.
- 2) The supply terminal (U_L) supplies the current for the module electronics and the loads at the outputs. The total current required for each module is the sum of all partial currents.
- 3) Part of the electronics of the XI/ON module is supplied by the module bus voltage (5 V DC), and the other part by the supply terminal (U_L).





			XN-1AI-I(0/4...20MA)	XN-2AI-I(0/4...20MA)
Analog input modules				
Channels		Number	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			$< 125 \Omega$	$< 125 \Omega$
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 A/D converter			14-bit (signed integer)	16-bit
Measuring principle			Successive approximation	Delta Sigma
Measured value representation			16-bit signed integer 12-bit full range, flush-left	16-bit signed integer 12-bit full range, flush-left
Transmitter supply			Linked to L+ and L- of the supply; Not short-circuit proof	≤ 250 mA; Linked to L+ and L- of the supply; Not short-circuit proof
Cycle time		ms	–	–
Connectable sensors			–	–
Number of diagnostics bits			2 bits	2 bits
Diagnostics				
Number of parameter bits			3 bits	1 byte (per channel)
Base modules				
Without C connection			2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S3x-SBB
Without C connection, for 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-4AI-U/I	XN-2AI-PT/NI-2/3	XN-2AI-THERMO-PI
1	2	4	2	2
24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
≤ 50	≤ 12	≤ 20	≤ 30	≤ 30
≤ 41	≤ 35	≤ 50	≤ 45	≤ 45
< 1	< 1	< 1	< 1	< 1
–	–	0/4...20	–	–
–	–	50	–	–
-10/0...+10 V DC	-10/0...+10 V DC	-10/0...+10 V DC	–	–
35 V continuous	35 V continuous	35 V continuous	–	–
≥ 98.5 kΩ	≥ 98.5 kΩ	< 62 Ω/>98.5 Ω	–	–
200	> 50	20	–	–
≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1
0.03	–	0.05	< 0.1	0.1
< 0.2	< 0.2	< 0.3	< 0.2	< 0.2
0.05	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	300 ppm/°C of full scale value
14-bit (signed integer)	16-bit	16-bit	–	–
Successive approximation	Delta Sigma	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	16-bit signed integer 12-bit full range, flush-left
Linked to L+ and L- of the supply; Not short-circuit proof	≤ 250 mA; Linked to L+ and L- of the supply; Not short-circuit proof	–	–	–
–	–	–	< 130 per channel	< 60 per channel + 100
–	–	–	Platinum sensors: PT100, PT500, PT1000 (to DIN IEC 751) Nickel sensors: Ni100, Ni1000 (to DIN 43760)	Thermocouple types B, E, J, K, N, R, S, T to DIN IEC 584, class 1, 2, 3
1 bit	2 bits	–	2 bytes (1 byte per channel)	2 bytes (1 byte per channel)
		Yes		
3 bits	2 bytes	–	4 bytes (2 byte per channel)	2 bytes (1 byte per channel)
2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S6x-SBCSBC	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		Number	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
RFI suppression			–	–	Common mode > 90 dB Differential mode > 70 dB Cross talk between channels > -50 dB
Measured value representation			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 voltage	U_i	V AC	1780	1780	1780
Power loss		W	Normally 1	Normally 1	Normally 1
Connectable equipment			Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads
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 2/36	Load limit curve → Page 2/36	Load limit curve → Page 2/36
Utilization factor	g	%	100	100	100
Lifespan 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		Number		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 proof
Digital inputs				
Input voltage				
Input voltage nominal value		V DC		24
Low signal	U_L			-30 V DC ... 5 V DC
High signal	U_H			11 V DC ... 30 V DC
Input current				
Low signal	I_L			-8 mA ... 1.5 mA
High signal	I_H			2 mA ... 10 mA
Minimum pulse width		μs		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 signal	U_L			≤ 3 V DC
High signal				$\geq L+$ (-1 V)
Output current				
High signal (permissible range)	I_H	A		5 mA ... 2 A
High signal (nominal value)	I_H			≤ 0.5 A (55° C)
Switching frequency				
With resistive load		Hz		100
Inductive load		Hz		2
With lamp load		Hz		≤ 10
Lamp load	R_{LL}	W		≤ 10
Output delay				100 μs (resistive load)
Short-circuit proof				Yes
Response threshold		V		2.6 ... 4 A
Inductive quenching				L+ (-50 ... -60 V)
Measuring ranges				
Frequency				0.1 Hz ... 200 kHz
Speed				1 rpm ... 25000 rpm
Period duration				5 ms ... 120 s
Counter modes				
Signal evaluation A, B				Pulse and direction, rotary encoder single/double/quadruple
Mode				Endless, once only, or periodic count
Hysteresis		mm		0 ... 255
Pulse duration				0 ... 255
Synchronisation				Once only/periodic
Count limits				Upper count limit: 0 ... 7FFF FFFF Lower count limit: 8000 0000 ... FFFF FFFF
Measuring modes				
Signal evaluation A, B				Pulse and direction, rotary encoder single
Temperature coefficient				≤ 100 ppm/°C of full scale value
Number of diagnostics bits				1
Number of parameter bits				15
Base modules				
Without C connection, for transmitter supply				4-wire XN-S4x-SBBS

Notes

The nominal current values from the supply terminal apply for load current = 0 mA.

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			XN-1RS232	XN-1RS485/422	XN-1SSI
Interfaces					
Type			RS 232	RS 484 / RS 422	SSI
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	≤ 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					
RS 232			Full-duplex	–	–
RS 485			–	2-wire half-duplex	–
RS 422			–	2-wire half-duplex or 4-wire full-duplex	4-wire full-duplex (clock output/signal input)
Bit transmission rate			Max. 115200 bit/s (adjustable), default setting: 9600 bit/s, 7 data bits, odd parity and 2 stop bits	Max. 115200 bit/s (adjustable), default setting: 9600 bit/s, 7 data bits, odd parity and 2 stop bits	Max. 1 MHz (adjustable), default setting: 500 Kbit/s
Insulation voltage					
Between interface and module bus / system voltage		V_{rms}	500	500	500
Between interface and field voltage		V_{rms}	500	500	500
Common mode range		V DC	-7 ... 12	–	–
Cable impedance		Ω	–	120	120
Bus termination			–	120 Ω (external)	internal
Cable length RS 232		m	max. 15	max. 1000	max. 30
Number of diagnostics bytes			1	1	1
Number of parameter bytes			4	4	4
Base modules					
Without C connection, for 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.

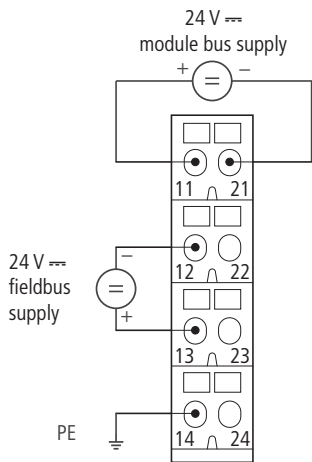




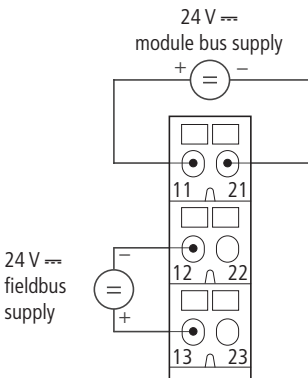
		XNE-1SWIRE
Supply		
Module bus voltage		4.75...5.25 V
Current module bus		60 mA
Voltage field		18...30 V
Current field (LIN phases on full load)		600 mA
Supply of contactors		18...30 V DC
Supply current of contactors		3 A
SWIRE interface		
Number of SWIRE phase leads		1
Max. number of XNE-1SWIRE modules per XN station		3
Max. number of SWIRE nodes per line		16
Number of diagnostics bits		4
Data per SWIRE node		max. 4I / 4O
Supply of SWIRE nodes (short-circuit proof)		17 V DC
Max. supply current of all LIN nodes (short-circuit proof)		500 mA
Insulation		
Potential isolation (module bus ↔ U_{SW} / U_{AUX} ↔ U_L)	Vrms	500
Potential isolation (U_{SW} ↔ U_{AUX})	Vrms	None
Climatic conditions		
Ambient temperature		0...55°C
Storage temperature		-25...85°C
Air humidity (non condensation)		5...95%
Protection type		IP20

Bus refreshing module

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

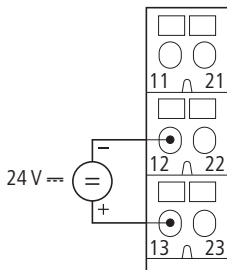


XN-P3x-SBB with gateway supply
XN-P3x-SBB-C without gateway supply

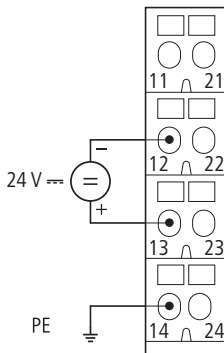


Power feeding module

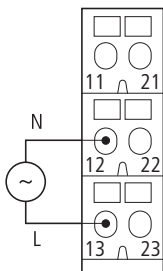
XN-P3x-SBB for XN-PF-24VDC-D



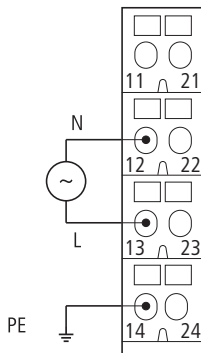
XN-P4x-SBBC for XN-PF-24VDC-D



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

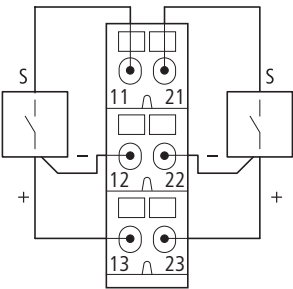


XN-P4x-SBBC for XN-PF-120/230VAC-D

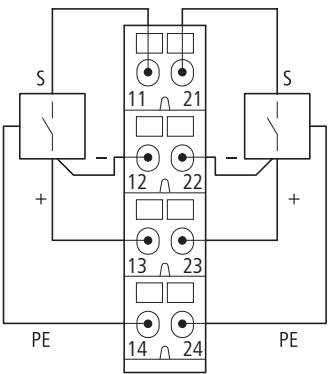


Digital input modules

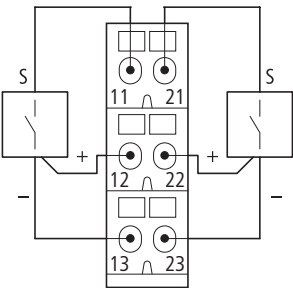
XN-S3x-SBB for XN-2DI-24VDC-P



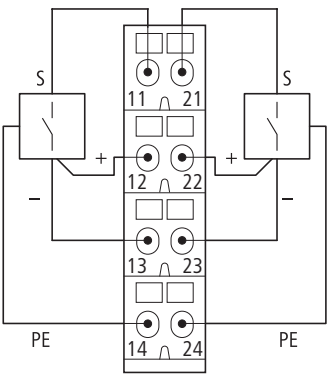
XN-S4x-SBBC for XN-2DI-24VDC-P



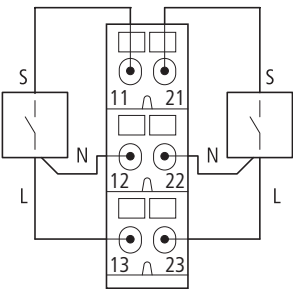
XN-S3x-SBB for XN-2DI-24VDC-N



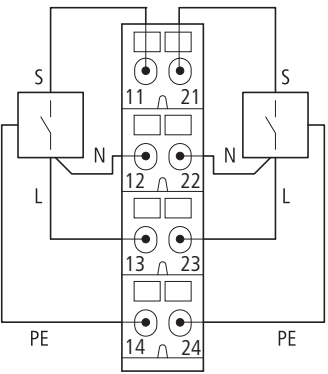
XN-S4x-SBBC for XN-2DI-24VDC-N



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

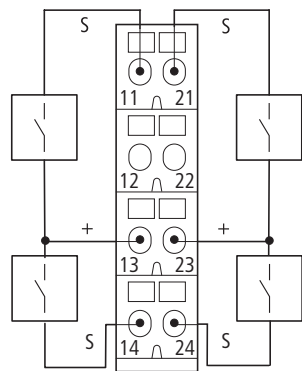


XN-S4x-SBBC for XN-2DI-120/230VAC-P

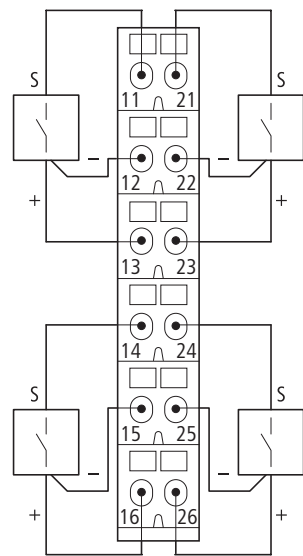


Digital input modules

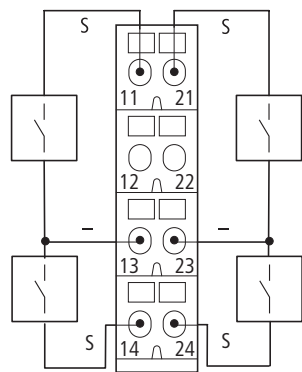
XN-S4x-SBBS for XN-4DI-24VDC-P



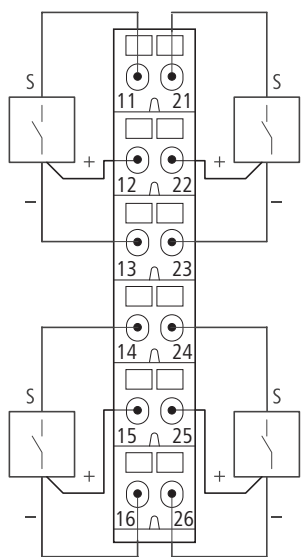
XN-S6x-SBBSBB for XN-4DI-24VDC-P



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

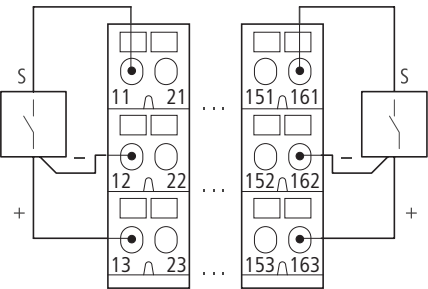


XN-S6x-SBBSBB for XN-4DI-24VDC-N

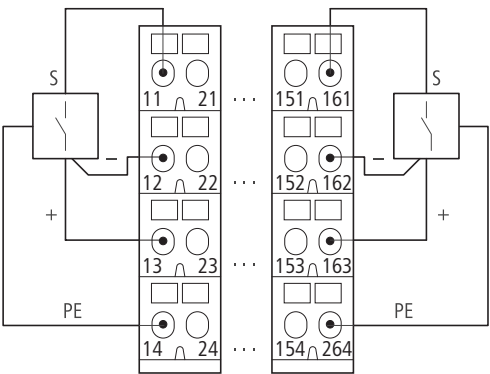


Digital input modules

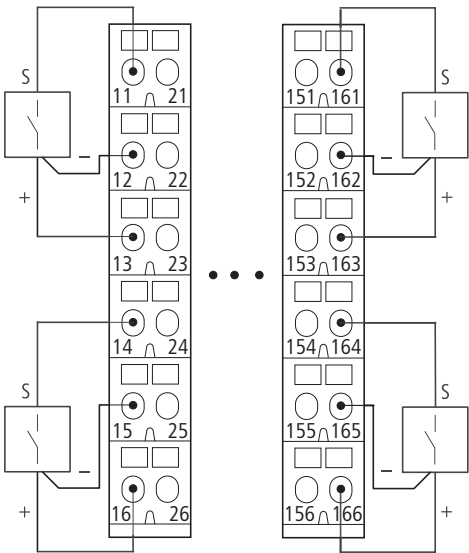
XN-B3x-SBB for XN-16DI-24VDC-P



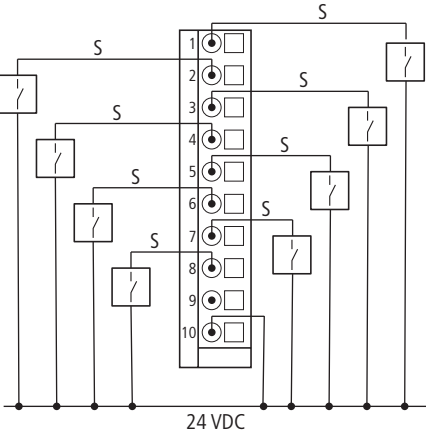
XN-B4x-SBBC for XN-16DI-24VDC-P



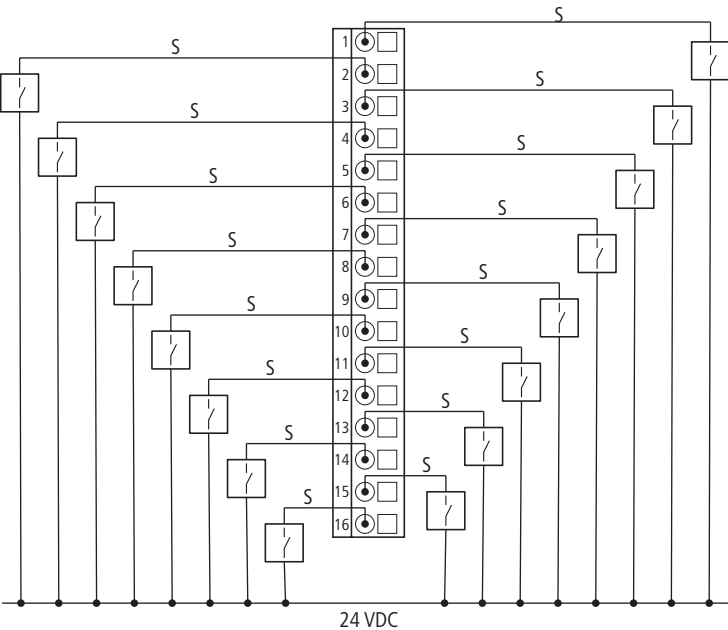
XN-B6x-SBBSBB for XN-32DI-24VDC-P



XNE-8DI-24VDC-P

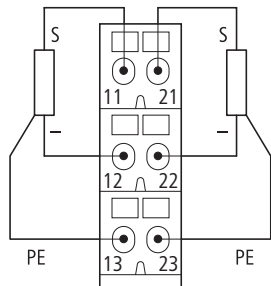


XNE-16DI-24VDC-P

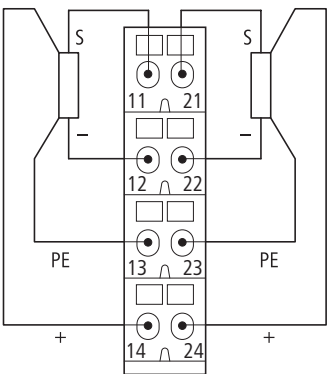


Digital output modules

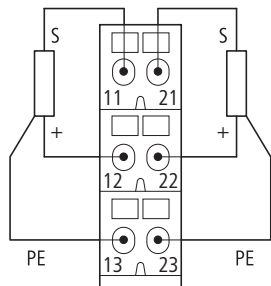
XN-S3x-SBC for
XN-2DO-24VDC-0.5A-P
XN-2DO-24VDC-2A-P



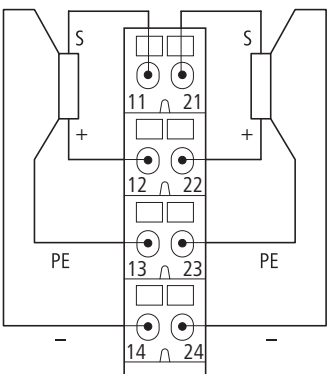
XN-S4x-SBCS for
XN-2DO-24VDC-0.5A-P
XN-2DO-24VDC-2A-P



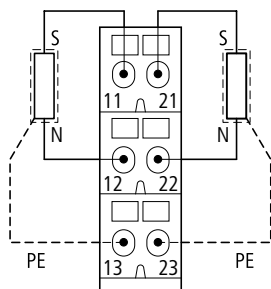
XN-S3x-SBC for XN-2DO-24VDC-0.5A-N



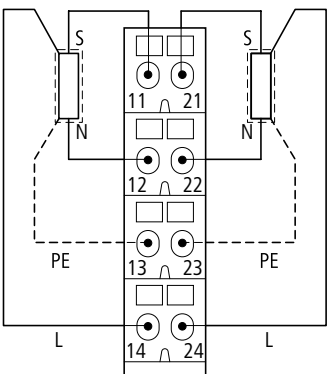
XN-S4x-SBCS for XN-2DO-24VDC-0.5A-N



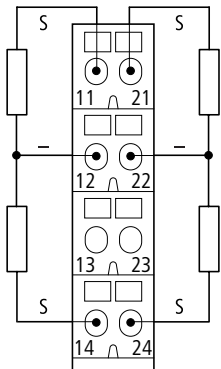
XN-S3x-SBC for XN-2DO-120/230VAC-0.5A



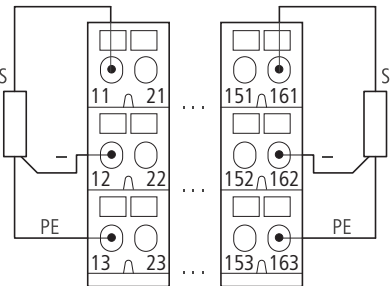
XN-S4x-SBCS for XN-2DO-120/230VAC-0.5A



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

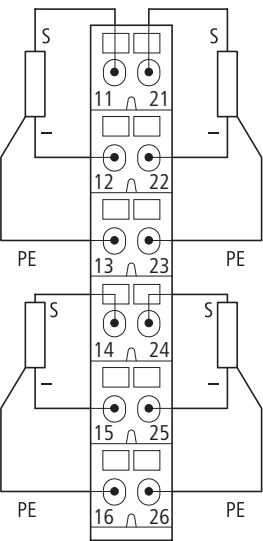


XN-B3x-SBC for XN-16DO-24VDC-0.5A-P

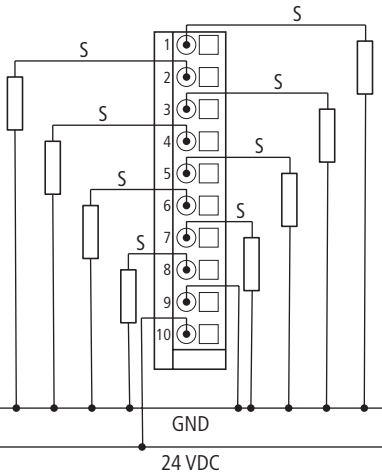


Digital output modules

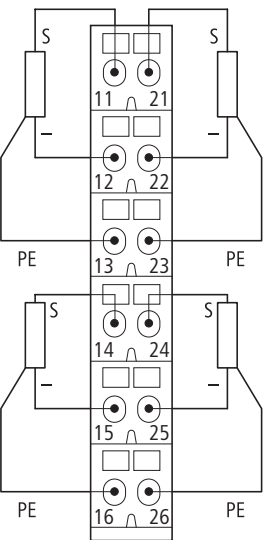
XN-S6x-SBCS for XN-4DO-24VDC-0.5A-P



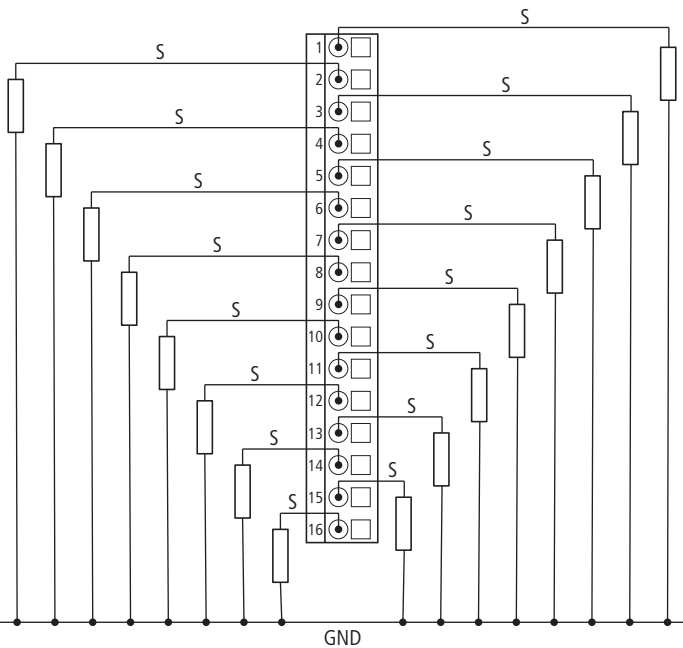
XNE-8DO-24VDC-0.5A-P



XN-B6x-SBCSBC for XN-32DO-24VDC-0.5A-P



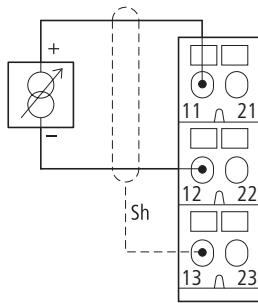
XNE-16DO-24VDC-0.5A-P



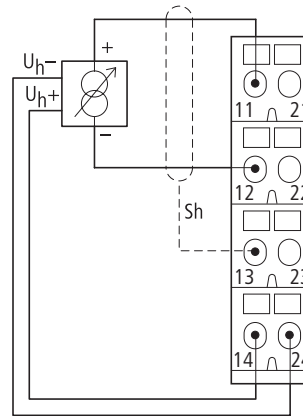
Document M001685-01, 2006/2007

Analog input modules

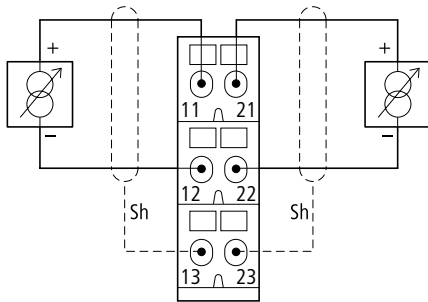
XN-S3x-SBB for XN-1AI-I(0/4...20MA)
XN-S3x-SBB for XN-1AI-U(-10/0...+10V)
Analog sensor/transmitter without transmitter supply



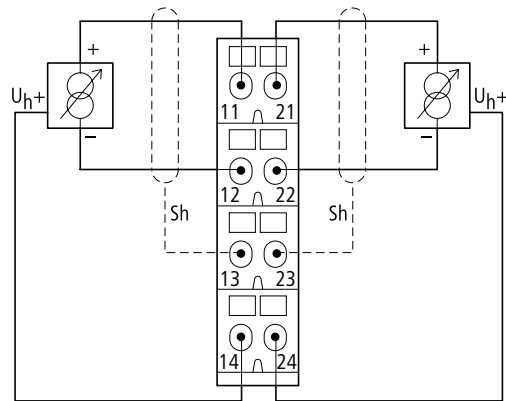
XN-S4x-SBBS for XN-1AI-I(0/4...20MA)
XN-S4x-SBBS for XN-1AI-U(-10/0...+10V)
Analog sensor/transmitter with floating transmitter supply



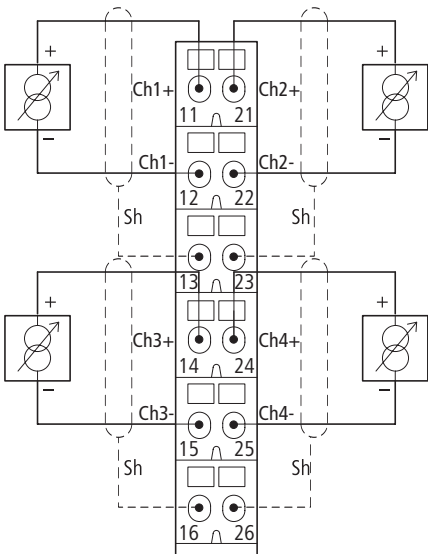
XN-S3x-SBB for XN-2AI-I(0/4...20MA), XN-2AI-V(-10/0...+10VDC)
Analog sensor/transmitter without transmitter supply



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

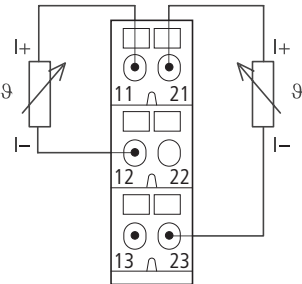


XN-S6x-SBCSBC for XN-4AI-U/I
Analog sensor/transmitter without transmitter supply

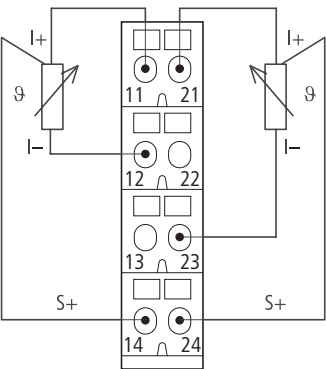


Analog input modules

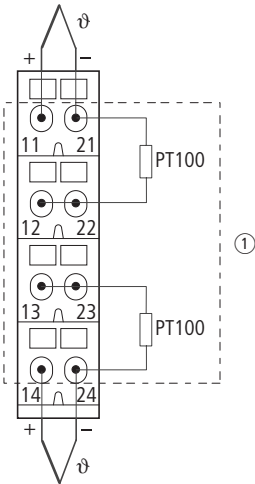
XN-S3x-SBB, for XN-2AI-PT/Ni-2/3
2-wire connection



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



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



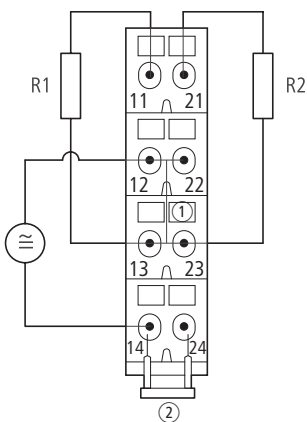
a Cold junction compensation in base module



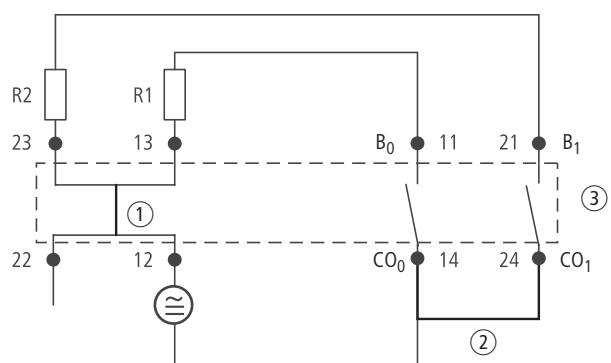
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Relay modules

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

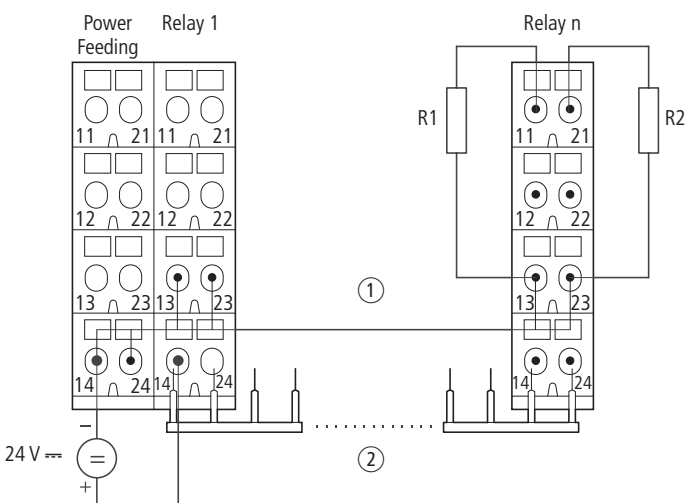


Module circuit XN-S4x-SBBS for XN-2DO-R-NC



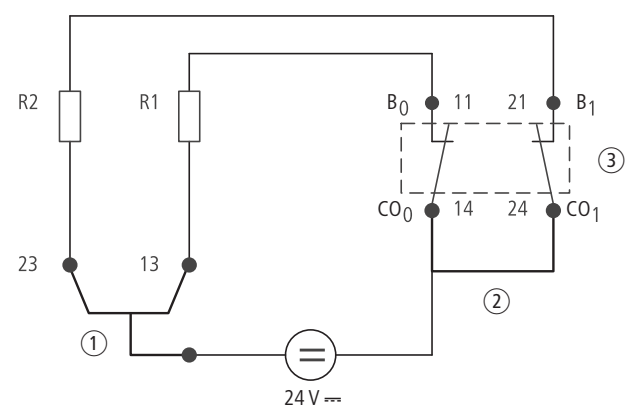
- a Linked in the electronics
- b Cross-link via QVR in the base module
- c Electronic module

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



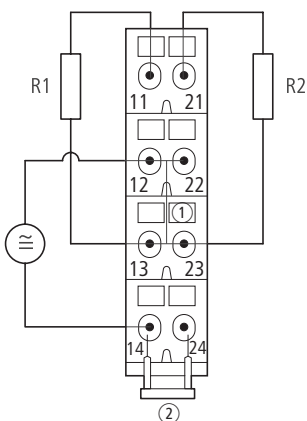
- a Supply via C-rail
- b Max. 8 relay modules

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

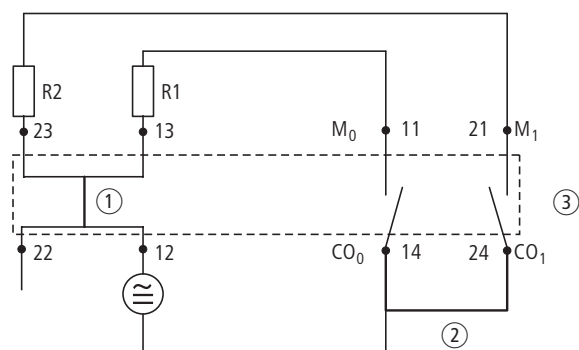


- a C-rail
- b Cross-link via QVR in the base module
- c Electronic module

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



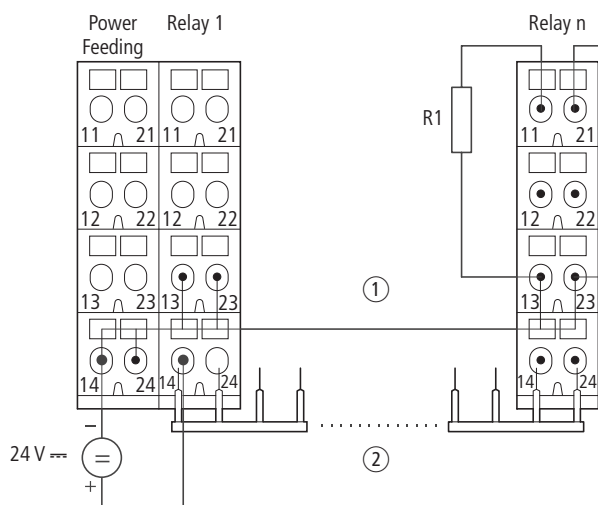
- a Linked in the electronics
- b Cross-link via QVR in the base module
- c Electronic module



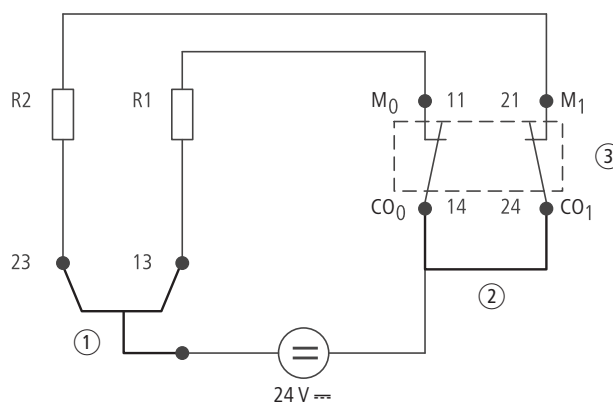
Relay modules

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

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



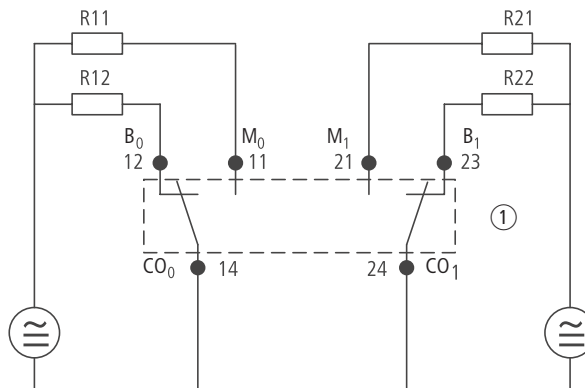
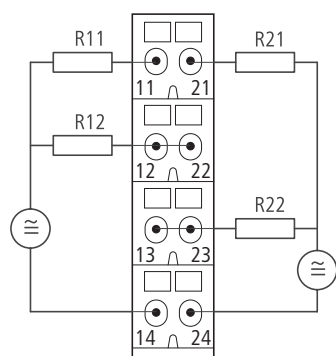
- a Supply via C-rail
- b Max. 8 relay modules



- a C-rail
- b Cross-link via QVR in the base module
- c Electronic module

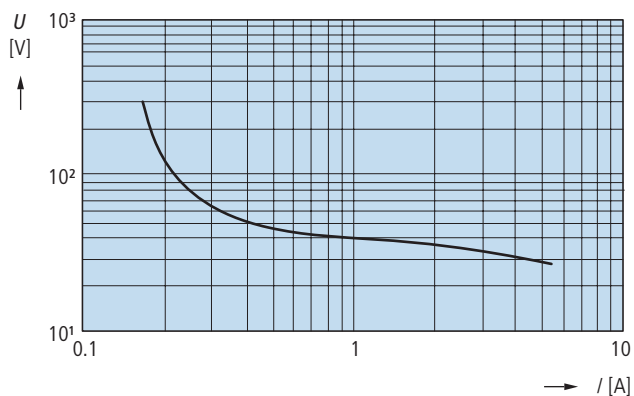
Module circuit XN-S4x-SBBS for XN-2DO-R-CO

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



- a Electronic module

Load limit curve

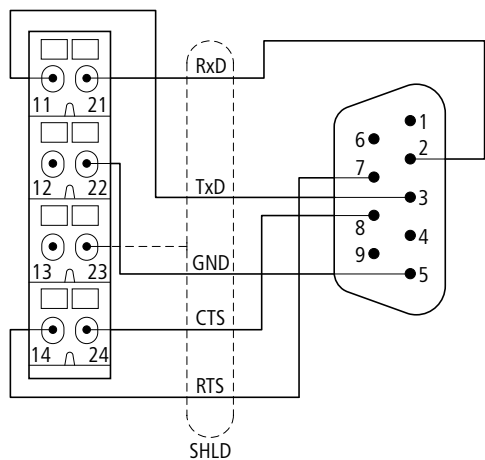


Definition:

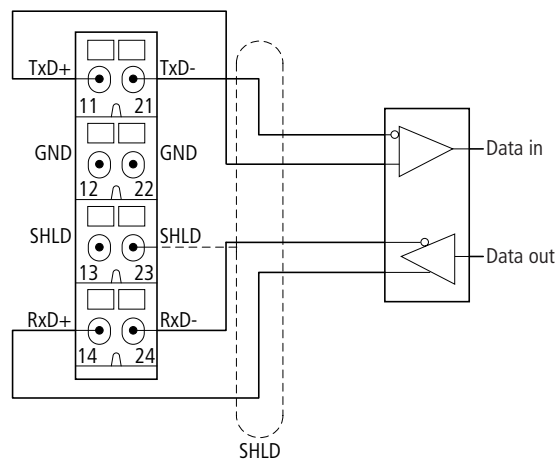
After 1000 switching cycles, no arc with a duration >10ms shall occur.

Serial interfaces

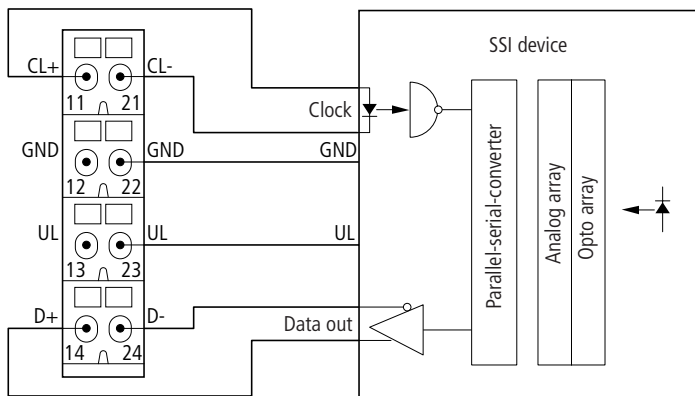
XN-S4x-SBBS for XN-1RS232 and Submin-D connector



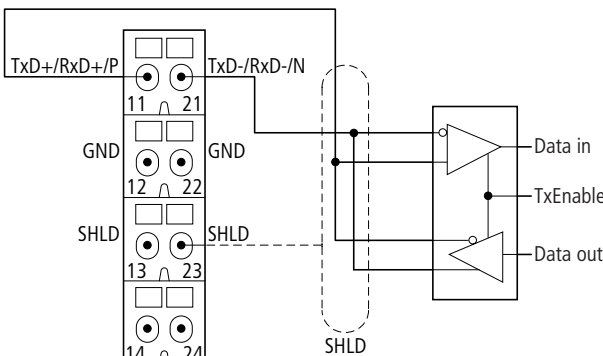
XN-S4x-SBBS for XN-1RS485/422 in RS422 mode



XN-S4x-SBBS for XN-1SSI on an SSI rotary encoder

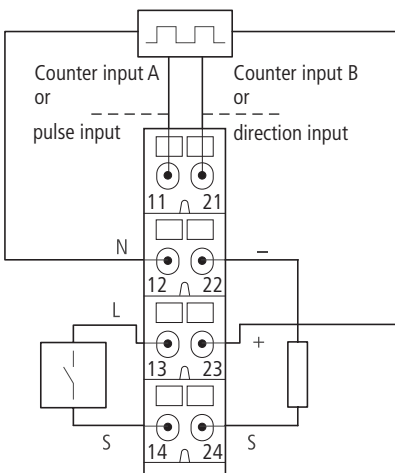


XN-S4x-SBBS for XN-1RS485/422 in RS485 mode

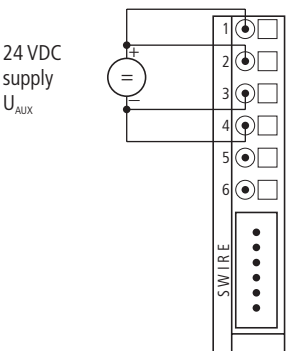


Technology module/counters

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



XNE-1SWIRE

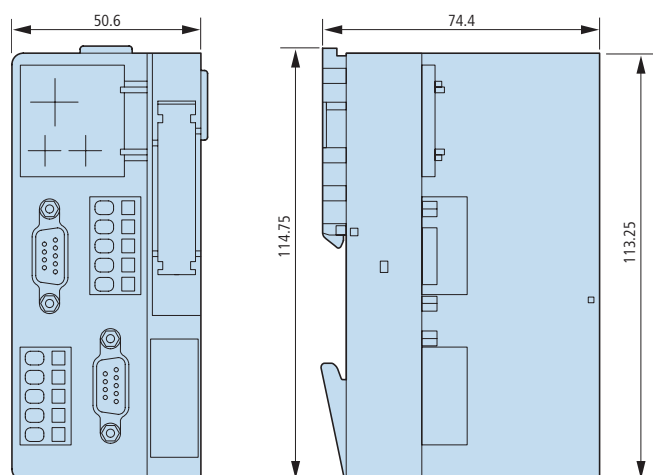


Gateways

XN-GWBR-PBDP
XN-GWBR-CANOPEN
XN-GWBR-DNET
XN-GWBR-MODBUS-TCP

XN-GW-PDBP-1.5MB
XN-GW-PDBP-12MB
XN-GW-PDBP-12MB-STD
XN-GW-CANOPEN
XN-GW-DNET

XN-PLC-CANOPEN



Note:

The connectors / terminals vary according to version.



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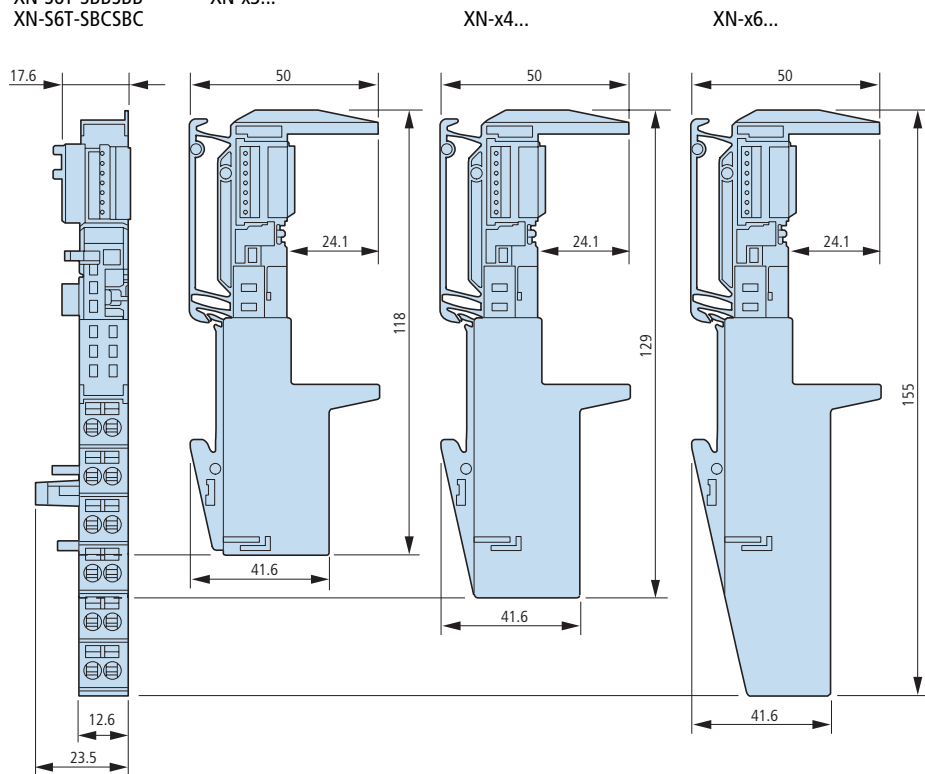
Base modules

Spring-loaded

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

XN-x3...

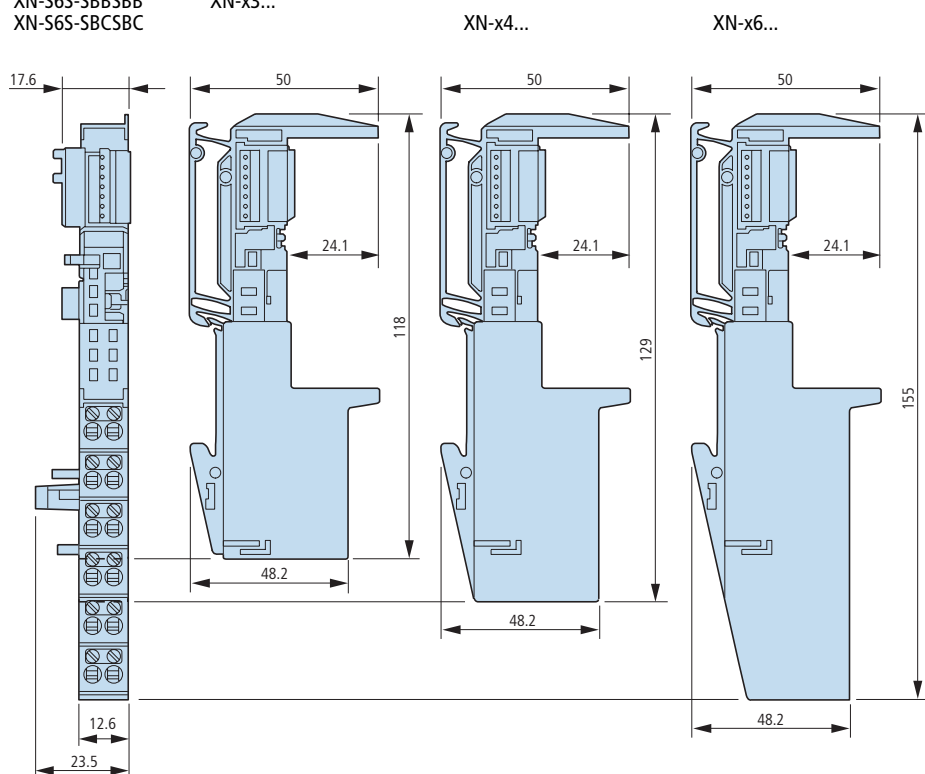


Screw terminal

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

XN-x3...



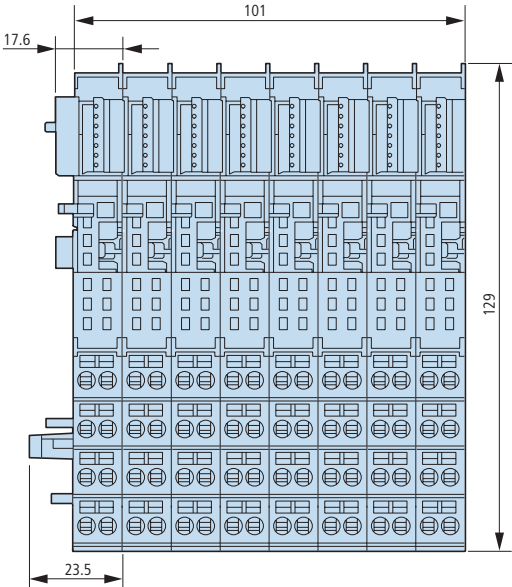
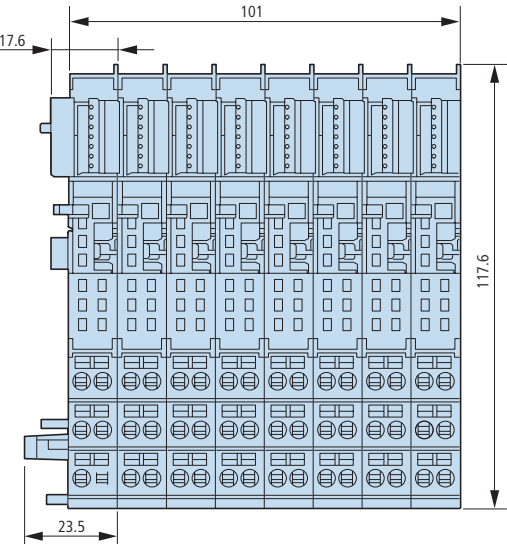
Base modules as block modules

Spring-loaded 2/3-wire
XN-B3T-SBB
XN-B3T-SBC

Screw terminal 2/3-wire
XN-B3S-SBB
XN-B3S-SBC

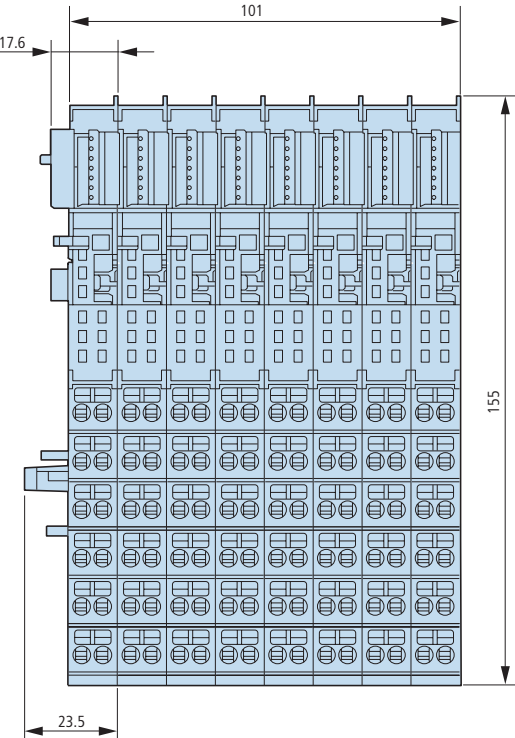
Spring-loaded 4-wire
XN-B4T-SBBC

Screw terminal 4-wire
XN-B4S-SBBC



Spring-loaded 2/3-wire
XN-B6T-SBCSBC

Screw terminal 2/3-wire
XN-B6S-SBCSBC



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Electronic 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-4AI-U/I

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

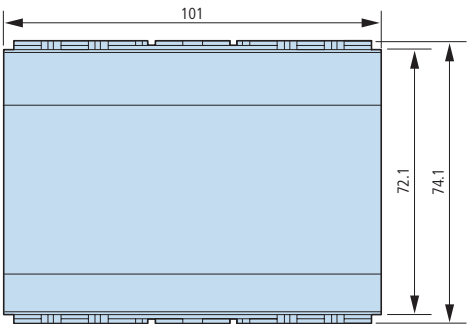
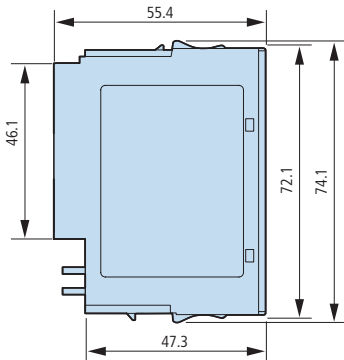
Electronic modules in block design

- XN-16DI-24VDC-P

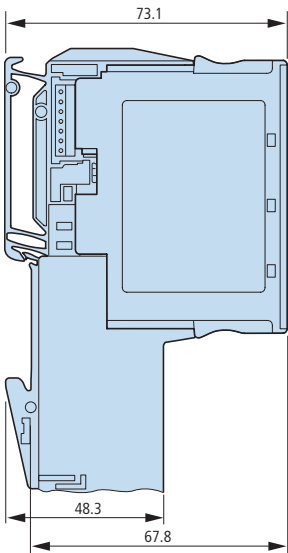
XN-32DI-24VDC-P

XN-16DO-24VDC-0.5A-P

XN-32DO-24VDC-0.5A-P

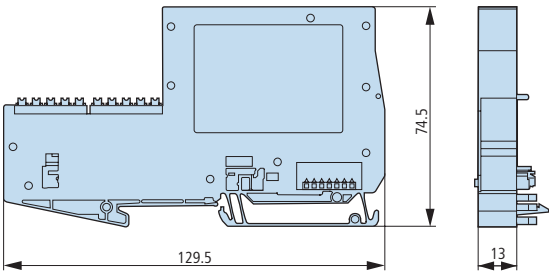


XI/ON module complete

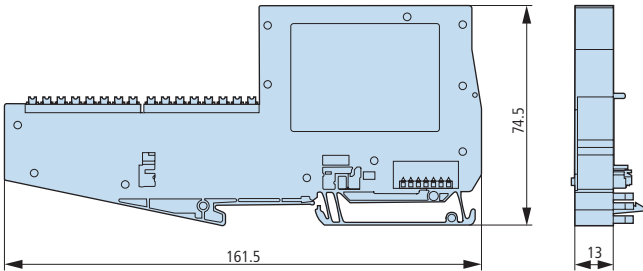


Electronic modules Eco

XNE-8DO-24VDC-0.5A-P
XNE-8DI-24VDC-0.5A-P

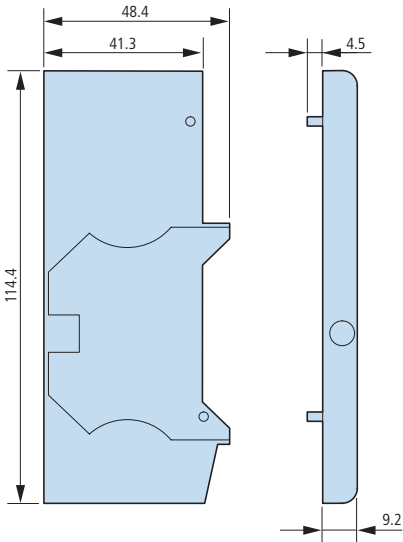


XNE-16DO-24VDC-0.5A-P
XNE-16DI-24VDC-0.5A-P



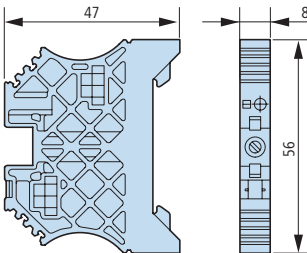
End plate

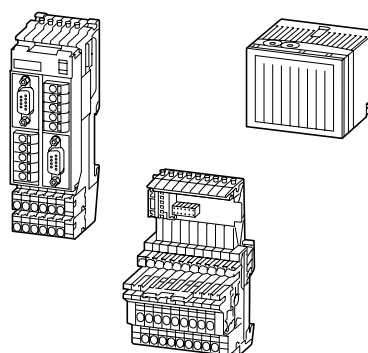
XN-ABPL



End bracket

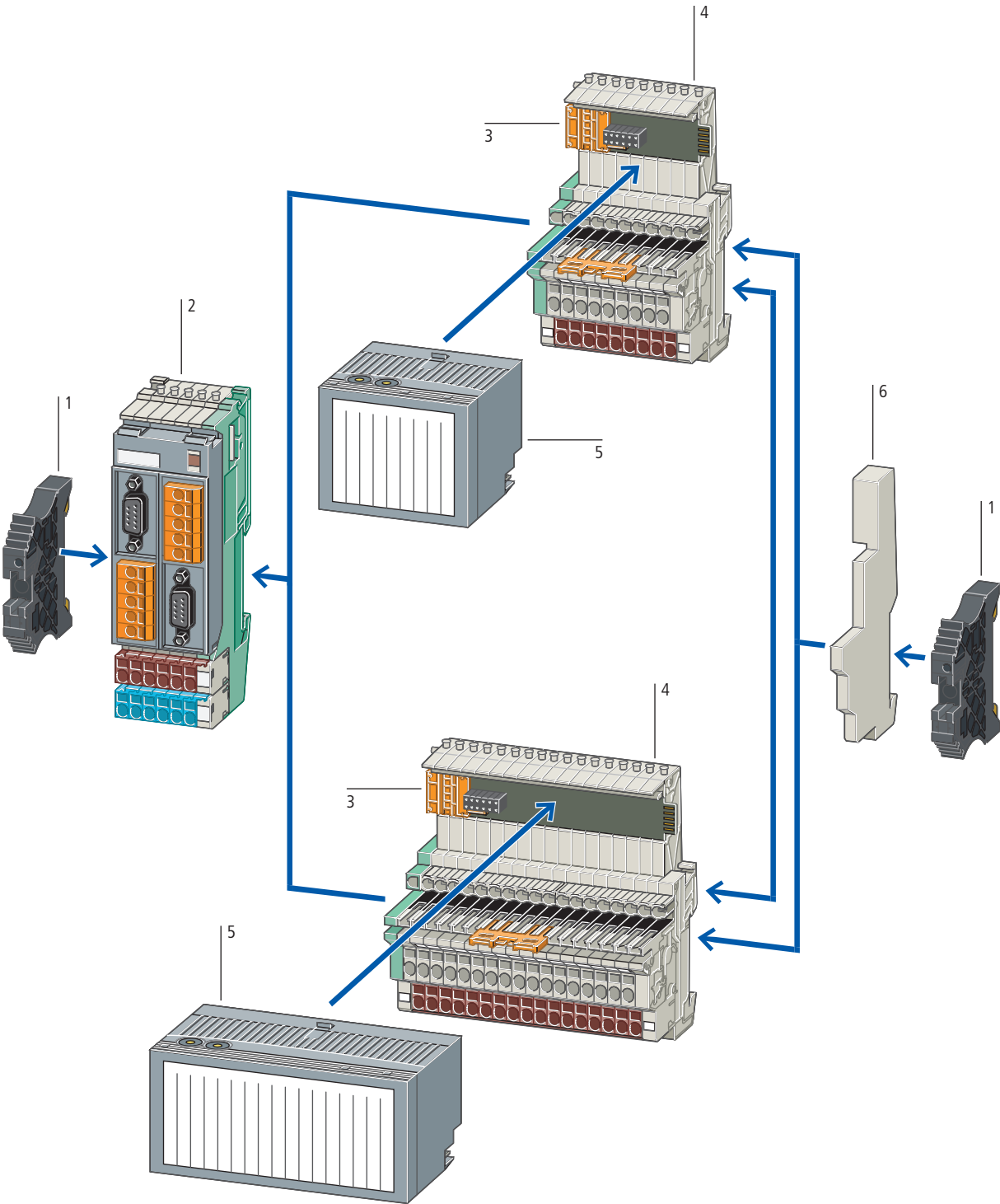
XN-WEW-35/2-SW



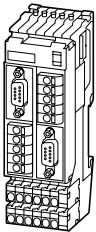
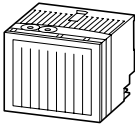


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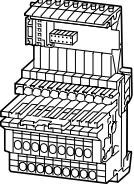


CANopen bridge	2	Base modules	4	Accessories	
→ Page 3/4		→ Page 3/5		End bracket WEW-35/2	6
				End plate ZAP-MA/25	1
Sliding bus link	3	Electronic modules	5	→ Page 3/44	
		→ Page 3/4			

	Inputs	Outputs	Description	For use with	Type Order No.	Price See price sheet	Std. pack
	Number	Number					
Bridges							
A maximum of 10 I/O modules can be connected per bridge							
	—	—	CAN connection to ISO 11 898: 2 × SUB-D, 9-pin Bus connection for direct wiring: 2 × spring-loaded terminals type LMZF	—	CAN-BRIDGE 85 51 224177		1 off
Electronic 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 85 51 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 85 51 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 85 51 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 85 51 224182		
Analog input	4	—	Input range, voltage -10/0...+10 V Input range, current 0/4...20 mA	ZSB-1.5/16-S/S/PE	CAN-4AI/UI 85 51 224194		
	4	—	PT100, 2, 3, 4-wire	ZSB-1.5/16-S/S/PE-PT100	CAN-PT100 85 51 224197		
	4	—	Thermo K, J, R, S, T, N, E, B	ZSB-1.5/16-S/S/PE-TF	CAN-THERMO 85 51 224196		
Digital output	—	4	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	CAN-4DO/2.0A-PK 85 51 224183		
	—	8	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	CAN-8DO/0.5A-PK 85 51 224184		
	—	16	Positive switching, short-circuit proof	ZSB-1.5/16-S/- ZSB-1.5/16-S/-/PE	CAN-16DO/0.5A-PK 85 51 224185		
	—	2 × 8	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/8-S/S/PE/PE/-	CAN-16DO/0.5A-P-2X8 85 51 224189		
	—	2 × 16	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/16-S/S/- ZSB-1.5/16-S/S/P/P/-	CAN-32DO/0.5A-P-2X16 85 51 224186		
	—	8	8-way relay, make contact	ZSB-1.5/8-S/S ZSB-1.5/8-S/S/-/PE	CAN-8DO/R-NO 85 51 224187		
	—	16	16-way relay, make contact	ZSB-1.5/16-S/S ZSB-1.5/16-S/S/-/PE	CAN-16DO/R-NO 85 51 224188		
Analog output	—	4	Output range, voltage -10/0...+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 85 51 224195		
Combi modules	4	4	Positive switching, digital input/ output, short-circuit proof	ZSB-1.5/8-S/-/PE-EI	CAN-4DI/4DO/0.5A-PK 85 51 224191		
	24	8	Positive switching, digital input/ output, short-circuit proof	ZSB-1.5/16-S/S/+ ZSB-1.5/16-S/S/- ZSB-1.5/16-S/S/+/-	CAN-24DI/8DO/0.5A-PK 85 51 224190		
Combi modules	3	1	Input / output range, voltage -10/0...+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 85 51 224192		



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Connection types	For use with	Type Order No.	Price See price sheet	Std. pack	Notes
Base modules					
For connection to electronic module; rail-mounted					
	2-wire connection	CANopen: CAN-32DI/P-2X16	ZSB-1.5/16-S/S/+/- 85 51 224051	1 off	–
		CANopen: CAN-32DO/0.5A-P-2X16	ZSB-1.5/16-S/S/-/- 85 51 224059		–
		CANopen: CAN-8DI/P	ZSB-1.5/8-S/+ 85 51 224045		Also suitable for Bero ® 2-wire initiator
		CANopen: CAN-24DI/8DO/0.5A-PK	ZSB-1.5/16-S/S/+/- 85 51 224063		–
		CANopen: CAN-8DO/R-NO	ZSB-1.5/8-S/S 85 51 224061		–
		CANopen: CAN-16DI/P	ZSB-1.5/16-S/+ 85 51 224048		Also suitable for Bero ® 2-wire initiator
		CANopen: CAN-16DI/P-2x8	ZSB-1.5/8-S/S/+/- 85 51 224049		–
		CANopen: CAN-4DO/2.0A-PK CANopen: CAN-8DO/0.5A-PK	ZSB-1.5/8-S/- 85 51 224055		–
		CANopen: CAN-16DO/R-NO	ZSB-1.5/16-S/S 85 51 224062		–
		CANopen: CAN-16DO/0.5A-PK	ZSB-1.5/16-S/- 85 51 224056		–





Connection types	For use with	Type Order No.	Price See price sheet	Std. pack	Notes
Base modules					
3-wire connection	CANopen: CAN-16DO/0.5A-PK	ZSB-1.5/16-S/-/PE 85 51 224054		1 off	–
	CANopen: CAN-16DI/P	ZSB-1.5/16-S/+/- 85 51 224047			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-8DI/P	ZSB-1.5/8-S/+/- 85 51 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 85 51 224040			Cross-link (ZQV) for setting individual channels in delivery package
	CANopen: CAN-16DI/P-2x8	ZSB-1.5/8-S/S/+/-/- 85 51 224050			–
	CANopen: CAN-4DO/2.0A-PK CANopen: CAN-8DO/0.5A-PK	ZSB-1.5/8-S/-/PE 85 51 224053			–
	CANopen: CAN-32DI/P-2X16	ZSB-1.5/16-S/S/+/-/- 85 51 224052			–
	CANopen: CAN-32DO/0.5A-P-2X16	ZSB-1.5/16-S/S/P/PI/- 85 51 224060			–
	CANopen: CAN-16DO/0.5A-P-2X8	ZSB-1.5/8-S/S/PE/PE/- 85 51 224058			–
	CANopen: CAN-24DI/8DO/0.5A-PK	ZSB-1.5/16-S/S/+/-/- 85 51 224064			–
	CANopen: CAN-THERMO	ZSB-1.5/16-S/S/PE-TF 85 51 224075			Cold junction compensation and linearization Accuracy figures take into account linearity, hysteresis and cold-junction compensation error at T _u = 23 °C A cable break is reliably detected Cross-link (ZQV) for setting individual channels in delivery package
4-wire connection	CANopen: CAN-24DI/8DO/0.5A-PK	ZSB-1.5/16-S/S/+/-/- 85 51 224065			–
	CANopen: CAN-16DI/P	ZSB-1.5/16-S/+/-/PE 85 51 224046			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-8DO/R-NO	ZSB-1.5/8-S/S/-/PE 85 51 224069			–
	CANopen: CAN-8DI/P	ZSB-1.5/8-S/+/-/PE 85 51 224043			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-16DO/R-NO	ZSB-1.5/16-S/S/-/PE 85 51 224070			–
	CANopen: CAN-4DI/4DO/0.5A-PK	ZSB-1.5/8-S/+/-/PE-EI 85 51 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 85 51 224074			Cross-link (ZQV) for setting individual channels in delivery package
PT100 2, 3, 4-wire connection and PT100 mixed operation	CANopen: CAN-PT100	ZSB-1.5/16-S/S/PE-PT100 85 51 224076			Cross-link (ZQV) for setting individual channels in delivery package

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			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 for digital modules 70 for analog modules
Ambient temperature			
Operation		°C	0 ... 55
Storage		°C	-20/85
Relative air humidity, non-condensing (IEC/EN 60068-2-30)		%	15 ... 95
Electromagnetic compatibility (EMC)			
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, requirements as per EN 55011 Group 1, Class A, Emitted RFI as per EN 50081-2
Degree of protection (IEC/EN 60529)			IP20
Vibration resistance (IEC/EN 60068-2-6)			Yes
Shock resistance (IEC 60068-2-27)			20 m/s ² (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 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 $\triangle$ continuous current via distribution strip ZVL
Conductor cross-section		mm ²	1.5
Rated impulse withstand voltage	U_{imp}	kV	4
Pollution degree			3
Connections in TOP direction			Spring-loaded
Stripping length		mm	8
Terminal capacity		mm ²	0.13 ... 2.5
Solid		mm ²	0.5 ... 2.5
Flexible		mm ²	0.5 ... 1.5
Flexible with ferrule ³⁾		mm ²	0.5 ... 1.5
Plug gauge IEC/EN 60 947-1			A2

Notes

- 3) Ferrules (gas-tight crimp) to DIN 46228-1

			CAN-BRIDGE
Bridges			
Operating voltage		V DC	24
Operating current		mA	< 60
Data transmission 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 signal	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 signal	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 signal	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
Permissible range	V DC	18...30	18...30	18...30
Field current (without load)		85 mA	85 mA	85 mA
Input resistance		$R_i \leq 125 \Omega$, $R_u = 100 \text{ k}\Omega$	—	—
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 per °C	± 0.03% of measuring range/K	± 0.03% of measuring range/K
Basic error limit at 23 °C		< 0.1% of full-scale value	-200...+400 °C: max. ± 1 K, normally ± 0.5 K +400...+850 °C: max. ± 1.5 K	—
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
Permissible range	V DC	18...30	18...30	18...30	18...30	18...30
Potential 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, $R_L \leq 250 \Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$
Utilization factor	g	100	100	100	50	50
Lamp load	R_{LL} W	≤ 10	≤ 2	≤ 2	—	—
Fuse protection		—	—	—	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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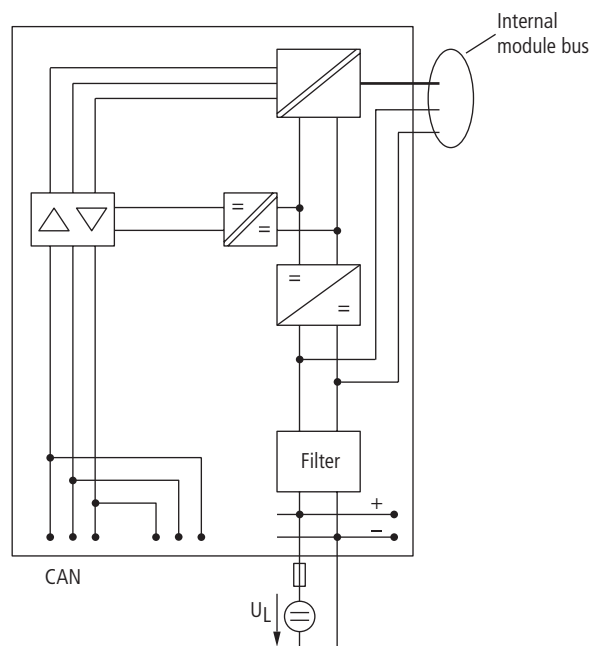
			CAN-8DO/R-NO	CAN-16DO/R-NO
Relay modules				
Operating voltage		V DC	24	24
Permissible range		V DC	18...30	18...30
Potential isolation			Modbus – output (optocoupler/relay) 2 kV _{rms} /min, Modbus – auxiliary voltage (optocoupler) 500 V _{rms} /min	
Field current (without load)			≤ 35 mA	≤ 70 mA
Nominal 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 current: 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 current: 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			CAN-3AI/1AO-UI
Analog output modules			Analog combi modules		
Operating voltage	V DC	24	Operating voltage	V DC	24
Permissible range	V DC	18...30	Permissible range	V DC	18...30
Field current (without load)		85 mA	Field current (without load)		Input: 70 mA, output: ≤ 35 mA
Load resistance		$R_u \leq 600 \Omega$	Input resistance		$R_i \leq 125 \Omega$, $R_u \geq 100k\Omega$
Linearity	%	0.5	Linearity	%	Input: ≤ 0.5, output: ± 0.5
Basic error limit at 23 °C		< 0.8% of full-scale value	Basic error limit at 23 °C		Input: ≤ 0.1% of full-scale value Output: ≤ 0.8% of full-scale value
Transmission frequency	Hz	≤ 50	Limit frequency (–3 db)	Hz	Input: ≤ 50, output: ≤ 50
Temperature coefficient		300 ppm of full scale value per °C	Temperature coefficient		Input: ≤ 360 ppm of full-scale value Output: 300 ppm of full-scale value
Conversion time		5 μs	Conversion time		Input: 25 μs, output: 5 μs
Weight		313 g ± 15%	Load resistance		$R_u \geq 1 k\Omega$, $R_i \leq 400 \Omega$
			Weight		313 g ± 15%

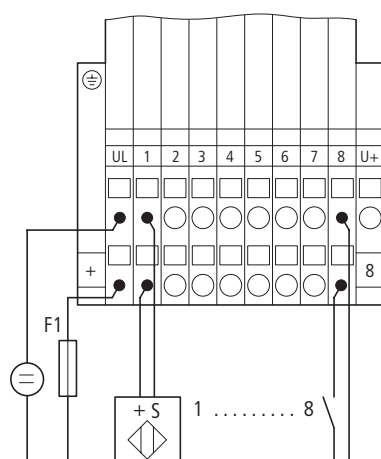
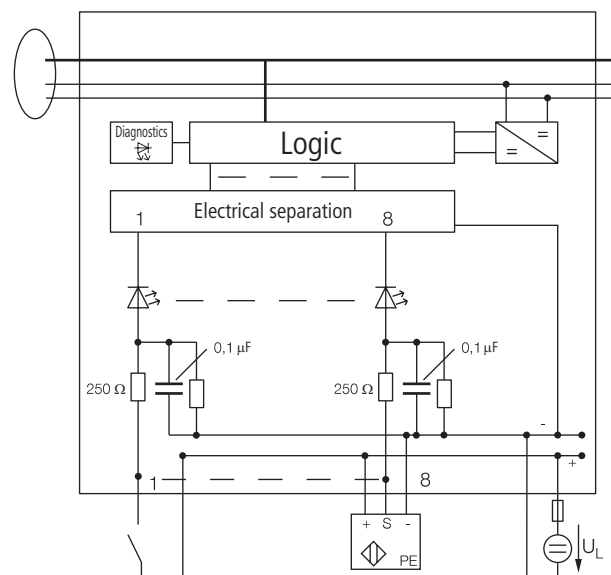
			CAN-4DI/4DO/0.5A-PK	CAN-24DI/8DO/0.5A-PK
Combi modules				
Operating voltage		V DC	24	24
Permissible range		V DC	18...30	18...30
Input delay			Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms	
Potential isolation			Operating voltage – field voltage: 500 V _{rms} /min	Operating voltage – field voltage: 500 V _{rms} /min
Inputs/outputs 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 signal	U_H		11 V DC...30 V DC	15 V DC...30 V DC
High signal	I_H		2 mA...4 mA	2 mA...4 mA
Status '0'				
Low signal	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 $R_L \leq 1 k\Omega$	≈ 3 ms, DO $R_L \leq 1 k\Omega$
Output current		A	≤ 0.5	≤ 0.5
Weight			167 g ± 15%	313 g ± 15%



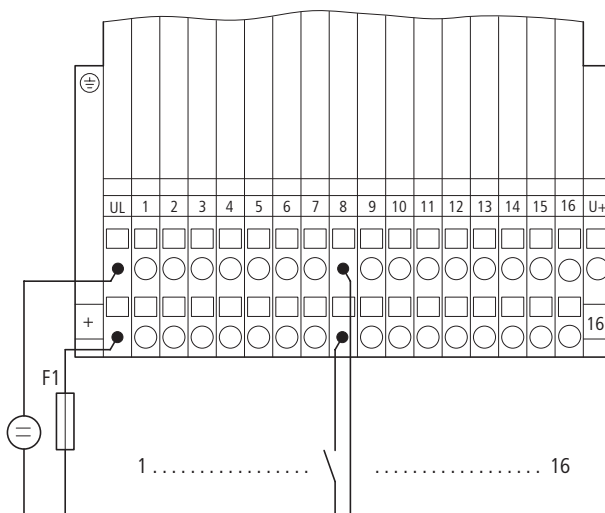
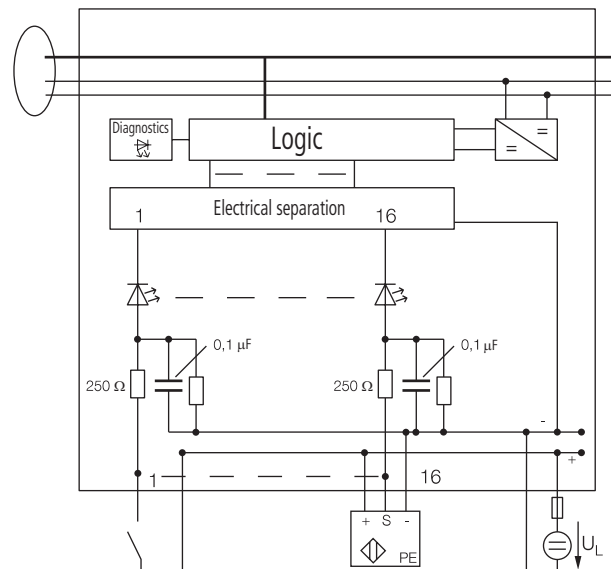
CAN-BRIDGE



CAN-8DI/P

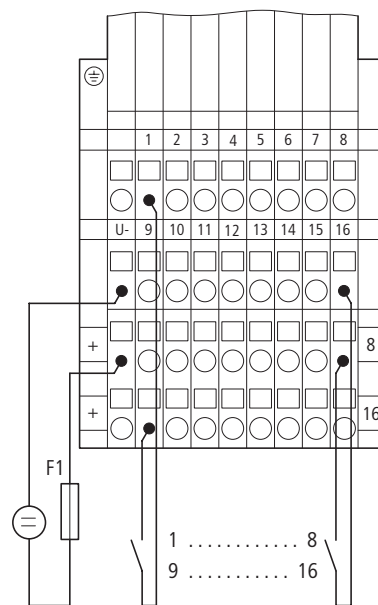
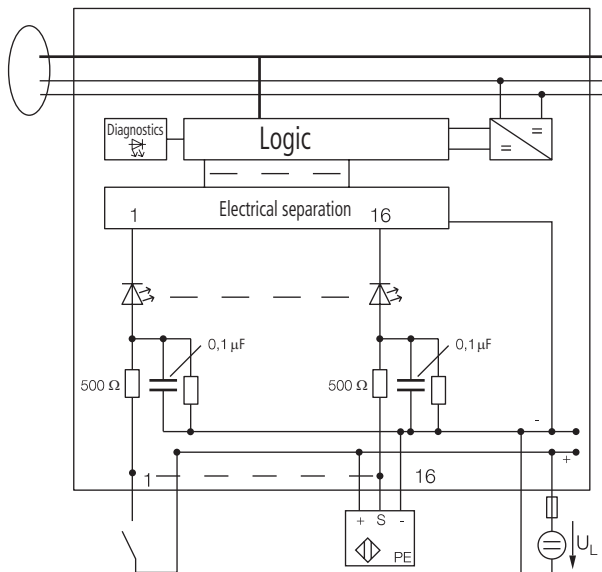


CAN-16DI/P

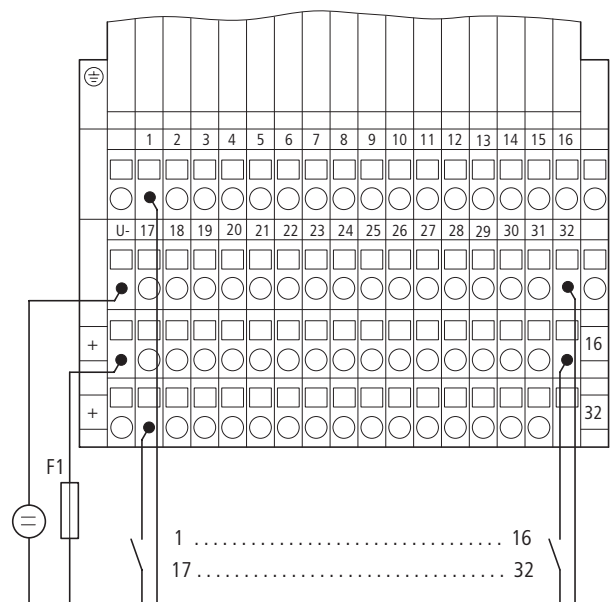
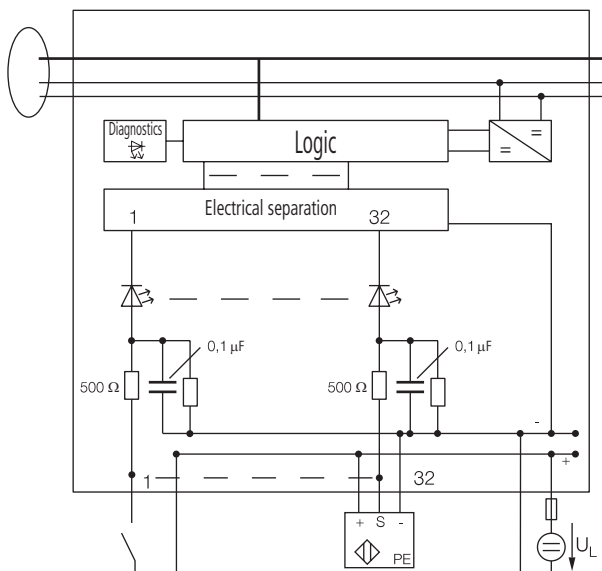


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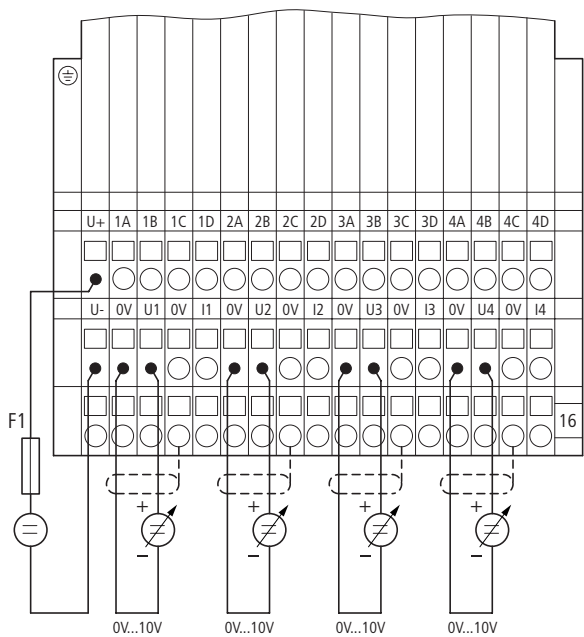
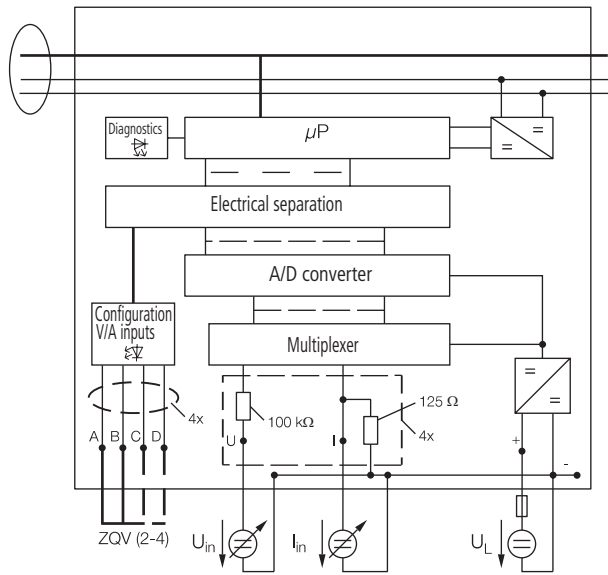
CAN-16DI/P-2X8



CAN-32DI/P-2X16

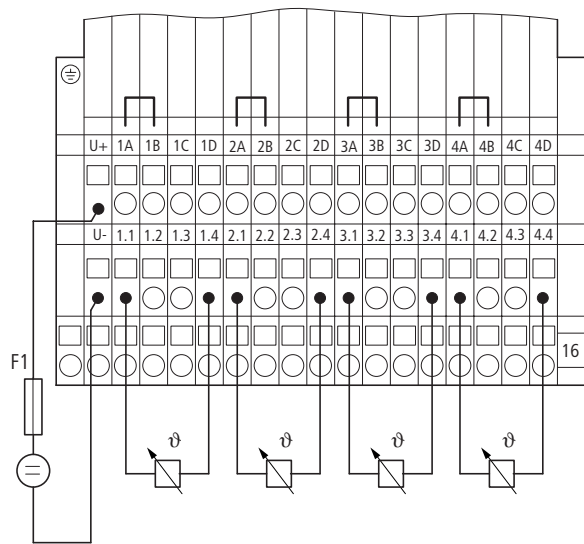
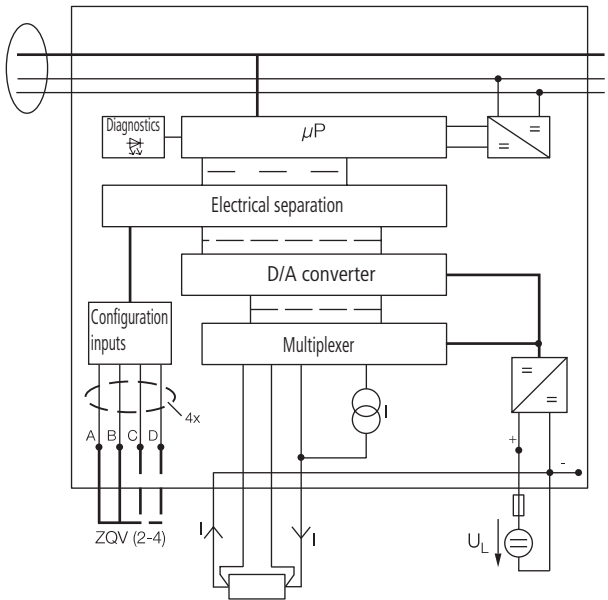


CAN-4AI/UI



	CH1				CH2				CH3				CH4			
Range	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	┌───┐				┌───┐				┌───┐				┌───┐			

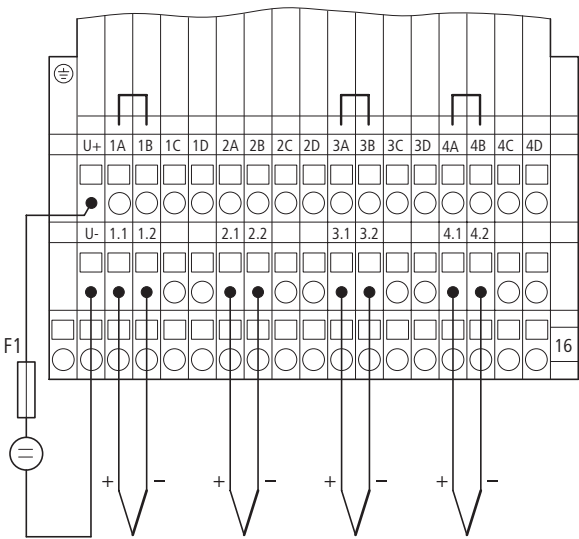
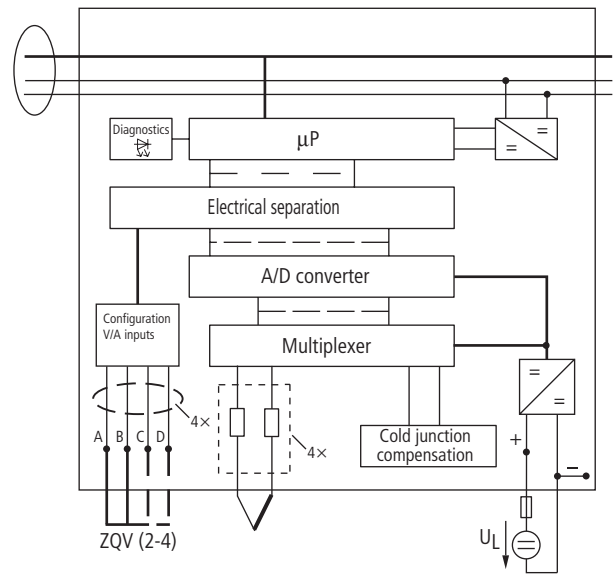
CAN-PT100



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

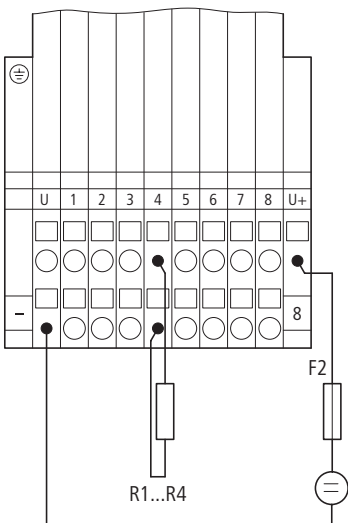
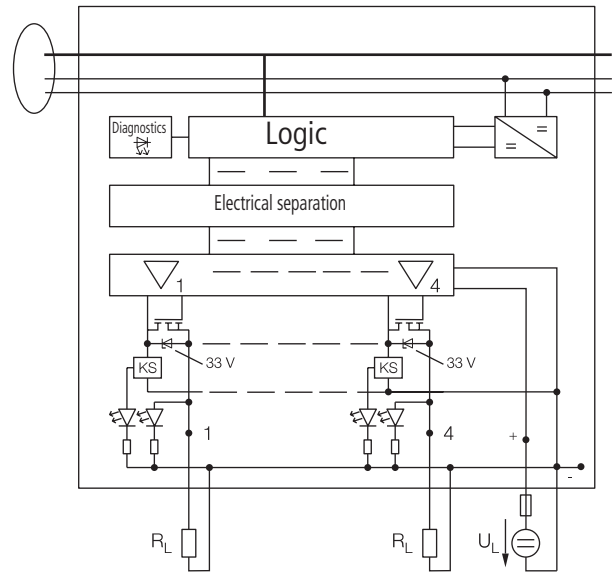


CAN-THERMO

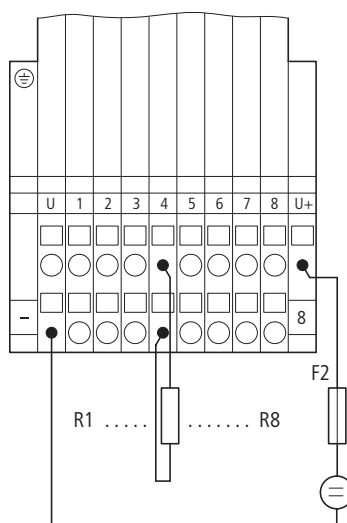
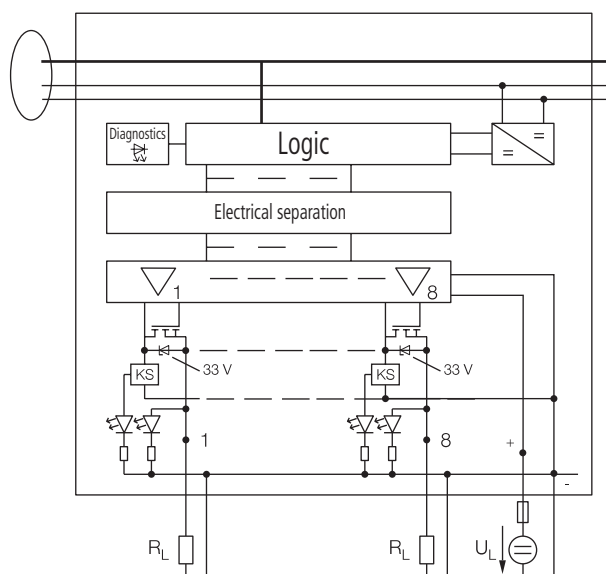


	CH1 IN				CH2 IN				CH3 IN				CH4 IN			
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
K	No jumper															
J	Jumper															
R	Jumper															
S	Jumper															
T					Jumper											
N	Jumper				Jumper											
E	Jumper				Jumper											
B	Jumper				Jumper					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

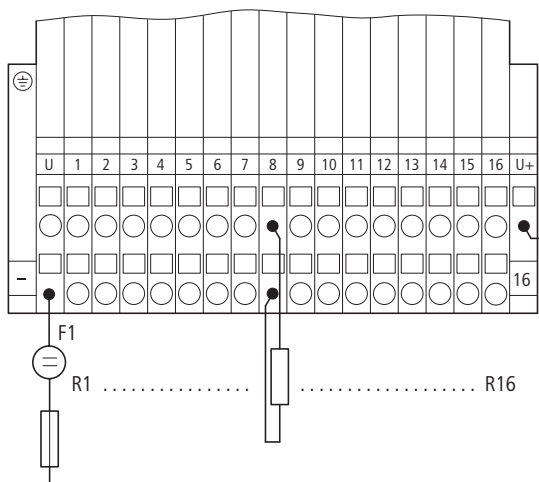
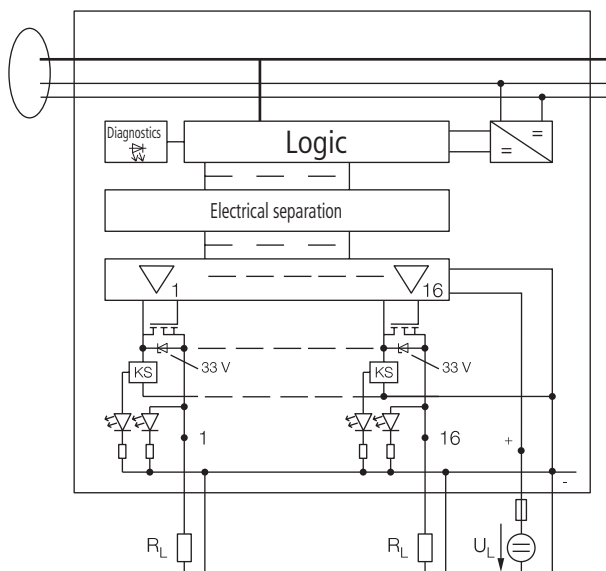
CAN-4DO/2.0A-PK



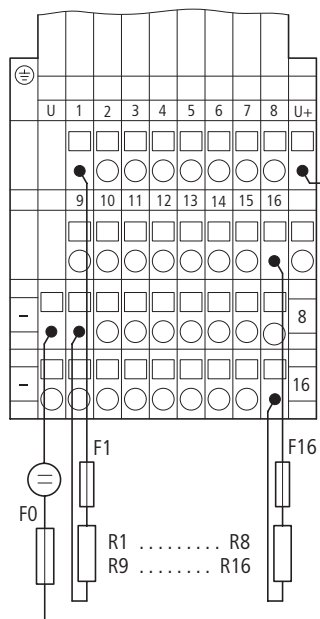
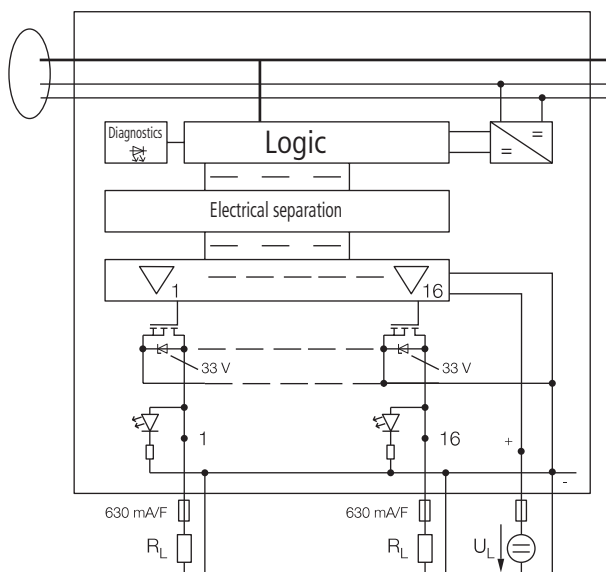
DP-8DO/0.5A-PK



CAN-16DO/0.5A-PK

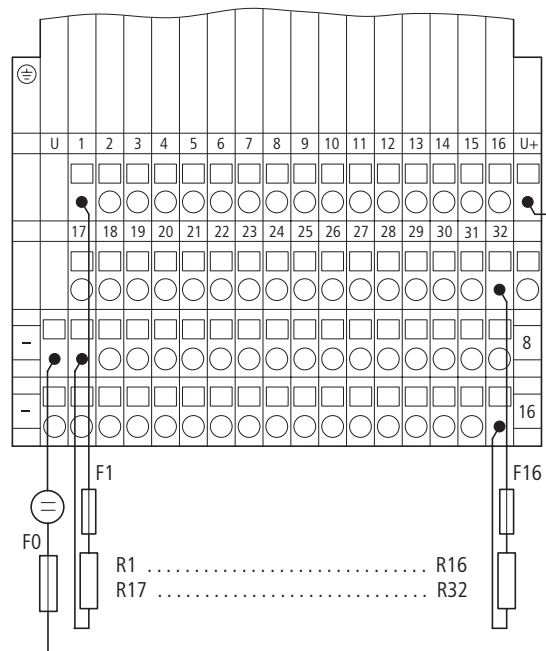
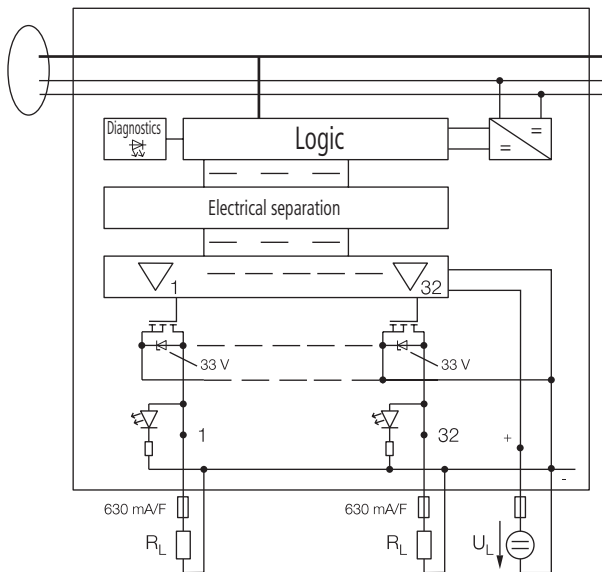


CAN-16DO/0.5A-P-2X8

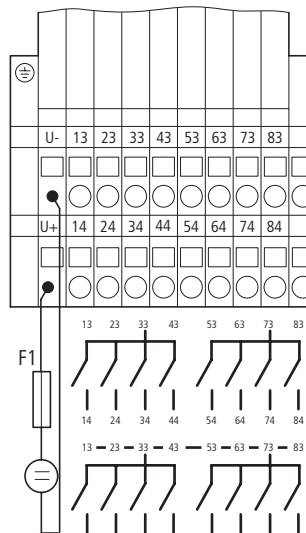
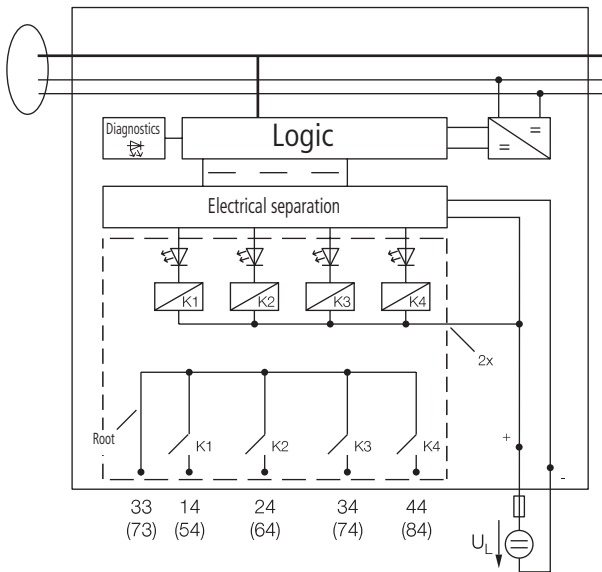


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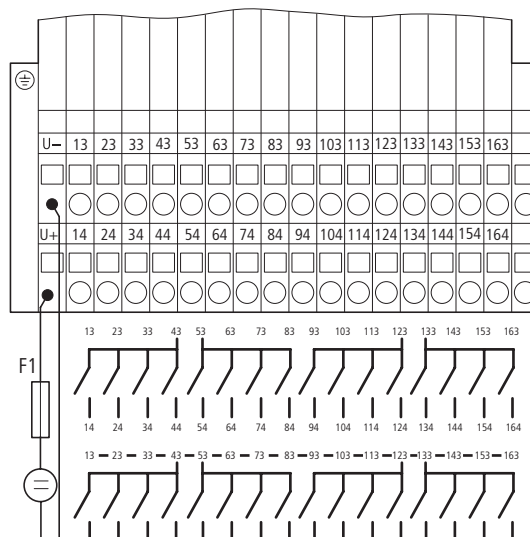
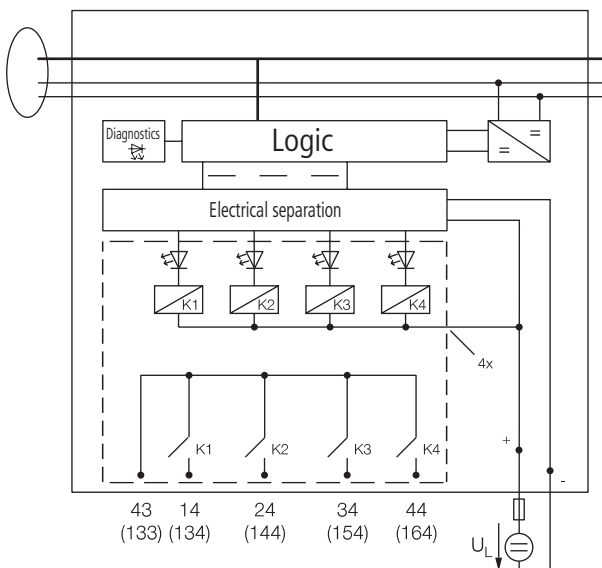
CAN-32DO/0.5A-P-2X16



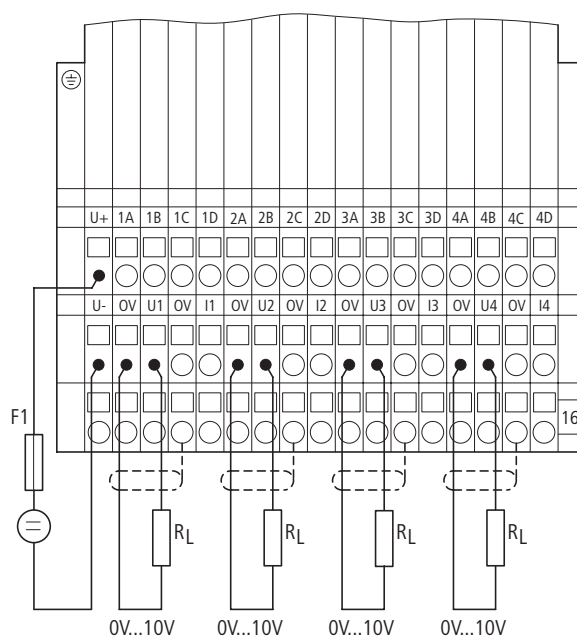
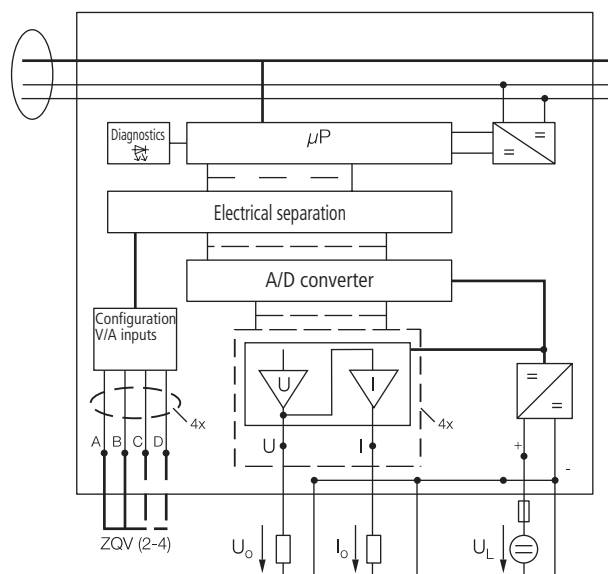
CAN-8DO/R-NO



CAN-16DO/R-NO

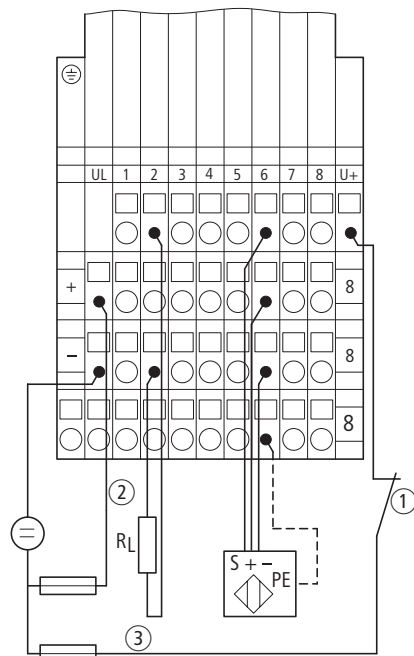
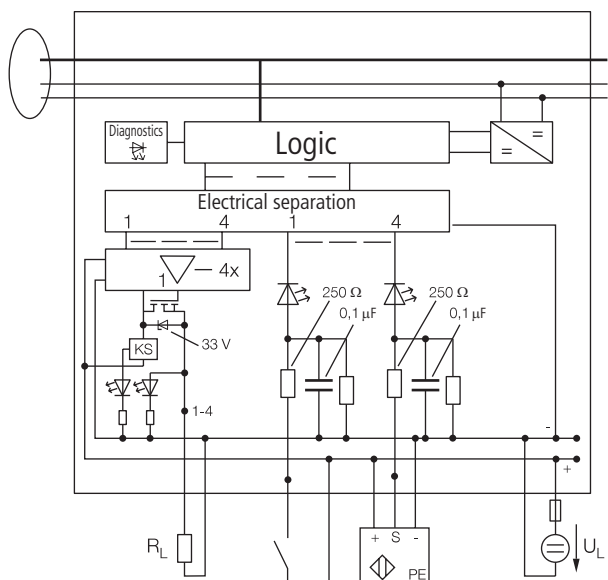


CAN-4AO/UI



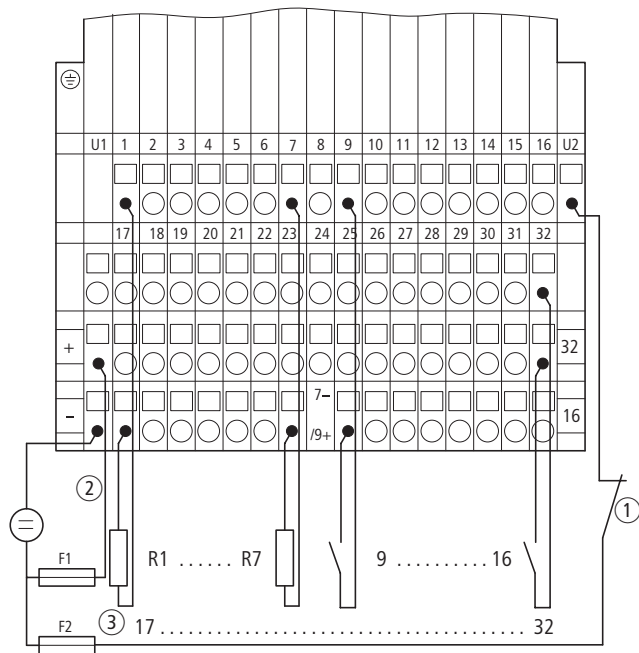
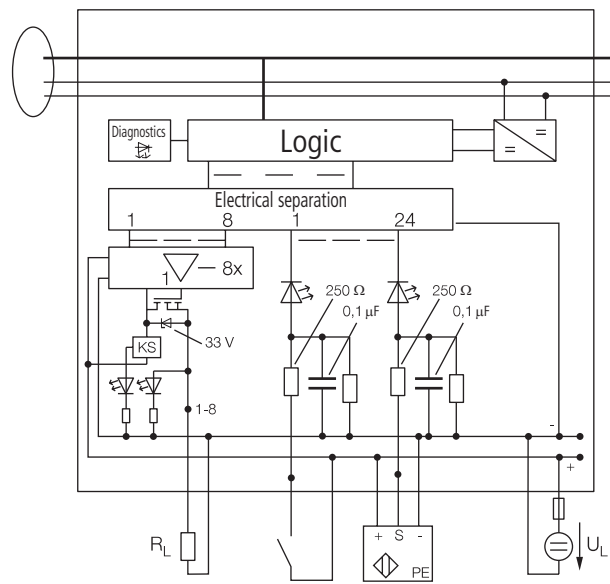
	CH1				CH2				CH3				CH4			
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V					No jumper											
-10...+10V	┌───┐				┌───┐				┌───┐				┌───┐			
0...20mA	┌───┐				┌───┐				┌───┐				┌───┐			
4...20mA	┌───┐				┌───┐				┌───┐				┌───┐			

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



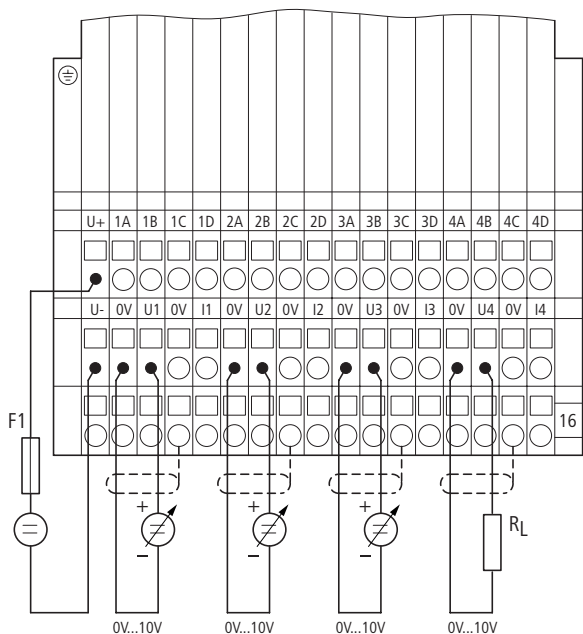
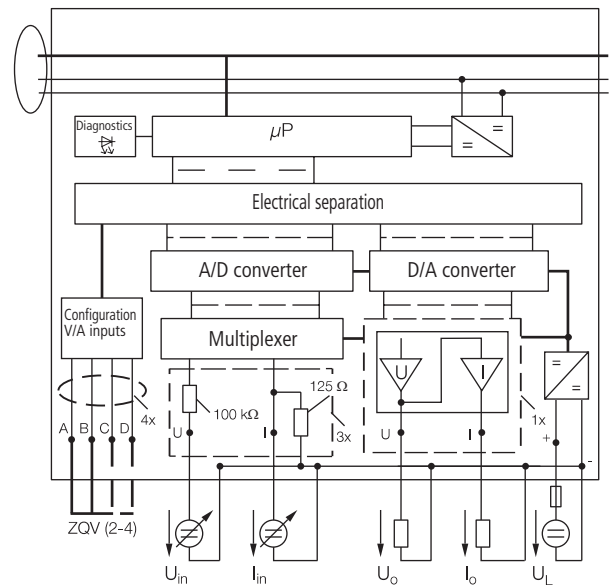
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- b Supply of inputs
- c Supply of outputs

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



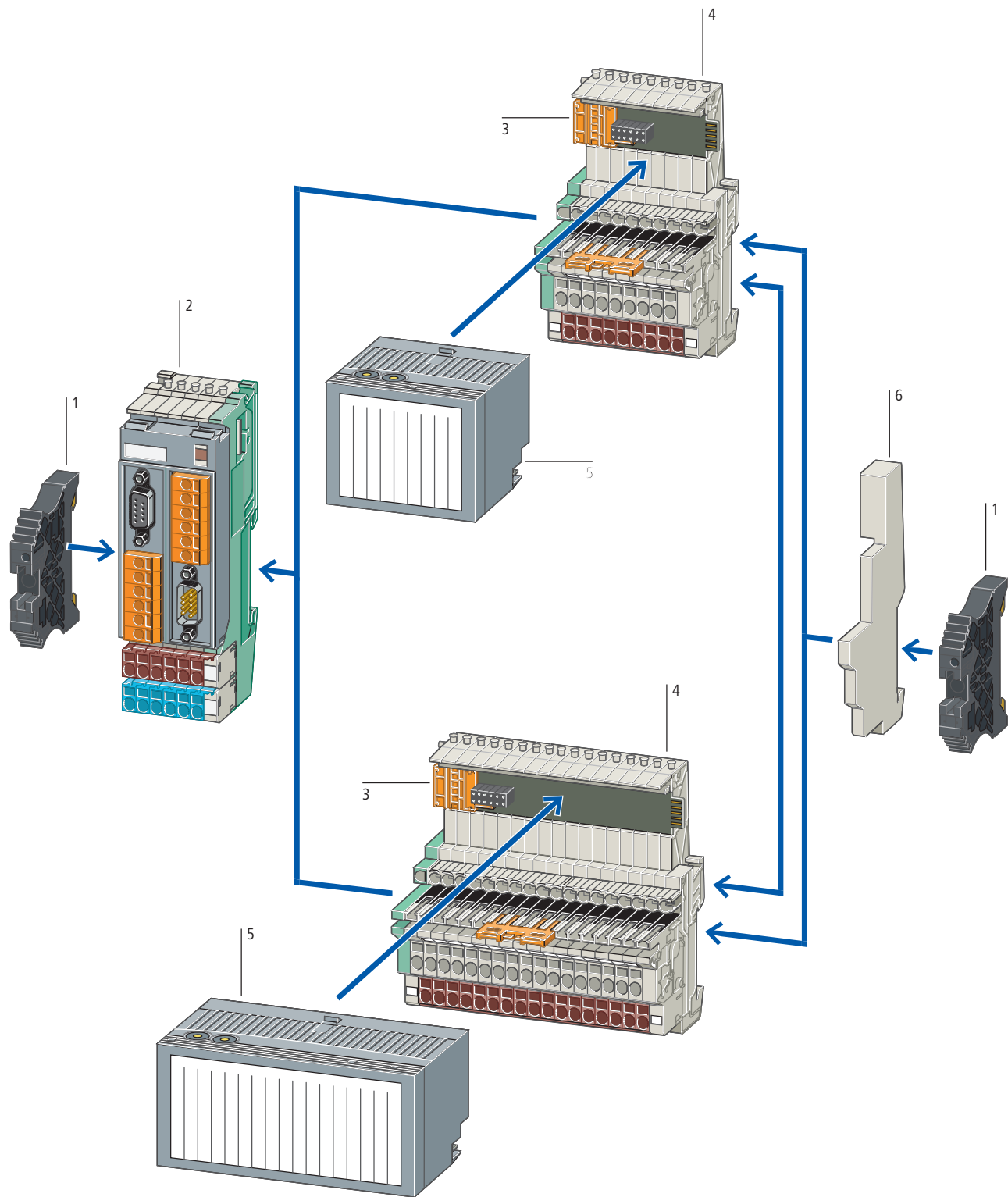
- a External disconnection of all outputs
- b Supply of inputs
- c Supply of outputs

CAN-3AI/1AO-UI



	CH1				CH2				CH3				CH4			
Range	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 3/20

Sliding bus link 3

Base modules 4

→ Page 3/22

Electronic modules 5

→ Page 3/20

Accessories

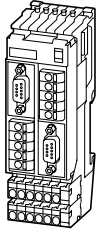
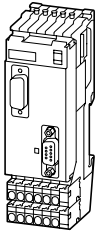
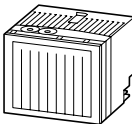
End plate ZAP-MA/25 6

End bracket WEW-35/2 1

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	Inputs	Outputs	Description	For use with	Type Order No.	Price See price sheet	Std. pack
	Number	Number					
Bridges							
A maximum of 10 I/O modules can be connected per bridge							
	—	—	PROFIBUS DP connection as per DIN 19 245: 2 × SUB-D, 9-pin Bus connection for direct wiring: 2 × spring-loaded terminals type LMZF Transmission rate: up to 1.5 Mbit/s	—	DP-Bridge 85 51 224006		1 off
	—	—	PROFIBUS DP connection as per DIN 19 245: 2 × SUB-D, 9-pin Transmission rate: up to 12 Mbit/s	—	DP-BRIDGE/12MB 85 51 224007		
Electronic 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 85 51 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 85 51 224009		
	2 × 8	—	Positive switching, 2 channels per terminal	ZSB-1.5/8-S/S/+/+ ZSB-1.5/8-S/S/+/-/PE	DP-16DI/P-2X8 85 51 224010		
	2 × 16	—	Positive switching, 2 channels per terminal	ZSB-1.5/16-S/S/+/+ ZSB-1.5/16-S/S/+/-/PE	DP-32DI/P-2X16 85 51 224011		
	8	—	Negative switching	ZSB-1.5/8-S/-	DP-8DI/N 85 51 224013		
	8	—	230 V AC, 50 Hz	ZSB-1.5/16-S/-250V	DP-8DI/230VAC 85 51 224012		
Digital output	—	4	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	DP-4DO/2.0A-PK 85 51 224015		
	—	8	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	DP-8DO/0.5A-PK 85 51 224017		
	—	16	Positive switching, short-circuit proof	ZSB-1.5/16-S/- ZSB-1.5/16-S/-/PE	DP-16DO/0.5A-PK 85 51 224020		
	—	2 × 8	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/8-S/S/PE/PE/-/-	DP-16DO/0.5A-P-2X8 85 51 224018		
	—	2 × 16	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/16-S/S/-/- ZSB-1.5/16-S/S/P/P/-/-	DP-32DO/0.5A-P-2X16 85 51 224021		
	—	—					

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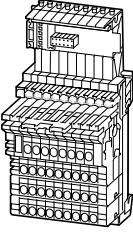
	Inputs	Outputs	Description	For use with	Type Order No.	Price See price sheet	Std. pack
	Number	Number					
Electronic modules							
Combi modules	8	4	2 A, positive switching, digital input/output, short-circuit proof	—	DP-8DI/4DO/2.0A-PK 85 51 224027		1 off
	8	8	Positive switching, digital input/output, short-circuit proof	ZSB-1.5/8-S/S/+/-/-	DP-8DI/8DO/0.5A-PK 85 51 224025		
	24	8	Positive switching, digital input/output, short-circuit proof	ZSB-1.5/16-S/S/+/-/+ ZSB-1.5/16-S/S/+/-/+/- ZSB-1.5/16-S/S/+/-/+/-	DP-24DI/8DO/0.5A-PK 85 51 224023		
Counter module	—	—	1 channel, up/down, 25 kHz	ZSB-1.5/16-S/-/PE-Z	DP-1CNT/24V 85 51 224028		
Analog input	4	—	Input range voltage -10/0...+10 V	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	DP-4AI/UI 85 51 224030		
	4	—	PT100, 2, 3, 4-wire	ZSB-1.5/16-S/S/PE- PT100	DP-4AI/PT100 85 51 224031		
	4	—	Thermo K, J, R, S, T, N, E, B	ZSB-1.5/16-S/S/PE-TF	DP-4AI/THERMO 85 51 224032		
Analog output	—	4	Output range voltage -10/0...+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 85 51 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 85 51 224016		
	—	16	16-way relay, make contact	ZSB-1.5/16-S/S ZSB-1.5/16-S/S/-/PE	DP-16DO/R-NO 85 51 224019		
	—	8	8-way relay, changeover contact isolated	—	DP8DO/R-CO 85 51 224022		
Combi modules	3	1	Input / output range, voltage -10/0...+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 85 51 224311		





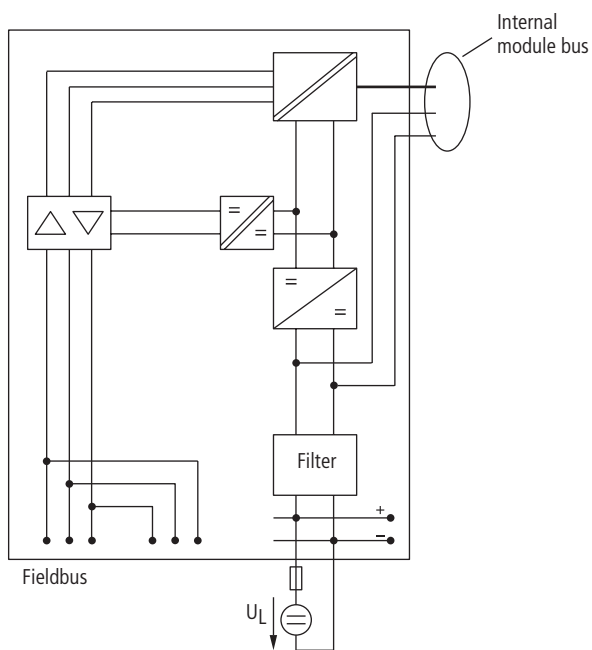
Connection types	For use with	Type Order No.	Price See price sheet	Std. pack	Notes
Base modules For connection to electronic module; rail-mounted					
	2-wire connection	PROFIBUS: DP-24DI/8DO/0.5A-PK	ZSB-1.5/16-S/S/+/-+ 85 51 224063	1 off	—
		PROFIBUS: DP-16DO/R-NO	ZSB-1.5/16-S/S 85 51 224062		—
		PROFIBUS: DP-8DI/P	ZSB-1.5/8-S/+ 85 51 224045		Also suitable for Bero ® 2-wire initiator
		PROFIBUS: DP-8DI/115V AC PROFIBUS: DP-8DI/230V AC	ZSB-1.5/16-S/-250V 85 51 224096		—
		PROFIBUS: DP-8DO/R-NO	ZSB-1.5/8-S/S 85 51 224061		—
		PROFIBUS: DP-16DI/P	ZSB-1.5/16-S/+ 85 51 224048		Also suitable for Bero ® 2-wire initiator
		PROFIBUS: DP-16DI/P-2X8	ZSB-1.5/8-S/S/+/-+ 85 51 224049		—
		PROFIBUS: DP-32DI/P-2X16	ZSB-1.5/16-S/S/+/-+ 85 51 224051		—
		PROFIBUS: DP-32DO/0.5A-P-2X16	ZSB-1.5/16-S/S/-/- 85 51 224059		—
		PROFIBUS: DP-8DI/N PROFIBUS: DP-4DO/2.0A-PK PROFIBUS: DP-8DO/0.5A-PK	ZSB-1.5/8-S/- 85 51 224055		—
		PROFIBUS: DP-16DO/0.5A-PK	ZSB-1.5/16-S/- 85 51 224056		—
	3-wire connection	PROFIBUS: DP-16DI/P	ZSB-1.5/16-S/+/- 85 51 224047		Also suitable for Bero ® 2-wire initiator
		PROFIBUS: DP-16DI/P-2X8	ZSB-1.5/8-S/S/+/-/- 85 51 224050		—
		PROFIBUS: DP-8DI/P	ZSB-1.5/8-S/+/- 85 51 224044		Also suitable for Bero ® 2-wire initiator
		PROFIBUS: DP-16DO/0.5A-P-2X8	ZSB-1.5/8-S/S/PE/PE/-/- 85 51 224058		—
		PROFIBUS: DP-16DO/0.5A-PK	ZSB-1.5/16-S/-/PE 85 51 224054		—
		PROFIBUS: DP-4AI/UI PROFIBUS: DP-4AO/UI PROFIBUS: DP-3AI/1AO-UI	ZSB-1.5/16-S/S/PE 85 51 224040		Cross-link (ZQV) for setting individual channels in delivery package

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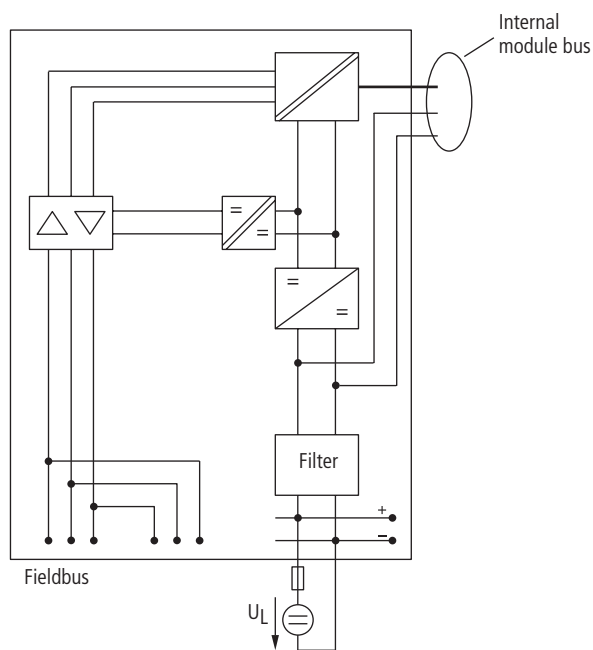
Connection types	For use with	Type Order No.	Price See price sheet	Std. pack	Notes
Base modules					
 4-wire connection	PROFIBUS: DP-4DO/2.0A-PK PROFIBUS: DP-8DO/0.5A-PK	ZSB-1.5/8-S/-/PE 85 51 224053		1 off	—
	PROFIBUS: DP-32DI/P-2X16	ZSB-1.5/16-S/S/+/-/- 85 51 224052			—
	PROFIBUS: DP-32DO/0.5A-P-2X16	ZSB-1.5/16-S/S/P/P/-/- 224060			—
	PROFIBUS: DP-24DI/8DO/0.5A-PK	ZSB-1.5/16-S/S/+/-/- 85 51 224064			—
	PROFIBUS: DP-1CNT/24V	ZSB-1.5/16-S/-/PE-Z 85 51 224073			Cross-link (ZQV) for setting individual channels in delivery package
	PROFIBUS: DP-8DI/8DO/0.5A-PK	ZSB-1.5/8-S/S/+/-/- 85 51 224086			Cross-link (ZQV) for setting individual channels in delivery package
	PROFIBUS: DP-4AI/THERMO	ZSB-1.5/16-S/S/PE-TF 85 51 224075			Cold junction compensation and linearization Accuracy figures take into account linearity, hysteresis and cold-junction compensation error at T ₀ = 23 °C A cable break is reliably detected. Cross-link (ZQV) for setting individual channels in delivery package.
	PROFIBUS: DP-24DI/8DO/0.5A-PK	ZSB-1.5/16-S/S/+P/+/-/- 85 51 224065			—
	PROFIBUS: DP-16DO/R-NO	ZSB-1.5/16-S/S/-/PE 85 51 224070			—
	PROFIBUS: DP-8DO/R-NO	ZSB-1.5/8-S/S/-/PE 85 51 224069			—
	PROFIBUS: DP-4AI/UI PROFIBUS: DP-4AO/UI PROFIBUS: DP-3AI/1AO-UI	ZSB-1.5/16-S/S/PE-+UI 85 51 224074			Cross-link (ZQV) for setting individual channels in delivery package
	PROFIBUS: DP-8DI/P	ZSB-1.5/8-S/+/-/-/PE 85 51 224043			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-16DI/P	ZSB-1.5/16-S/+/-/-/PE 85 51 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 85 51 224076			Cross-link (ZQV) for setting individual channels in delivery package



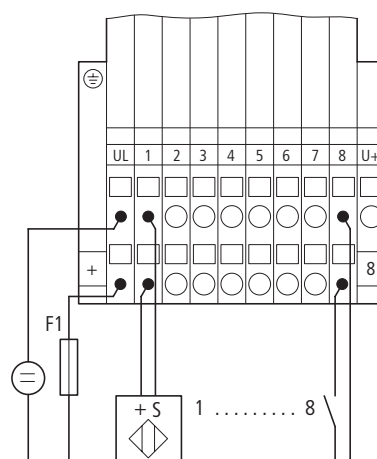
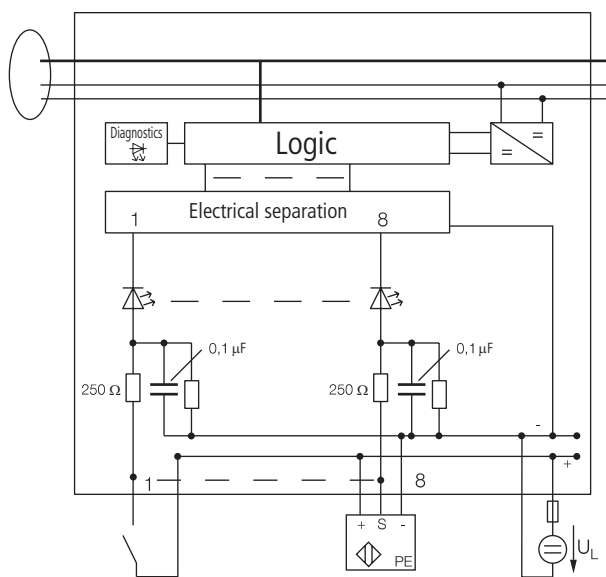
DP-BRIDGE



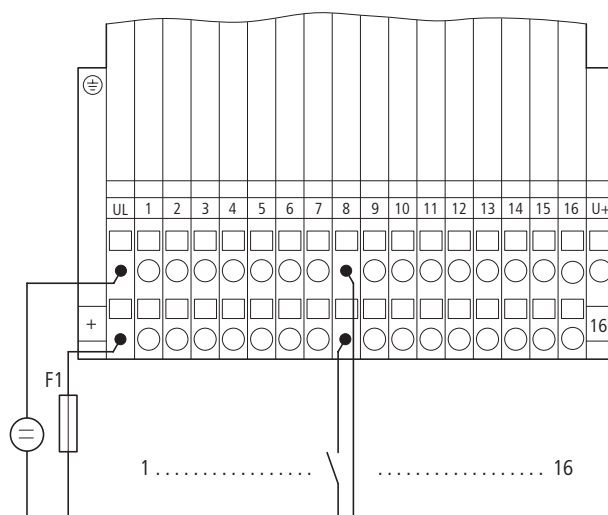
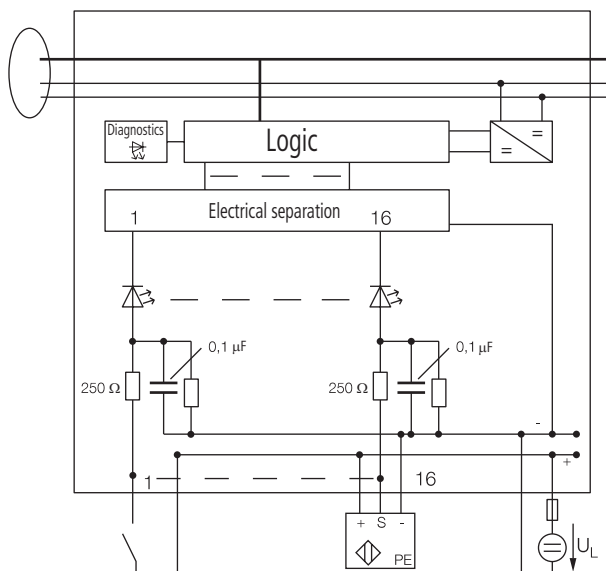
DP-BRIDGE/12MB



DP-8DI/P

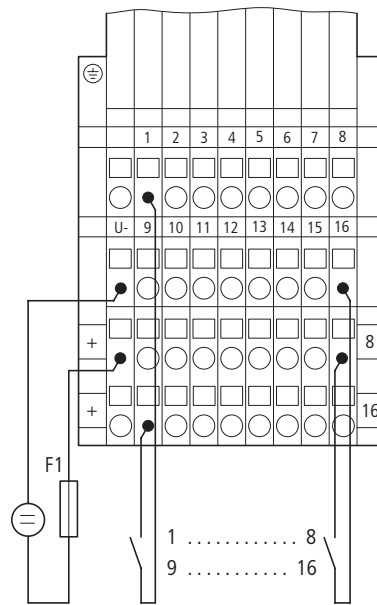
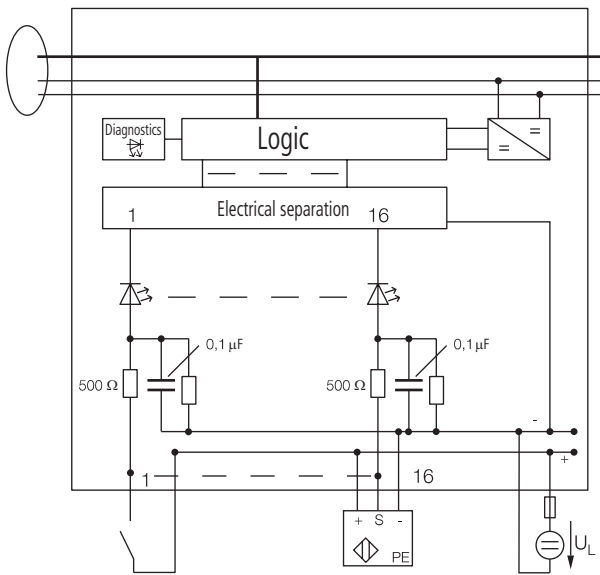


DP-16DI/P

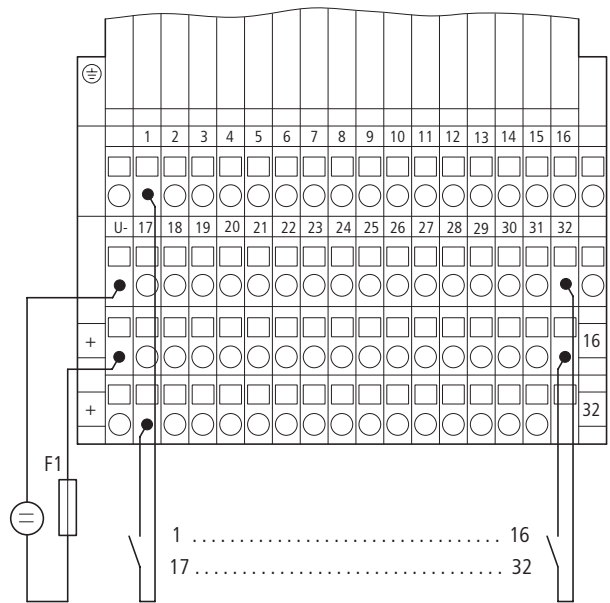
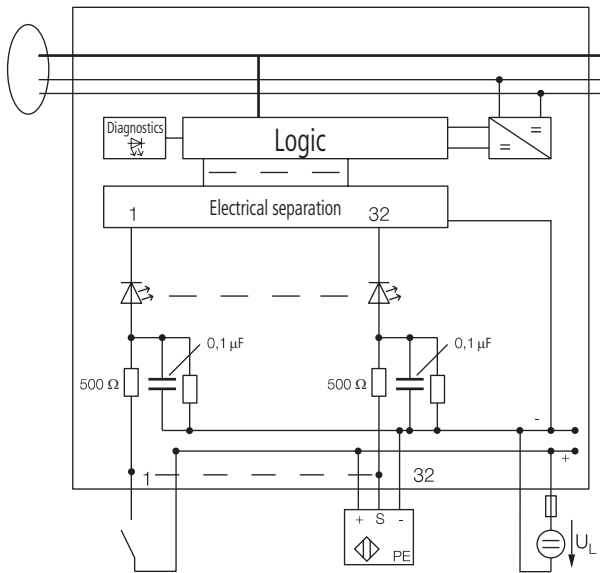


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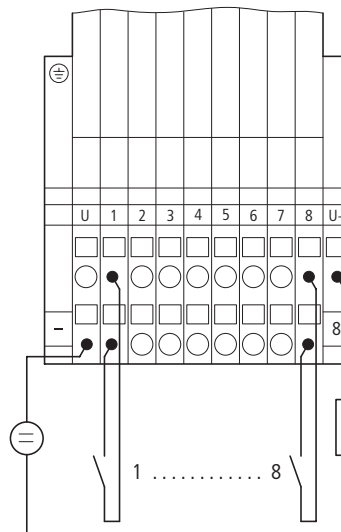
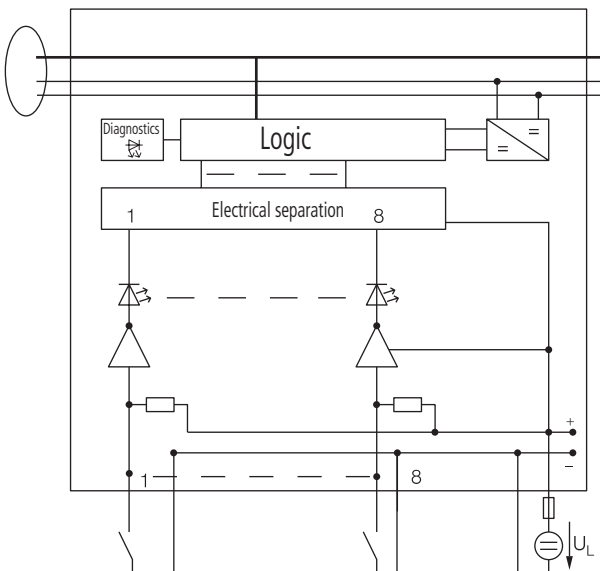
DP-16DI/P-2X8



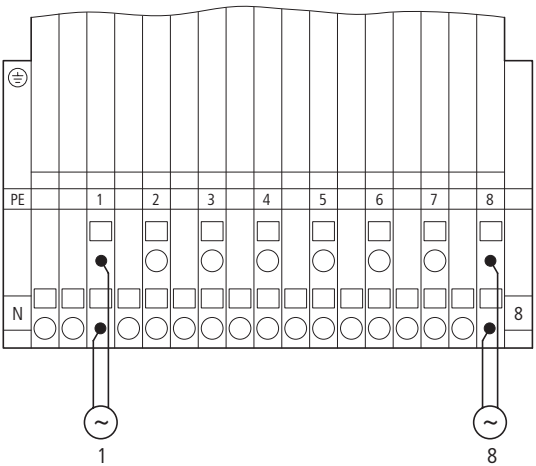
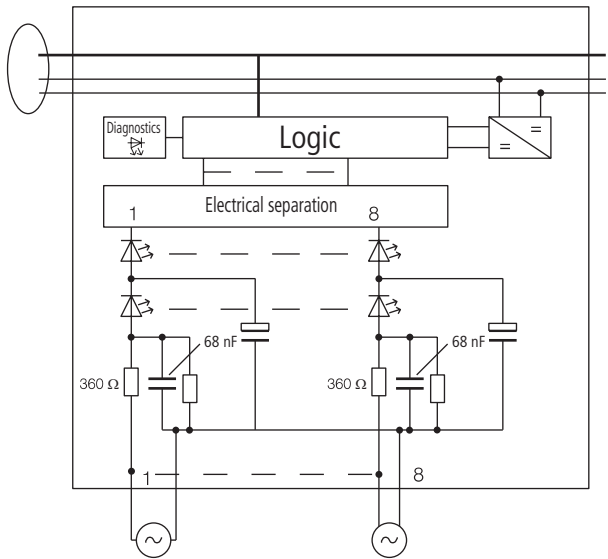
DP-32DI/P-2X16



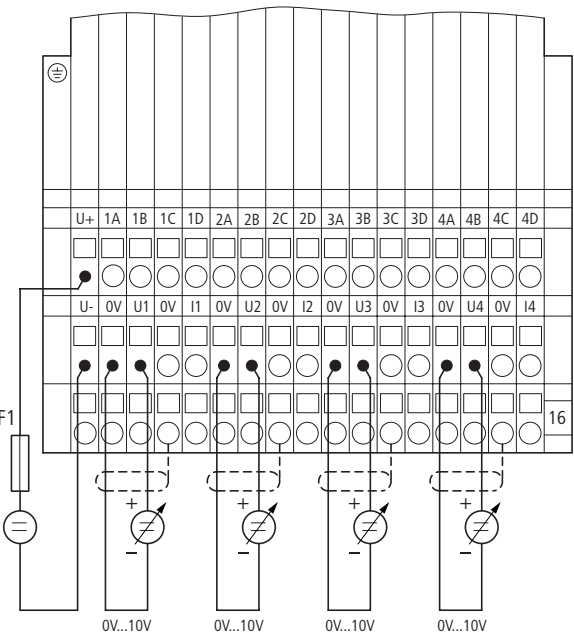
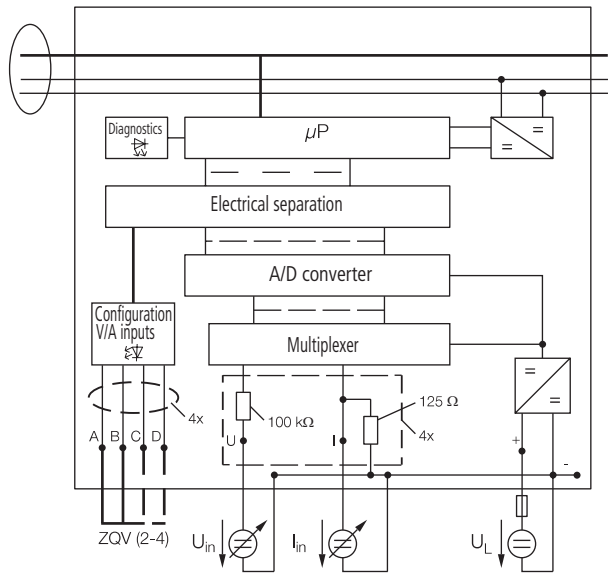
DP-8DI/N



DP-8DI/230VAC



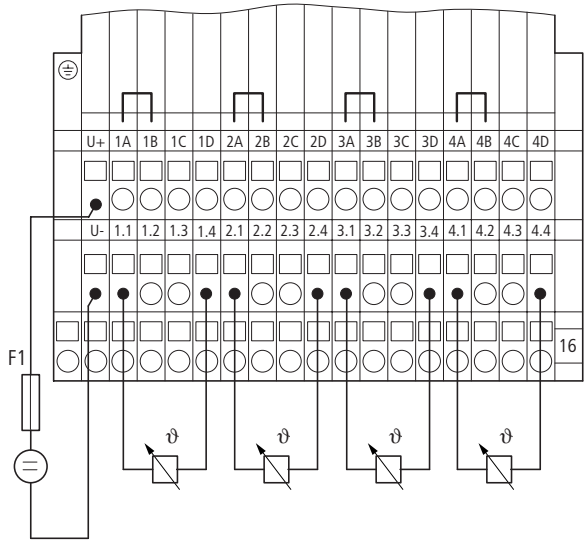
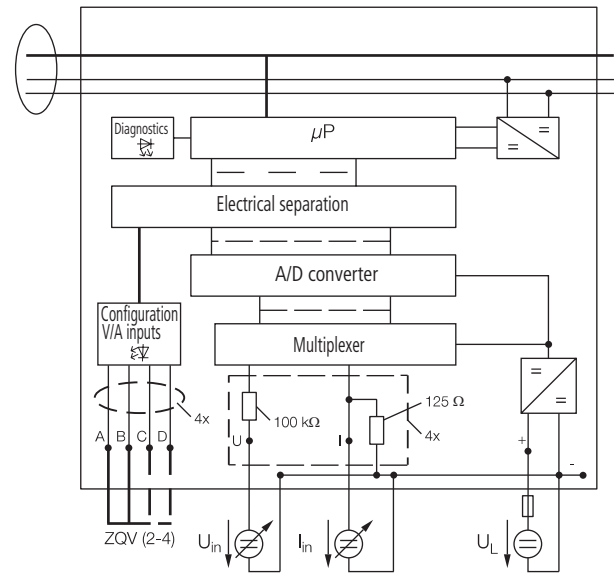
DP-4AI/UI



	CH1				CH2				CH3				CH4			
Range	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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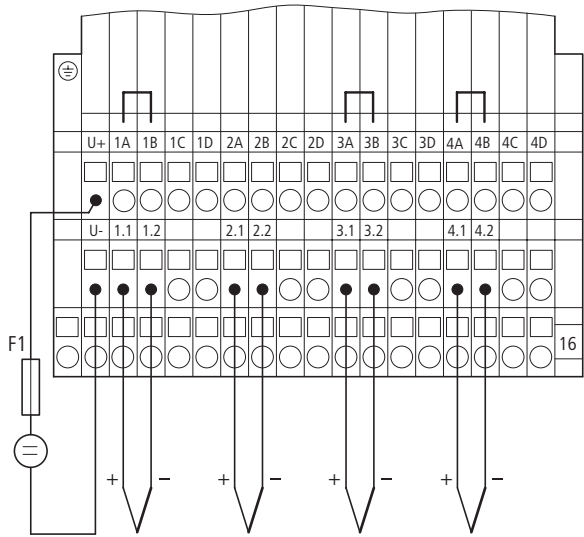
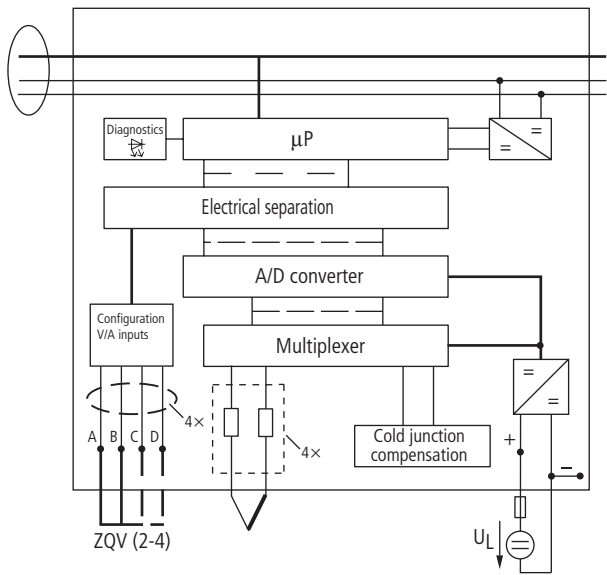
DP-4AI/PT100



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

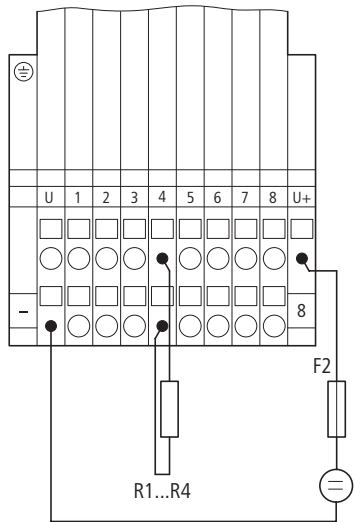
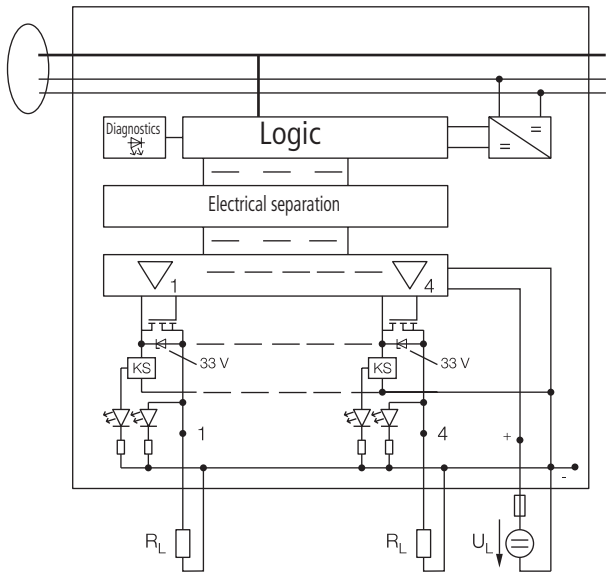


DP-4AI/THERMO



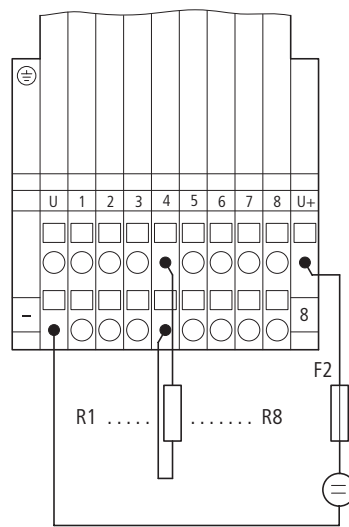
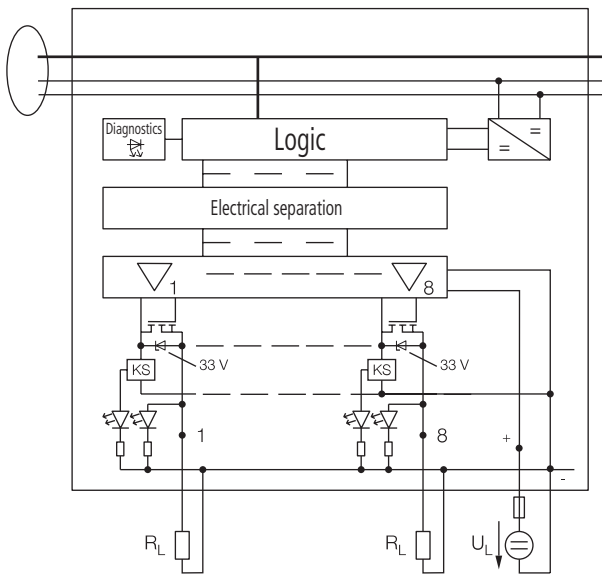
	CH1 IN				CH2 IN				CH3 IN				CH4 IN			
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
K	No jumper															
J																
R																
S																
T																
N																
E																
B																
-80...+80mV																
50 Hz filtering										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

DP-4DO/2.0A-PK

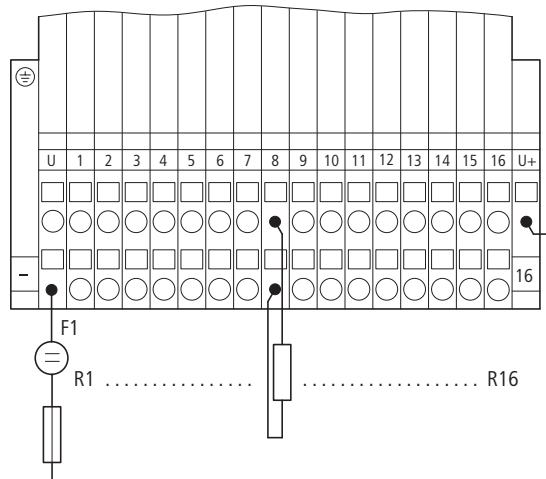
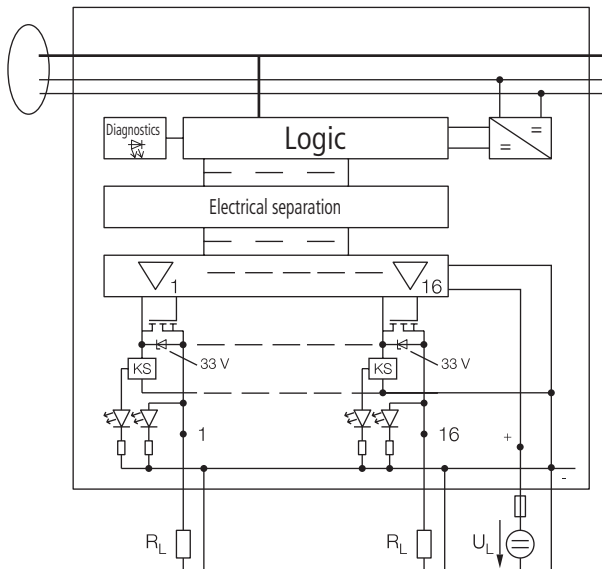


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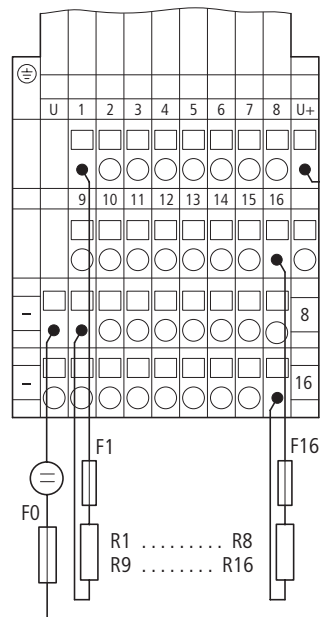
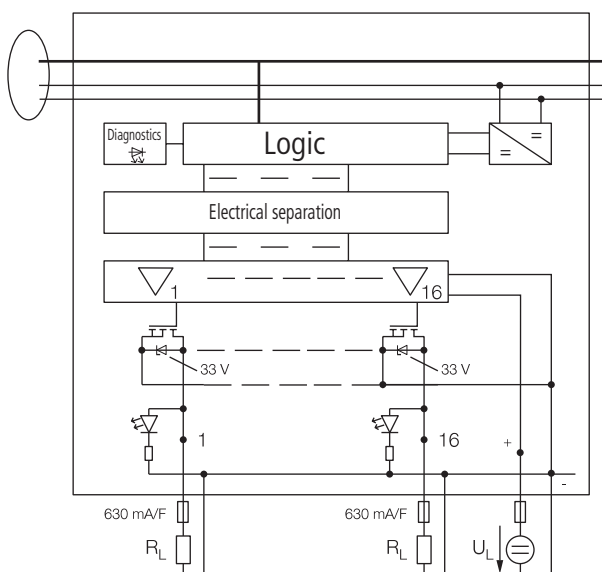
DP-8DO/0.5A-PK



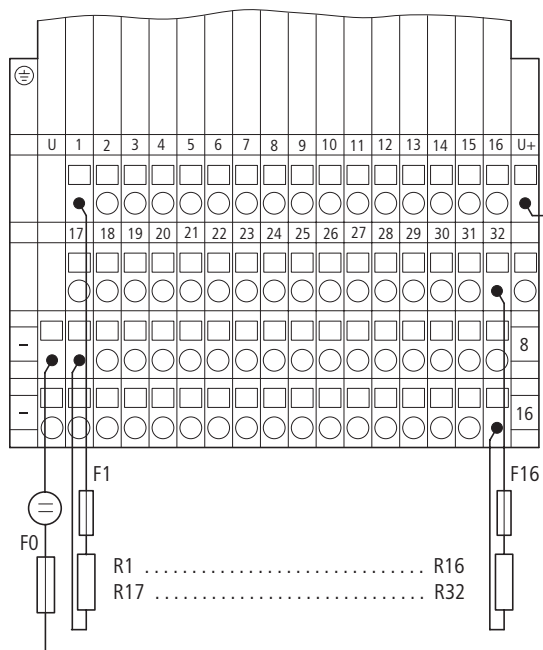
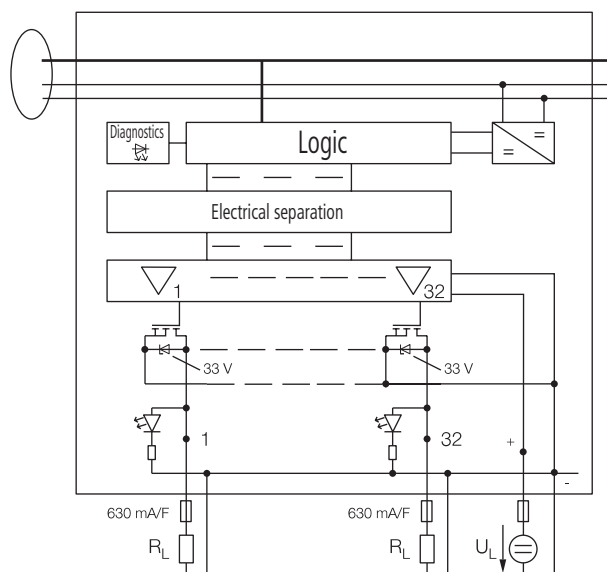
DP-16DO/0.5A-PK



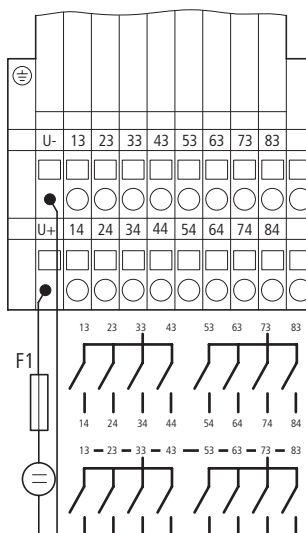
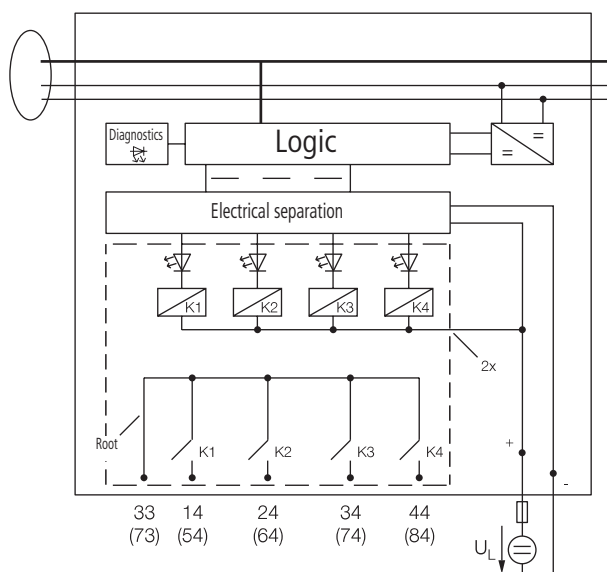
DP-16DO/0.5A-PK-2X8



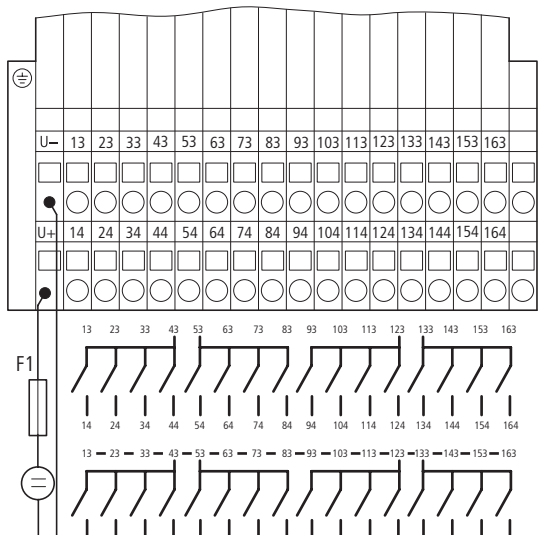
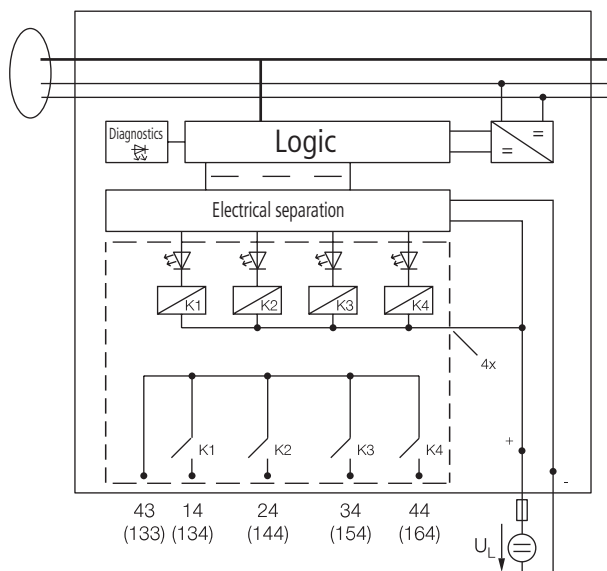
DP-32DO/0.5A-P-2X16



DP-8DO/R-NO

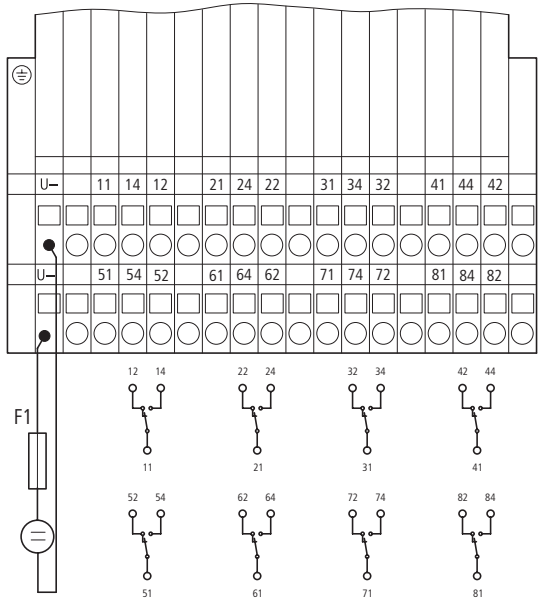
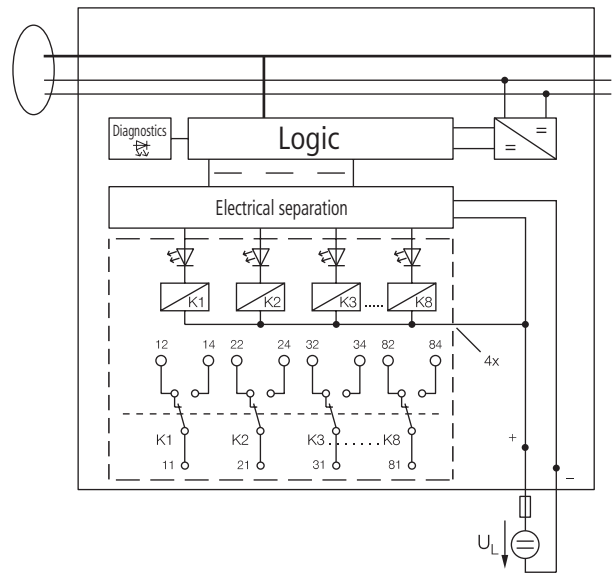


DP-16DO/R-NO

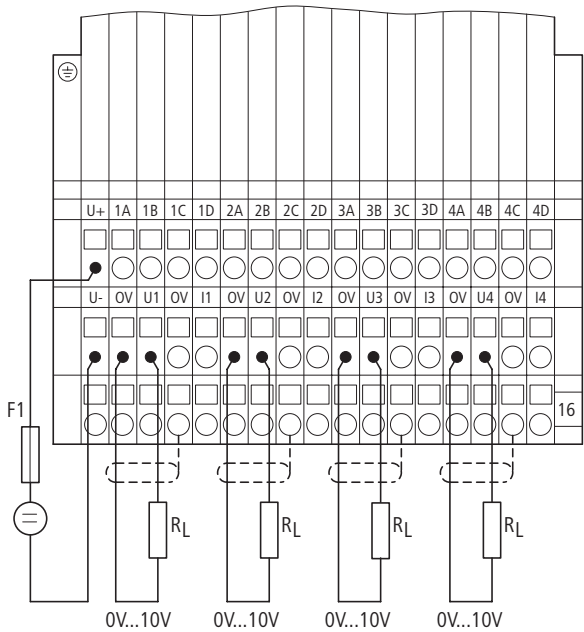
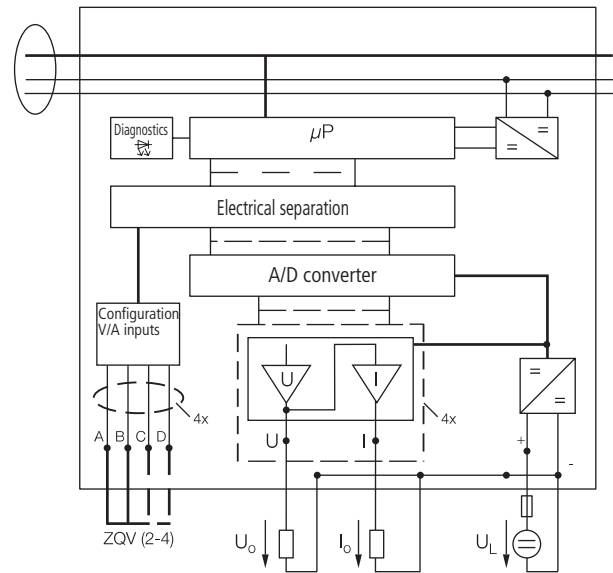


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DP-8DO/R-CO



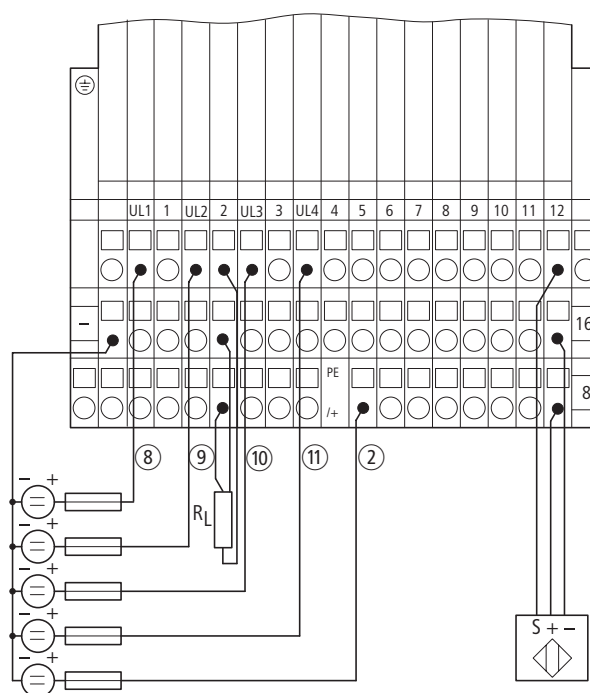
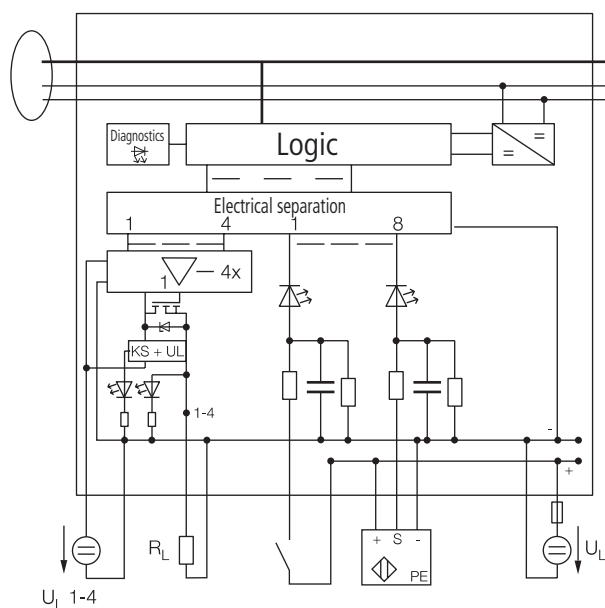
DP-4AO/UI



	CH1				CH2				CH3				CH4			
Range	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	┌───┐				┌───┐				┌───┐				┌───┐			

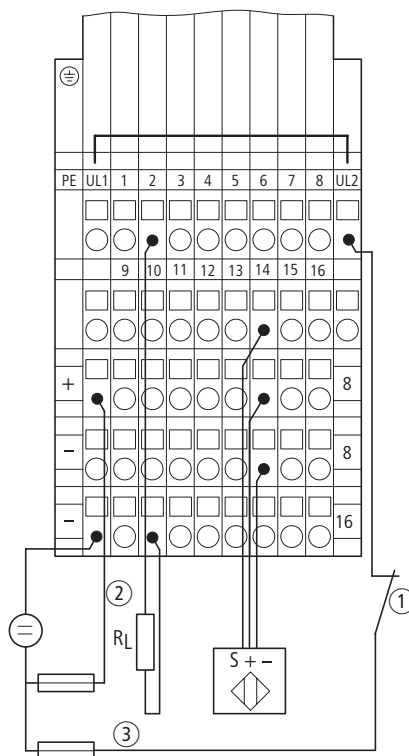
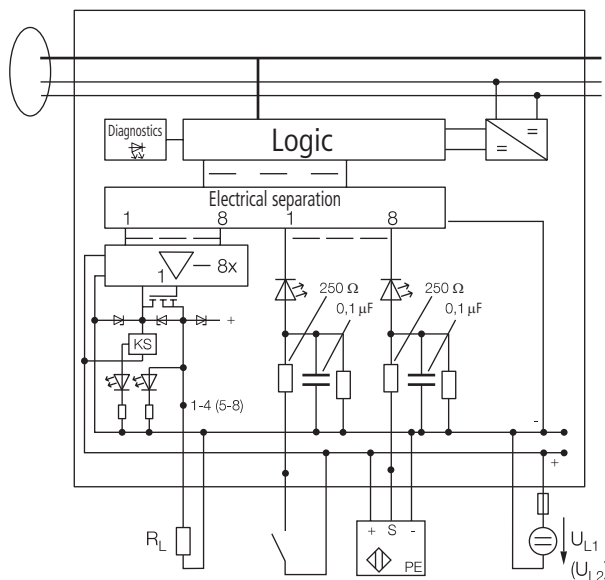


DP-8DI/4DO/2.0A-PK



- Supply of inputs
 ⑧ Supply of output channel 1
 ⑨ Supply of output channel 2
 ⑩ Supply of output channel 3
 ⑪ Supply of output channel 4

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

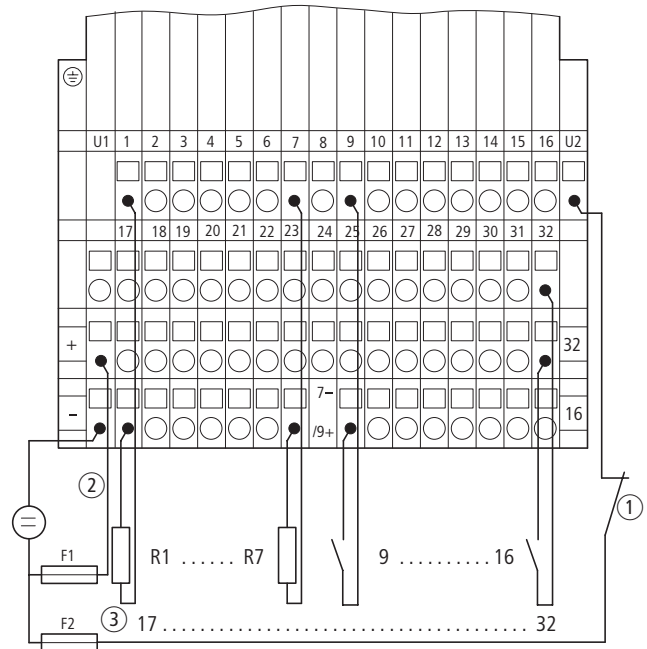
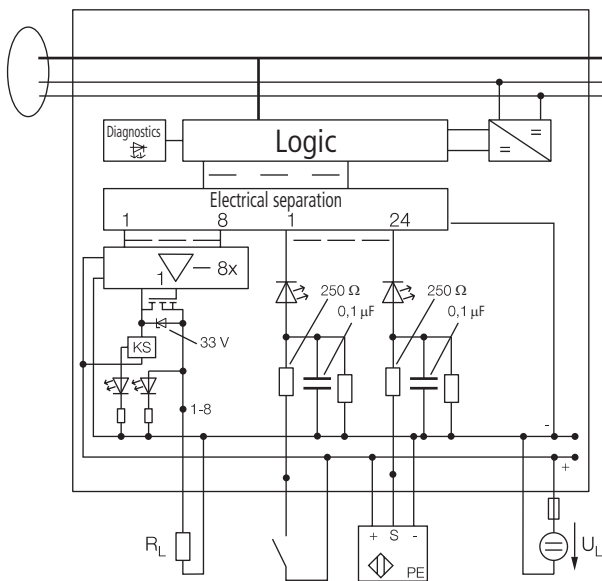


- a External disconnection of all outputs
 b Supply of inputs
 c Supply of outputs



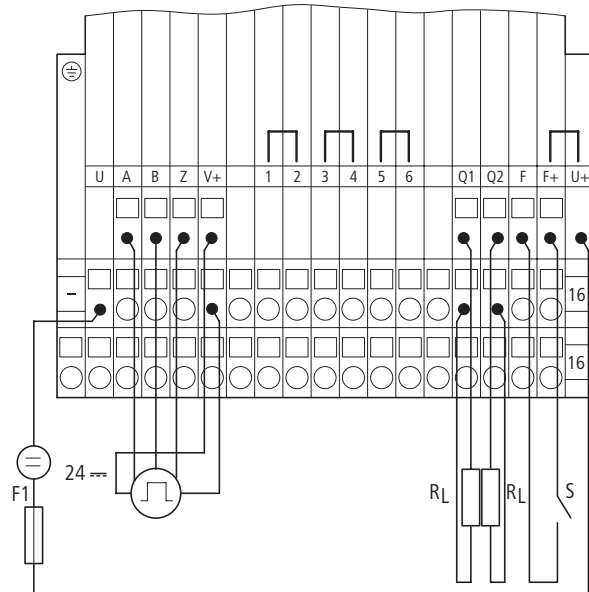
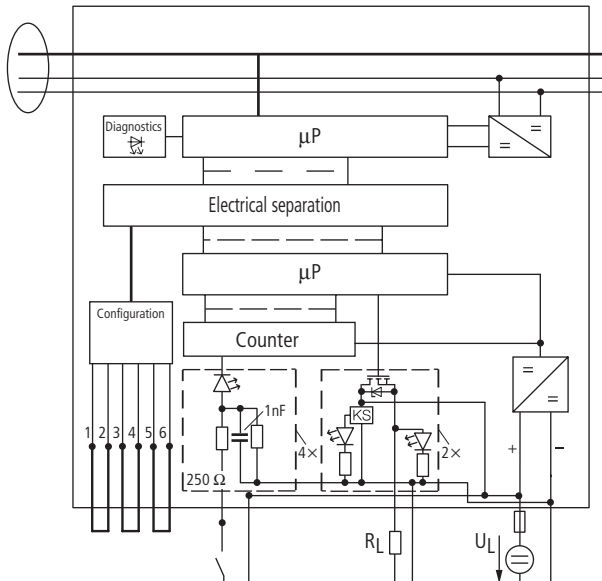
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DP-24DI/8DO/0.5A-PK

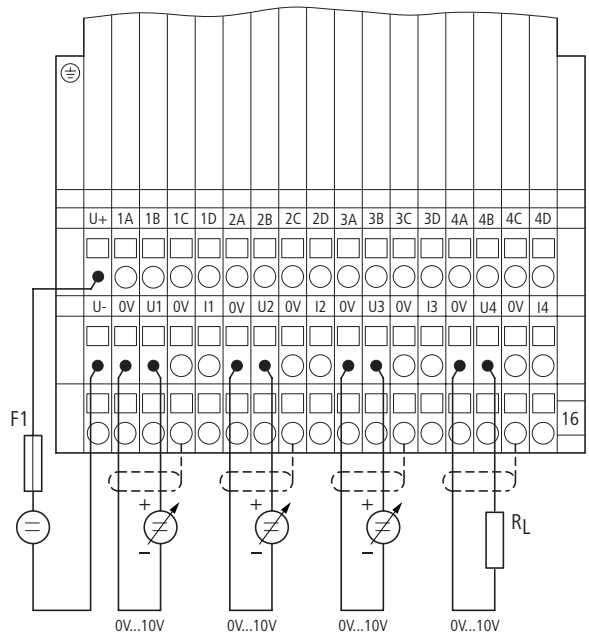
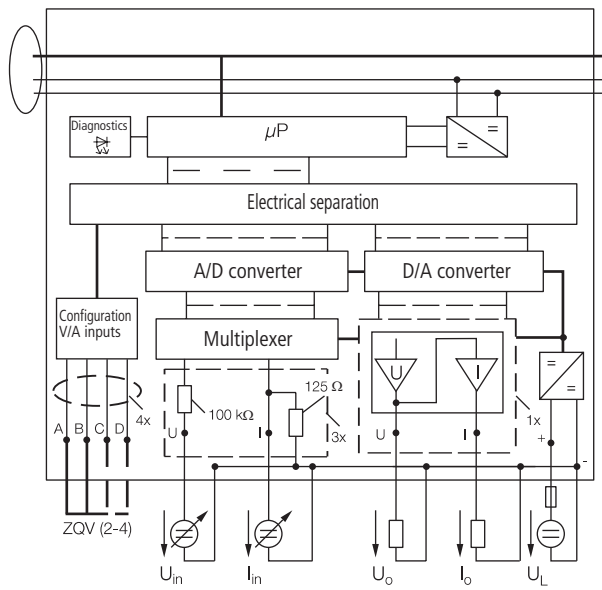


- a External disconnection of all outputs
- b Supply of inputs
- c Supply of outputs

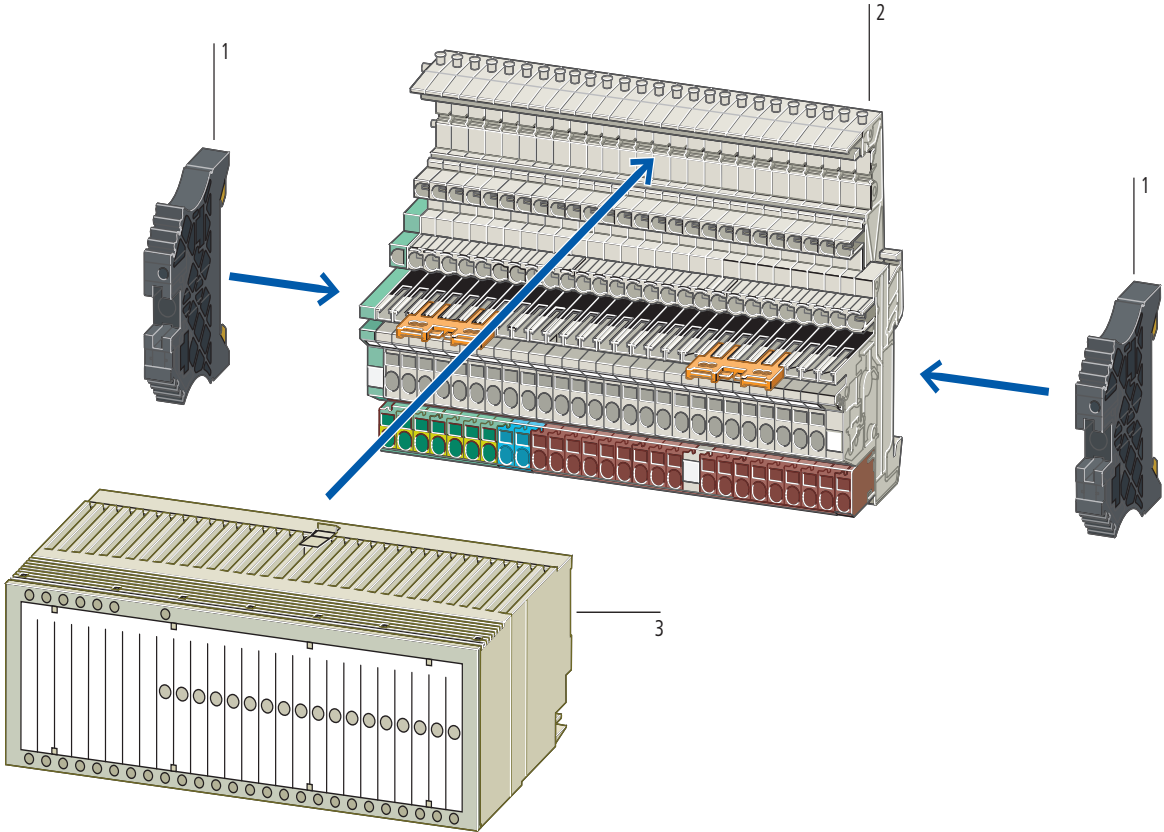
DP-1CNT/24V



DP-3AI/1AO-UI



	CH1				CH2				CH3				CH4			
Range	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	┌───┐				┌───┐				┌───┐				┌───┐			



Electronic modules 5

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Base modules 2

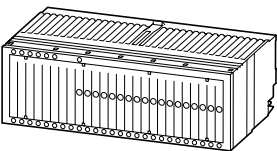
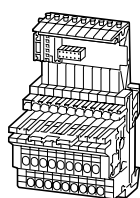
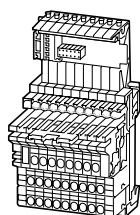
→ Page 3/36

Accessories 1

End bracket WEW-35/2

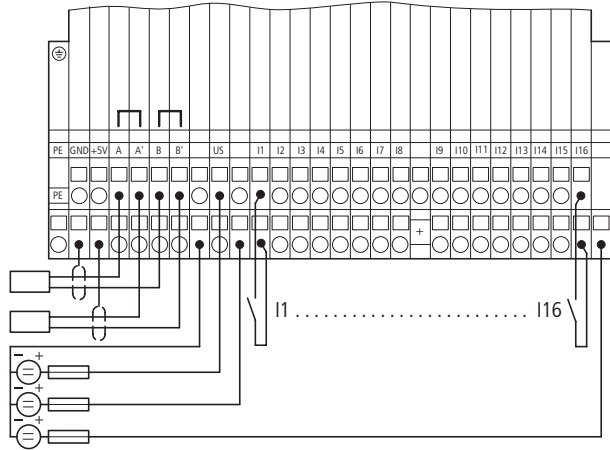
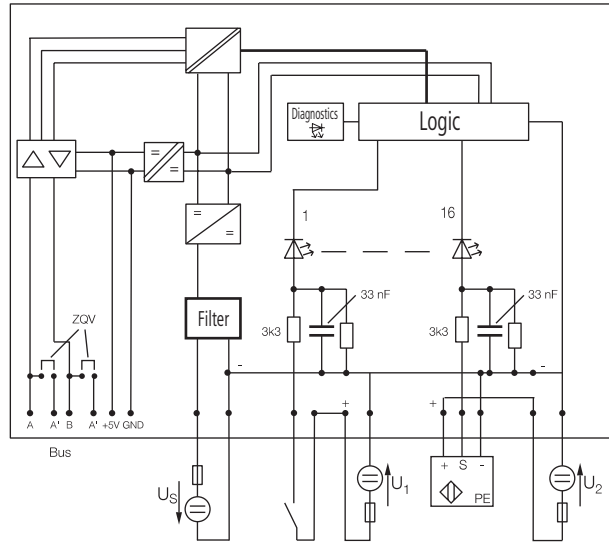
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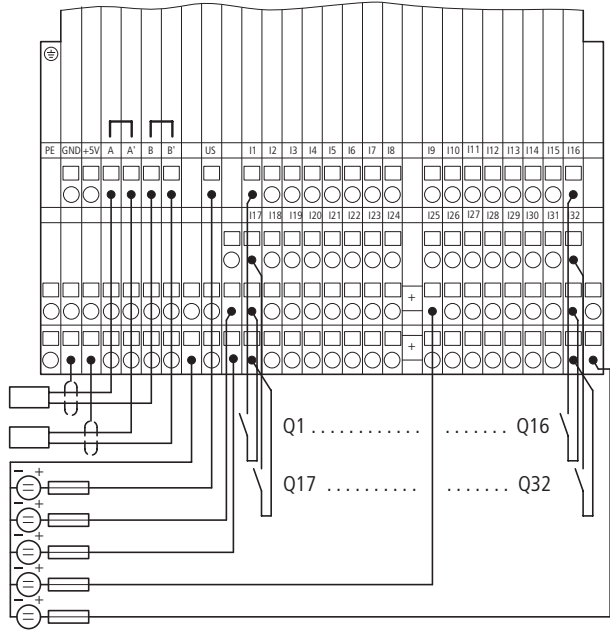
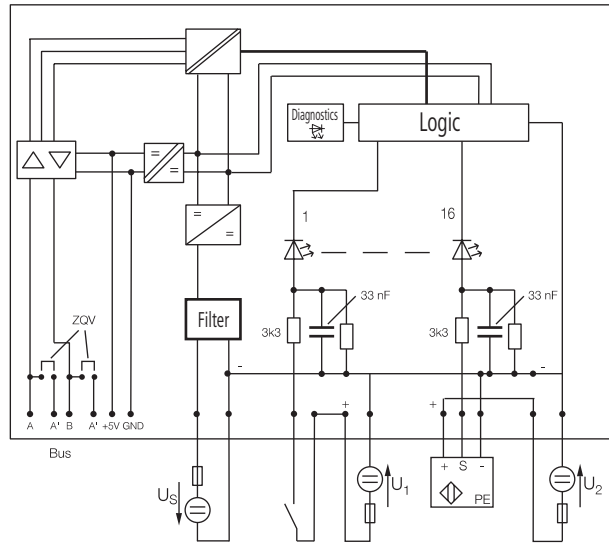
Inputs	Outputs	Description	For use with	Type Order No.	Price See price sheet	Std. pack
Number	Number					
Electronic modules Plugged onto the base modules						
						
Digital input	16	–	Positive switching	ZSBE-1.5/25-S/PE-+ ZSBE-1.5/25-S/-/PE+	DP-16DI/P-ECO 85 51 224035	1 off
	32	–	Positive switching	ZSBE-1.5/25-S/S/+--+/PE+ ZSBE-1.5/25-2S/-/PE-/2+	DP-32DI/P-ECO 85 51 224037	
Digital output	–	16	Positive switching, short-circuit proof, bitwise provision of field voltage	ZSBE-1.5/25-S/PE-	DP-16DO/0.5A-PK-ECO 85 51 224036	
	–	32	Positive switching, short-circuit proof, bitwise provision of field voltage	ZSBE-1.5/25-S/S/+-/PE	DP-32DO/0.5A-PK-ECO 85 51 224038	
Combi modules	16	16	Digital inputs/outputs, positive switching, short-circuit proof, bitwise provision of field voltage	ZSBE-1.5/25-S/S/-/PE-/+	DP-16DI-P/16DO/0.5A-PK-ECO 85 51 224039	
Connection types			For use with	Type Order No.	Price See price sheet	Std. pack
Base modules For connection to electronic module; rail-mounted						
2-wire connection			PROFIBUS eco: DP-16DO/0.5A-PK-ECO	ZSBE-1.5/25-S/PE- 85 51 224079		1 off
			PROFIBUS eco: DP-16DI/P-ECO	ZSBE-1.5/25-S/PE-+ 85 51 224080		
			PROFIBUS eco: DP-32DO/0.5A-PK-ECO	ZSBE-1.5/25-S/S/+--/PE- 85 51 224082		
			PROFIBUS eco: DP-32DI/P-ECO	ZSBE-1.5/25-S/S/+--+/PE+ 85 51 224083		
3-wire connection			PROFIBUS eco: DP-16DI/P-ECO	ZSBE-1.5/25-S/-/PE+ 85 51 224081		
			PROFIBUS eco: DP-32DI/P-ECO	ZSBE-1.5/25-2S/-/PE-/2+ 85 51 224084		
Input 3-wire connection, Output 2-wire connection			PROFIBUS eco: DP-16DI-P/16DO/0.5A-PK-ECO	ZSBE-1.5/25-S/S/-/PE-/+ 85 51 224078		

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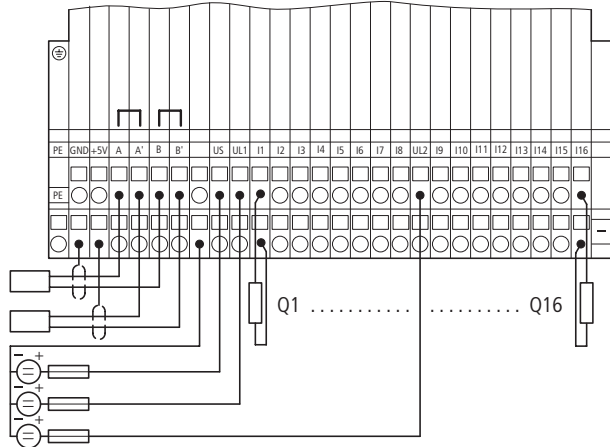
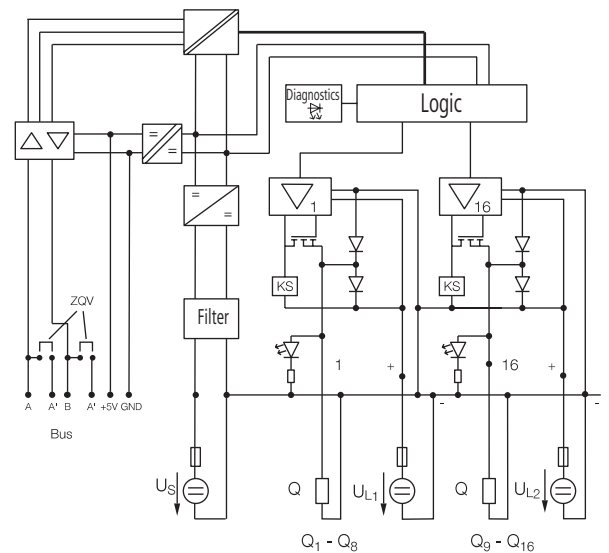
DP-16DI/P-ECO



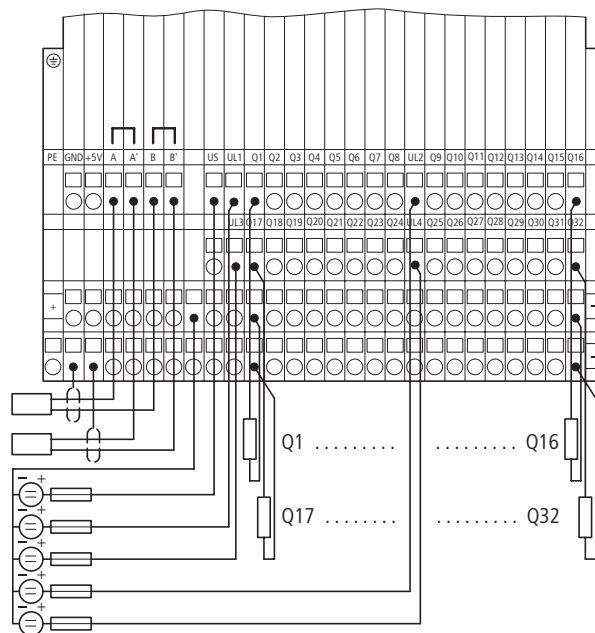
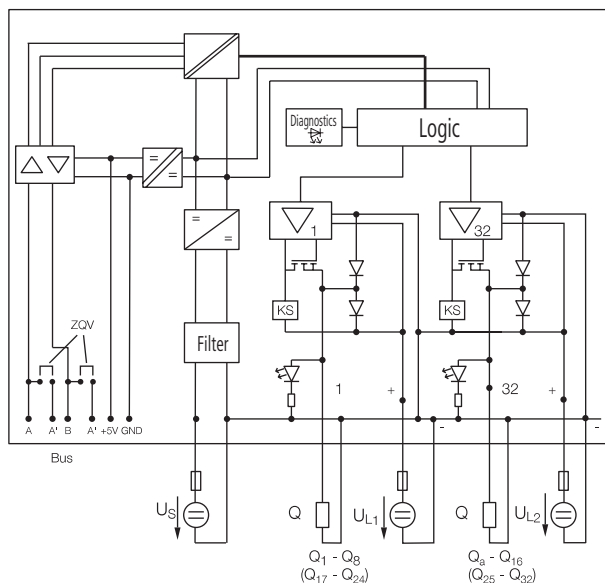
DP-32DI/P-ECO



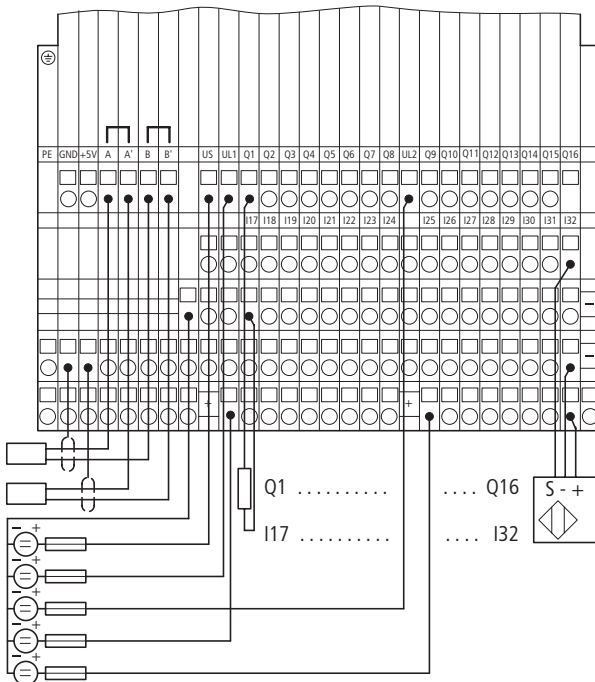
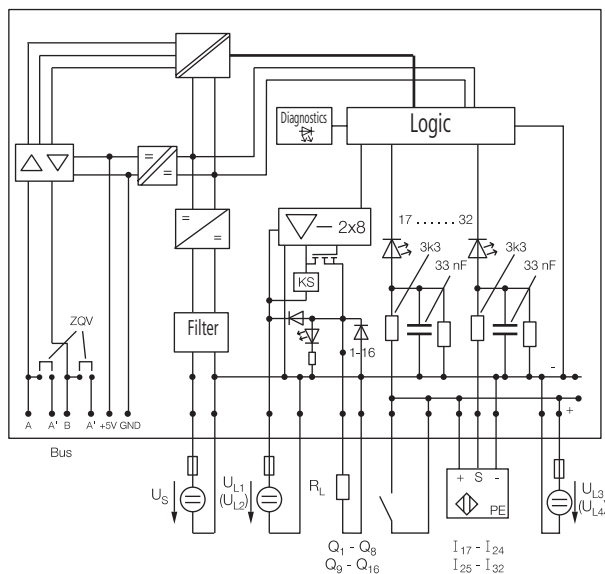
DP-16DO/0.5A-PK-ECO



DP-32DO/0.5A-PK-ECO



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



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			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 for digital modules 70 for analog modules	70
Ambient temperature				
Operation		°C	0 ... 55	0 ... 60
Storage		°C	-20 ... 85	-20 ... 85
Relative air humidity, non-condensing (IEC/EN 60068-2-30)		%	15 ... 95	15 ... 95
Electromagnetic compatibility (EMC)				
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, requirements as per EN 55011 Group 1, Class A, Emitted RFI as per EN 50081-2	
Degree of protection (IEC/EN 60529)			IP20	IP20
Vibration resistance (IEC/EN 60068-2-6) ³⁾			Yes	Yes
Shock resistance (IEC 60068-2-27)			20 m/s ² (2 g) to IEC 60068-2-27	20 m/s ² (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 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 $\triangle$ continuous current via distribution strip ZVL	
Conductor cross-section		mm ²	1.5	
Rated impulse withstand voltage	U_{imp}	kV	4	
Pollution degree			3	
Connections in TOP direction			Spring-loaded	
Stripping length		mm	8	
Terminal capacity		mm ²	0.13 ... 2.5	
Solid		mm ²	0.5 ... 2.5	
Flexible		mm ²	0.5 ... 1.5	
Flexible with ferrule ¹⁾		mm ²	0.5 ... 1.5	
Plug gauge IEC/EN 60 947-1			A2	

Notes

- 1) For connection cross-sections, flexible with ferrules: Ferrules (gas-tight crimp) to DIN 46 228-1

Bridges		DP-Bridge	DP-BRIDGE/12MB
Operating voltage	V DC	24	24
Operating current	mA	< 80	< 80
Data transmission rate/distance		9.6 Kbit/s ... 1.5 Mbit/s	9.6 Kbit/s ... 12 Mbit/s
Weight		116 g	116 g



		DP-8DI/P	DP-16DI/P	DP-16DI/P-2X8	DP-32DI/P-2X16	DP-8DI/N	DP-8DI/230VAC
Digital input modules							
Inputs as per standard		IEC/EN 61131-2 Type 1					IEC/EN 61 131-2 Type 1
Status '1'							
High signal	U_H	11 V DC...30 V DC		15 V DC...30 V DC		0...2 V DC	184 V AC...265 V AC
High signal	I_H	2 mA...5.5 mA		2 mA...4.5 mA		1.5 mA...2 mA	Normally 5 mA/230 V AC
Status '0'							
Low signal	U_L	-30 V DC...5 V DC				15 V DC...30 V DC	0...40 V AC
Low signal	I_L	-50 μ A...1.5 mA				–	–
Input delay		Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms					200 ms
Input power loss		mW/channel	–	–	–	–	200
Input reactive current		VA/channel	–	–	–	–	1.25
Weight		167 g $\pm$ 15%	313 g $\pm$ 15%	167 g $\pm$ 15%	313 g $\pm$ 15%	167 g $\pm$ 15%	167 g $\pm$ 15%



		DP-4AI/UI	DP-4AI/PT100	DP-4AI/THERMO
Analog input modules				
Operating voltage	V DC	24	24	24
Permissible range	V DC	18...30	18...30	18...30
Field current (without load)		70 mA	70 mA	70 mA
Input resistance		$R_i \leq 125 \Omega$, $R_u = 100 \text{ k}\Omega$	–	–
Limit frequency (–3 db)	Hz	50	–	–
Resistance transmitter		–	0...409.5 Ω	–
Offset error		$\leq 0.1\%$	$\pm 0.4 \Omega$	$\pm 7^\circ \text{C}$
Linearity	%	≤ 0.05	–	± 0.05
Temperature coefficient		$\leq 360 \text{ ppm}$ of full-scale value per $^\circ \text{C}$	$\pm 0.03\%$ of measuring range/K	$\pm 0.03\%$ of measuring range/K
Basic error limit at 23 $^\circ \text{C}$		< 0.2% of full-scale value	-200...+400 $^\circ \text{C}$: max. $\pm 1 \text{ K}$, normally $\pm 0.5 \text{ K}$ +400...+850 $^\circ \text{C}$: max. $\pm 1.5 \text{ K}$	–
Conversion time		25 μ s	–	45 μ s
Cycle time	ms	7	1000	1000
Sensor current		–	< 1.5 mA	–
RFI suppression		–	–	60, 50 Hz
Weight		313 g $\pm$ 15%	313 g $\pm$ 15%	313 g $\pm$ 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
Permissible range	V DC	18...30	18...30	18...30	18...30	18...30
Potential isolation		Operating voltage – field voltage 500 V_{rms} /min to EN 61131				
Field current (without load)		$\leq 30 \text{ mA}$	$\leq 40 \text{ mA}$	$\leq 70 \text{ mA}$	–	–
Output current	A	≤ 2	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Output delay		$\approx 1 \text{ ms}$, $R_L \leq 1 \text{ k}\Omega$	$\approx 1 \text{ ms}$, $R_L \leq 1 \text{ k}\Omega$	$\approx 1 \text{ ms}$, $R_L \leq 1 \text{ k}\Omega$	$\approx 3 \text{ ms}$, $R_L \leq 1 \text{ k}\Omega$	$\approx 3 \text{ ms}$, $R_L \leq 1 \text{ k}\Omega$
Utilization factor	g %	100	100	100	50	50
Lamp load	R_{LL} W	≤ 10	≤ 2	≤ 2	–	–
Fuse protection		–	–	–	630 mA/F per channel	630 mA/F per channel
Weight		167 g $\pm$ 15%	167 g $\pm$ 15%	313 g $\pm$ 15%	167 g $\pm$ 15%	313 g $\pm$ 15%

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			DP-8DO/R-NO	DP-16DO/R-NO	DP-8DO/R-CO
Relay modules					
Operating voltage		V DC	24	24	24
Permissible range		V DC	18...30	18...30	18...30
Potential isolation			Modbus – output 2 kV _{rms} to 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 current: 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 current: 60 W/500 VA Min. contact current: 100 µA	Max. current per output: 2 A, resistive load Max. contact current: 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
Permissible range		V DC	18...30
Field current (without load)			70 mA
Load resistance			$R_u \geq 1 \text{ k}\Omega$, $R_i \leq 400 \Omega$
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%

			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
Permissible range		V DC	18...30	18...30	18...30
Input delay			–	–	–
Potential isolation			–	–	–
Inputs/outputs as per standard					
Field current (without load)			≤ 40 mA	≤ 40 mA	≤ 35 mA
Status '1'					
High signal	U_H		11 V DC... 30 V DC	11 V DC... 30 V DC	11 V DC... 30 V DC
High signal	I_H		2 mA... 4 mA	2 mA... 4.5 mA	2 mA... 4 mA
Status '0'					
Low signal	U_L		-30 V DC... 5 V DC	-30 V DC... 5 V DC	-30 V DC... 5 V DC
Low signal	I_L		-50 µA... 700 µA	-50 µA... 700 µA	-50 µA... 700 µA
Output load capacity			2 × I_{out} for 5 min.	–	–
Underload at I_{load}		mA	< 150/< 750	–	–
Lamp load	R_{LL}	W	≤ 20	≤ 2	≤ 2
Utilization factor	g	%	–	50	100
Output delay			< 1 ms	≈ 1 ms, DO $R_L \leq 1 \text{ k}\Omega$	≈ 1 ms, DO $R_L \leq 1 \text{ k}\Omega$
Output current		A	≤ 2	≤ 0.5	≤ 0.5
Weight			313 g ± 15%	167 g ± 15%	313 g ± 15%





DP-3AI/1AO-UI		
Analog combi modules		
Operating voltage	V DC	24
Permissible range	V DC	18 ... 30
Field current (without load)		Input: 70 mA, output: ≤ 35 mA
Input resistance		$R_i \leq 125 \Omega$, $R_u = 100k\Omega$
Linearity	%	Input: 0.5, output: ± 0.5
Basic error limit at 23 °C		Input: $< 0.2\%$ of full-scale value Output: $\leq 0.8\%$ 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 μ s, output: 5 μ s
Load resistance		$R_u \geq 1 k\Omega$, $R_i \leq 400 \Omega$
Weight		313 g $\pm 15\%$

DP-1CNT/24V		
Counter module		
Operating voltage	V DC	24
Permissible range	V DC	18 ... 30
Input voltage		
Input voltage nominal value	V DC	24 V DC
Low signal	U_L	-1 ... +4 V DC (sensor/transmitter: -1 ... +1.5 V DC)
High signal	U_H	+5 ... +30 V DC (sensor/transmitter: +4 ... +30 V DC)
Input current		
High signal	I_H	Normally 4 mA (sensor/transmitter: 2.5 mA)
Frequency		≤ 100 Hz
Output current	mA	≤ 500 , short-circuit proof
Nominal voltage on supply terminal	U_L	24 V DC
Ripple	%	± 5 , permissible range (incl. ripple) 21.6 ... 26.4 V DC
Nominal current drawn from module bus	I_{MB} mA	≤ 60
Weight		313 g $\pm 5\%$

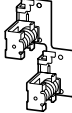
DP-16DI/P-ECO			DP-32DI/P-ECO
Digital input modules			
Inputs as per standard		IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1
Status '1'			
High signal	U_H	15 V DC ... 30 V DC	15 V DC ... 30 V DC
High signal	I_H	1.2 mA ... 4 mA	1.2 mA ... 4 mA
Status '0'			
Low signal	U_L	-5 V DC ... 5 V DC	-5 V DC ... 5 V DC
Potential isolation		from the fieldbus 500 V _{rms} /min	from the fieldbus 500 V _{rms} /min
Utilization factor	g	100	100
Weight	%	350 g, 370 g $\pm 15\%$	450 g, 550 g $\pm 15\%$

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			DP-16DO/0.5A-PK-ECO	DP-32DO/0.5A-PK-ECO
Digital output modules				
Operating voltage		V DC	24	24
Permissible range		V DC	18...30	18...30
Potential isolation			from the fieldbus 500 V _{rms} /min	from the 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
Permissible range		V DC	18...30
Input delay			3
Potential isolation			from the fieldbus 500 V _{rms} /min
Inputs/outputs as per standard			IEC/EN 61131
Field current (without load)			≤ 20 mA per U _L feed
Status '1'			
High signal	U _H		15 V DC...30 V DC
High signal	I _H		1.2 mA...4 mA
Status '0'			
Low signal	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%

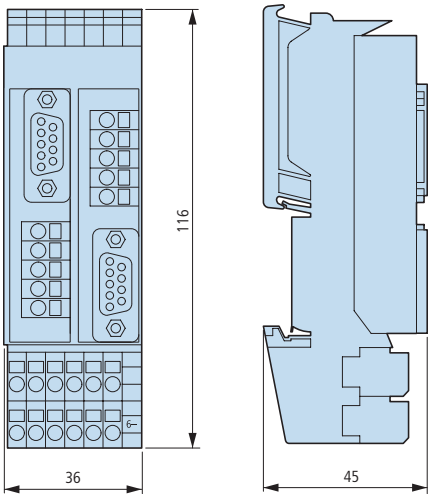


Description		For use with	Type Order No.	Price See price sheet	Std. pack
Accessories					
	without termination resistor (gray)	PROFIBUS	ERBIC-PB-CONNECTOR/WITHOUT-TERMINAT. 85 51 231005		1 off
	with termination resistor (yellow)		ERBIC-PB-CONNECTOR/WITH-TERMINATION 85 51 231006		
Software	Service package: Diagnostics software DIAMon and service cable for PROFIBUS-DP		SW-DIAMON-DP-WIN95-NT-KIT 85 51 224161		
	Adapter cable for DIAMon		DP-DIAMON-ADAPTER 85 51 224162		
	Monitoring/commissioning software for PROFIBUS-DP and CANopen Graphical display of stations, fault diag- nostics, fieldbus communication via dif- ferent standard interfaces	PROFIBUS CANopen	CD-SW-DIAMON/DP-WIN95-NT 85 51 224164		
	Service package: DIAMon software, don- gle and service cable for CANopen	CANopen	CAN/DIAMON-KIT 85 51 224222		
	For fixing the sides of the modules to the mounting rails	PROFIBUS PROFIBUS eco CANopen	WEW-35/2 85 51 224107		50 off
	For analog modules	PROFIBUS PROFIBUS eco CANopen	KLBU-4-6Z 85 51 224141		10 off
	With termination resistor Supplied with PB-DP-BRIDGE and DP-BRIDGE/12MB.	PROFIBUS	ZAP-MA/2S 85 51 224124		25 off
	Supplied with CAN-BRIDGE.	CANopen	ZAP-ZSB1.5/2S 85 51 224125		
	Shield connection for direct bus connection	PROFIBUS CANopen	SCH-1-WINBLOC 85 51 224089		1 off
Termination resistor	Set WINbloc eco (1 × ZBW-6, 2 × DP-ASW)	PROFIBUS eco	DP-ECO-ASW-SET 85 51 224157		
Termination resistor	—		DP-ASW 85 51 224156		
Fitting tool	—		ZBW-6 85 51 224123		

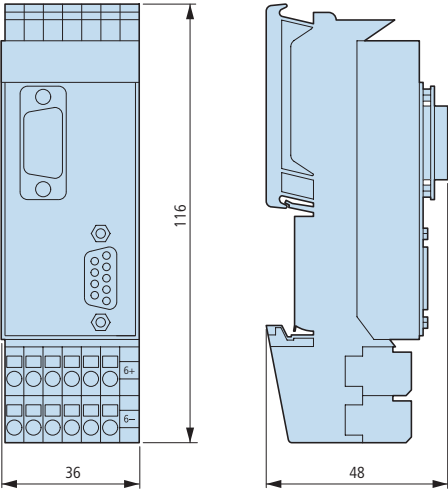
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Bridges

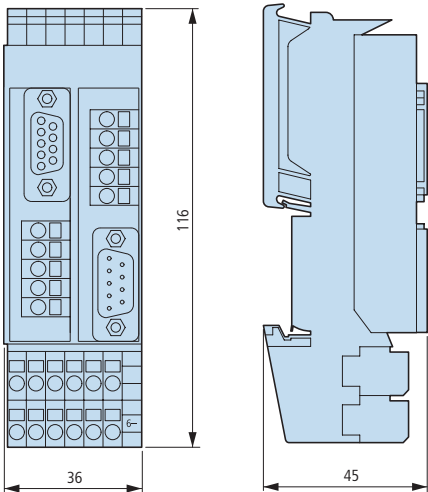
PB-DP-BRIDGE



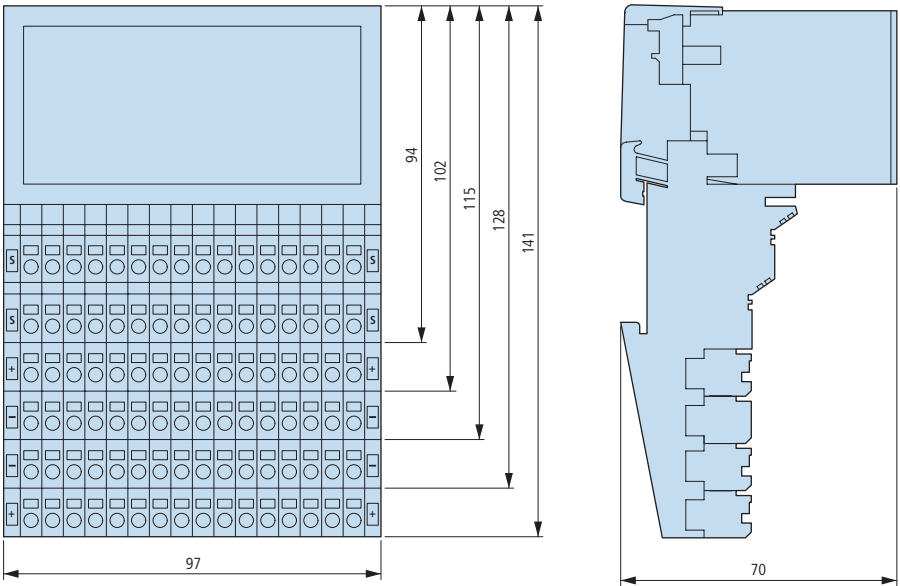
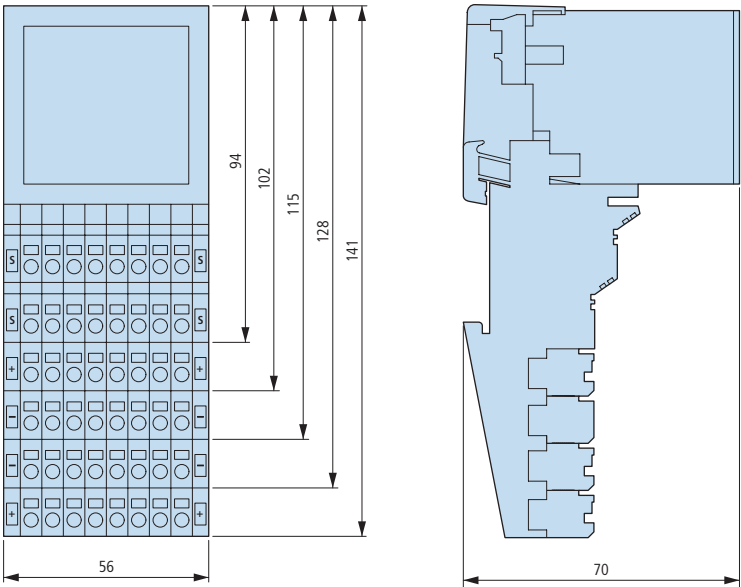
DP-BRIDGE/12MB



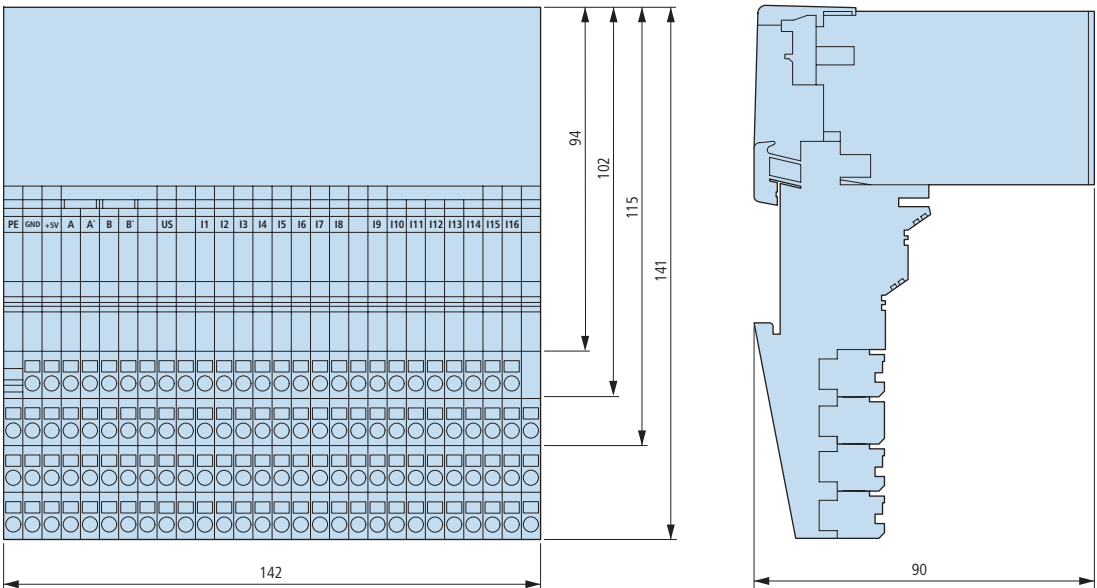
CAN-BRIDGE



WINbloc base modules



WINbloc PROFIBUS eco



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S7-PG-Router	4/2
CE Telediag	4/2
CAN Monitor	4/2
DXS Server	4/2



Description		Type Order No.	Price See price sheet	Std. pack
Visualization software				
GALILEO	GALILEO, the MS-Windows™-based intelligent and interactive visualization tool enables you to create projects for operating and visualizing machinery, plants and buildings in the simplest possible way. Comprehensive help and documentation.	SW-GALILEO 91 25 000021		1 off
GALILEO OPEN	The LIC-GALILEO-OPEN-PC license product paper enables continuous and unrestricted operation of the GALILEO runtime system on a standard PC. The runtime system software is part of the GALILEO development software.	LIC-GALILEO-OPEN-PC 91 30 000020		
EPAM	The Easy Page Machine (EPAM) visualization tool is designed as an open visualization system that must be integrated in MS-Excel as an Add-in tool.	SW-EPAM		
PLC programming software				
MXpro	Programming to IEC 61131-1 with IL, ST, LD, FBD, SFC, CFC. Bus configuration CAN, PROFIBUS-DP, XI/ON. Comprehensive help and documentation.	SW-MXPRO 91 24 000007		1 off
Additional software				
S7-PG-Router	This tools enables the programming of S7 programmable controllers connected to the Micro Innovation Panel via Ethernet interface of the panel. XV200 and XVS400 devices with onboard Profibus and Ethernet interface support the S7 PG Routing function. This function requires 80 license points on the device → HMI / HMI-PLC licensing. This product consists of the software with documentation and a license product paper with 80 points for licensing a device.	SW-S7-PG-ROUTER 91 26 000001		1 off
CE Telediag	This tool enables user-friendly teleservice via a modem connection with a dialup assistant and device callback. XV200, XVS400, XV400 and XVH300 devices with onboard System Port (RS232) interface support the CE Telediag function. This function requires 40 license points on the device → HMI / HMI-PLC licensing. This product consists of the software with documentation and a license product paper with 40 points for licensing a device.	SW-CE-TELEDIAG 91 26 000015		
CAN Monitor	The CAN monitor tool enables the monitoring and tracing of CAN telegrams with a related time stamp, COB-ID and data. Error frames are not detected. XV200, XV400 and XVH300 devices with onboard CAN interface support the CAN monitor function. This function does not require any license points on the device. This product consists of the software and documentation.	SW-CAN-MONITOR 91 26 000005		
DXS Server	DXS (Data Exchange Service) is a service for distributing data between all connected clients. A robust event-driven and transaction-oriented communication protocol for Micro Innovation devices with GALILEO runtime is used. XV200, XVS400, XV400 and XVH300 devices with onboard Ethernet interface and GALILEO runtime support the DXS client function. This function requires 80 license points on the device → HMI / HMI-PLC licensing. This product consists of the software with documentation and a license product paper with 80 points for licensing a device.	SW-DXS-SERVER 91 26 000010		
Notes		Other software is available at www.microinnovation.com		



Argentina

Moeller Electric S.A.
Habana 3336/46
C1419GPZ Buenos Aires
Tel.: +54 (0 11) 45 74-04 11
Fax: +54 (0 11) 45 74-48 17
Email: webmaster@moellerarg.com.ar

Armenia

Mshak JSC
3 Hakop Hakopian Str.
375033 Yerevan, Republic of Armenia
Tel.: +374 1 276 991
Fax: +374 1 276 991
Email: msh@mshak.am

INSTA Ltd.
8 Zakariadze Str.
0177 Tbilisi - Georgia
Tel.: +995 32 202020
Fax: +995 32 202022
Email: sales@insta.ge

Australia

Moeller Electric Pty. Ltd.
4 Caribbean Drive
Scoresby, Victoria, 3179
Tel.: +61 (03) 98 39 11 00
Fax: +61 (03) 98 39 11 77
Email: marketing@moeller.com.au

Austria

Moeller Gebäudeautomation KG
Hauptverwaltung Vertrieb
Scheydgasse 42
A-1215 Wien
Tel.: +43 (01) 2 77 45-0
Fax: +43 (01) 2 77 45-33 00
Email: info.aut@moeller.net

Azerbaijan

Mikhail Ali-Zade
Aga-Neymatulla Str. 47A, apt. 6
AZ1052 Baku, Azerbaijan
Tel.: +994 12 98 77 19
Fax: +994 12 98 77 19
Email: ims.imc@azdata.net

INSTA Ltd.
8 Zakariadze Str.
0177 Tbilisi - Georgia
Tel.: +995 32 20 20 20
Fax: +995 32 20 20 22
Email: sales@insta.ge

Bahrain

Najat Construction & Trading Est
Post Box: 5774, Sitra,
Bahrain (Arabian Gulf)
Building no. 3077, Road No. 447
Al-Qarya 604
Sitra, Bahrain (Arabian Gulf)
Tel.: +973 () 73 17 31, 73 05 25
Fax: +973 () 73 05 45
Email: najatbn@batelco.com.bh

Bangladesh

Tarn Associates
House No. 87 (1st floor), Road No. 9 A
Dhanmondi, Residential Area
Dhaka 1209
Tel.: +88 (02) 9 11 75 36
Fax: +88 (02) 9 11 28 44
Email: tarn@bdcom.com

Belarus

UP Elektroplan
2-8 Chebotareva Str.
220009 Minsk
Tel.: +375 17 174 709
Fax: +375 17 174 732
Email: eplan@bip.byBolivien

Belgium

Moeller Electric N.V.-S.A.
Ikaroslaan 24
BE-1930 Zaventem
Tel.: +32 (0) 2 7 19 88 11
Fax: +32 (0) 2 7 25 00 72
Email: info.be@moeller.net

Bolivia

Hillier Electric S.A.
Av. El Trompillo esq. Chaco
Casilla 370
Santa Cruz
Tel.: +591 (03) 3 52 25 20
Fax: +591 (03) 3 52 64 04
Email: mail@hillierelectric.com.bo

Bosnia/Herzegovina

Elektrosystem d.o.o.
Ul. Pilanska 3
BiH-78000 Banja Luka
Tel.: +387 (0 51) 31 75 00
Fax: +387 (0 51) 31 75 00
Email: elist@inecco.net

Botswana

Sharps Electrical (Pty) Ltd.
P.O. Box 603, Gaborone
Plot 1236, Haile Selassie Road
Old Industrial Site
Gaborone
Tel.: 09267 395 23 41
Fax: 09267 395 14 16
Email: clauder@sharps.co.bw

Brazil

Moeller Electric Ltda.
Rua Wallace Barnes, 45B - Distrito Industrial
13054-701 Campinas - SP
Tel.: +55 (0 19) 37 65 55 01
Fax: +55 (0 19) 32 25 55 01
Email: moeller@moeller.com.br

Bulgaria

Moeller Elektrotehnika s.r.o.
Balsha Str. 1, r.d. Ivan Vazov
1408 Sofia
Tel.: +359 2 952 18 34,
+359 2 952 16 30
Fax: +359 2 952 15 98
Email: office@moeller.bg

Canada

Moeller Electric Ltd.
7275 Rapistan Court
Mississauga, Ontario L5N 5Z4
Tel.: +1 (09 05) 5 42-23 23
Fax: +1 (09 05) 5 42-23 21
Email: info@moeller.ca

Chile

Induelectro S.A.
P.O. Box 72- 3
Zenteno 842
Santiago de Chile
Tel.: +56 (02) 6 95 43 29
Fax: +56 (02) 6 95 57 20
Email: Induelectro@Induelectro.cl

Felipe Bahamondes S.A.
Maria Luisa Santander 0475
Providencia - Casilla 3425
664 0814 Santiago
Tel.: +56 (02) 3 41 12 71
Fax: +56 (02) 3 41 12 75
Email: felipe@mailblocks.com

China

Moeller Electric Co., Ltd.
Shanghai East Ocean Centre
11 / Floor, No 618, Yan An Road (E.)
Shanghai 200001
Tel.: +86 (0 21) 63 52 72 56
Fax: +86 (0 21) 63 52 73 49
Email: info@moeller-china.com

China (Hongkong)

Moeller Electric Limited
Room 1303 Bonham Trade Centre
No. 50 Bonham Strand East
Sheung Wan, Hong Kong
Tel.: +852 () 25 23 06 24
Fax: +852 () 25 23 00 97
Email: fghk@netvigitor.com

Peter, Charles & Co.
China Aerospace Centre 2nd Floor,
143 Hoi Bun Road, Kwun Tong,
Kowloon, Hong Kong
Tel.: +852 () 23 69 40 50
Fax: +852 () 27 22 40 80
Email: pcc@pcc.com.hk

Columbia

Hanseatica Compañia Limitada
P.O. Box A. A. 14467
Calle 17 # 69B-06
Bogota - Colombia
Tel.: +57 (01) 412 2814, 412 6715
Fax: +57 (01) 92 6614, 411 8863
Email: electricos@hanseatica.com

Croatia

Unikomerc elektro d.d.
Sektor Elektrooprema
Amruseva 10
41000 Zagreb
Tel.: +385 (01) 4817- 651
Fax: +385 (01) 4817- 652
Email: uni-elektro@zg.htnet.hr

Gromel d.o.o.
Zagrebbacka 9
10450 Jastrebarsko
Tel.: +385 (0) 1 62 83 825
Fax: +385 (0) 1 62 83 825
Email: gromel-elektrotehnika@zg.tel.net

Czech Republic

Moeller Elektrotehnika s.r.o.
Komárovská 2406
CZ - 193 00 Praha 9
Tel.: +420 (2) 67 99 04 11
Fax: +420 (2) 67 99 04 19
Email: office.praha@moeller-cz.com

Denmark

Gycom Danmark A/S
Vallorækken 26
DK 4600 Køge
Tel.: +45 56 26 66 35
Fax: +45 56 26 77 78
Email: admin@gycom.dk

Dominican Republic

Cogesisa
Controles Germanicos de
sistemas industriales S.A.
P.O. Box 738, Antonio Maceo #114
Centro de los Héroes
Santo Domingo / Rep. Dom.
Tel.: +1 (08 09) 5 35 56 29
Fax: +1 (08 09) 5 32 04 74, 5 08 28 85
Email: cogesisa@codetel.net.do

Ecuador

Oficina Técnica Chanage
Apartado Postal 17-08-8090
Centro Comercial „LA Y“, Local 1E
Avda. América N39-334 y Vozandes
Quito
Tel.: +593 (0)2-226 2585,
+593 (0)2-292 1800
Fax: +593 (0)2-320 1171,
+593 (0)2-226 2163
Email: info@chanage-ec.com

Oficina Tecnica Chanage
Casilla 09-01-8423
Avda. J. Tanca Marengo Km. 2,5
Centro Comercial Sepropisa,
Locales 12 y 13
Guayaquil
Tel.: +593 (04) 23 21 91, 38 10 03,
38 12 50

El Salvador

Prestegard Electro, S.A. de C.V.
Apartado Postal 2195
11 Avenida Norte 240
San Salvador, El Salvador
Tel.: +503 () 2 71 16 90, 2 22 12 12
Fax: +503 () 2 21 38 51
Email: prestegard@navegante.com.sv

Estonia

Moeller Elektrotehnika s.r.o.
Pärnu road 160 A
EE-11317 Tallin, Estonia
Tel.: +372 6 58 89 00
Fax: +372 6 58 89 01
Email: office@moeller.ee

Sakala Tööstusautomaatika AS
Keskuse 9
76901 Tabasalu
Tel.: +372 6 03 22 48
Fax: +372 6 03 22 51
Email: sakt@sakt.ee

Ethiopia

Beta Electrical Control & Service Eng. PLC
P.O. Box 18134
Addis Ababa
Tel.: +251 (1) 15 03 82
Fax: +251 (1) 52 54 90
Email: route@telecom.net.et

Finland

Gycom Finland Oy
Työpajankatu 10 A
FI-0580 Helsinki
Tel.: +358 96 84 17 44
Fax: +359 68 41 74 33
Email: admin@Gycom.fi

France

Moeller Electric S.A.S.
346, rue de la Belle Etoile
Paris Nord II - B.P. 51060
95947 Roissy C.D.G. Cedex
Tel.: +33 (01) 41 84 50 50
Fax: +33 (01) 41 84 50 52
Email: info@moeller-fr.com

Georgia

INSTA Ltd.
8, Zakariadze Str.,
0177 Tbilisi, Georgia
Tel.: +995 32 20 20 20
Fax: +995 32 20 20 22
Email: sales@insta.ge

Germany

Micro Innovation GmbH
Nideggerstrasse 6-10
53115 Bonn
Tel.: +49 (0) 228 602 2020
Fax: +49 (0) 228 602 1713
Email: info@microinnovation.com

Ghana

Atlantic Climate Control Ltd.
C131/3 Farrar Ave.
P. O. Box 9116 KIA
Accra
Tel.: +233 (21) 22 82 14
Fax: +233 (21) 22 31 75
Email: patrick.ata@atlantic.com.gh

Great Britain

Moeller Electric Ltd.
P.O. Box 35
Gatehouse Close
Aylesbury, Bucks, HP19 8DH
Tel.: +44 (0 12 96) 39 33 22
Fax: +44 (0 12 96) 42 18 54
Email: marketing@moeller.co.uk

Greece

Pilux & Danpex
20, G. Katehaki Str.
54627 Thessaloniki
Tel.: +30 (2310) 5 22 67 02
Fax: +30 (2310) 52 40 77
Email: pilux-1@otenet.gr

Guatemala

Prestelectro
Apartado Postal 219-A,
6 Avenida 1-65 Zona 9
01009 Guatemala
Tel.: +502 (03) 32 09 41, 32 78 09
Fax: +502 (03) 32 09 97
Email: oveprestegard@inteln.net.gt

Haiti
Elmecen SA
P.O. Box 13183 Port-au-Prince
26, Route de l'Aéroport, Etage Sogecoma
Port-au-Prince
Haiti W.I.
Tel.: +509 () 2 49-37 77, 5 10 37 77
Fax: +509 () 2 46-45 40, 2 46 08 37
Email: elmecen@haitelonline.com

Hungary
Moeller Electric Kft.
Röppentyű u. 57.
1139 Budapest
Tel.: +36 (01) 3 50-56 90
Fax: +36 (01) 3 50-56 91
Email: moeller@moeller.hu

Iceland
Reykjafell GmbH
Skipholt 35
125 Reykjavik
Tel.: +354 () 5 88 60 10
Fax: +354 () 5 88 60 88
Email: reykjafell@reykjafell.is

India
Moeller Vertrieb International - India Branch
409, Barton Centre, 84 MG Road
Bangalore - 560 001
Tel.: +91 (0 80) 5 32 15 98
Fax: +91 (0 80) 5 32 13 43
Email: moeller@bgl.vsnl.net.in

Indonesia
PT. KM Niaga
Taman Palem Lestari
Ruko Pelangi Blok C No. 7
Cengkareng, Jakarta 11370
Tel.: +62-21-559 575 84
Fax: +62-21-559 575 47
Email: kmniaga@cbn.net.id

Iran
Rahat Co.
No. 172/1, West Taleghani Ave.
Between Vesal and Ghods
14178 Tehran
Tel.: +98 (0 21) 6 40 33 21-6 40 33 52
Fax: +98 (0 21) 6 46 54 96
Email: rahat@mail.dci.co.ir

Ireland
Moeller Electric Ireland Ltd.
94 Lagan Road,
Dublin Industrial Estate,
Dublin 11
Tel.: +353 (01) 8 30 04 00
Fax: +353 (01) 8 30 05 37
Email: kloekner@indigo.ie

Process & Energy Equipment Ltd.
Portgate Business Park
Ringaskiddy
Cork
Tel.: +353 (0) 2 14 37 02 80
Fax: +353 (0) 2 14 37 02 88
Email: info@peel.ie

Charles Nolan & Co. Ltd.
"Techna House"
Terenure Road East
Dublin 6
Tel.: +353 (1) 4 90 66 11
Fax: +353 (1) 4 90 12 74
Email: rnolan@cnolan.ie

Israel
Katzenstein, Adler & Co. Ltd.
P.O. Box 2416
2 Hasadna St.
Ra Anana 43106
Tel.: +972 (09) 7 47 57 77
Fax: +972 (09) 7 44 03 60
Email: k-a@k-a.co.il

Italy
Moeller Electric S.r.l.
Via Giovanni XXIII, 43
20090 Rodano MI
Tel.: +39 () 02 95 95 01
Fax: +39 () 02 95 95 04 00
Email: info@moeller.it

Japan
Moeller Electric Ltd.
Head Office, Katokichi Bldg. 5F
5-14-10, Nishinakajima, Yodogawa-ku
Osaka, 532-0011
Tel.: +(81) 6 6306 1613
Fax: +(81) 6 6306 1619
Email: info@jpn-moeller.co.jp

Jordan
PHOTON Import & Export Co.
P.O. Box 438
11821 Amman
Tel.: +962 (06) 4 64 34 61
Fax: +962 (06) 4 64 34 60
Email: photon@wanadoo.jo

Kazakhstan
TOO PF Elektroservice
200, Aiteke bi.
480096 Almaty
Tel.: +7 (0 32 72) 68 28 60
Fax: +7 (0 32 72) 68 28 65
Email: kazservice@yahoo.com

Kenya
Moeller Controls Ltd.
P.O. Box 30747
Nairobi
Tel.: +254 20 861 756
Fax: +254 20 861 798
Email: moeller@nbi.ispkenya.com

Demokr. Repub. Kongo (Zaire)
ELMAS S.P.R.L.
Commune de Limete
14 rue No. 5.885
Kinshasa
Tel.: +243 89 12 59
Fax: +243 8 84 38 16
Email: moeller20032002@yahoo.fr

Korea
Delta Corporation
Moeller Building
403-1, Daebang-Dong
Dongjak-Ku
Seoul
Tel.: +82 (02) 8 13 00 33
Fax: +82 (02) 8 15 94 37
Email: moeller@ideltasystem.co.kr

Kuwait
Dakheel Aljassar Electrical Industries
PO Box 145
Safat 13002
Kuwait
Tel.: +965 4 81 17 22
Fax: +965 4 84 32 60

Latvia
Moeller Elektrotechnika s.r.o.,
Latvijas Parstavniceiba
Zemitana iela 2b
LV - 1012 Riga, Latvia
Tel.: +371 (7) 84 44 35
Fax: +371 (7) 84 44 36
Email: office@moeller.lv

AS Energofirma JAUDA
Krustpils iela 119
1057 Riga
Tel.: +371 7 12 57 55
Fax: +371 7 12 57 40
Email: komerc@jauda.com

Lebanon
Progress, Engineering & Trading Enterprises
P.O. Box 11-1111
Pharaon Bldg. Opp. Electricité du Liban
Chafaca Str. Al-Nahr
Beirut
Tel.: +961 (01) 44 46 64, 44 31 75
Fax: +961 (01) 56 18 80
Email: progress@inco.com.lb

Lithuania
Moeller Elektrotechnika s.r.o., Atstovybe
Seimyniskiu g. 3a/Sluckio g.2
LT - 2600 Vilnius
Tel.: +370 (52) 79 05 53
Fax: +370 (52) 79 05 63
Email: office@moeller.net

UAB Elstila
Jonavos 62A
3000 Kaunas
Tel.: +370 52 20 58 02
Fax: +370 52 20 12 80
Email: centras@elstila.lt

Luxembourg
Moeller Electric S.A.
Boîte Postale 1823, 1018 Luxembourg
65, rue des Bruyères
1274 Luxembourg-Howald
Tel.: +352 () 48 10 81-1
Fax: +352 () 49 07 82
Email: info.lux@moeller.net

Macedonia
ES-MIK Elektrosystem d.o.o.
bl. III Makedonska Brigada bb.
MK - 91000 Skopje
Tel.: +389 (0 2) 46 02 95
Fax: +389 (0 2) 46 02 98
Email: elektrosistem-mk@mt.net.mk

Malaysia
Fulban Sdn Bhd
3 Jalan 4/89B, Kawasan Perindustrian Trisegi
Batu 3 1/2, Jalan Sungai Besi
Kuala Lumpur 57100
Tel.: +60-3-79842389, +60-3-79842309
Fax: +60-3-79842368
Email: fulban@po.jaring.my

Mexico
Moeller Electric, S.A. de C.V.
Calle Ingenieros Civiles No. 204
Chachapa, Puebla
C.P. 72990 Puebla
Tel.: +52 (02 22) 2 86 60 00
Fax: +52 (02 22) 2 86 60 02
Email: ocastell@moeller.com.mx

Namibia
ICE Industrial Controls & Engineering
P. O. Box 5076
Marconi Street 45
Windhoek, Namibia
Tel.: +264 (0 61) 23 83 47, 23 83 48
Fax: +264 (0 61) 23 45 95
Email: alexfrech@ice.com.na

Netherlands
Moeller Electric N.V.
Postbus 2022, 5300 CA Zaltbommel
Ambacht 6
5301 KW Zaltbommel
Tel.: +31 (04 18) 57 02 00
Fax: +31 (04 18) 51 52 84
Email: info@moeller.nl

New Zealand
Bremca Industries Ltd
PO Box 7169
10 Kennedy Place Opawa
Christchurch
Tel.: +64 (03) 3 32 63 70
Fax: +64 (03) 3 32 63 77
Email: ken@bremca.co.nz

Nigeria
Etco (Nigeria) Ltd.
P.O. Box 337
14 Creek Road
Apapa-Lagos
Tel.: +234 (01) 80 40 70, 80 40 71
Fax: +234 (01) 5 87 78 26, 2 61 21 94

Norway
Moeller Electric AS
Prost Stabells vei 22
2019 Skedsmokorset
Postboks 244
2021 Skedsmokorset
Tel.: +47 () 63 87 02 00
Fax: +47 () 63 87 02 01
Email: firmapost.nor@moeller.net

Pakistan
Home & Foreign Traders
P.O. Box No: 7775
73/III - Dilkusha Chambers
Marston Road
Karachi 74400
Tel.: +92 (0 21) 7 72-15 25 - 7 72-40 98
Fax: +92 (0 21) 7 72-40 98
Email: hftnoor1@multi.net.pk

Paraguay
TECNOUNION S.A.
Avda. España No. 2221
2401 Asunción
Tel.: +595 (0 21) 20 15 50
Fax: +595 (0 21) 20 15 50
Email: mail@tecnounion.com

SAIMCO S.A.
Av. Eusebio Ayala esq./San Carlos Km 9
San Lorenzo
Tel.: +595 (0 21) 50 09 25
Fax: +595 (0 21) 50 09 25
Email: saimco@highway.com.py

Peru
EPLI S.A.C.
Jr. Tarapoto 1175
Brena Lima 05
Tel.: +51 (1) 3 30-15 95
Fax: +51 (1) 4 24-86 29
Email: import@epli.com.pe

Philippines
Moeller Electric Pte. Ltd.
3 Toh Tuck Link
German Districentre, 03-05
Singapore 596228
Tel.: +65 64 68 02 88
Fax: +65 64 68 17 11
Email: moeller.sgp@moeller.com.sg

EGO Electrical Supply Co Inc
2nd Floor Gotesco Tower A,
1129 Concepcion Street
Ermita, Manila
Tel.: +63 2 5 27 14 83
Fax: +63 2 5 27 14 83

Poland
Moeller Electric Sp. z o.o.
Ul. Galaktyczna 30
80-299 Gdansk
Tel.: +48 (0 58) 5 54 79 00
Fax: +48 (0 58) 5 54 79 09
Email: office@moeller.pl

Portugal
Moeller Electric, S.A., Sucursal em Portugal
Edifício Atlas I
Av. José Gomes Ferreira
9 sala 31 Miraflores
1495-139 Alges
Tel.: +351 (21) 4 12 12 04
Fax: +351 (21) 4 12 12 03

Rumania
Moeller Electric SRL
Iride Business Park, No. 9 Building
No. 9-9A, Dimitrie Pompei Blvd.
020335 Bucuresti, District 2
Tel.: +40 (0) 21-2 43 38 32, 21-2 43 37 36
Fax: +40 (0) 21-2 43 38 60, 21-2 43 38 61
Email: info@moeller.ro

Russia
000 Moeller Electric
Kronshtadtsky bul., 7
125212 Moscow
Tel.: +7 (0 95) 7 30 60 60
Fax: +7 (0 95) 7 30 60 59
Email: info@moeller.ru

Saudi Arabia
A. M. Al-Ghamdi Industrial, Control Systems Est.
P.O. Box: 42456
5th Floor, 3rd Tower,
New Al-Akharia Building, Siteen Street
Riyadh
Tel.: +966 (01) 4 78 57 98
Fax: +966 (01) 4 76 25 61
Email: gics@nooralshomoe.com

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Serbia and Montenegro

Beobars d.o.o.
Avtoput 5
11077 Novi Beograd
Tel.: +381 (0 11) 3 19 41 53
Fax: +381 (0 11) 3 19 49 78
Email: beobars@eunet.yu

ESYU-Elektrosystem d.o.o.
Pariske komune br. 41
11070 Novi Beograd
Tel.: +381 (0 11) 269 36 08
Fax: +381 (0 11) 269 72 12
Email: esyu@infosky.net

Singapore

Moeller Electric Pte. Ltd.
3 Toh Tuck Link
03-05 German District
Singapore 596228
Tel.: +65 64 68 02 88
Fax: +65 64 68 17 11

Slovenia

Elektronabava d.o.o.
Cesta 24 Junija 3
1231 Ljubljana
Tel.: +386 (0)1 58 99 300
Fax: +386 (0) 1 58 99 490
Email: info@elektronabava.si

Synatec d.o.o.
Vojkova 8b, p.p. 50
SLO - 5280 Idrija
Tel.: +386 (05) 3 72 06 50
Fax: +386 (05) 3 72 06 60
Email: info@synatec.si

Slowakia

Moeller Electric s.r.o.
Kopcianska 22
SK - 851 01 Bratislava
Tel.: +421 (02) 63 81 01 15
Fax: +421 (02) 63 83 82 33
Email: moeller@moeller.sk

Republic of South Africa

Moeller Electric (Pty) Limited
P.O. Box 100, Kempton Park, 1620
9 Derrick Road, Spartan
Kempton Park, 1620
Tel.: +27 (0 11) 9 75 39 37, 9 75 39 38
Fax: +27 (0 11) 3 94 25 23, 9 75 92 97
Email: moeller@usconet.com

Spain

Moeller Electric, S.A.
Acer, 16-18 1a planta
08038 Barcelona
Tel.: +34 () 93 2 23 23 66
Fax: +34 () 93 2 23 29 33
Email: marketing@moeller.es

Sri Lanka

Richardson Projects Pvt Ltd
342, Galle Road, 3rd Floor
Colombo 3
Tel.: +94 1 56 44 54
Fax: +94 1 56 44 56
Email: naz@eureka.lk

Sudan

Sudana Electromechanical Co Ltd.
P.O. Box 3443
Khartoum
Tel.: +249 (011) 77 80 91
Fax: +249 (011) 77 23 81, 78 22 95
Email: sudana@sudanet.net

Surinam

N. V. Elgawa
P.O. Box 1120
Verl. Gemenelandsweg no. 76
Paramaribo
Tel.: +597 () 49 94 47
Fax: +597 () 46 57 41

Sweden

Moeller Electric AB
Box 1171, Kista
Skalholtsgatan 6
SE 16426 Kista
Tel.: +46 (08) 6 32 30 00
Fax: +46 (08) 6 32 32 99
Email: info.swe@moeller.net

Switzerland

Micro Innovation AG
Spinnereistrasse 8-14
9008 St. Gallen
Tel.: +41 (0) 71 243 24 24
Fax: +41 (0) 71 243 24 90
Email: info@microinnovation.com

Syria

Hovaguimian Bros.
P.O. Box 5093
Marrge, Rammy str.
Damascus
Tel.: +963 (011) 2 21 84 05
Fax: +963 (011) 2 24 48 69
Email: hb.hovag@mail.sy

Taiwan

San Shin Corporation
Room 705 Bank Tower
205 Tun Hwa North Road
Taipei
Tel.: +886-2-2 27 15 32 87
Fax: +886-2-2 27 16 97 94
Email: sashinco@gcn.net.tw

Sergeant Co. Ltd
Floor 9-7, No. 290 Sec 2 Nan Tun Road
Taichong
Tel.: +886 (04) 4 71 08 96
Fax: +886 (04) 4 72 63 76

Tajikistan

TOO PF Elektroservice
200 Aiteke bi Str.
480096, Almaty, Kazakhstan
Tel.: +007 3272 68 28 60
Fax: +007 3272 25 25 18
Email: kazservice@yahoo.com

Tanzania

EM Consultants Ltd.
Plot 1160/17
Jamhuri Street
P.O. Box 5579
Dar Es Salaam
Tel.: +255 (22) 212 2250
Fax: +255 (22) 212 2251
Email: moeller@africaonline.co.tz

Thailand

Moeller Electric Limited
99/167 Moo 2
Chaengwattana Road, Thungsonghong
Laksi
Bangkok 10210
Tel.: +66 (02) 5 75 05 30
Fax: +66 (02) 5 75 05 25
Email: enquiry@moeller.co.th

Trinidad

ANANDs Electrical Ltd.
#4 Aranguez Main Road
San Juan, Trinidad, West Indies
Tel.: +1 (08 68) 6 75-11 63, 6 38-93 59,
6 38-94 30
Fax: +1 (08 68) 6 75-61 20
Email: anands@carib-link.net

Tunisia

Rafik Hamouda
17, rue du Maroc
7000 Bizerte
Tel.: +216 (02) 42 30 50
Fax: +216 (02) 42 32 22
Email: moeller.hamouda@planet.tn

Turkey

Moeller Elektrik Ticaret
Limited Sirketi
Degirmenyolu Sok. Kutay Is Merkezi
D. Blok Kat 1 No. 4-5
81110 Üstbostanci Istanbul
Tel.: +90 (02 16) 5 75 58 04
Fax: +90 (02 16) 5 75 44 64
Email: canerbilgin@superonline.com

Uganda

Avo Machinery Ltd.
Plot 69 Nasser Rd
PO Box 545
Kampala
Tel.: +256 (0 41) 23 45 11
Fax: +256 (0 41) 25 44 47
Email: avo@starcom.co.ug

Ukraine

DP Moeller Electric
Bereznyakovskaja 29, 6 floor
02098 Kiev
Tel.: +38 (0 44) 4 96 09 58
Fax: +38 (0 44) 4 96 09 54
Email: office@moeller.kiev.ua

United Arab Emirates

Juma Al Majid Est,
For Electro Mechanical Works
P.O. Box 60204
Dubai
Tel.: +971 (04) 2 85 42 23, 2 85 42 25
Fax: +971 (04) 2 85 46 78
Email: jmemkms@emirates.net.ae

USA

Moeller Electric Inc.
4140 World Houston Parkway, #100
Houston, Texas 77032
Tel.: 713.933.0999
Fax: 832.613.6255
Email: info@moellerusa.net

Venezuela

Somerinca, C.A.
Edificio Esteban piso 2
Calle Vargas - Boleita Norte
Apartado 76051
Caracas 1070 - A
Tel.: +58 (212) 2 35 10 81
Fax: +58 (212) 2 38 56 25
Email: hcastrog@somerincayv.com

Vietnam

Thien Nghi Trading & Services Co., Ltd.
I41-I42, D11 Tay Thanh Street,
Tan Binh Industrial Park
Ward 15, Tan Binh District
Ho Chi Minh City
Tel.: +84 (08) 8 15 01 38
Fax: +84 (08) 8 15 01 37
Email: thiennghi@hcm.vnn.vn

Zambia

Electrical Maintenance Lusaka Ltd
P.O. Box 31189
Lusaka
Tel.: +9260 (1) 22 78 24
Email: ceo@eml-eis.com

Electrical & Instrumentation Services Ltd.
(E.I.S.)
P.O. Box 22612
Eshowe Road
Kitwe
Tel.: +9260 (2) 22 80 77
Fax: +9260 (2) 22 07 97
Email: kitwe@eml-eis.com

Zimbabwe

Ames Electrical
P.O. Box 8002
8 Josiah Chinamano Road
Belmont, Bulawayo
Tel.: +263 (09) 88 10 21
Fax: +263 (09) 88 10 30
Email: ames@mweb.co.zw

Holding

Micro Innovation Holding AG
Spinnereistrasse 8-14
9008 St. Gallen
Switzerland
Tel.: +41 (0) 71 243 24 24
Fax: +41 (0) 71 243 24 90
Email: info@microinnovation.com

Product Company

Micro Innovation AG
Spinnereistrasse 8-14
9008 St. Gallen
Switzerland
Tel.: +41 (0) 71 243 24 24
Fax: +41 (0) 71 243 24 90
Email: info@microinnovation.com

Sales Company

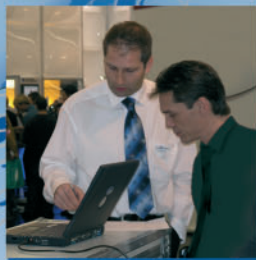
Micro Innovation GmbH
Nideggerstrasse 6-10
53115 Bonn
Germany
Tel.: +49 (0) 228 602 2020
Fax: +49 (0) 228 602 1713
Email: info@microinnovation.com

Service/Repair Center

Micro Innovation GmbH
Byk-Gulden-Strasse 18
78224 Singen
Germany
Tel.: +49 (0) 7731 7896 110
Fax: +49 (0) 7731 7896 101
Email: servicecenter@microinnovation.com



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Information at

info@microinnovation.com

Micro Innovation GmbH
Nideggerstrasse 6-10
53115 Bonn
Germany

Micro Innovation AG
Spinnereistrasse 8-14
9008 St. Gallen
Switzerland

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Holding

Micro Innovation Holding AG
Spinnereistrasse 8-14
9008 St. Gallen
Switzerland
Tel.: +41 (0) 71 243 24 00
Fax: +41 (0) 71 243 24 90
www.microinnovation.com

Product Company

Micro Innovation AG
Spinnereistrasse 8-14
9008 St. Gallen
Switzerland
Tel.: +41 (0) 71 243 24 24
Fax: +41 (0) 71 243 24 90
www.microinnovation.com

Sales Company

Micro Innovation GmbH
Nideggerstrasse 6-10
53115 Bonn
Germany
Tel.: +49 (0) 228 602 2020
Fax: +49 (0) 228 602 1713
Email: info@microinnovation.com

Service/Repair Center

Micro Innovation GmbH
Byk-Gulden-Strasse 18
78224 Singen
Germany
Tel.: +49 (0) 7731 7896 110
Fax: +49 (0) 7731 7896 101
servicecenter@microinnovation.com