INTELLIGENT POWER DISTRIBUTION SYSTEMS
CP *Power-D-Box*® for *ControlPlex*® Rack

CP *Power-D-Box*®

The ***Power-D-Box***® **CP** is a modular power distribution system. Depending on the respective application, the compact 2 HU enclosure can accommodate these system components: ESX300-S, RSI10, RCI11 oder EAI300. User friendliness is of top priority in the event of a system extension with the system live without causing downtimes. All sub-assemblies are hot-swappable without affecting neighbouring components. Depending on the application, termination can be placed both on the front or on the rear. Major application areas of the ***ControlPlex***® **Rack** system are communication technology equipment both in the negative (DC -48 V or DC -60 V) and in the positive voltage range (DC 24 V, 48 V, 60 V).

TYPICAL FEATURES

- 19" power distribution system, made of aluminium
- Compact design, protected against brush contact (2RU)
- Designed for plug-in type circuit protectors (ESX300-S)
- Slot for signalling module (RSI10) or control interface module (RCI11)
- Various preferred types with front side or rear side load outputs

YOUR BENEFITS

- Easy system extension without shutdown thanks to plug-in type circuit protectors (ESX300-S).
- Maximum system protection through electronic current limitation and load disconnection
- Maximum system availability through selective protection
- System stability in the event of a short circuit through avoidance of voltage dips
- More favourable design of the equipment power supplies thanks to the electronic circuit protectors

PREFERRED TYPES

Preferred types are E-T-A products, which are most frequently used by our customers. We manufacture these preferred types in substantial quantities. You can find an overview of our preferred types here (Page 3).

TYPICAL APPLICATIONS

Telecommunications and datacom, energy providers, industrial switching and control systems, rail engineering, infrastructure

COMPLIANCE

REACH RoHS CE UKCA

WEB LINKS

Further information, Mounting instructions (CP minus), Mounting instructions (CP plus), REACH, RoHS, Contact

GENERAL INFORMATION

FURTHER INFORMATION

Mounting instructions for the ***Power-D-Box***® CP minus voltage range
https://www.e-t-a.com/datei/13849

Mounting instructions for the ***Power-D-Box***® CP plus voltage range
https://www.e-t-a.com/datei/13850

TECHNICAL DATA (T_u = +25 °C, U_b = DC -48 V)

ELECTRICAL DATA

Rated voltage range	Minus: DC -38...-72 V Plus: DC 18...72 V
Total current	2x150 A with redundant design and supply terminal at the back 200 A with non-redundant design and double supply terminal at the back 100 A for non-redundant design

MECHANICAL DATA

Mounting dimensions (WxHxD)	Width: 482.6 mm (19" mounting) x Height: 89 mm (2HU) x Installation depth: 205 mm (supply from the back) / Installation depth: 175 mm (front-side line entry)
Mass	Approx. 2.5 kg
Material	Aluminium
Enclosure grounding	M6 studs, always on the rear

SUPPLY

Terminals / Cable cross section	Terminal at the back: Screw terminals, cable cross section, 16...50 mm^2 Terminal at the back: Screw terminals, cable cross section, 4...25 mm^2

LOADS

Terminals / Cable cross section	Terminals at the back: Plug-in type 2-pole screw terminals with mating connector, cable cross section 0.5...6 mm^2 Terminals on the front: Plug-in type 3-pole high current SUB-D socket, cable cross section 2.5…10 mm^2, mating connector (not included in the delivery scope), see accessories

AMBIENT CONDITIONS

Ambient temperature	-20...+60 °C (without condensation)
Damp heat	**Test according to IEC 60068-2-78, 3K6 climate class according to EN 60721** 96 hours at 95 % relative humidity, 40 °C
Vibration	**Test according to IEC 60068-2-6, test Fc** 3 g
IP code (standard)	IP20 (power distribution modules protected against brush contact)
EMC requirements (EMC directive, CE logo) emitted interference	EN 61000-6-3
EMC requirements (EMC directive, CE logo) resistance to disturbances	EN 61000-6-2

ORDERING NUMBER CODE

P	D	B	-	N	-	C	P	1	8	R	-	R	R	-	A	2
1				2		3		4		5		6	7		8	9

1 TYPE NUMBER

PDB	***Power-D-Box***® 19“ (condition as delivered), with ETSI reversible flange – 19“

2 PROTECTED POLE

N	Minus pole protected
P	Positive pole protected

3 2

CP	***ControlPlex***® **Rack**

4 LOAD CHANNELS

xx	Number of load channels (total)

5 REDUNDANCY

A	non-redundant design
R	Redundant design (two supply entries, with main and load terminals on the back)

6 MAIN TERMINALS

R	At the back
F	On the front

7 LOAD TERMINALS

R	At the back
F	On the front

8 VERSION

A	BUS

9 REVISION

2	Revision 2

Looking for a customer-specific version you cannot find in our ordering number code? Please get in touch with us.
Circuit protectors are not included in the delivery scope.

PREFERRED TYPES

Preferred types	Short description	Supply current [A]
Minus version	**DC -48 V or DC -60 V**	**-**
PDB-N-CP09A-RR- A2	Load current max. 30A with 9 load channels	150
PDB-N-CP09A-FF-A2	Load current max. 30A with 9 load channels	100
PDB-N-CP09A-RF-A2	Load current max. 30A with 9 load channels	150
PDB-N-CP19A-RR-A2	Load current max. 30A with 19 load channels	200
PDB-N-CP18R-RR-A2	Load current max. 30A with 2 x 9 load channels	2 x 150
Plus version	**DC 24 V, 48 V, 60 V**	**-**
PDB-P-CP09A-RR-A2	Load current max. 30A with 9 load channels	150

PDB-P-CP09A-FF-A2	Load current max. 30A with 9 load channels	100
PDB-P-CP09A-RF-A2	Load current max. 30A with 9 load channels	150
PDB-P-CP19A-RR-A2	Load current max. 30A with 19 load channels	200
PDB-P-CP18R-RR-A2	Load current max. 30A with 2 x 9 load channels	2 x 150

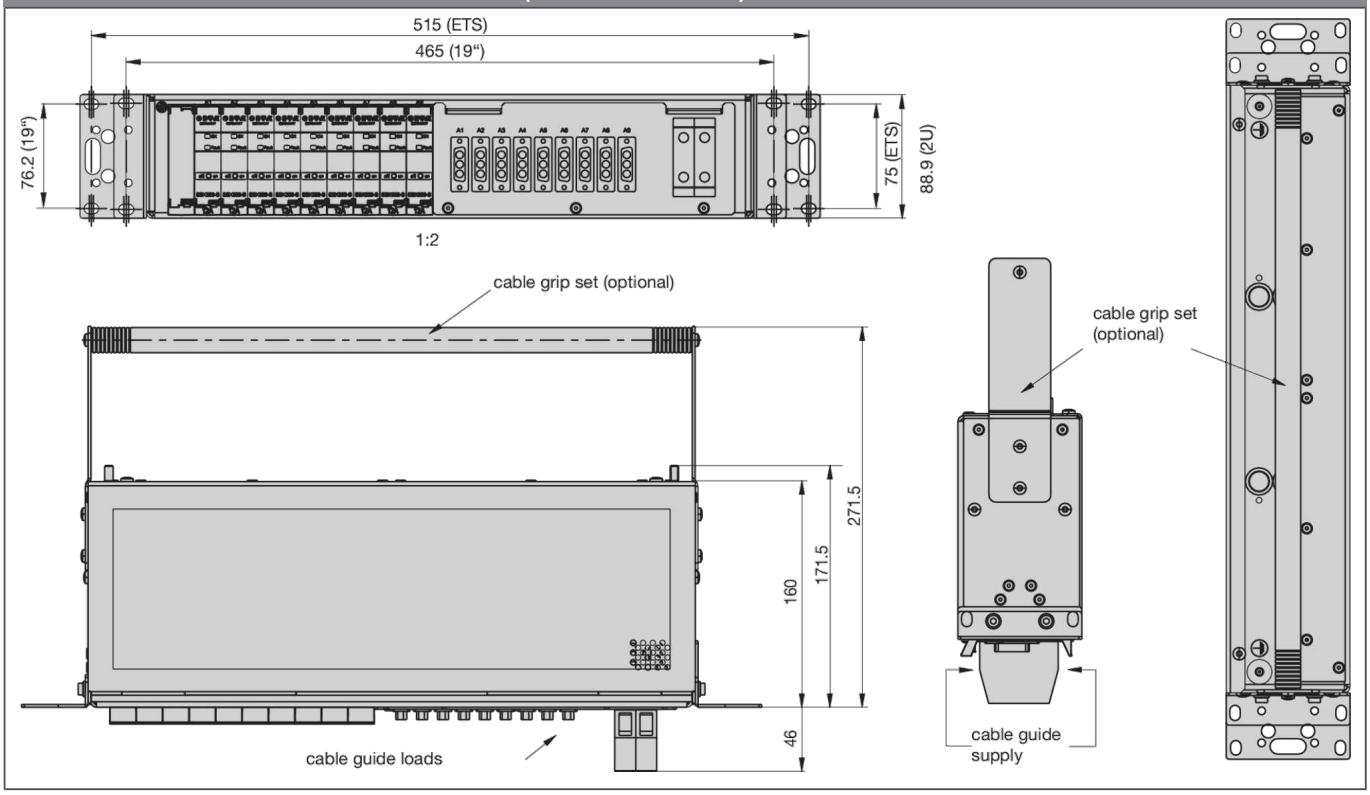
COMPLIANCE

CE according to EMC directive (combined with ESX300-S plus / with ESX300-S minus)

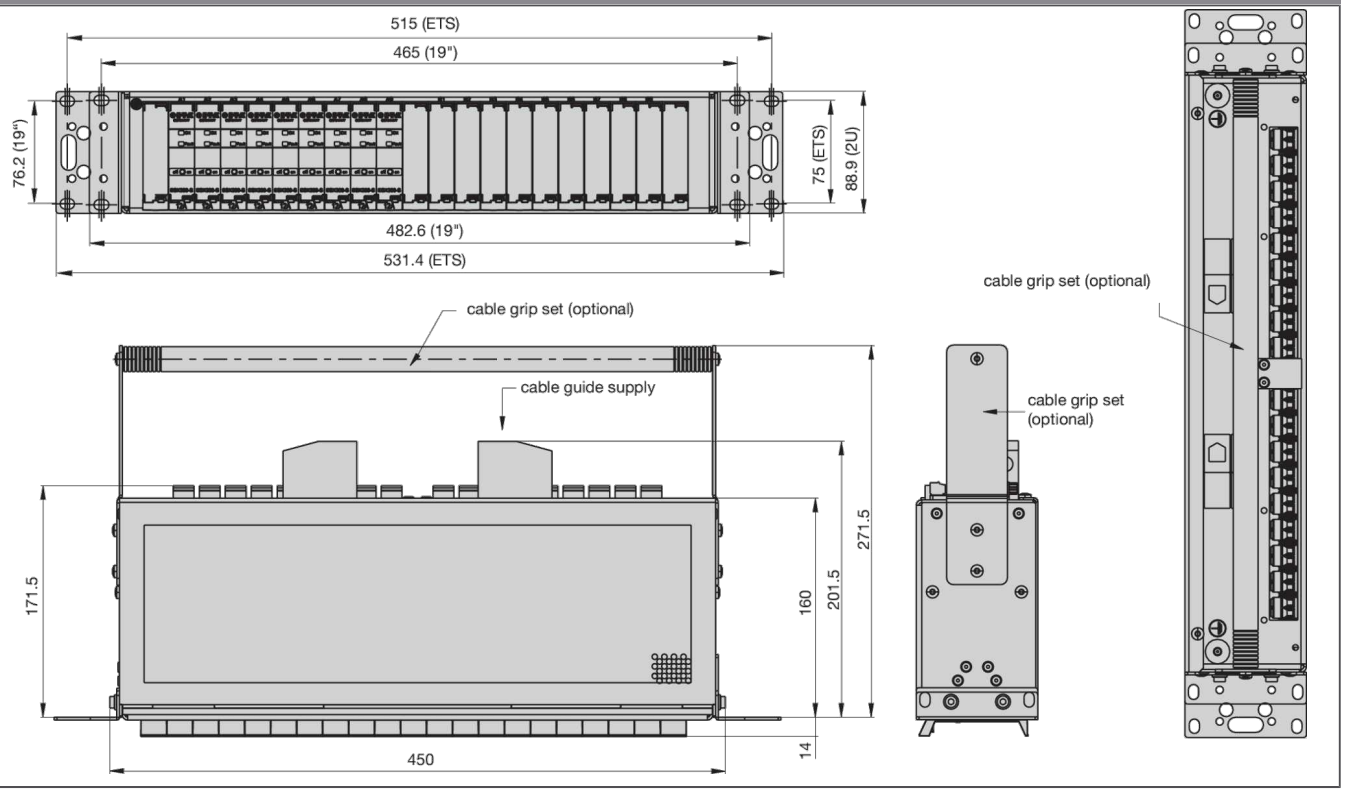
Compliance according to	EN60950-1 / UL60950-1

DIMENSIONS

DIMENSIONAL DRAWING - FRONT CONNECTION (PDB-N-CP 09A-FF-X)



DIMENSIONAL DRAWING - CONNECTION ON THE BACK (PDB-N-CP XXY-RR-X)

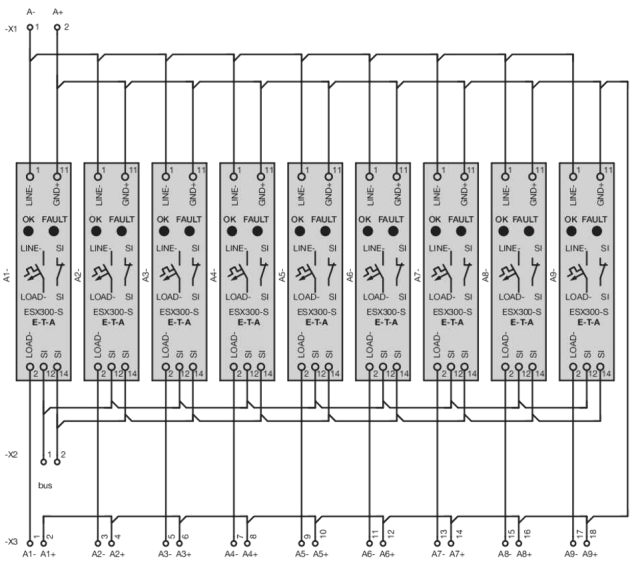


SCHEMATIC DIAGRAMS

SCHEMATIC DIAGRAM – REDUNDANT DESIGN – EXAMPLE: MINUS-POLE PROTECTED

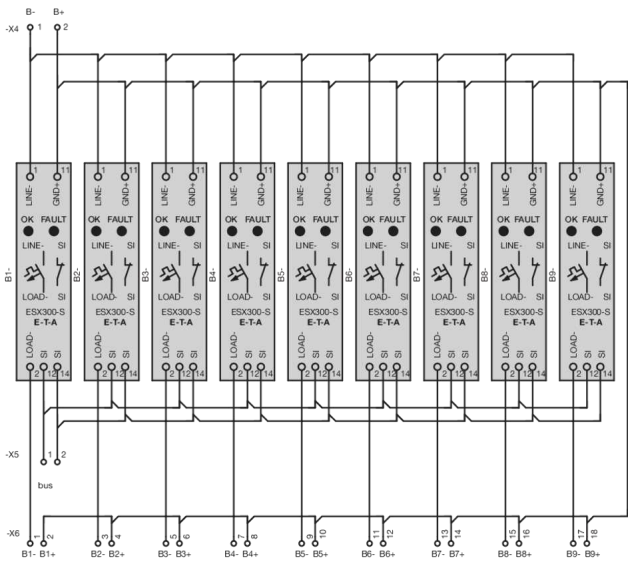
redundant design

supply A



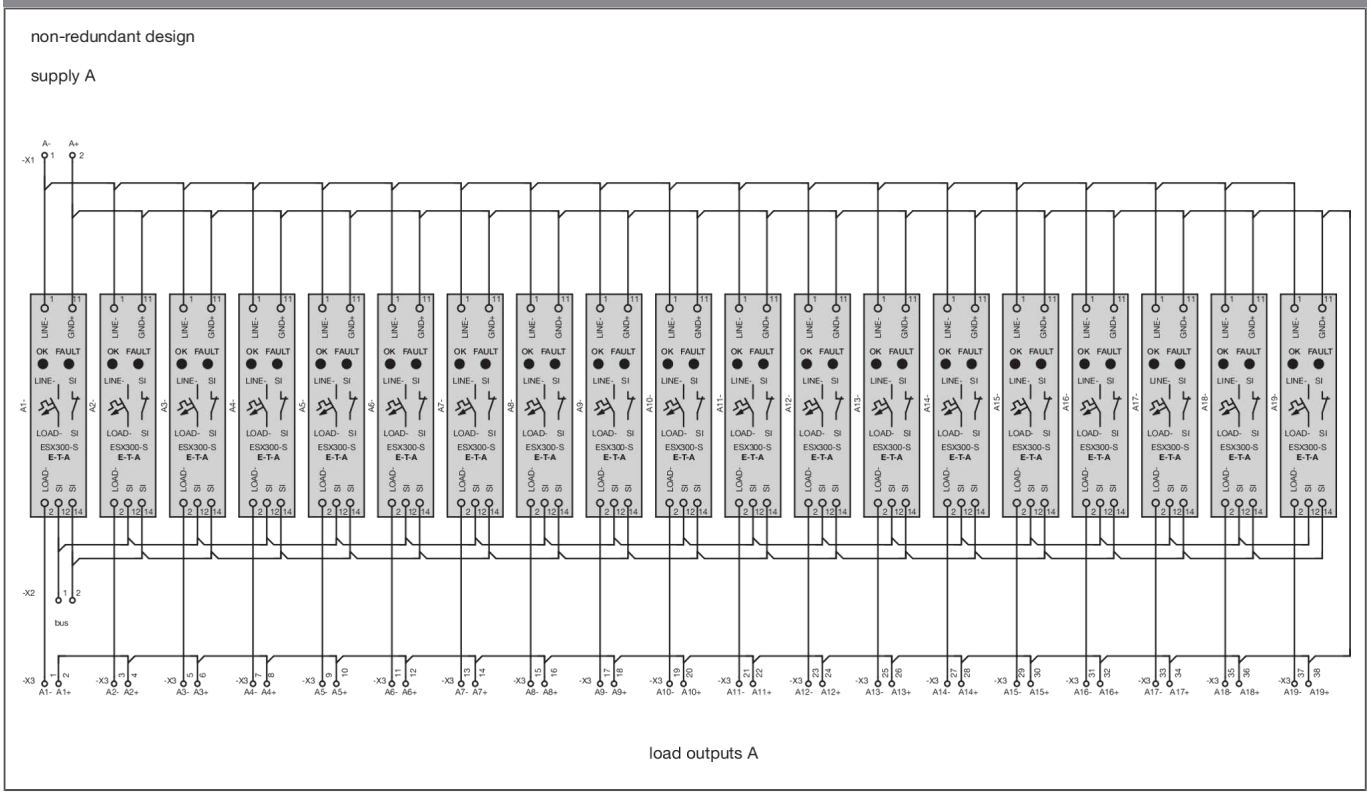
load outputs A

supply B



load outputs B

SCHEMATIC DIAGRAM - NON-REDUNDANT DESIGN – EXAMPLE: MINUS-POLE PROTECTED



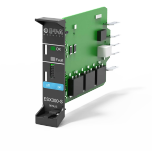
TERMINALS

LOAD TERMINALS

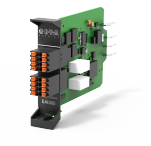
Preferred types	Load terminals				Supply cable	
Minus version	**Terminal [mm²]**	**Max. current load [A]**	**At the back [Nm]**	**At the front**	**Terminal 50 mm² 150 A**	**Front-side terminal 25 mm² 100 A**
PDB-N-CP09A-RR- A2	6	30	0.5...0.8	-	6...8	-
PDB-N-CP09A-RF-A2	10	30	-	Crimp terminal	6...8	-
PDB-N-CP09A-FF-A2	10	30	-	Crimp terminal	-	4...4.5 Nm
PDB-N-CP19A-RR-A2	6	30	0.5...0.8	-	6...8 Nm (double supply terminal, max. 200 A)	-
PDB-N-CP18R-RR-A2	6	30	0.5...0.8	-	6...8 Nm (double supply terminal, max. 200 A)	-
Plus version	**Terminal [mm²]**	**Max. current load [A]**	**At the back [Nm]**	**At the front**	**Terminal 50 mm² 150 A**	**Front-side terminal 25 mm² 100 A**
PDB-P-CP09A-RR-A2	6	30	0.5...0.8	-	6...8	-
PDB-P-CP09A-RF-A2	10	30	-	Crimp terminal	6...8	-
PDB-P-CP09A-FF-A2	10	30	-	Crimp terminal	-	4...4.5 Nm
PDB-P-CP19A-RR-A2	6	30	0.5...0.8	-	6... 8 (double supply terminal, max. 200 A)	-
PDB-P-CP18R-RR-A2	6	30	0.5...0.8	-	6... 8 (double supply terminal, max. 200 A)	-

Ground studs M6 / 6 Nm

ACCESSORIES

REQUIRED ACCESSORIES		
ESX300-S minus	The hot pluggable **ESX300-S minus** electronic circuit protector ensures reliable overcurrent protection by means of electronic current limitation and load disconnection. It reliably prevents the destruction of electronic sub-assemblies or load lines in power supply systems in a voltage range of DC -48 V and DC -60 V. Thanks to a selective load disconnection, a voltage dip is prevented in the event of a failure and other faultless devices in the circuit remain working. The integral bus interface can transmit the recorded measuring values and status messages to the RCI11 control interface, where they can be used to automatically trigger actions or for data collection and monitoring.	
↳ X22387411	Two ESX300-S connected in parallel Consisting of: 1 front bridge 1 load output bridge	
↳ X22387401	Three ESX300-S connected in parallel Consisting of: 1 front bridge 1 load output bridge	
↳ X22385301	ESX300-S removing bracket Consisting of: 1 removing bracket 1 mounting bracket	
ESX300-S plus	The hot pluggable **ESX300-S plus** electronic circuit protector ensures reliable overcurrent protection by means of electronic current limitation and load disconnection. It reliably prevents the destruction of electronic sub-assemblies or load lines in power supply systems in DC +24 V, DC +48 V and DC +60 V voltage ranges. Thanks to its selective load disconnection, a voltage dip is prevented in the event of a failure and fault-free devices can be further operated. The integral bus interface can transmit the recorded measuring values and status messages to the RCI11 control interface, where they can be used to automatically trigger actions or for data collection and monitoring.	
↳ X22387411	Two ESX300-S connected in parallel Consisting of: 1 front bridge 1 load output bridge	
↳ X22387401	Three ESX300-S connected in parallel Consisting of: 1 front bridge 1 load output bridge	
↳ X22385301	ESX300-S removing bracket Consisting of: 1 removing bracket 1 mounting bracket	

OPTIONAL ACCESSORIES		
RCI11	The **RCI11** Remote Control Interface allows remote control and monitoring of the system and its connected loads, reducing maintenance costs and providing maximum transparency. It helps integrate the ***ControlPlex***® **Rack** system into the network surroundings and into the centralised corporate management system. The RCI11 provides access to all installed ESX300-S circuit protectors via the internal bus system and can enquire or store individual measuring data, status conditions and fault indications and forward them to the superordinate control unit or execute commands from the control unit for controlling purposes. The RCI11 Remote Control Interface can be extended during operation “Hot Plug & Play“.	
RSI10	The **RSI10** Remote Signalling Interface ensures reliable and early detection of critical system conditions. It can communicate with all circuit protectors installed in the ***ControlPlex***® **Rack** via internal BUS connection. When one of the circuit protectors is disconnected from the related load due to an overcurrent etc., the RSI10 will externally indicate this status via a potential-free group signal, e.g. to a monitoring system. It is the perfect way to minimise downtimes and reduce operational and maintenance costs.	

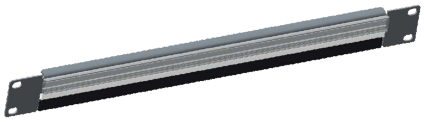
EAI300	Combined with the RCI11, the **EAI300** External Alarm Interface allows recording of external sensor data and alarm signalling in the management system. It includes e.g. additional monitoring and indication of door contacts or temperature sensors in the technical room. This provides high system transparency and fast intervention in the event of alarms. Thanks to programmable logical links, operating conditions of the ESX300-S can be linked to external encoder signals that enable automatic switching operations. Instead of the ESX300-S electronic circuit protector, the EAI300 can be easily plugged into an empty slot of the ***ControlPlex***® **Rack** system without shutting down the connected loads. This allows connection of external signalling devices in the control cabinets without requiring additional space.	
X22326011	Cable strain relief Consisting of: 2 mounting brackets 1 rod 6 screws 1 insulating tube	
X22318901	Load-SUB-D connector (suitable for front connection) including: • Enclosure • 3 contacts	
X22357601	1U marking band with cable gland Consisting of: 1 - 1 HU stainless steel marking band with marking strips and cable duct 2 - Screws with washers 24 - Plastic marking labels	
X22357501	Marking strip 0.5 HU Consisting of: 1 - 0.5 HU stainless steel marking strip with marking labels 2 - Screws with washers 24 - Plastic marking labels	

FURTHER INFORMATION ABOUT ACCESSORIES (DRAWINGS)

ACCESSORIES

1U marking band with cable gland
X 223 576 01

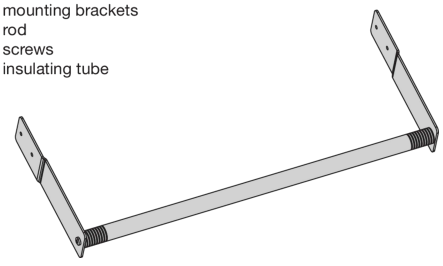
Consisting of:
1 1U stainless steel marking band with marking strips and cable gland
4 screws with washers
24 moulded labels



ACCESSORIES

Cable grip

X 223 260 11
consisting of:
2 mounting brackets
1 rod
6 screws
1 insulating tube



ACCESSORIES

Marking band 0.5U
X 223 575 01

Consisting of:
1 0.5U stainless steel marking bandwith marking strips
2 screws with washers
24 moulded labels