X20PD0011

1 General information

The potential distributor module provides 12x ground (from the internal I/O supply) on the terminal connections and opens up additional wiring possibilities for actuators and sensors. The module is equipped with a replaceable microfuse between the GND potential on the terminal block and the X20 system I/O supply. The function of the fuse is monitored.

- Integrated exchangeable microfuse
- Monitoring of the fuse
- Potential for routing as needed

Information:

The wired load must be supplied with 24 VDC!

2 Order data

Order number	Short description	Figure
	Other functions	
X20PD0011	X20 potential distributor module, 12x GND, integrated microfuse	
	Required accessories	
	Bus modules	
X20BM11	X20 bus module, 24 VDC keyed, internal I/O supply continuous	
X20BM15	X20 bus module, with node number switch, 24 VDC keyed, internal I/O power supply connected through	
	Terminal blocks	
X20TB12	X20 terminal block, 12-pin, 24 VDC keyed	

Table 1: X20PD0011 - Order data

3 Technical data

| Order number	X20PD0011
Short description	
Potential distributor module	12x ground on the terminal connections
General information	
B&R ID code	0x267D
Status indicators	Operating state, module status
Diagnostics	
Module run/error	Yes, using LED status indicator and software
Fuse monitoring	Yes, using LED status indicator and software
Power consumption [1]	
Bus	0.12 W
Internal I/O	1 W [2]
Additional power dissipation caused by actuators (resistive) [W]	-
Certifications	
CE	Yes
ATEX	Zone 2, II 3G Ex nA nC IIA T5 Gc IP20, Ta (see X20 user's manual) FTZÚ 09 ATEX 0083X
UL	cULus E115267 Industrial control equipment
HazLoc	cCSAus 244665 Process control equipment for hazardous locations Class I, Division 2, Groups ABCD, T5
DNV GL	Temperature: **B** (0 - 55°C) Humidity: **B** (up to 100%) Vibration: **B** (4 g) EMC: **B** (bridge and open deck)
LR	ENV1
KR	Yes
ABS	Yes
EAC	Yes
KC	Yes
Output I/O power supply	
Nominal output voltage	Ground from the internal I/O power supply
Fuse	Integrated 6.3 A, slow-blow, can be replaced
Behavior on short circuit	Integrated fuse
Permissible contact load	10 A
Operating conditions	
Mounting orientation	
Horizontal	Yes
Vertical	Yes
Installation elevation above sea level	
0 to 2000 m	No limitation
>2000 m	Reduction of ambient temperature by 0.5°C per 100 m
Degree of protection per EN 60529	IP20
Ambient conditions	
Temperature	
Operation	
Horizontal mounting orientation	-25 to 60°C
Vertical mounting orientation	-25 to 50°C
Derating	-
Storage	-40 to 85°C
Transport	-40 to 85°C
Relative humidity	
Operation	5 to 95%, non-condensing
Storage	5 to 95%, non-condensing
Transport	5 to 95%, non-condensing
Mechanical properties	
Note	Order 1x terminal block X20TB12 separately. Order 1x bus module X20BM11 separately.
Pitch	12.5$^{+0.2}$ mm

Table 2: X20PD0011 - Technical data

1)   The specified values are maximum values. For examples of the exact calculation, see section "Mechanical and electrical configuration" in the X20 system user's manual.
2)   The power consumed externally for operating the module discharges via the GND contact of the power supply module and must therefore be taken into account in the power balance of the power supply module.

4 LED status indicators

For a description of the various operating modes, see section "Additional information - Diagnostic LEDs" in the X20 system user's manual.

| Figure	LED	Color	Status	Description
	r	Green	Off	No power to module
			Single flash	RESET mode
			Blinking	PREOPERATIONAL mode
			On	RUN mode
	e	Red	Off	No power to module or everything OK
			On	Error or reset status
			Single flash	Fuse defective or missing
	e + r	Red on / Green single flash		Invalid firmware

5 Pinout
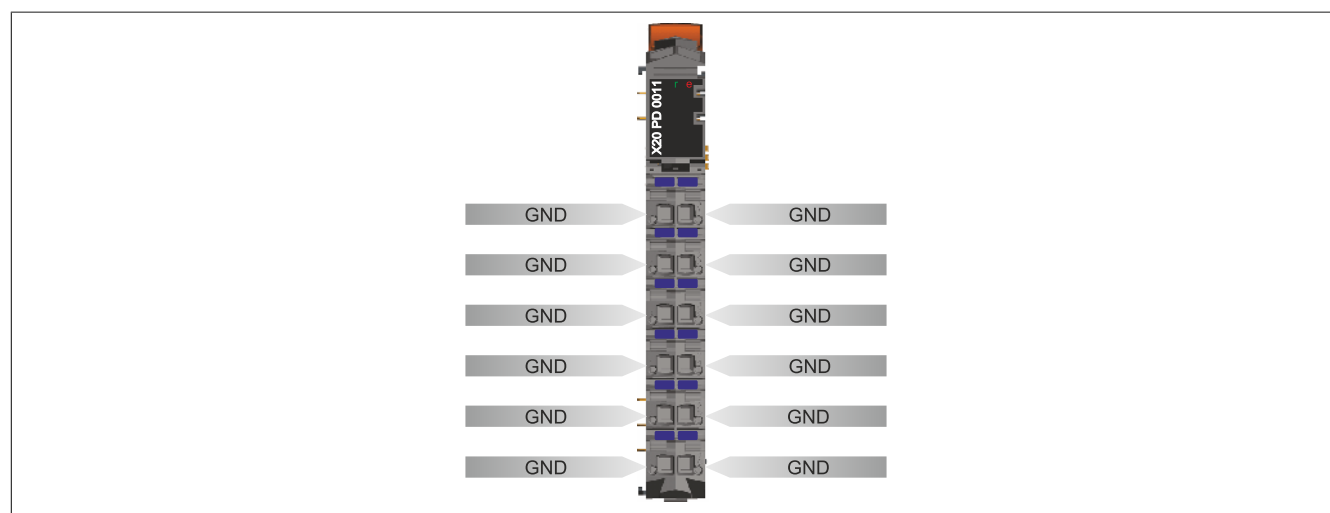
6 Connection example
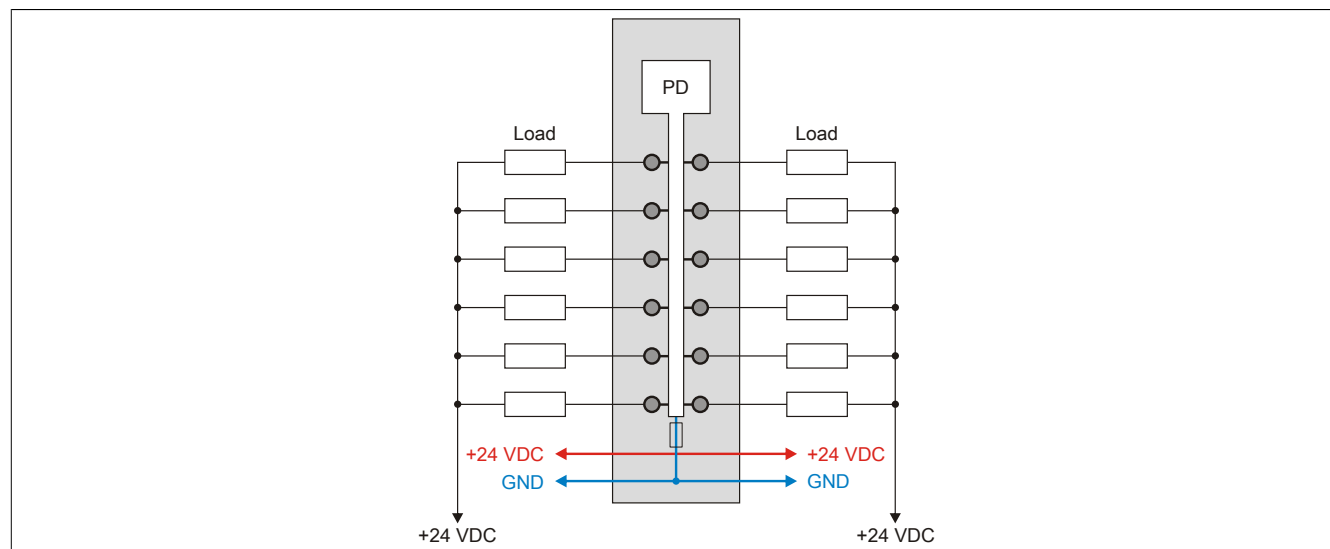
7 Replacing the built-in fuse

The module is equipped with a 6.3 A built-in fuse. Proceed as follows to replace a defective fuse:

1) Remove the fuse cover with the fuse on the right side of the module using a screwdriver.
2) Slide the cylindrical fuse out of the fuse holder and slide the new fuse in.
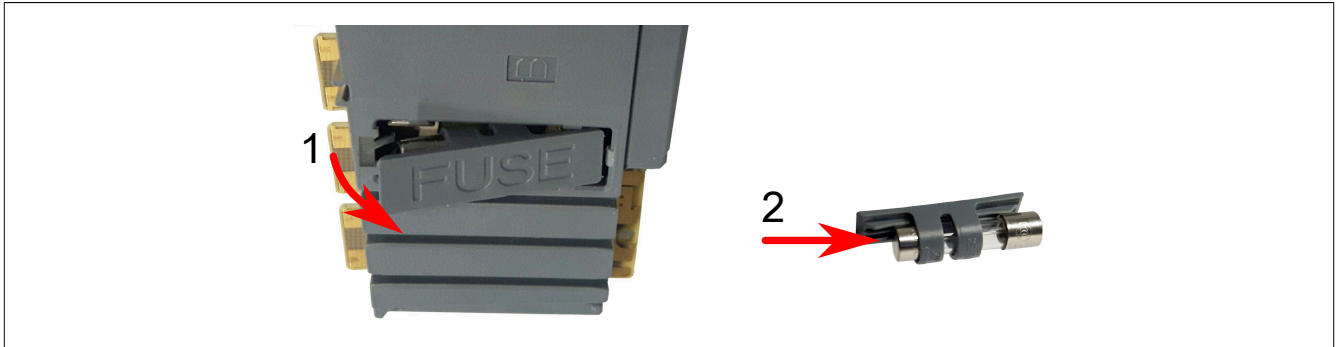
8 Register description

8.1 General data points

In addition to the registers described in the register description, the module has additional general data points. These are not module-specific but contain general information such as serial number and hardware variant.

General data points are described in section "Additional information - General data points" in the X20 system user's manual.

8.2 Function model 1 - Standard

Register	Fixed offset	Name	Data type	Read		Write	
				Cyclic	Non-cyclic	Cyclic	Non-cyclic
0	1	Module status	USINT	●			
		StatusFuse	Bit 0				

Fixed modules require their data points to be in a specific order in the X2X frame. Cyclic access occurs according to a predefined offset, not based on the register address.

Non-cyclic access continues to be based on the register numbers.

8.3 Function model 254 - Bus controller

Register	Offset[1]	Name	Data type	Read		Write	
				Cyclic	Non-cyclic	Cyclic	Non-cyclic
0	0	Module status	USINT	●			
		StatusFuse	Bit 0				

1)   The offset specifies the position of the register within the CAN object.

8.3.1 Using the module on the bus controller

Function model 254 "Bus controller" is used by default only by non-configurable bus controllers. All other bus controllers can use other registers and functions depending on the fieldbus used.

For detailed information, see section "Additional information - Using I/O modules on the bus controller" in the X20 user's manual (version 3.50 or later).

8.3.2 CAN I/O bus controller

The module occupies 1 digital logical slot on CAN I/O.

8.4 Module status

Name:
Module status
StatusFuse

This register can be used to read the status of the installed fuse.

Data type	Values
USINT	See the bit structure.

Bit structure:

Bit	Description	Value	Information
0	StatusFuse	0	Fuse OK
		1	Fuse not OK
1 - 7	Reserved	-	

8.5 Minimum cycle time

The minimum cycle time specifies how far the bus cycle can be reduced without communication errors occurring. It is important to note that very fast cycles reduce the idle time available for handling monitoring, diagnostics and acyclic commands.

Minimum cycle time
100 µs

8.6 Minimum I/O update time

The minimum I/O update time specifies how far the bus cycle can be reduced so that an I/O update is performed in each cycle.

Minimum I/O update time
100 µs