

1. 5ACPCI.XDPS-00

1.1 General information

The 5ACPCI.XDPS-00 module is a PCI half-size module.

The 5ACPCI.XDPS-00 is equipped with one ProfibusDP slave interface and can therefore be used as a slave in a ProfibusDP network. Data is exchanged via the dual port memory.

1.2 Order data

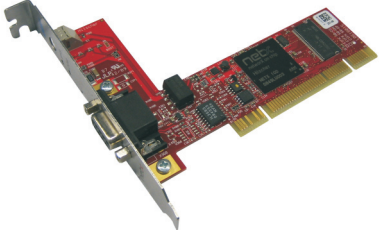
Model number	Short description	Figure
5ACPCI.XDPS-00	PCI Profibus DP slave	

Table 1: Order data - 5ACPCI.XDPS-00

1.3 Technical data

Name	5ACPCI.XDPS-00
General information	
B&R ID code	\$B1CE
Configuration software	Automation Studio (version 3.0.81 and higher) / SYCONnet
Controller	
Processor	netX 100
Dual-port memory	64 KB
Interfaces	
Interface	
Fieldbus	Profibus DP slave
Type	RS485
Design	9-pin DSUB socket
Max. transfer rate	12 Mbit/s
Cyclic data	Max. 488 bytes (IOCR)
DPV1 class 1, 2	Yes
Configuration data	244 byte
User-spec. parameter	237 byte
Electrical characteristics	
Power supply	
Rated voltage	+3.3 V ±5%
Rated current	650 mA
Mechanical characteristics	
Slot	Standard PCI half-size module, ISA Plug & Play
Installation in	
B&R Automation PC	Yes
B&R Panel PC	Yes
Desktop PC	Yes
Outer dimensions	
Width	120 mm
Height	73.2 mm
Depth	18.5 mm
Environmental characteristics	
Ambient temperature	
Operation	0 to 55°C

Table 2: Technical data - 5ACPCI.XDPS-00

1.4 Status LEDs


Figure	LED	Color	Status	Description
	SYS	Green	On	Operating system is running
		Yellow	Blinks cyclically at 1 Hz	Device indicating a boot error
		Yellow	Static	Boot loader waiting for boot procedure
		-	Off	Supply voltage for the device missing or hardware defect
	COM	Green	On	RUN, cyclic communication
		Red	Cyclic blinking	STOP, no communication, connection error
		Red	Acyclic blinking	Not configured

Table 3: 5ACPCI.XDPS-00 - Status LEDs

1.5 Slot number switch

The slot number is used to uniquely identify fieldbus cards, particularly if multiple cards are installed in the same PC.

1.5.1 Function

Sets the slot number for the fieldbus card

The value range 1 ... 9 corresponds with the slot numbers 1 ... 9

The value 0 means

- no slot number (i.e. slot number not used)
- for reasons of backward compatibility
- indicates devices that do not have a rotary switch

(i.e. devices are identified by their device number and serial number).

1.5.2 Use

- used to uniquely identify fieldbus cards, particularly if multiples cards are installed in the same PC.
- When exchanging a card (replacement): If the replacement card is installed in the PC using the same slot number as the previous card, then the same Firmware and configuration will be loaded as well
- The application program can request and use the slot number from the cifX device driver

1.6 Operating and connection elements

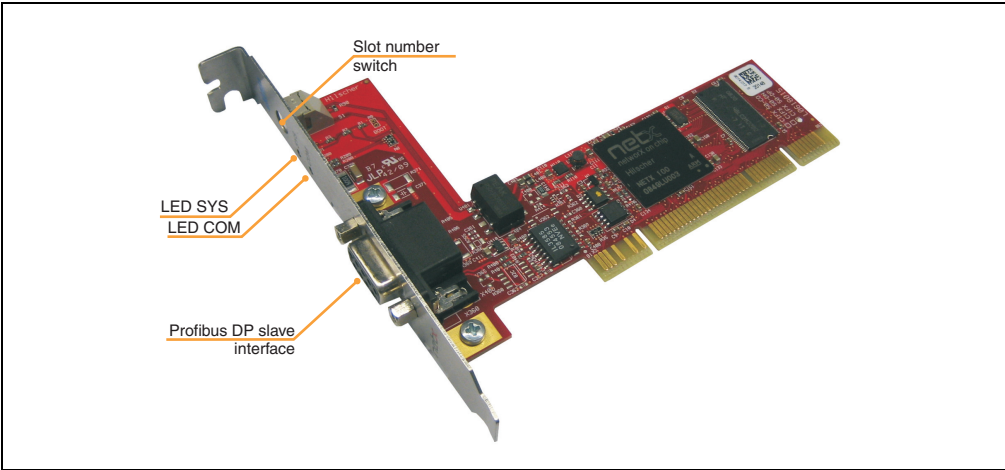


Figure 1: 5ACPCI.XDPS-00 - Operating and connection elements

1.7 Profibus DP slave interface


Interface	Description	Pin assignments																				
<p>Application interface Profibus DP slave</p>  <p>9-pin DSUB socket</p>	<p>The fieldbus-cards is connected as a slave to a Profibus DP network via the electrically isolated interface</p> <p>The shield is connected to the DSUB socket's housing.</p> <p>Maximum transfer rate: 12 Mbit/s</p> <table><tr><td>9.6 kBit/s</td><td>Bus length: 1200 m</td></tr><tr><td>19.2 kBit/s</td><td>Bus length: 1200 m</td></tr><tr><td>93.75 kBit/s</td><td>Bus length: 1200 m</td></tr><tr><td>187.5 kBit/s</td><td>Bus length: 1000 m</td></tr><tr><td>500 kBit/s</td><td>Bus length: 400 m</td></tr><tr><td>1500 kBit/s</td><td>Bus length: 200 m</td></tr><tr><td>3000 kBit/s</td><td>Bus length: 100 m</td></tr><tr><td>6000 kBit/s</td><td>Bus length: 100 m</td></tr><tr><td>12000 kBit/s</td><td>Bus length: 100 m</td></tr></table>	9.6 kBit/s	Bus length: 1200 m	19.2 kBit/s	Bus length: 1200 m	93.75 kBit/s	Bus length: 1200 m	187.5 kBit/s	Bus length: 1000 m	500 kBit/s	Bus length: 400 m	1500 kBit/s	Bus length: 200 m	3000 kBit/s	Bus length: 100 m	6000 kBit/s	Bus length: 100 m	12000 kBit/s	Bus length: 100 m	Pin	Signal	RS485
	9.6 kBit/s	Bus length: 1200 m																				
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	6000 kBit/s	Bus length: 100 m																				
	12000 kBit/s	Bus length: 100 m																				
1	Reserved																					
2	Reserved																					
3	RxD/TxD-P	Received/sent data P and connection B on the plug																				
4	Reserved																					
5	DGND	Data reference potential																				
6	VP	Supply voltage plus																				
7	Reserved																					
8	RxD/TxD-N	Received/sent data N and connection A on the plug																				
9	Reserved																					

Table 4: 5ACPCI.XDPS-00 - Profibus DP slave interface

Make sure there are terminating resistors on both cable ends. If special PROFIBUS plugs are being used, then these resistors are often located inside the plug and have to be connected. For baud rates greater than 1.5 MBaud, only special PROFIBUS plugs that allow additional inductors should be used.

Furthermore, branch lines cannot be used at these high PROFIBUS baud rates. Only special PROFIBUS DP certified cables can be used. A large-surface conductive connection must be established between the cable shield and ground on every device. You must also ensure that there is no difference in potential between these points.

If the device is only connected with one other station on the bus, then both devices must be connected to the cable ends so that the terminating resistors can be supplied with voltage. Otherwise, the master can be connected to any other location.

Up to 32 PROFIBUS devices can be connected in one bus segment. If multiple bus segments are connected with repeaters, then a maximum of 127 devices can be connected.

The maximum length of a bus segment depends on the baud rate. Please use only special cables that are certified for PROFIBUS, preferably type A.

1.8 B&R Automation Runtime

B&R Automation Runtime must be installed on the PC. The following runtime systems can be installed:

- ARwin
- ARemb

1.9 Firmware update

The 5ACPCI.XDPS-00 module is not delivered with preinstalled firmware. The firmware is part of the B&R Automation Runtime operating system for the PLC.

The latest 5ACPCI.XDPS-00 firmware is available automatically by updating your B&R Automation Runtime.