

1. 5ACPCI.XDNS-00

1.1 General information

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

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

1.2 Order data

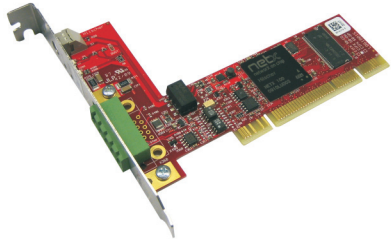
| Model number | Short description | Figure |
|----------------|---------------------|--|
| 5ACPCI.XDNS-00 | PCI DeviceNET slave |  |
| | | |

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

1.3 Technical data

| Name | 5ACPCI.XDNS-00 |
|---|---|
| General information | |
| B&R ID code | \$B1D4 |
| Configuration software | Automation Studio (version 3.0.81 and higher) / SYCONnet |
| Controller | |
| Processor | netX 100 |
| Dual-port memory | 64 KB |
| Interfaces | |
| Interface Fieldbus Type Design Baud rate Cyclic data Acyclic communication I/O connections | Device Slave Potential-free ISO-11898 interface in accordance with DeviceNet specification 5-pin plug Max. 500 kBaud Max. 510 bytes Get/Set_Attribute max. 240 bytes/req. Poll, Change-of-State, Cyclic, Bit-Strobe |
| Electrical characteristics | |
| Power supply Rated voltage Rated current | +3.3 V $\pm 5\%$ 650 mA |
| Mechanical characteristics | |
| Slot | Standard PCI half-size module, ISA Plug & Play |
| Installation in B&R Automation PC B&R Panel PC Desktop PC | Yes Yes Yes |
| Outer dimensions Width Height Depth | 120 mm 73.2 mm 18.5 mm |
| Environmental characteristics | |
| Ambient temperature Operation | 0 to 55°C |

Table 2: Technical data - 5ACPCI.XDNS-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 |
| | MNS | Green | On | Device is online and has established one or more connections |
| | | Green | Blinking | Device is online and has not established a connection |
| | | Red | On | Critical connection error; Device detected a network error (double MAC-ID or bus off) |
| | | Red | Blinking | Connection monitoring time has expired |
| | | Red/green | Blinking | Communication failed |
| | | - | Off | After device start-up and while checking for double MAC-ID |

Table 3: 5ACPCI.XDNS-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

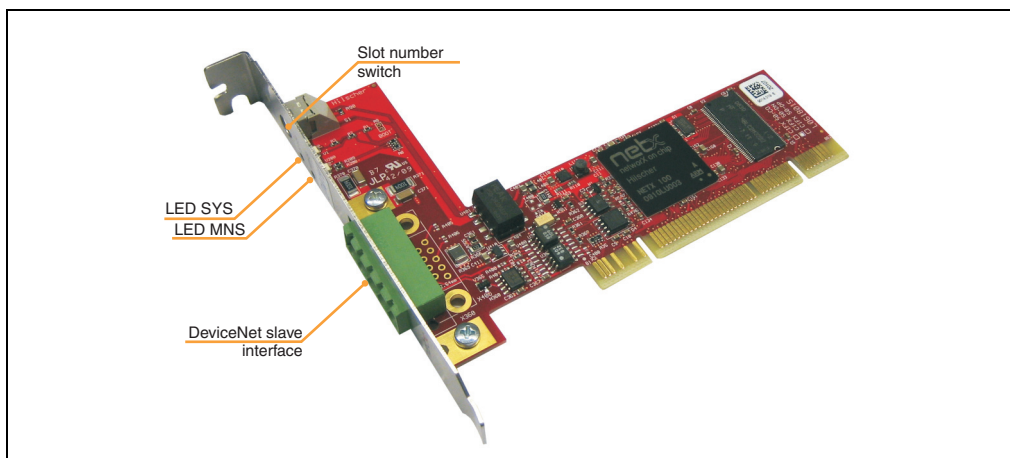


Figure 1: 5ACPCI.XDNS-00 - Operating and connection elements

1.7 DeviceNet slave interface

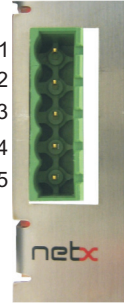
| Interface | Description | Pin assignments | | | |
|---|--|-----------------|--------|-------|--|
| Application interface DeviceNet slave  5-pin multipoint connector | The electrically isolated DeviceNet slave interface is a 5-pin multipoint connector. | Pin | Signal | Color | ISO-11898 interface in accordance with DeviceNet specification |
| | | 1 | V- | Black | Reference potential of DeviceNet supply voltage |
| | | 2 | CAN_L | Blue | CAN low signal |
| | | 3 | Drain | | Shield |
| | | 4 | CAN_H | White | CAN high signal |
| | | 5 | V+ | Red | +24 V DeviceNet supply voltage |

Table 4: 5ACPCI.XDNS-00 - DeviceNet slave interface

Keep in mind that there are 120 Ohm terminating resistors on both cable ends.

Additional devices can be connected to the bus cable using branch lines. These can be a maximum of 6 meters long. The total length of the bus cable and all branch lines cannot exceed the max. length in the following table. There are two different types of cable. If these are used together, then the max. length is calculated as follows:

| Max. length [m] | Baud rate [kBit/s] |
|--|--------------------|
| $L_{thick} + 5 \times L_{thin} \leq 500 \text{ m}$ | at 125 kBaud |
| $L_{thick} + 2.5 \times L_{thin} \leq 250 \text{ m}$ | at 250 kBaud |
| $L_{thick} + L_{thin} \leq 100 \text{ m}$ | at 500 kBaud |

Table 5: DeviceNet segment length depending on the baud rate

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.XDNS-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.XDNS-00 firmware is available automatically by updating your B&R Automation Runtime.