1. 5ACPCI.XCOS-00

1.1 General information

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

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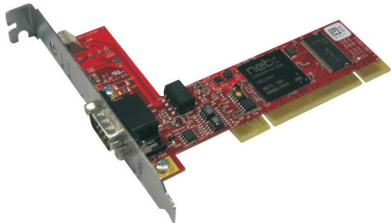
1.2 Order data

Model number	Short description	Figure
5ACPCI.XCOS-00	**PCI CANopen slave**	

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

1.3 Technical data

Name	5ACPCI.XCOS-00
General information	
B&R ID code	$B1D2
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
   Emergency
   Functions
   PDO communication
	CANopen slave
	Potential-free ISO-11898 interface
	9-pin DSUB plug
	10 kBit/s to 1 MBit/s
	Max. 1024 bytes
	Producer
	Node-/ Life Guard., Heartbeat, PDO Mapping, NMT Management, SYNC
	synchronized, remotely requested und event driven (change of state) max. 64 Rx/TxPDO

Electrical characteristics	

Power supply
   Rated voltage
   Rated current
	
	+3.3 V ±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.XCOS-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
	CAN	Green	Single flash	**STOPPED:** The device is in STOPPED state
		Green	Blinking	**PREOPERATIONAL:** The device is in PREOPERATIONAL state (before operation)
		Green	On	**OPERATIONAL:** The device is in OPERATIONAL state (ready for operation)
		Red	Single flash	**Warning limit reached:** At least one of the CAN controller's error counter has reached or exceeded the warning limit (too many error frames).
		Red	Double flash	**Error control event:** A monitoring event (NMT slave or NMT master) or a heartbeat even (heartbeat consumer) has occurred.
		Red	On	**Bus Off:** The CAN controller is in the state, "Bus OFF"
		-	Off	The device executes a reset.

Table 3: 5ACPCI.XCOS-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
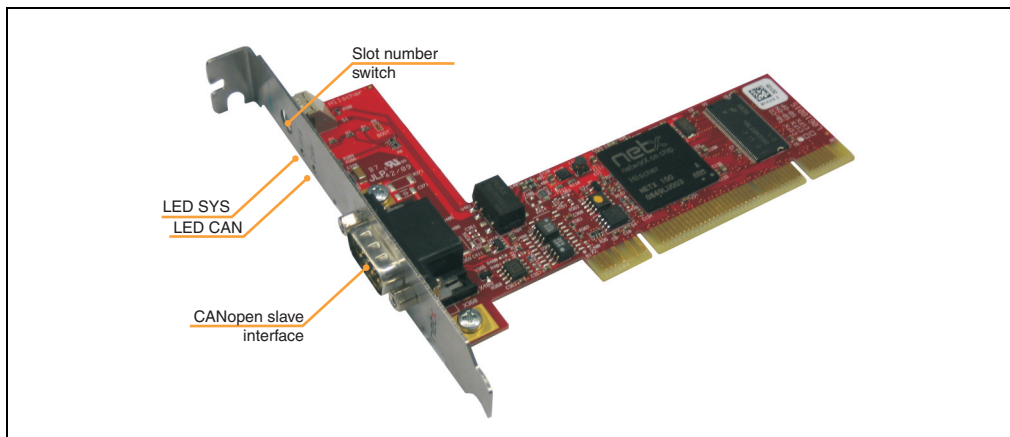
1.6 Operating and connection elements

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

1.7 CANopen slave interface

Interface	Description	Pin assignments		
Application interface CANopen slave	The electrically isolated CAN bus interface is a 9-pin DSUB plug.	**Pin**	**Signal**	**ISO-11898 interface**
		1	Reserved	
	Maximum transfer rate:	2	CAN_L	CAN low bus line
		3	CAN_GND	CAN ground line
	1000 kBit/s Bus length: 40 m	4	Reserved	
	800 kBit/s Bus length: 50 m			
	500 kBit/s Bus length: 100 m	5	Reserved	
	250 kBit/s Bus length: 250 m			
	125 kBit/s Bus length: 500 m	6	Reserved	
	50 kBit/s Bus length: 1000 m	7	CAN_H	CAN high bus line
	20 kBit/s Bus length: 1000 m			
	10 kBit/s Bus length: 1000 m	8	Reserved	
		9	Reserved	
9-pin DSUB plug				

Table 4: 5ACPCI.XCOS-00 - CANopen slave interface

There must be terminating resistors (120 Ohm) attached at each end of the network.

Repeaters can be used to increase the number of connected nodes or the maximum cable length.

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