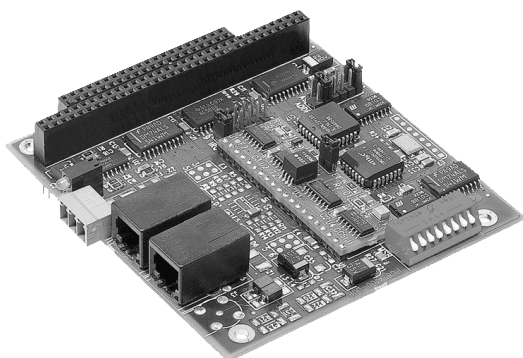


### Network Interface Modules for PC/104 Bus Computers



- Utilises COM20020 ARCNET controller
- Interfaces ARCNET with PC/104™ bus computers
- I/O-only mapping reduces bus contention problems

- No requirement for wait-state arbitration
- Enhanced software capabilities over earlier generation ARCNET controllers
- Node address switch selects one of 255 possible station addresses
- Variable data rates up to 5 Mbps
- Supports coaxial, fibre optic and twisted-pair cabling including EIA-485
- Suitable with all Contemporary Controls MOD HUB and AI Series active hubs
- CMOS design for low-power consumption
- CE Mark
- RoHS

### PRODUCT OVERVIEW

The PC10420 Series of Network Interface Modules (NIMs) links PC/104 compatible computers with the ARCNET local area network. It uses the COM20020 ARCNET controller chip and has features such as command chaining and an internal 2K x 8 RAM buffer. Bus contention problems are reduced since the module only needs an I/O address. There is no requirement for wait-state arbitration.

Each PC10420 has two LEDs on its board for monitoring network operation and bus access. The green LED shows the module is receiving data on the network and the yellow LED indicates bus access to the module. This product also has an external 8-bit DIP switch so that node addresses can be easily reassigned without removing the module.

The PC10420 is available in eight transceiver options. Each transceiver, which is matched to a particular cable type, is identified by a three-character suffix appended to the model number. The capability of each transceiver differs. The PC10420-CXS accommodates coaxial star configurations —

requiring external active or passive hubs if other than peer-to-peer topology is desired. The PC10420-CXB supports a coaxial bus configuration, usually without hubs. The PC10420-FOG-ST supports fibre optic cable with ST connectors. The PC1020-TPB supports twisted-pair bus cabling using RJ-11 connectors.

For EIA-485 signalling, the PC10420-485D supports DC-coupled cabling while the PC10420-485X provides transformer-coupled operation — each version forcing backplane operation via hardware. If the software driver you intend to employ sets the COM20020 into backplane mode, you will need the PC10420-485 version. The AC-coupled EIA-485 transceiver offers certain advantages. Signal polarity is of no concern and bias adjustments are necessary since each transceiver has its own fixed bias network isolated by a pulse transformer. However, DC-coupled technology offers longer distances and will operate over all six data rates.

### Specifications

#### Environmental

Operating temperature	0°C to +60°C
Storage temperature	-40°C to +85°C

#### Functionality

Data rate	
PC10420-CXB, -CXS, -TPB	2.5 Mbps
PC10420-FOG-ST, -485, -485D	5 Mbps, 2.5 Mbps, 1.25 Mbps, 625 kbps, 312.5 kbps, 156.25 kbps
PC10420-485X	5 Mbps, 2.5 Mbps, 1.25 Mbps
Dimensions	3.550" x 3.775" (90 mm x 95 mm)
Shipping weight	1 lb. (0.45 kg)
I/O mapping	Supports I/O mapping on any 16-byte boundary
Interrupt lines	Supports strapping of IRQ 2/9, 3, 4, 5 or 7
Compliance	PC10420 Series NIMs are compliant with ANSI/ATA 878.1 and with PC/104 Specification 2.3 dated June 1996. Interrupt sharing option is not implemented.

### Transceiver Specifications

Transceiver	Description	Cable	Connectors	Cable Length		Max Nodes/ Bus Segment
				Min	Max	
-CXB	Coaxial bus	RG-62/u	BNC	6ft/2m <sup>1</sup>	1000ft/305m	8
-CXS	Coaxial star	RG-62/u	BNC	0	2000ft/610m	N/A
-FOG	Duplex fibre optic	50/125	ST	0	3000ft/915m	N/A
-FOG	Duplex fibre optic	62.5/125	ST	0	6000ft/1825m	N/A
-FOG	Duplex fibre optic	100/140	ST	0 <sup>2</sup>	9000ft/2740m	N/A
-TPB	Twisted-pair bus	IBM Type 3	RJ-11	6ft/2m <sup>1</sup>	400ft/122m	8
-485	DC-coupled EIA-485	IBM Type 3	RJ-11	0	900ft/274m	17
-485D	DC-coupled EIA-485	IBM Type 3	RJ-11	0	900ft/274m	17
-485X	AC-coupled EIA-485	IBM Type 3	RJ-11	0	700ft/213m	13

<sup>1</sup> This represents the minimum distance between any two nodes or between a node and a hub.

<sup>2</sup> This minimum can only be achieved by removing a jumper on the transceiver circuitry.

**Power Requirements**

<b>Model</b>	<b>+5 V</b>	<b>-12V</b>
PC10420-485	200 mA	N/A
PC10420-485D	200 mA	N/A
PC10420-485X	200 mA	N/A
PC10420-CXB	200 mA	50 mA
PC10420-CXS	200 mA	20 mA
PC10420-FOG-ST	300 mA	N/A
PC10420-TPB	200 mA	50 mA

**Ordering Information**

<b>Model</b>	<b>Description</b>
PC10420-485	20020 PC/104 DC-coupled EIA-485 NIM (backplane set by software)
PC10420-485D	20020 PC/104 DC-coupled EIA-485 NIM (backplane set by hardware)
PC10420-485X	20020 PC/104 DC-coupled EIA-485 NIM (backplane set by hardware)
PC10420-CXB	20020 coaxial bus NIM
PC10420-CXS	20020 coaxial star NIM
PC10420-FOG-ST	20020 ST fibre optic NIM
PC10420-TPB	20020 twisted-pair bus NIM (RJ-11 connectors)

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