

ARCNET® Network Interface Modules for PC Card Computers



Benefits

- COM20022 controller
- Interfaces ARCNET with PC Card bus computers
- Thin 5.0 mm Type II form factor
- Deterministic high-speed ARCNET token-passing local area network (LAN)
- Variable data rates up to 10 Mbps
- Supports coaxial and twisted-pair cabling, including EIA-485
- Backplane or non-backplane mode operation
- Transparent operation after loading enabler software in DOS or Windows environments
- Compatible with Contemporary Controls' MOD HUB and AI Series Active Hubs
- CMOS design for low-power consumption
- CE Mark

Applications

- Data acquisition
- SCADA
- Communication gateway
- Machine control
- Operator interface
- Process control

The PCM20H series of ARCNET network interface modules (NIMs) links PC Card compatible computers with the ARCNET local area network, thereby providing ARCNET connectivity to laptop and notebook-style computers.

The PCM20H conforms to release 2.1 of the PC Card standard Type II (5.0 mm thick) cards. The ARCNET transceiver circuitry is located in a detachable MAU (Medium Access Unit) which plugs into the PCM20H adapter. MAUs exist for various cabling media, such as coaxial cable and twisted-pair cable, and are all interchangeable with one another. A 15-pin connector with a short cable attaches the MAU to the adapter.

The PCM20H is outfitted with the latest generation ARCNET controller chip, the COM20022, offering the full range of data rates up to 10 Mbps. New features include command chaining, sequential access to internal RAM, duplicate node ID detection plus an improved adapter case and MAU cable combination with an enhanced locking mechanism.

There are several versions of the PCM20H—each designated by a particular transceiver. The PCM20H-CXB supports either coaxial star or bus networks. Two models support traditional ARCNET over twisted-pair cabling, but via different connectors; the PCM20H-TB5 uses the RJ-45 connector and the PCM20H-TPB uses the RJ-11 connector. Four models support the EIA-485 protocol. The PCM20H-485D and the PCM20H-485X implement backplane mode automatically via built-in hardware for DC and AC respectively. With the PCM20H-485 and the PCM20H-485T, backplane mode is set via software for DC and AC respectively \oplus requiring a different software driver.

The PCM20H is shipped with a 3.5" (9 cm) disk containing our DOS, Windows 3.x and Windows 95, 98 enabler software. Once loaded, programs written for the PCX20 ISA bus adapter will operate transparently with the PCM20H.

The PCM20H is primarily intended for industrial applications. Although functionally equivalent to its predecessors the PCM20 and PCM20E, the PCM20H has improved EMC performance, ruggedized MAU case and locking MAU connector. The PCM20, PCM20E and PCM20H are all software compatible.

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Specifications

Environmental	
Operating Temperature	0°C to +60°C
Storage Temperature	-40°C to +85°C
Data Rates	
PCM20H-CXB, -TB5, -TPB	2.5 Mbps
PCM20H-485D, -485	10 Mbps, 5.0 Mbps, 2.5 Mbps, 1.25 Mbps, 625 kbps, 312.5 kbps, 156.25 kbps
PCM20H-485X, -485T	10 Mbps, 5.0 Mbps, 2.5 Mbps, 1.25 Mbps
Dimensions	
Type II adapter	3.370"L x 2.126"W x 0.196"T (85 mm x 54 mm x 5 mm)
MAU	3.175"L x 1.835"W x 1.005"T (81 mm x 46 mm x 26 mm)
Cable	11.125" (28.3 cm) Approx. MAU base to adapter base
Shipping Weight	1lb. (0.45 kg)
I/O Mapping	Supports I/O mapping on any 16-byte boundary
Interrupt Lines	Supports selection of IRQ2 through IRQ15
Compatibility	PCM20H series NIMs are compliant with ANSI/ATA 878.1 and PC Card Standard Feb. 1995

Transceiver Specifications (2.5 Mbps)

Transceiver	Description	Backplane Set By	Cable	Connectors	Cable Length		Max Nodes/ Bus Segment
					Min	Max	
-485	DC coupled EIA-485	Software	IBM type 3	Screw	0	900ft/274 m	17
-485D	DC coupled EIA-485	Hardware	IBM type 3	Screw	0	900ft/274 m	17
-485T	AC coupled EIA-485	Software	IBM type 3	RJ-11	0	700ft/213 m	13
-485X	DC coupled EIA-485	Hardware	IBM type 3	Screw	0	700ft/213 m	13
-CXB	coaxial bus	N/A	RG-62/u	BNC	6ft/2m ¹	1000ft/305 m	8
-TB5	twisted-pair bus	N/A	IBM type 3	RJ-45	6ft/2m ¹	400ft/122 m	8
-TPB	twisted-pair bus	N/A	IBM type 3	RJ-11	6ft/2m ¹	400ft/122 m	8

¹Minimum cable distance**Power Requirements**

Model	+5 V
PCM20H-485	100 mA
PCM20H-485D	100 mA
PCM20H-485T	100 mA
PCM20H-485X	100 mA
PCM20H-CXB	120 mA
PCM20H-TB5	120 mA
PCM20H-TPB	120 mA

Ordering Information

Coaxial cable units are shipped with a tee connector and terminator for use with coaxial star networks. Twisted-pair units are shipped with RJ-11 or RJ-45 terminators. All units contain a disk with the enabler software for use with certain operating systems.

Model	Description
PCM20H-485	20022 PC Card DC-coupled EIA-485 NIM (Backplane via Software)
PCM20H-485D	20022 PC Card DC-coupled EIA-485 NIM (Backplane via Hardware)
PCM20H-485T	20022 PC Card AC-coupled EIA-485 NIM (Backplane via Software)
PCM20H-485X	20022 PC Card AC-coupled EIA-485 NIM (Backplane via Hardware)
PCM20H-CXB	20022 PC Card coaxial bus NIM
PCM20H-TB5	20022 PC Card twisted-pair bus NIM
PCM20H-TPB	20022 twisted-pair bus NIM

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