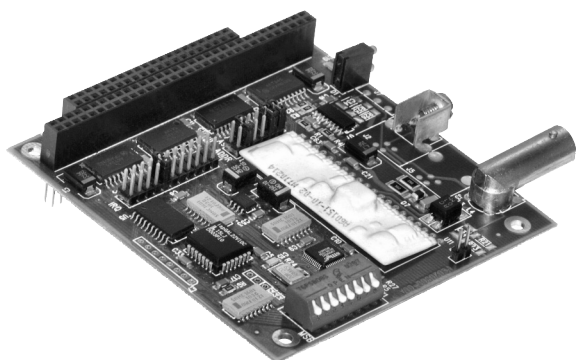


### ARCNET Interface Modules for the PC/104™



- Utilizes COM20022 ARCNET controller
- Interfaces ARCNET with PC/104 bus computers
- Zero wait-state arbitration typical
- Enhanced software capabilities over earlier generation ARCNET controllers

- Supports coaxial and twisted-pair cabling including EIA-485
- Command chaining for enhanced performance
- Node address switch selects one of 255 possible station addresses
- Variable data rates up to 10 Mbps
- Suitable with all Contemporary Controls' MOD HUB and AI Series active hubs
- CMOS design for low-power consumption
- CE Mark
- RoHS compliant

### PRODUCT OVERVIEW

Just like the PC10420 Series of Network Interface Modules (NIMs), the PC10422 Series enables ARCNET connectivity for PC/104 compatible computers. However, this series is designed with the more advanced ARCNET controller chip which is the COM20022.

**The COM20022 controller chip has benefits such as command chaining, sequential access to internal RAM, and duplicate node ID detection.**

Bus contention problems are decreased since the module only requires an I/O address. There is no requirement for wait-state arbitration. The +5 V only operation reduces system cost by eliminating multiple-voltage power sources.

Two LEDs on the module's board monitor network operation and bus access to the module. The PC10422 is equipped with an eight-position, general-purpose DIP switch used to assign the ARCNET node address without removing the module. The node address can be configured via software — in which case the DIP switch could register user-defined functions such as data rate, cable interface, or master/slave status of the PC/104 system.

The PC10422 is available with flexible cabling options. The PC10422-CXS supports coaxial star configurations requiring external active or passive hubs. The PC10422-CXB accommodates a coaxial bus configuration that requires no hubs since multiple modules can communicate over a single coaxial segment. Similarly, the PC10422-TPB supports twisted-pair bus cabling using either RJ-11 or screw terminal connectors.

**This series also accommodates three separate EIA-485 physical-layer implementations.** The PC10422-485D supports the EIA-485 DC-coupled cabling standard while the PC10422-485X provides transformer-coupled EIA-485 operation. Certain applications require that the COM20022 be operated in backplane mode. The PC10422-4000 is intended for these applications and supports the transformer-coupled EIA-485 physical-layer interface. All EIA-485 models are fitted with dual RJ-11s and a three-position screw terminal connector to ease field wiring.

### Specifications

#### Environmental

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

#### Functionality

Data rates	
PC10422-CXB, -CXS, -TPB	2.5 Mbps
PC10422-485D	10 Mbps, 5 Mbps, 2.5 Mbps, 1.25 Mbps, 625 kbps, 312.5 kbps, 156.25 kbps
PC10422-485X	10 Mbps, 5 Mbps, 2.5 Mbps, 1.25 Mbps
PC10422-4000	10 Mbps, 5 Mbps, 2.5 Mbps, 1.25 Mbps
Dimensions	3.55" x 3.775" (90 mm x 95 mm)
Shipping Weight	1 lb. (.45 kg)
I/O Mapping	Supports I/O mapping on any 16-byte boundary
Interrupt Lines	Supports strapping of IRQ 3, 4, 5, 6, 7, 9, 10, 11, 12, 14 or 15
Compliance	PC10422 Series NIMs are compliant with ANSI/ATA 878.1-1999 and PC/104 Specification 2.3 dated June 1996. Interrupt sharing option is not implemented.

### Transceiver Specifications (2.5 Mbps)

Transceiver	Description	Cable	Connectors	Cable Length		Max Nodes/ Bus Segment
				Min	Max	
-4000	AC-coupled EIA-485	IBM Type 3	RJ-11	1.65ft/0.5m <sup>1</sup>	262ft/80m	8
-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
-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
-TPB	Twisted-pair bus	IBM Type 3	RJ-11	6ft/2m <sup>1</sup>	400ft/122m	8

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

**Power Requirements**

<b>Model</b>	<b>+5 V</b>
PC10422-4000	200 mA
PC10422-485D	200 mA
PC10422-485X	200 mA
PC10422-CXB	200 mA
PC10422-CXS	200 mA
PC10422-TPB	200 mA

**Ordering Information**

<b>Model</b>	<b>Description</b>
PC10422-4000	20022 PC/104 AC-coupled EIA-485 NIM (backplane controlled by software)
PC10422-485D	20022 PC/104 DC-coupled EIA-485 NIM (backplane forced by hardware)
PC10422-485X	20022 PC/104 AC-coupled EIA-485 NIM (backplane forced by hardware)
PC10422-CXB	20022 PC/104 coaxial bus NIM
PC10422-CXS	20022 PC/104 coaxial star NIM
PC10422-TPB	20022 PC/104 twisted-pair bus NIM

Contemporary Controls, ARC Control, ARC DETECT, EXTEND-A-BUS and CTRLink are registered trademarks or trademarks of Contemporary Control Systems, Inc. Specifications are subject to change without notice. Other product names may be trademarks or registered trademarks of their respective companies.

© Copyright 2007 Contemporary Control Systems, Inc.

**CONTEMPORARY**  **CONTROLS**<sup>®</sup>  
[www.ccontrols.com](http://www.ccontrols.com)

Contemporary Control Systems, Inc.  
 2431 Curtiss Street  
 Downers Grove, Illinois 60515 USA

Telephone (630) 963-7070  
 Fax (630) 963-0109