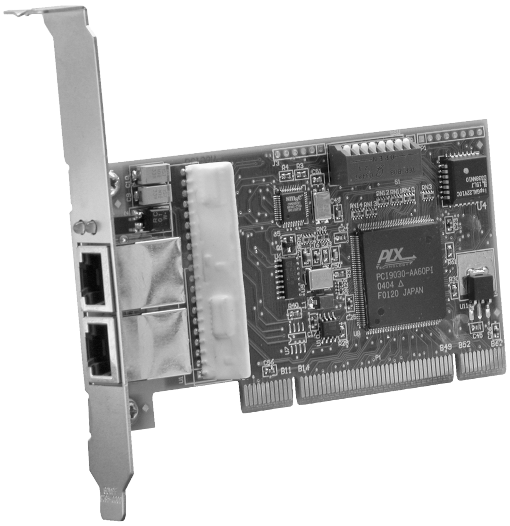
PCI20 Universal ARCNET Card



- **Interfaces ARCNET® with PCI and PCI-X bus computers**
- **Utilises COM20022 ARCNET controller**
- **Enhanced software capabilities over earlier generation ARCNET controllers**
- **Set one of 255 possible station addresses with node address switch or application software**
- **Automatic configuration of I/O and interrupt**
- **High-speed I/O access to the COM20022**
- **Supports coaxial and twisted-pair cabling including EIA-485**
- **Variable data rates up to 10 Mbps utilising the various EIA-485 transceiver options**
- **Suitable with all Contemporary Controls MOD HUB and AI Series active hubs**
- **CE Mark**
- **RoHS**

PRODUCT OVERVIEW

The PCI standard requires that plug-in boards use a +3.3 V power source provided by the PC's motherboard, making the +5 V power source obsolete. In response to this development, Contemporary Controls introduced a universal-voltage PCI ARCNET Network Interface Module (NIM) which is compatible with both +3.3 Volt and older, 5-Volt computers.

The PCI20U product is a drop-in replacement for the PCI20, +5 V PCI card which removes any work needed by the user to migrate to +3.3 V PCI or PCI-X slot motherboards. This demonstrates the company's commitment to ARCNET technology and to their customer's requirements for legacy installations.

PCI-X is an enhancement to the original PCI Local Bus Specification enabling devices to operate at speeds up to 133 MHz. If a PCI20U is installed into a bus capable of PCI-X operation, the clock remains at the 33 MHz frequency — restricting all other devices on that bus to the conventional PCI protocol.

This device incorporates the COM20022 ARCNET controller chip. New features include command chaining, sequential access to internal LAN, and duplicate node ID detection. Bus contention problems are minimized since the module's interrupt level and I/O base address are assigned through Plug-and-Play (PnP) operation.There is no requirement for wait-state arbitration.

The PCI20U Series exploits the new features of the COM20022 such as 10 Mbps communications utilising the various EIA-485 transceiver options. This includes DC-coupled and AC-coupled (transformer) EIA-485 variants. Conventional 2.5 Mbps dipulse signalling is also supported.

The PCI20U module has two LEDs on the board for monitoring network operation and PCI bus access to the module. It is equipped with an 8-position, general-purpose DIP switch which could be used to reassign the ARCNET node address without removing the module. Ultimately, the node address is configured via software so the DIP switch can be used for user-defined functions.

CONTEMPORARY CONTROLS®

Specifications

Environmental	
Operating temperature	0°C to +60°C
Storage temperature	–40°C to +85°C

Functionality	
Data rate	
PCI20U-CXB, -CXS, -TB5	2.5 Mbps
PCI20U-485, -485D	10 Mbps, 5 Mbps, 2.5 Mbps, 1.25 Mbps, 625 kbps, 312.5 kbps, 156.25 kbps
PCI20U-4000, -485X	10 Mbps, 5 Mbps, 2.5 Mbps, 1.25 Mbps
Dimensions	2.50" x 4.72" (64 mm x 95 mm)
Shipping weight	1 lb. (0.45 kg)
I/O mapping	Requires 16 bytes of I/O space for COM20022 controller
Interrupt lines	Supports PCI INTA
Compliance	PCI20U series NIMs are fully compatible with all of Contemporary Controls ARCNET products and PCI bus computers.
Regulatory Compliance	CE Mark, CFR 47, Part 15 Class A

Transceiver Specifications

Transceiver	Description	Cable	Connectors	Cable Length		Max Nodes/
				Min	Max	Bus Segment
-4000[2]	AC-coupled EIA-485	IBM Type 3	RJ-45	1.6ft/.5m[1]	262ft/80m	8
-485	DC-coupled EIA-485	IBM Type 3	screw	0	900ft/274m	17
-485D	DC-coupled EIA-485	IBM Type 3	screw	0	900ft/274m	17
-485X	AC-coupled EIA-485	IBM Type 3	screw	0	700ft/213m	13
-CXB	Coaxial bus	RG-62/u	BNC	6ft/2m[1]	1000ft/305m	8
-CXS	Coaxial star	RG-62/u	BNC	0	2000ft/610m	N/A
-TB5	Twisted-pair bus	IBM Type 3	RJ-45	6ft/2m[1]	400ft/122m	8

[1] This represents the minimum distance between any two nodes or between a node and a hub.

[2] Backplane mode operation.

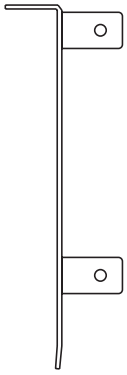
Power Requirements			
Model	**+5 V**	**+3.3 V**	**VIO**
PCI20U-4000	350 mA	30 mA	20 mA
PCI20U-485	350 mA	30 mA	20 mA
PCI20U-485D	350 mA	30 mA	20 mA
PCI20U-485X	350 mA	30 mA	20 mA
PCI20U-CXB	350 mA	30 mA	20 mA
PCI20U-CXS	350 mA	30 mA	20 mA
PCI20U-TB5	350 mA	30 mA	20 mA

Ordering Information

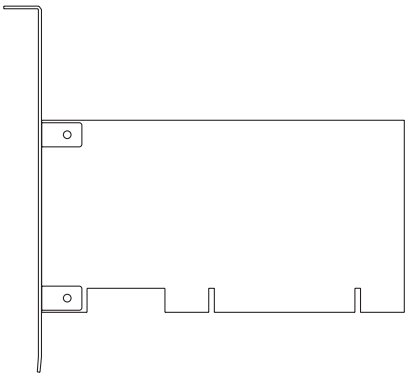
Model	Description
PCI20U-4000	20022 AC-coupled EIA-485 NIM (backplane invoked by software)
*PCI20U-485	20022 DC-coupled EIA-485 NIM (backplane invoked by software)
*PCI20U-485D	20022 DC-coupled EIA-485 NIM (backplane invoked by hardware)
*PCI20U-485X	20022 AC-coupled EIA-485 NIM (backplane invoked by hardware)
PCI20U-CXB	20022 coaxial bus NIM
PCI20U-CXS	20022 coaxial star NIM
PCI20U-TB5	20022 twisted-pair bus NIM

* To specify dual RJ-45 sockets for the fieldbus connectors instead of the 3-position screw terminal connector, add the characters "/J" to the end of the number.

PCI20U faceplate (half-height)



PCI20U faceplate standard height board



CONTEMPORARY CONTROLS®
www.ccontrols.com

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

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