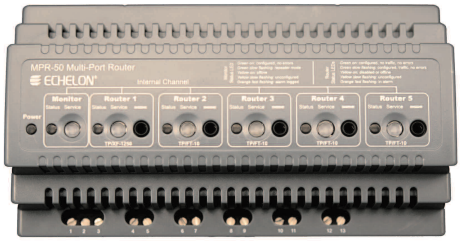
AVAILABLE LEGACY LON ROUTERS AND NETWORK INTERFACES

LPR Modules are two-channel LON routers that can interface two different twisted-pair channels (e.g., a high speed 1.25Mbps TP/XF1250 backbone and a TP/FT-10 free topology channel), manage network traffic, increase the total number of LON devices, or increase the amount of cabling in a system.

- LPR-10, TP/FT-10 to TP/FT-10, Model 42100R
- LPR-12, TP/FT-10 to TP/XF-1250, Model 42102R

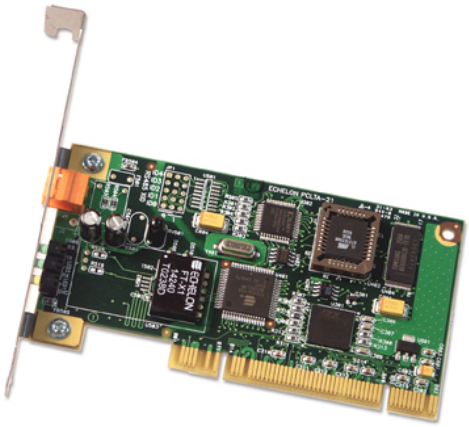


The **MPR-50** Multi-Port Router performs routing between five LON channels: one TP/XF-1250 channel and four TP/FT-10 channels. It may be used as a 2-way, 3-way, or 4-way TP/FT-10–to–TP/FT-10 router, or in any combination with the TP/XF-1250 router.

- MPR-50, Model 42150R

The **SLTA-10** Serial LON Adapter is a high-performance interface for use with laptop, desktop, or embedded computers equipped with an EIA-232 serial interface and a compatible operating system.

- SLTA-10 Adapter TP-FT-10, Model 73351R
- SLTA-10 Adapter TPT/XF-78, Model 73352R
- SLTA-10 Adapter TP-RS485, Model 73354R



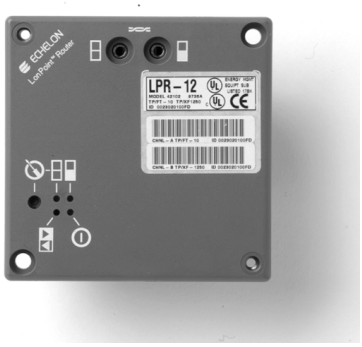
The **PCLTA-21** Network Adapter is a high-performance LON interface for personal computers equipped with a 3.3V or 5V 32-bit peripheral component interconnect (PCI) interface and a compatible operating system.

- PCLTA-21 Adapter TP/FT-10 Channel, Model 74501R
- PCLTA-21 Adapter TP/XF-1250 Channel, Model 74503R
- PCLTA-20 SMX PCI Interface, Model 74405R

For additional information, please see attached datasheets

3600 Peterson Way, Santa Clara, CA 95054 USA | +1-408-938-5200 | embedded-iot@adestotech.com

LPR Router Modules
Models 42100R, 42101R, 42102R, 42103R, 42104R, and 42105R



- Router for TP/FT-10, TP/XF-78, and TP/XF-1250 LonWorks® (ANSI/CEA-709.1) channels
- Screw terminal wiring connections
- 16-30VAC or VDC operation
- Network access from front panel jacks
- Two-piece design cuts installation time, cost
- U.L. Listed, cU.L. Listed, CE Mark, FCC

LonPoint® Modules

The LonPoint Modules are products designed to integrate new and legacy sensors and actuators, as well as LonMark® devices, into cost-effective, interoperable, control systems for building and industrial applications. In contrast to traditional control networks, which use closed islands of control linked with proprietary gateways, the LonPoint Modules offer an open distributed system architecture in which every device performs some control processing and can be accessed from any location in the network. Distributing the processing throughout the network and providing open access to every device lowers the overall installation and life cycle costs, increases reliability by minimizing single points of failure, and provides the flexibility to adapt the system to a wide variety of applications.

The system consists of the LonPoint Interface, Scheduler, Data Logger, Router Modules, LonPoint Application Programs, LNS® based LonMaker® Integration Tool, LonPoint Plug-In and LNS DDE Server. The LPR Router Modules may be used with a LonPoint System or as part of any LonWorks network.

LPR-10 Modules

The LPR Modules are two-channel LonWorks (ANSI/EIA-709.1) routers that can interface two different twisted pair channels (e.g., a high speed 1.25Mbps TP/XF-1250 backbone and a TP/FT-10 free topology channel), manage network traffic, increase the total number of LonWorks devices, or increase the amount of cabling in a system.

Six different models of LPR Routers are available:

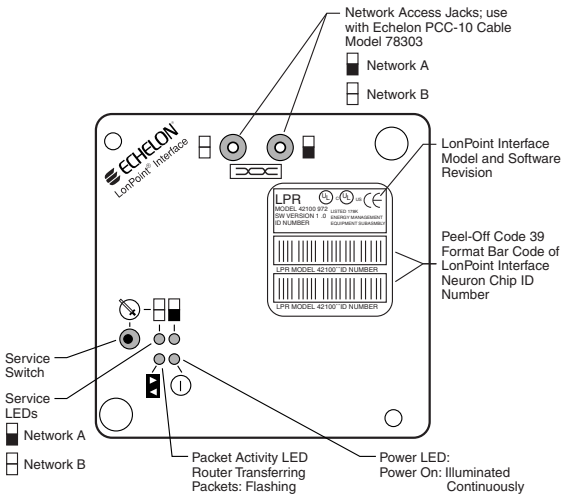
Name	Model	Channel Types
LPR-10	42100R	TP/FT-10 to TP/FT-10
LPR-11	42101R	TP/FT-10 to TP/XF-78
LPR-12	42102R	TP/FT-10 to TP/XF-1250
LPR-13	42103R	TP/XF-78 to TP/XF-78
LPR-14	42104R	TP/XF-78 to TP/XF-1250
LPR-15	42105R	TP/XF-1250 to TP/XF-1250

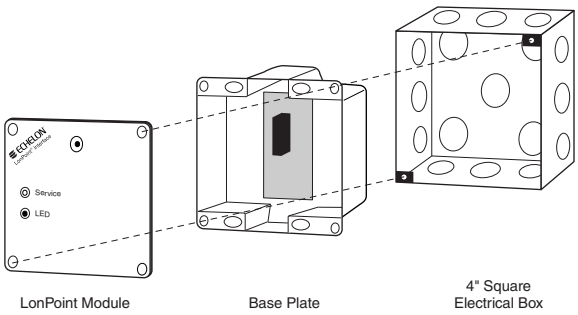
LPR Routers can be installed as repeaters, configured routers, or learning routers.

Models 42100R, 42101R, 42102R, 42103R, 42104R, and 42105R are compliant with the European Directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.

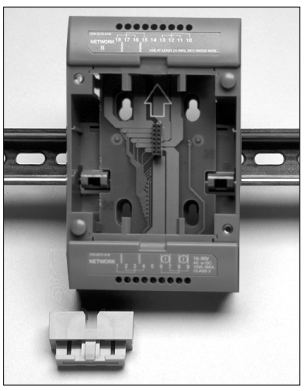
Using the LonMaker tool, the user configures and commissions the LPR Routers and other LonPoint modules, as well as third-party LonMark and LonWorks devices, to create an interoperable, distributed control system. Network design and configuration is simplified by the Visio® interface of the LonMaker tool, which can both import and export AutoCAD® files and generate as-built documentation.

A unique, two-piece design allows pre-wiring and cable testing by an electrician prior to installation of the electronics; technician time can be reserved for tasks such as node configuration. Power and network wiring are “looped” through the base plate, providing the ability to replace modules by hot-plugging without disrupting the operation of the two network channels.





LonPoint Interface Module 4″ Square by 2″ Deep Electrical Box Mounting Configuration



Type 2D DIN Base Plate Front View

Polarity-insensitive power and network connections minimize the chance of miswiring. Two front panel jacks access the two twisted pair networks without any disassembly, saving time when the network must be accessed for configuration or maintenance. A front panel bar code with the model, revision, and two removable Neuron® Chip ID stickers is provided. When placed on the building or system design plans, these stickers can save installation time, especially for inaccessible nodes.

Mounting

The LPR modules may be used with either a Type 2 Base Plate (for use with 4″ square electrical boxes) or a Type 2D DIN Base Plate (for wall, panel, or 35mm DIN-rail mounting).

Specifications

Function	Description
Processor	Two Neuron 3150® Chips, 10MHz
Service function	Recessed service switch, service (wink) LED. Dual tear-off bar-code Neuron ID self-adhesive tag
Transceiver type	Varies by model
Input power	16-30VAC or DC @ 2VA, internally isolated power supply
Mounting	Type 2 or Type 2D DIN Base Plate
Temperature	-40 to +85°C, operating and non-operating
Humidity	10 to 95% RH @ 50°C
EMI	FCC A, CE Mark
Safety agency	U.L. 916
Dimensions	3.9″ x 3.9″ x 1.0″ (10cm x 10cm x 2.5cm)

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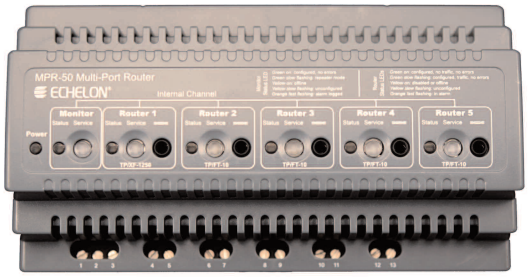
003-0137-01G

MPR-50 Multi-Port Router
Model 42150R



- Low-cost 5 channel LonWorks® (ANSI/CEA-709.1) router (one TP/XF-1250 channel and four TP/FT-10 channels)
- Screw terminal wiring connections
- High network throughput and performance
- Rugged design
- DIN rail and wall mount compatible
- Flexible 9-28VAC 40-70Hz, 9-35VDC power input
- All five channels individually accessible from 3.5mm mono phone jacks on front panel
- Intelligent LonMark® certified monitor cuts installation time and cost
- CE, UL, cUL, and TÜV

Description

The MPR-50 Multi-Port Router provides ANSI/CEA-709.1 compliant routing among five channels: four TP/FT-10 Free Topology Twisted Pair (ANSI/CEA-709.3) channels and one LonMark® standard TP/XF-1250 channel. Each of the TP/FT-10 channel connections is fully compatible with link powered channels. The MPR-50 can be used to connect two, three, or four TP/FT-10 channels together, or it can be used to connect these TP/FT-10 channels to a high speed TP/XF-1250 backbone. Used in small- and large-scale Echelon control network installations, the MPR-50 substantially reduces the installation time and cost any time multiple channels are used.

The MPR-50 is compliant with the European Directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.

The MPR-50 Multi-Port Router is compatible with all network management systems, including the LNS® network operating system and end-users tools such as the LonMaker® Integration Tool. In addition, the MPR-50 can be installed as an intelligent repeater—without any tools whatsoever.

Because the power inputs accept either AC or DC voltage and the TP/FT-10 and TP/XF-1250 connections are likewise polarity insensitive, wiring the MPR-50 is straightforward and foolproof. Since each of the five channels includes a standard 3.5mm mono phone jack on the front panel, plugging in a network management or diagnostics tool is quick and easy. Also helping to simplify installation, the Neuron® Chip IDs of the routers and monitor are printed on the side of the MPR-50.

Mounting

The MPR-50 is designed for easy installation on a 35mm DIN rail, and can also be hung on a wall using the screw capture cutouts on the back of the housing. Score lines on the top of the unit provide visual and tactile feedback for the installer to know where to align the MPR-50 with the screws. All of these features result in reduced installation costs regardless of how the unit is mounted.

Integration

A CD-ROM included with the MPR-50 contains the user's guide, quick start guide, and for unsurpassed ease-of-installation with the LonMaker tool, a Visio® stencil that contains MPR-50 Multi-Port Router master shapes.

The internal LonMark certified monitor observes and reports on the health of the five routers and attached channels. Status is shown on front panel tri-color LEDs, and is also available through the network. In addition, the monitor also maintains a timestamped error log of recent error events, and makes this error log available through the network for human machine interface (HMI) and network diagnostics applications.

Specifications

Router 1 Transceiver	TP/XF-1250 (LonMark standard channel type)
Router 2-5 Transceiver	TP/FT-10 (ANSI/CEA-709.3 and LonMark standard channel type); link power compatible
Network Connectors	
Permanent	Captive, screw terminals
Convenience	Front panel-mounted 3.5mm mono phone jacks; compatible with PCC-10 PC Card and U10 USB Network Interface cable accessories

Service Switches	Six, recessed and finger-accessible
Operating Input Voltage	9-28VAC 40-70Hz, 9-35VDC
Operating Input Current	500mA maximum
LED Indicators	Power (one—green), Status (six—green, yellow or amber); Status LED legend on front panel
Temperature	
Operating	0 to +70° C
Non-operating	-20° to +85° C
Humidity	
Operating (non-condensing)	25 to 90% RH @ +50° C
Non-operating (non-condensing)	95% RH @ +70° C
Shock and Vibration	ETSI300 019-2-3 T3.2
Dimensions	157.5mm (9 TE) wide, 80mm high, 80mm deep
EMC	FCC Part 15 Level B, EN55022 Class B, EN55024, CISPR 22 Class B, VCCI Class B
Agency Listings	U.L. 60950, cU.L. C22.2 No. 60950-00, TÜV EN60950, CE, C-Tick

Documentation

The *MPR-50 Multi-Port Router User's Guide* and *MPR-50 Multi-Port Router Quick Start Guide* are provided in PDF format on the included CD-ROM. These guides are also available from www.echelon.com.

Document	Echelon Part Number
MPR-50 Multi-Port Router User's Guide	078-0308-01
MPR-50 Multi-Port Router Quick Start Guide	078-0309-01

Ordering Information

Product	Echelon Model Number
MPR-50 Multi-Port Router	42150R

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003-0402-01C

SLTA-10 Serial LonTalk® Adapter Models 73351, 73352, 73353, 73354, 73351R, 73352R, 73353R, and 73354R

Features

- Serial EIA-232 interface connects host processors and modems to LonWorks® networks
- 1200 to 115,200bps serial bit rate with autobaud detection
- Automatic dial-out with compatible modem
- DIP switch selectable NSI and parallel MIP (SLTA/2 compatible) operating modes
- Integral FTT-10A, TPT/XF-78, or TPT/XF-1250 transceiver
- Color-coded, removable screw terminals for network and power wiring
- Configuration DIP switches accessible without opening chassis
- 9-30V AC or DC power input via removable screw terminals or barrel connector
- Metal enclosure for desk or wall mounting
- CE Mark, UL, cUL, TÜV

Description

The SLTA-10 Serial LonTalk Adapter is a high-performance LonWorks interface for use with laptop, desktop, or embedded computers equipped with an EIA-232 serial interface and a compatible operating system. Designed for use in LonWorks control networks that require remote dial-in/dial-out network access or a host processor to monitor, manage, or diagnose the network, the SLTA-10 adapter is ideal for industrial control, building automation, and process control applications.

Models 73351R, 73352R, 73353R, and 73354R are compliant with the European Directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.

The SLTA-10 adapter provides both network services interface (NSI) functionality for use with LNS-compliant tools, such as the LonMaker for Windows Integration Tool, and network interface functionality for use with legacy LonManager® API-based tools.

The SLTA-10 adapter is supplied in a metal enclosure with rubber feet for desk mounting, and key-hole slots for wall mounting. Configuration DIP switches are accessible without disassembly of the chassis, simplifying configuration of the adapter.

The SLTA-10 adapter operates at 10MHz and includes an integral twisted pair transceiver. The network wiring is polarity-insensitive, and is connected to a removable screw terminal block.

The LonWorks Network Services (LNS®) architecture allows over 16,000 installation, maintenance, monitoring, and control devices to exist in a system and to adapt to network configuration changes automatically. Users can reconfigure the system from user interface devices anywhere on the network and ensure that all monitoring and control stations are always up-to-date with respect to the system's configuration. When used with the appropriate software, the network services interface (NSI) functionality of the SLTA-10 adapter allows the attached host to tap into the LNS infrastructure as a client or server application.

The adapter also permits the host PC to act as an application node, running application-specific programs while the adapter handles lower layer functions such as media access control, collision avoidance, message validation, authentication, and priority processing. The host application, including its network variables, can be changed at any time without modifying the adapter. The SLTA-10 adapter combined with the host PC can also be used with nodes that require more processing power, memory, input/output capability, or network variable connections than are provided by the Neuron® Chip alone.

Input power needs a galvanicly isolated 9-30V AC or DC power supply. Power wiring is polarity-insensitive and is connected to a color-coded, removable screw terminal block. An alternate input power option accepts a US, UK, Continental European, or Japanese power supply for desktop use.

A DB-9 connector is provided for connection to the host. The adapter is configured as a Data Circuit-terminating Equipment (DCE) device; a custom null modem cable allows the SLTA-10 adapter to be connected to a modem. This cable is documented in the user's guide and may also be purchased from Echelon (Model 73380).The SLTA-10 adapter can be used with any modem recognizing the Hayes AT-command set to provide remote access to a LONWORKS network. The SLTA-10 adapter supports LonTalk network management messages for controlling an attached modem. Any node can initiate an outgoing call to a remote host by sending network management dialing messages to the adapter. Network management messages can be used to define a dialing directory stored in the SLTA-10 adapter, enabling application nodes to dial out to remote hosts without requiring host phone numbers to be maintained in each node.

Any node can use network management messages to configure the SLTA-10 adapter to automatically answer incoming calls so that remote hosts can call in to monitor, control, or manage the network at any time. Network management messages can be used to install a password in the adapter so that a remote user must enter the password before accessing any nodes on the network. For additional security, the SLTA-10 can be configured to call back only a pre-programmed phone number.

The interface with the SLTA-10 adapter is managed by the SLTALink Manager software. The SLTALink Manager is a standalone application that can monitor a modem line, answer an incoming phone call, associate the incoming call's SLTA-10 Adapter (and hence its network) with a LonWorks based device, and then launch a predetermined application for that particular network or SLTA-10 Adapter. The SLTALink Manager software is used to control a remote SLTA-10 via a set (2) of modems by using the telephony Application Programming Interface (TAPI) services that are built into the Windows 95/98/2000/XP, and Windows NT 4.0 operating systems. When attached directly to a PC, SLTA-10 Adapters use so-called "local" links. In this case, the SLTALink Manager software interacts with the driver and configures the necessary parameters. The SLTALink Manager software and driver isolate the host application from implementation dependencies of the SLTA-10. This allows the same host application to be used with virtually any network interface, and preserves investment in host application development.new versions of firmware are released, without modifying or physically accessing the PCLTA-21 adapter. This feature extends the useful service life of the adapter, and minimizes the cost and time associated with software and firmware updates.

Specifications

Processor	Neuron 3150® Chip
Processor Input Clock	10MHz
Transceiver Type	Varies by model: FTT-10A, TPT/XF-78, TPT/XF-1250, or RS-485
Network Connector	Weidmüller 2-conductor BLA
Bus Polarity	Polarity insensitive
Operating Input Voltage	9-30V AC or DC, galvanicly isolated power supply, such as Echelon Models 78010, 78020,78030, and 78040
Power Polarity	Polarity insensitive
Operating Input Current	250mA typical
Power Supply	Provided by customer
Service Interface	Service switch and LED
Serial Port	EIA-232 (formerly RS-232)
Serial Bit Rate	1200, 2400, 9600, 14.4k, 19.2k, 38.4k, 57.6k, and 115.2k - DIP switch selectable
Serial Modem Control	DTR and DSR
Serial Connector Type	Female DB-9
Temperature	
Operating	-40 to +85°C
Non-operating	-40 to +85°C
Humidity (non-condensing)	
Operating	25 to 95% RH @ 50°C
Non-operating	95% RH max @ 50°C
Dimensions	101.6mmW x 138.2mmL x 34.0mmH (4.00" x 5.44" x 1.34")
EMI	FCC Part 15 Level B, EN55022 Level B (PCB version designed to comply with FCC Part 15 Level B, EN55022B Level B)
Listings	UL 1950, cUL 1950, TÜV EN60950, CE Mark

The SLTA-10 does not support the SLTA/2 sleep mode and requires a special null modem cable to be used with a DCE device whereas the SLTA/2 required only an internal jumper change.

Documentation

The *SLTA-10 Adapter User's Guide* may be downloaded from Echelon's web site.

Document	Echelon Part Number
LONWORKS SLTA-10 Adapter User's Guide	078-0160-01

Ordering Information

Product	Echelon Model Number
SLTA-10 Adapter - TP/FT-10	73351, 73351R (RoHS-compliant)
SLTA-10 Adapter - TPT/XF-78	73352, 73352R (RoHS-compliant)
SLTA-10 Adapter - TPT/XF-1250	73353, 73353R (RoHS-compliant)
SLTA-10 Adapter – TR-RS485	73354, 73354R (RoHS-compliant)
SLTA-10 Null Modem Cabler (Male DB-9 to Male DB-25 Null Modem Cabler)	73380

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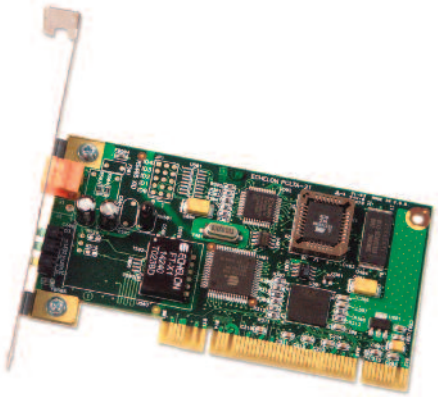
003-0311-01G

PCLTA-21 PCI Network Adapter Models 74501, 74502, 74503, 74504, 74501R, 74502R, 74503R, and 74504R



Features

- Universal 32-bit PCI adapter card for LonWorks® networks for PCs with 3.3V or 5V PCI
- Plug-and-play network driver compatible with Microsoft Windows® 98/2000 and Windows XP / Server 2003
- Downloadable firmware allows updates without accessing or changing hardware
- Integral FT 3150® Free Topology Smart Transceiver, RS-485, TPT/XF-78, or TPT/XF-1250 transceiver
- LNS® Network Services Interface (NSI) supports LNS applications
- Layer 5 MIP for use with OpenLDV™ driver
- CE Mark, U.L. Listed, cU.L. Listed

Description

The PCLTA-21 Network Adapter is a high-performance LonWorks interface for personal computers equipped with a 3.3V or 5V 32-bit Peripheral Component Interconnect (PCI) interface and a compatible operating system. Designed for use in LonWorks control networks that require a PC for monitoring,
managing, or diagnosing the network, the PCLTA-21 adapter is ideal for industrial control, building automation, and process control applications. The PCLTA-21 adapter features an integral twisted pair transceiver, downloadable memory, a network management interface, and plug-and-play capability with Microsoft Windows 98/2000 and Windows XP.

Models 74501R, 74502R, 74503R, and 74504R are compliant with the European Directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.

The PCLTA-21 adapter provides both LNS network services interface (NSI) functionality for use with LNS tools, and Microprocessor Interface Program (MIP)-compatible network interface functionality for use with LonManager® API-based tools or OpenLDV drivers.

Installation software is included with each PCLTA-21 adapter or may be downloaded from the Download Center of the Echelon web site. The software includes a control panel and driver for Microsoft Windows 98/2000 and Windows XP. The control panel provides a convenient means of setting and modifying installation parameters, diagnosing card operation, and displaying error messages. The adapter supports plug-and-play operation, simplifying installation.

The NSI mode of the PCLTA-21 adapter is used with applications based on the LNS network operating system such as the LonMaker Tool, or the LNS DDE Server.

The MIP mode of the PCLTA-21 adapter is used with applications based on OpenLDV.

In both NSI and MIP modes, the adapter permits the host PC to act as a LonWorks application device, such that the PC is running application-specific programs while the adapter handles lower layer functions such as media access control, collision avoidance, message validation, authentication, and priority processing. The host application, including its network variables, can be changed at any time without modifying the adapter.

Firmware for the adapter is downloaded from the host PC by the PCLTA-21 driver. This allows the adapter to be updated as new versions of firmware are released, without modifying or physically accessing the PCLTA-21 adapter. This feature extends the useful
service life of the adapter, and minimizes the cost and time associated with software and firmware updates.

Specifications

Processor	Neuron® 3150® Chip
Processor Input Clock	10MHz
Memory	58Kbytes SRAM
Twisted Pair Network Connector	Models 74501, 74502, 74503: Weidmüller 2-conductor BLZ Series (Weidmüller Part Number 1526460000) Model 74504: Weidmüller 3-conductor BLZ Series Plug (Weidmüller Part Number 1562656000)
Operating Input Current	350mA Max @ 5VDC
PC Bus Interface	Universal 32 bit PCI (3.3V, 5V, 32 bit, 64 bit PCI and PCI-X)
Indicator	Service LED, TX LED, RX LED
Neuron Chip Service Pin Function	Service pin message controlled by host application
Configuration State	Displayed on host
Temperature	
Operating	0 to +70° C
Non-operating	-45° to +85° C
Humidity	
Operating (Non-condensing)	25 to 90%RH @ 70° C
Non-operating (24 hour, Condensing)	95%RH @ 70°C
Shock and Vibration	ETSI300 019-2-3 T3.2
Dimensions (excluding card edge fingers)	2.54" (9.8cm) H x 4.72" (13.2cm) L
EMI	FCC Part 15 Level B and EN55022 Level B
Immunity	EN55024,1998 EN61000-4-2,1995, Electrostatic Discharge 4kV Contact, 8kV air EN61000-4-3,1997, Radiated Immunity, 3V/m EN61000-4-4: , 1995, Electrical Fast Transient Burst, 1kV Power, 0.5kV I/O EN61000-4-5, 1995, Surge, 2kV Common Mode, 1kV Differential EN61000-4-6, 1996, Conducted Immunity, 3V rms EN61000-4-8, 1994, Magnetic Immunity, 1A/m EN61000-4-11, 1994, Voltage Dips and Interrupts, > 95%, 30%, >95%
Agency Listings	U.L. 60950, 2000, CSA C22.2 #60950, 2000 EN 60950, 200 Safety for Information Technology Equipment

Documentation

The *LonWorks PCLTA-21 Network Adapter User's Guide* is provided in PDF format with the driver software or may be downloaded from Echelon's web site.

Document	Echelon Part Number
LonWorks PCLTA-21 Network Adapter User's Guide	078-0271-01

Ordering Information

Product	Echelon Model Number
PCLTA-21 Adapter - TP/FT-10 Channel	74501, 74501R (RoHS-compliant)
PCLTA-21 Adapter - TP/XF-78 Channel	74502, 74502R (RoHS-compliant)
PCLTA-21 Adapter - TP/XF-1250 Channel	74503, 74503R (RoHS-compliant)
PCLTA-21 Adapter - TP-RS485 Channel	74504, 74504R (RoHS-compliant)

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