CopperLink™ Ruggedized Ethernet Extender

Model CL1314R

Use the CopperLink 1314R Ruggedized Ethernet Extender to interconnect remote LANs or network enabled device up to 3.4 miles apart using single-twisted-pair cabling—and realize the best-possible speed/distance combination in the industry!

High Speed Extension
Achieve speeds up to 5.7 Mbps.

Multi-rate Selection
Just plug the units in and select the ideal user-configurable rate for your application.

CopperLink 2-Wire Connection
Easy 2-wire CopperLink connection via built-in RJ-45 port.

Extended Temperature
-40 to 85°C operation.

Transparent LAN Bridging
Transparently pass higher-layer protocols with support for 802.1Q VLAN tagging.

Automatic Learning, Aging, and Filtering
Keeps local traffic local, ensuring efficient utilization of the long-range link.

Made in the USA
This Patton equipment is designed by Patton engineers and built in our Gaithersburg, Maryland facility. Patton's American-made manufacturing process delivers high-quality networking solutions with reliability you can trust.

Ethernet extension doesn't have to be expensive or difficult. The CL1314R Ruggedized Ethernet Extenders open the door to cost-effective Ethernet extension that is easy to set up. Featuring plug-and-play installation, the CL1314R CopperLink Ethernet Extenders leverage existing copper twisted-pair infrastructure to interconnect Ethernet devices and networks at high speeds over long distances.

Operating over standard 0.5 mm (24 AWG) voice-grade wiring, the CL1314R delivers speeds up to 5.7 Mbps and extends Ethernet connections across distances ranging from 2.7 to 6.9 km (1.7 to 4.3 miles). Whether you need connect to a remote office or private-network backbone to a corporate LAN—or interconnect such network-enabled devices such as PCs, digital sensors and IP cameras—Patton Ethernet Extenders offer the industry's optimum combination of speed and distance.

Patton's CopperLink Ethernet Extenders ensure hassle-free set-up and operation, while achieving the highest possible line rate for the required distance and electro-magnetic environment. Users "hard-set" the desired line rate via DIP switches or console Telnet.

The CL1314R comes with a built-in two-port, auto-sensing, 10/100Base-TX Ethernet switch that provides automatic medium-dependent interface crossover capability (auto-MDIX). That means you can use cross-over or straight-through cables (whichever is handy) to connect up to four Ethernet devices. The auto-MDIX feature detects the polarity of the cabling on each port, and automatically configures the signaling to match. Absolutely no user-configuration is required.

Operating at layer 2 of the OSI model (data link layer), the CL1314R transparently passes all higher-layer protocols—including VLAN tagging, multicast addressing, VPN pass-through for IPsec, and all IP-video compression schemes. All common industrial protocols are also transparently supported, including MODBUS/TCP and PROFINET IO.

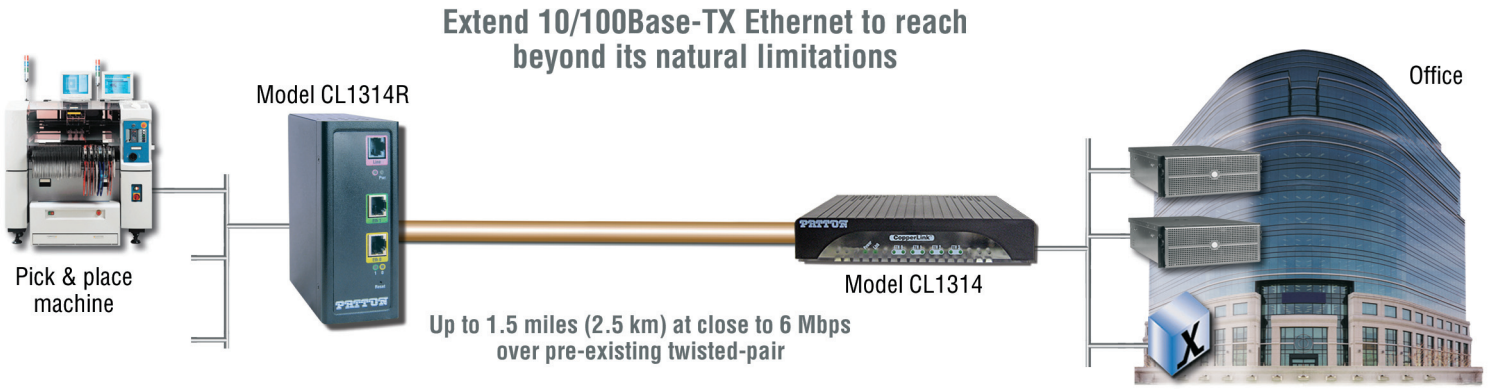
Set-up is easy! Simply connect up to four LAN devices to the Ethernet switch, plug the copper twisted-pair into each extender, and apply power! For simple, cost-effective and efficient Ethernet extension, Patton's CopperLink Ethernet Extenders are the ideal solution!

For more information, visit www.patton.com.

Distance on 24 AWG (0.5mm)			
Line Rate	**K Feet**	**Miles**	**km**
192	22.5	4.26	6.9
256	22.5	4.26	6.9
512	22.1	4.18	6.7
768	19.5	3.69	5.5
1024	18.5	3.50	5.6
1280	18.5	3.50	5.6
1536	18.6	3.50	5.6
2048	16.5	3.13	5.03
2304	16.5	3.13	5.03
4608	11	2.08	3.35
5696	9	1.70	2.74

PATTON®
let's Connect!™

Typical Application



Model CL1314R ruggedized Ethernet Extenders are ideal for delivering Ethernet links to remote buildings that are beyond the 328-foot (100-meter) distance limit of Ethernet. The 5.7 Mbps throughput eliminates bandwidth concerns previously experienced with other copper wired transmission technologies.

The CL1314R includes several user configurable line rates so that a user will get a consistent link, even in noisy environments. By utilizing existing voice-grade copper pairs or legacy serial circuits the expense and hassle of installing low capacitance or fiber cable is no longer required.

- **Plug-and-Play**
  Just unpack a pair of extenders and plug in the cables. Apply power and your connection is up and running. It just doesn't get any easier!
- **High Speed/Long Reach**
  The CL1314R Ethernet extender provides the industry's ultimate combination of speed and distance!

Specifications

Protocol
Transparent to higher layer protocols

Transmission Line
Single twisted pair

Line Rates
Rates from 192 kbps to 5.7 Mbps, selectable in all 64 kbps increments up to 5.7 Mbps

Front Panel LED Status Indicators
WAN: Link, LAN (Ethernet): Link/Act, Power

Line Coding
TC-PAM 16 for rates from 192 to 2.3 Mbps; TC-PAM 32 for rates above 2.3 Mbps

Connectors
RJ-45 on copper line side and 2 x 10/100 Ethernet, terminal block power connector

Line Interface
Transformer coupled, 1500 VAC isolation

Management
DIP switch, Telnet console

MTBF
4.7 years

Power
External 90–260 VAC, 50–60 Hz (Universal Input)

Power Consumption
0.8A@5V

Operating Temp.
-40 to 185°F (-40 to 85°C)

Humidity
5 to 95%, non-condensing

Altitude
0 to 15,000 ft (0 to 4,600 m)

Dimensions
2.25W x 5.62H x 4.66D in.
(5.7W x 14.27H x 11.83D mm)

Weight
0.7 lbs (0.30 kg)

Compliance
FCC Part 15A, CE Mark per EMC directive 89/336/EEC and Low Voltage Directive 73/23/EEC

* Specifications subject to change without notice.

PATTON® let's Connect!™

07MCL1314R-DS3

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