



CopperLink™ Ruggedized Multi-Drop Ethernet Extender & Repeater

Model CL1314MDE

Use the CopperLink 1314MDE Multi-Drop Ethernet Extender to interconnect and daisy chain multiple remote networks and network enabled devices up to 3.4 miles or more apart using single-twisted-pair cabling.

High Speed Extension

Achieve speeds up to 5.7 Mbps.

Flexible Uses

Can be used as either a long distance Ethernet extension (repeater) and/or in Multi Drop Ethernet applications

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 connections via built-in RJ-45 ports.

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.

The CL1314MDE Multi-Drop Ethernet Extender used in conjunction with any CL1314 Extender makes Ethernet extension a breeze. The MDE series of Ethernet Extenders allows users to replace their legacy serial coms with cost-effective Ethernet (IP) that is easy and inexpensive to set up. Featuring plug-and-play installation, the CL1314 MDE leverages existing copper twisted-pair infrastructure to interconnect Ethernet devices and networks at moderate speeds over long distances. The MDE Extender not only allows multi-drop functionality but also serves as a repeater function doubling your maximum distance at every hop.

Operating over standard 0.5 mm (24 AWG) voice-grade wiring, the CL1314 MDE delivers speeds up to 5.7 Mbps and extends Ethernet connections across distances ranging from 3.4 to 5.4 km (2.0 to 3.4 miles) per hop. Whether you need connect to a remote offices, kiosks, guard stations, train stations, digital sensors or 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 CL1314 MDE comes with a built-in four-port, auto-sensing, 10/100Base-TX Ethernet switch providing automatic medium-dependent interface crossover capability (auto-MDIX). That means you can use cross-over or straight through cables 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 CL1314MDE 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! Plug in the twisted pair into each Copperlink port, then plug in up to four LAN devices with Cat 5 or greater cabling, and apply power! For simple, cost-effective and efficient Ethernet extension, Patton's CopperLink Ethernet Extenders are the ideal solution!

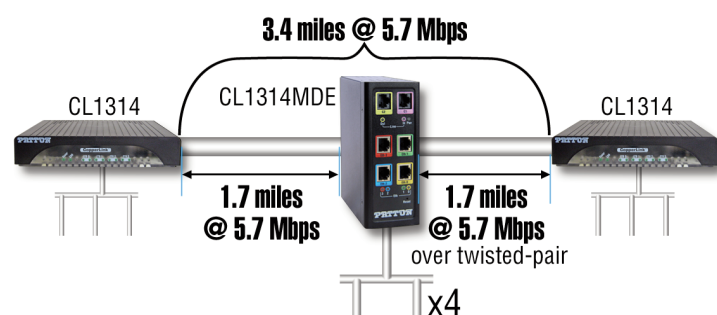
For more information, visit www.patton.com.

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

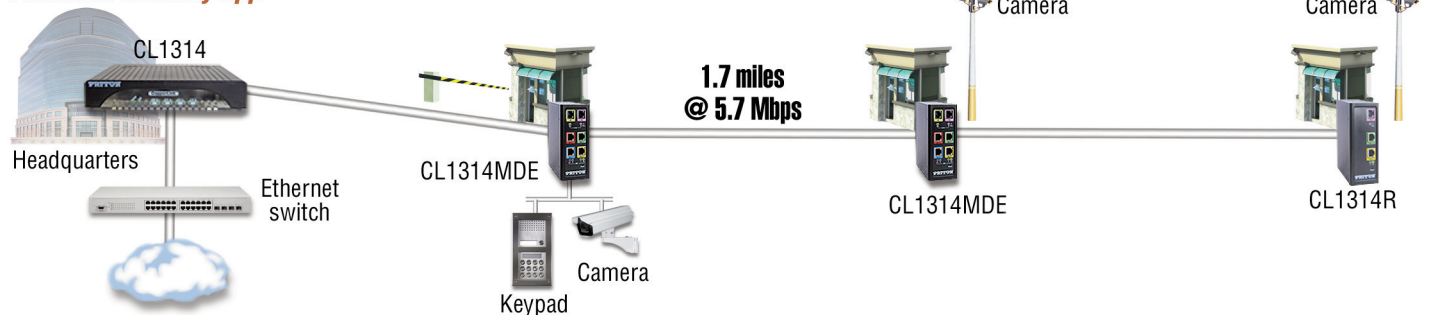
Typical Applications

Model CL1314MDE ruggedized multi-drop Ethernet extenders are ideal for delivering drop add Ethernet links to multiple remote locations that are beyond the 328-foot (100-meter) distance limit of Ethernet. The 5.7 Mbps throughput eliminates bandwidth concerns previously experienced with other legacy copper wired transmission technologies.

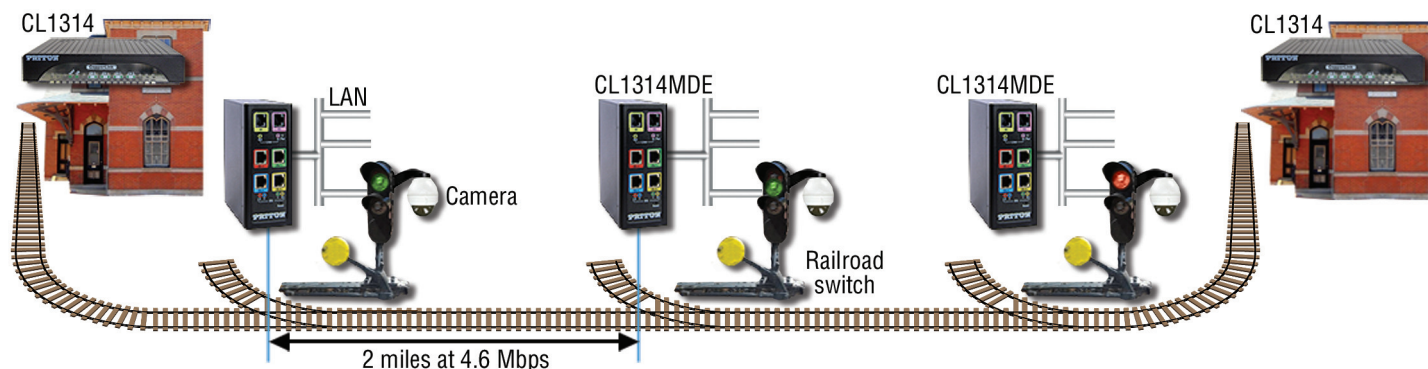
The CL1314MDE includes several user configurable line rates so that a user will get a consistent link, even in noisiest environments. Using existing voice-grade copper pairs or legacy serial circuits eliminates the expense and hassle of installing low capacitance or fiber cable.



Perimeter Security App



Transit App



Specifications

Protocol Transparent to higher layer protocols	Line Coding TC-PAM 16 for rates of 192 kbps to 2.3 Mbps; TC-PAM 32 above 2.3 Mbps	MTBF 4.7 years	Dimensions 2.25W x 5.62H x 4.66D in. (5.7W x 14.27H x 11.83D mm)
Transmission Line Single twisted pair x 2	Connectors 2 x RJ-45 on copper line side and 4 x 10/100 Ethernet	Power External 90–260 VAC, 50–60 Hz (Universal Input) via Terminal Block	Weight 0.7 lbs (0.30 kg)
Line Rates Rates from 192 kbps to 5.7 Mbps, selectable in all 64 kbps increments up to 5.7 Mbps	Line Interface Transformer coupled, 1500 VAC isolation	Operating Temp. -40 to 185°F (-40 to 85°C)	Compliance FCC Part 15A, CE Mark per EMC directive 89/336/EEC and Low Voltage Directive 73/23/EEC
Front Panel LED Status Indicators WAN: Link, LAN (Ethernet): Link/Act, Power	Management DIP switch, Telnet console (status only, no configuration)	Humidity 5 to 95%, non-condensing	
		Altitude 0 to 15,000 ft (0 to 4,600 m)	

* Specifications subject to change without notice.

PATTON
Let's Connect!

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