



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 an 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 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!

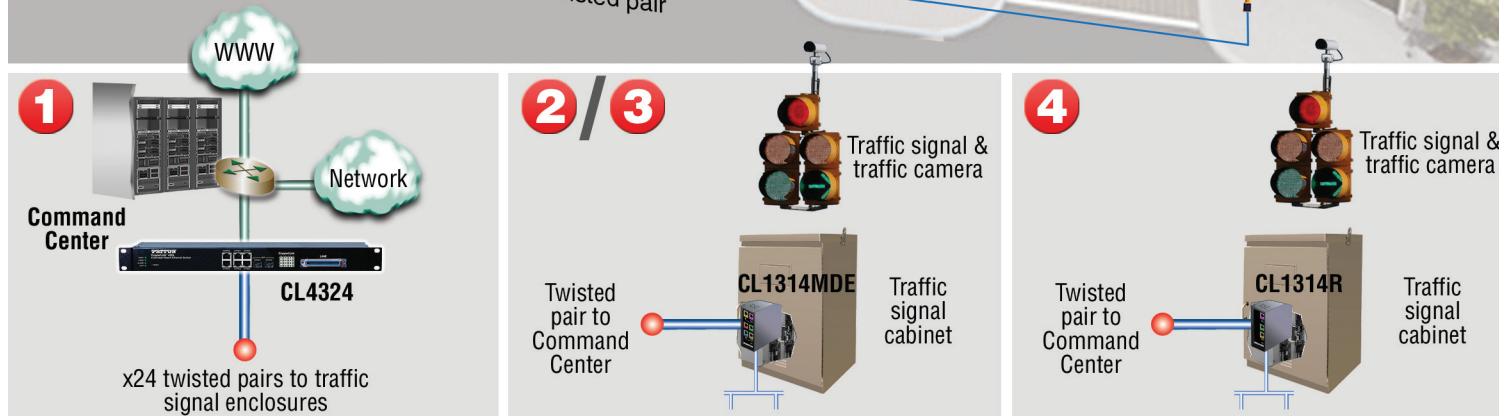
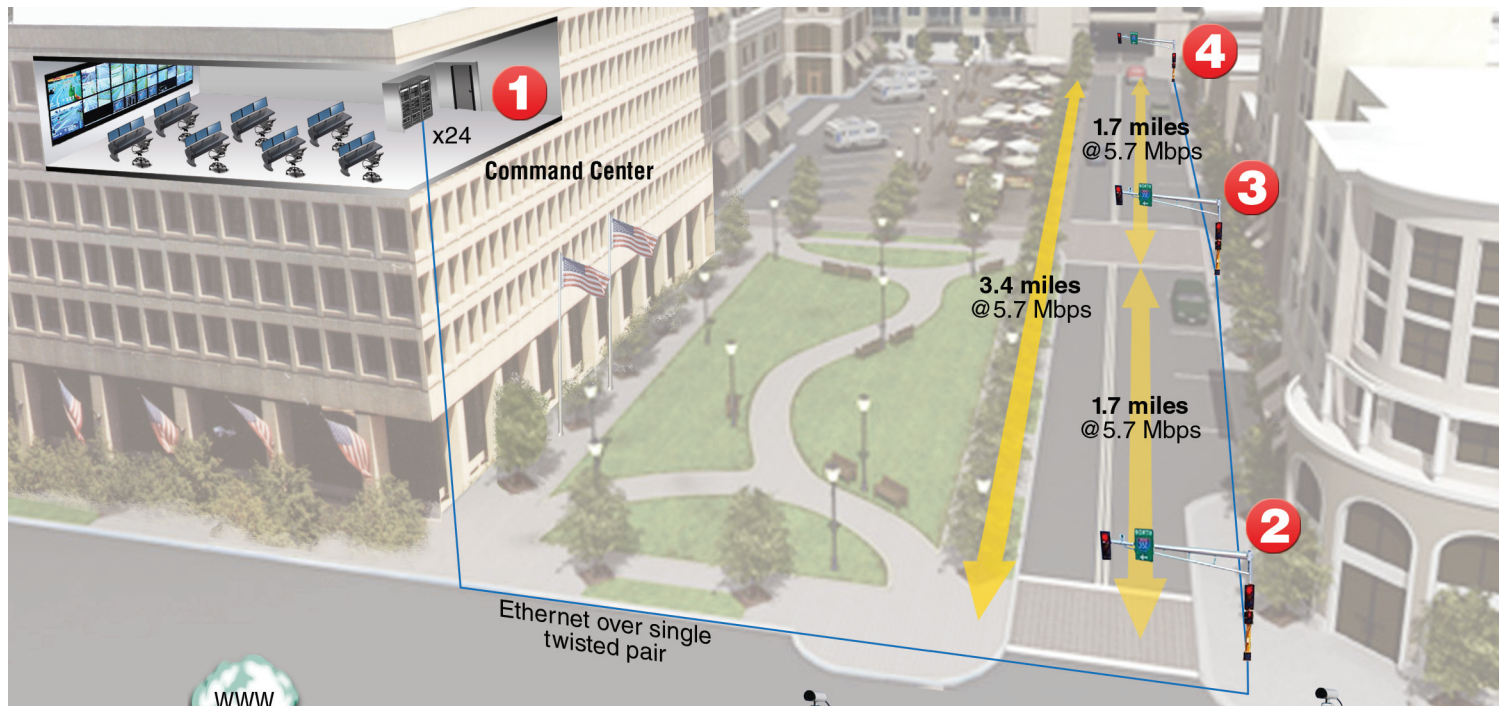
For more information, visit www.patton.com.

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

CL1314MDE ruggedized multi-drop Ethernet extenders are ideal for delivering drop add links to remote locations beyond Ethernet's 328-foot (100-meter) distance limit. 5.7 Mbps throughput eliminates bandwidth concerns previously experienced with legacy copper wired transmission

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



Specifications

Protocol

Transparent to higher layer protocols

Transmission Line

Single twisted pair x 2

Line Rates

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

Line Coding

TC-PAM 16 for rates of 192 kbps to 2.3 Mbps; TC-PAM 32 above 2.3 Mbps

Front Panel LED Status Indicators

WAN: Link, LAN (Ethernet): Link/Act, Power

Connectors

2 x RJ-45 on copper line side and 4 x 10/100 Ethernet

Line Interface

Transformer coupled, 1500 VAC isolation

Management

DIP switch, Telnet console (status only, no configuration)

MTBF

4.7 years

Power

External 90–260 VAC, 50–60 Hz • (Universal Input) via terminal block

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!™

Patton Electronics Co.
7622 Rickenbacker Drive
Gaithersburg, Maryland 20879
USA
Phone +1 301 975 1000
Fax +1 301 869 9293
E-mail sales@patton.com
Web www.patton.com

Patton-Inalp Networks AG
Meriedweg 7
CH-3172 Niederwangen
Switzerland
Phone +41 (31) 985 25 25
Fax +41 (31) 985 25 26
E-mail sales@inalp.com
Web www.inalp.com

Patton Hungary Zrt
Gábor Dénes utca 4.
Infopark Building C
Budapest H-1117
Hungary
Phone +36 1 439 4840
Fax +36 1 439 4844
E-mail ce@patton.com
Web www.patton.com

07MCL1314MDE-TRANSIT-DS1

Patton is a registered trademark, and CopperLink and Let's Connect! are trademarks of Patton Electronics Company in the United States and other countries.