

PRITON[®]

SOLUTIONS

From the leader in VoIP, Ethernet extension, and wireless router technologies

EMV card readers need Ethernet but most forecourts are not wired for Ethernet



Use your existing cable for high-speed Ethernet connections with CopperLink

CopperLink[™] Ethernet Extenders

CopperLink EMV-Compliant Dispensers Solution

The Problem: You need to re-wire the site to support EMV

Gas station operators in the USA will soon be liable for fraudulent transactions at the pump unless point-of-sale (POS) terminals on fuel dispensers are EMV (EuroPay, MasterCard, and Visa) compliant. Starting October 2017, banks and credit card companies will shift the blame to gas station operators.

Fuel merchants find themselves in need of replacing their CRIND (fuel system) and POS systems...but it is not as simple as changing the terminals. Fuel merchants have to prep their sites for EMV by enhancing site wiring to support a broadband connection to the dispensers. Today, most sites have standard twisted-pair (two-wire) connections to the fuel dispensers. These two-wire installations are intended to support low bandwidth communications such as RS-485 and dial-up. Such narrowband connections are inherently slow and are insufficient for carrying secure EMV transactions. The industry has moved to Ethernet as its primary means of communications for EMV transactions. Ethernet is flexible, deployed in virtually every industry, and is more than capable of handling the secure bandwidth-hungry EMV transactions of today and tomorrow.

In order to support this Ethernet/IP broadband connectivity, fuel merchants will have to undertake the daunting task and absorb additional costs to upgrade the wiring to CAT5e/6 wiring. In most sites, this is a considerable construction project to upgrade the cable. It involves getting permits and being subjected to inspections. It includes digging up concrete to lay new conduits for cabling. This comes at a significant cost and results in downtime at the site. Downtime translates into lost revenue during construction and the loss of customers as they change their habits on where they buy fuel and more profitable items such as candy, snacks and car washes.



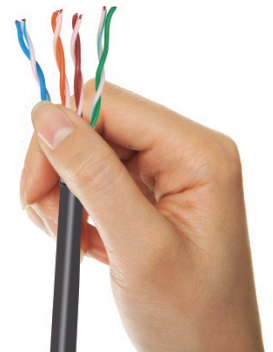
The Solution: Don't rewire the site – use CopperLink!

There are two ways that retailers can enable broadband connectivity to their dispensers. For newer sites or sites where it is practical deploying new wiring merchants can just install CAT5e/6 cabling, which is Ethernet wiring to the dispenser. This is a reliable solution for enabling broadband communications. However it is not without its limitations. CAT5e/6 can only be run up to 300 feet, so distance is an issue. Cat5 also needs to be run in a low voltage conduit separate from any power wiring.

For older sites, Patton offers CopperLink Series Ethernet Extenders. These Ethernet Extenders enable high speed Ethernet-based broadband signals to travel across the old two-wire infrastructure already in the ground. This makes it very easy and cost effective to upgrade any site. Simply install an Ethernet Extender in the "back room" of your site and one in the fuel dispenser. The two-wire link used for the legacy equipment is now plugged into each Extender. After powering the Extenders up they will self-configure

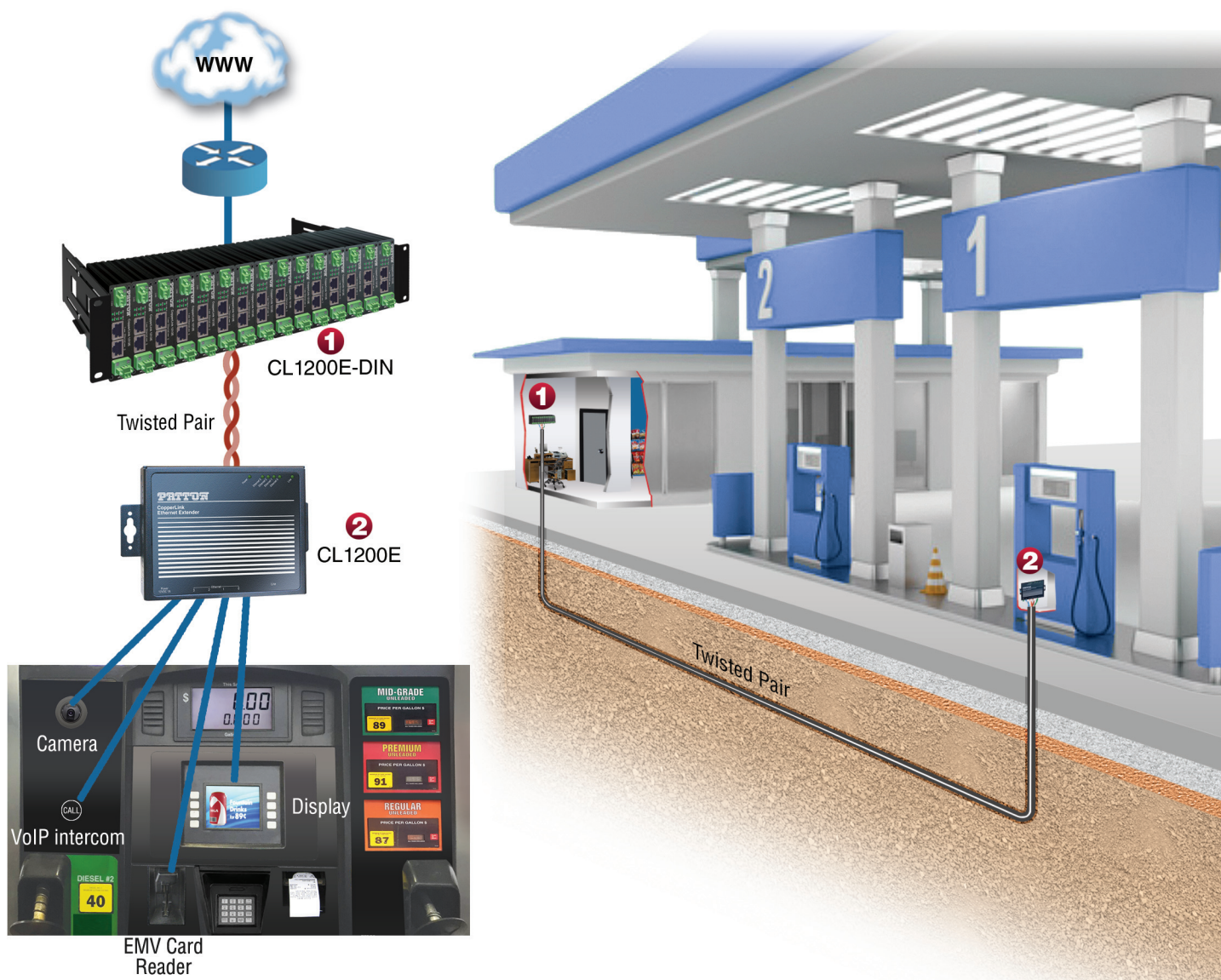
based on the twisted pairs qualities and electrical noise surrounding that cable. Within a minute a high speed broadband connection will be established between the backroom and dispenser. It's really that simple: we call it *Plug n' Play*.

Enhancing your site with Patton Ethernet Extenders, not only solves the wiring and EMV upgrade problem. These Extenders will enable your business to take advantage of other IP bandwidth intensive applications that will enhance your customers' experience and improve your profitability. Hot applications include VoIP (phone/intercom), IP video surveillance, streaming video/apps for merchandising, and last but not least, remote management and asset tracking through the cloud.



Blazing fast Ethernet connectivity over existing copper twisted-pair cable

- Bandwidth up to 100 Mbps between station and dispenser.
- Connects up to four Ethernet (IP) enabled devices at the pump (POS, VoIP intercom, printers, flow meters and more).
- Over 30x the reach of Ethernet; eliminates 328-foot spec limitation of native Ethernet.
- Protocol-transparent so no interference is caused to VoIP codec, video compression schemes, or industrial Ethernet protocols such as Modbus TCP/IP, PROFINET, and EtherCAT.
- Plug and play; set and forget.
- Modular system reduces risk of single-point-of-failure



The CL1200 acts as an Ethernet multiplexer allowing multiple simultaneous Ethernet network connections from the fuel dispenser to be made over a single standard twisted pair back to the office (network closet). The CL1200 will work over a variety of wire types. For connecting IP devices over media that is not twisted or with cable gauges outside of 18–28 AWG, please contact Patton.

CopperLink EMV-Compliant Dispensers Solution



NS-1001R-19ADJDIN
Adjustable Depth 19-inch DIN Rail Kit for mounting individual Ethernet Extenders



CL1200-DIN
DIN Rail HighSpeed Ethernet Extender



Fully Populated DIN 19-inch Rail Kit
Holds up to 15 100-Mbps Ethernet Extenders

OTHER FORM FACTORS



CL1200E
Wall mount



CL1200-SKD
OEM/PCA



CL1200
Desktop

RATE AND REACH*

Length (feet)	Downstream (Mbps)	Upstream (Mbps)
250	168	95
1000	126	54
2000	60	21
3000	42	6
3500	35	1

* Rate and reach data provided in this chart are for guideline purposes only; results based on 24 AWG.

Actual rate and reach numbers will vary based on factors such as cable quality, gauge, and electrical noise.

Specifications

CopperLink Line Interface

- RJ45 (pin 4 = ring; pin 5=tip)
- Terminal Block (optional)

CopperLink Line Modulation

- DMT (Discrete Multi-Tone)

CopperLink Line Frequency

- Mode A: 25kHz-30MHz; 25kHz-17MHz
- Mode B: 2.2MHz-17MHz
- Mode C: 138kHz-8.5MHz

Ethernet Interface (1, 2 or 4 port options)

- RJ45 (8 position)
- Auto-Sensing 10/100BaseTX
- Auto-Sensing Full or Half Duplex

Power (1 & 2 Ethernet Port Models)

- 5 VDC Input, 0.5A
- AC (100-240 VAC) or 48, 24, 12 VDC

Power (4 Ethernet Port Models)

- 12 VDC Input, 0.5A
- AC (100-240 VAC) or 48, 24, 12VDC

Protocols

- Transparent

Management

- Signal Adjustments
- 8-Position DIP switch

Environment

- Standard 0-50 C

- Extended: -40 to 85 °C
- Extended CC: Conformal Coating Optional (Humidity and Corrosion Protection)

Compliance

- FCC Part 15A, CE, EMC Directive 89/336/EEC,
- Low-Voltage Directive 73/23/EEC

Mounting

- Wall
- DIN Rail



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 we@patton.com
Web www.patton.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