

### Features

- Four PoE ports in a small heavy-duty Ethernet switch
- The switch and attached PoE devices are powered from an integral -48V DC terminal block
- Two models for two application environments:
  - PS14H Hardened for the Factory Floor
  - PS14P Premium-rated for Outdoors
- RJ-45 ports support standard auto-negotiation and auto-cross to enable attaching any 10 Mb or a 100 Mb device, regular or PoE
- Same packaging and mounting options as S14 Convenient Switches



Hardened for Factory Floor

Premium-rated for Outdoors

The Magnum PS14 PoE Power Source Convenient Switches combine standard 802.3af Power over Ethernet (PoE) with small heavy-duty 4-port Switches. Using an external -48VDC power source, all four of the PS14's Ethernet ports can provide power as well as 10/100 Mb data transmission over the inter-connecting Ethernet cables. Now, data and power for attached devices can be transmitted over a single Ethernet twisted-pair cable.

The PS14 switches are Power Sourcing Equipment (PSE), and are fully compatible with Powered Devices (PD) that comply with the IEEE 802.3af PoE standard. The PS14 Switch ports have an auto-sensing algorithm so that they provide power only to attached 802.3af end devices. If proprietary PoE and non-PoE equipment is attached, it will not be damaged. The PS14 ports discontinue supplying power when the PoE devices are disconnected, and support the PSE standard for over-current protection, under-current detection and fault protection.

The PS14 is a standards-compliant way to power and connect a few small Ethernet devices at the edge of a network where AC power is either not available or not cost-effective. Increasingly, small powered devices (PD) such as IP phones, video cameras, wireless access points, digital clocks, special purpose radios, IP phones, industrial sensors and laptop computers benefit with increased installation flexibility from the PS14's PoE-PSE capabilities. Traditionally, a mid-span patch panel device could have been connected to a standard Ethernet switch, and insert power onto a PD device — a configuration requiring two devices to achieve PoE. The PS14 integrates both the Ethernet switch and the PoE power functions into one unit, saving costs and space, and increasing reliability for the application.

■ The orange-label Magnum PS14H Hardened units are for factory floor applications. The PS14H models are built with high-grade components and are constructed using special thermal techniques (patent pending) and a metal case for heavy duty industrial jobs. The ambient temperature rating is for industrial use. No internal air flow is required for cooling, so it resists dust, dirt, moisture, smoke and insects. Mounting options include stand-alone panel-mounting, DIN-Rail, or rack-mount tray.

■ The red-label Magnum PS14P Premium-rated units are for temperature uncontrolled applications, typically located outdoors. The PS14P models are built with premium-grade extended temperature components, and use special thermal techniques (patent pending). When used outdoors, the PS14P should be protected from falling rain. Mounting options include stand-alone panel-mounting, DIN-rail, or rack-mount tray.

A 4-port "go anywhere" Magnum PS14 Switch is a versatile and handy PoE solution. The PS14 provides edge access Ethernet ports in a convenient and compact package. For fiber connectivity or additional non-PoE ports, simply add a Magnum CS14 Converter Switch (two RJ-45 and one fiber) or an ES42 Edge Switch (6 ports) with all fiber port types available.

The Magnum PS14 family of Power Source Convenient Switches and other Magnum products are designed and manufactured in the USA and backed by a three-year warranty.



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### PERFORMANCE:

Data Rate: 10 / 100 Mb, FDX and HDX modes on all 4 ports.  
Auto-negotiation and auto-cross MDI-MDIX on all four RJ-45 ports  
Occurs at LINK-enable. No cross-over cables required.  
Non-blocking switching, 128KB packet buffer memory  
Address buffer storage = 2K addresses  
Address buffer age-out time = 300 seconds

### NETWORK STANDARDS:

Ethernet IEEE 802.3af PoE; IEEE 802.3, IEEE 802.3u;  
IEEE 802.1p, 100BASE-TX, 10BASE-T  
Data packets that have the 4-bytes tagged VLAN field (IEEE 802.1q) inserted in them are received and transmitted unchanged by all PS14's.

### VLANs SUPPORT:

Data packets that have the 4 bytes tagged VLAN field (IEEE 802.1q) inserted in them are received and transmitted unchanged by all CS14 Converter Switches.

### OPERATING ENVIRONMENT:

Ambient temperature ratings  
PS14H: the ambient temperature rating is -25°C to 60°C  
long term per independent agency tests (UL 60950), or -40°C to 85°C  
short term per Type Tests (IEC 60068)  
PS14P: the ambient temperature rating is -40°C to 75°C  
long term per independent agency tests (UL 60950), or -50°C to 100°C  
short term per Type Tests (IEC 60068)  
Storage temperature: -40° to 185°F (-40° to 85°C)  
Cold start: PS14H model to -20°C, PS14P model to -40°C  
Ambient Relative Humidity: 5% - 95% (non-condensing)  
Altitude, all models: -200 to 50,000 ft. (-60 to 15,000m)  
Conformal coating (humidity protection) optional, request quote.  
Designed for NEBS compliance, including vibration, shock, and altitude.

### PACKAGING:

Enclosure: Robust sheet metal (steel) IEC 529 rated IP40  
Dimensions of units: 3.5 in H x 3.0 in W x 1.0 in D  
(8.9 cm x 7.6 cm x 2.5 cm)  
Weight: PS14 Switch Units: 9.6 oz (272g)  
Cooling Method: Case used as a heat sink

### MOUNTING FOR PS14 FAMILY OF SWITCH UNITS:

Metal panel mounting clips: included  
DIN-Rail mounting option:  
Model # DIN-RAIL-LATCH illustrated here;  
Rack-mount option: Model MC14-TRAY.  
Depth: 6.0", Width 17",  
Height 2.25"(15 cm D x 43cm W x 5.7cm H)



### LED INDICATORS (dual, front and end, port #4 front only):

POWER: ON for -48V power applied to the PS14 unit  
PoE, ports 1,2,3,4: ON when delivering power  
10/100 per port: Steady ON for 100 Mb speed,  
OFF for 10 Mb speed  
LK/ACT per port: Steady ON for LINK w/no traffic,  
blinking for Activity.  
F/H per port 1,2,3 in end: Steady ON for F/D mode,  
OFF for H/D mode.

### PORT CONNECTORS:

RJ-45 with auto-cross, 100BASE-TX and 10BASE-T:  
shielded 8-Pin female. Supports shielded (STP) & unshielded (UTP) Cat. 5 and higher. PoE power is delivered to the unused (spare) twisted-pair pins.

### POWER INPUT:

Total Power Consumption: 66 watts max. (1.4A @48VDC).  
Terminal block for -48V DC input (range of 46 to 60V DC), built-in for +, -, ground.  
The 8-15V DC jack is also present, but can only be used to power the PS14 unit when no PoE devices are attached.



PS14 terminal block area, shown with panel mount bracket.

**POWER OUTPUT:** PoE available on all four RJ-45 ports via Ethernet twisted pair cabling on port pins 4, 5(+), 7, 8(-)  
Uses spare pairs, not data pairs.

802.3af Power Consumption: 61.6 watts max. (15.4/port)  
PoE Ports Output voltage: 44 to 57 VDC  
Over-current Protection, per port: resettable fuse

### AGENCY APPROVALS AND STANDARDS COMPLIANCE:

UL listed (UL60950), cUL, CE, Emissions meet FCC Part 15, Class A. (see footnote 1)  
NEBS L3 and ETSI compliant  
IEEE 1613 Env. Std for Electric Power Substations  
NEMA TS-2 and TEES for traffic control equipment  
IEC61850 EMC and Operating Conditions Class C for Power Substations  
Compliant with EN50155 Railway Applications Standard  
Designed for above-the-ceiling (plenum) installation

**WARRANTY:** Three years

Made in USA

1: These products are tested and approved under IEC61850 for use in Class C sheltered locations where neither temperature nor humidity are controlled. The equipment needs to be protected against solar radiation, rainfall, other precipitations, and wind. UL has not approved these products for Annex-T outdoor use.

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### Typical Applications:

- Connect a VOIP phone, a PoE powered digital clock, and an IP badge reader in an outdoor guard station into an indoors LAN using standard Ethernet twisted-pair copper cable
- Connect an IP wireless access point in a warehouse into the factory LAN
- For surveillance, connect a couple of outdoor PoE video cameras into a secure LAN
- Same as previous, but combine with a Magnum CS14P-48VDC for a fiber optic up-link

## Ordering Information

**Magnum PS14H:** Magnum Hardened PoE Power Source Convenient Switch, four 10/100 RJ-45 ports in a compact package, rated for factory floor environments. All four RJ-45 Ethernet ports support Power Source PoE per the IEEE 802.3af standard. Includes integral -48V DC terminal block for power input.

**Magnum PS14P:** Magnum Premium-rated PoE Power Source Convenient Switch, four 10/100 RJ-45 ports in a compact package, rated for temperature un-controlled (outdoor) environments. All four RJ-45 Ethernet ports support Power Source PoE per the IEEE 802.3af standard. Includes integral -48V DC terminal block for power input.

Note - should a heavy-duty industrial power supply be desired, that plugs into AC and delivers -48VDC at 50+ watts to support one PS14-48VDC Switch and up to four attached PoE devices, check web sites such as www.LANstore.com.

Factory Floor

Outdoors



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