

### Features

- Provides one Gb fiber port and two (2) 10/100/1000 copper switch ports
- Two RJ-45 ports are triple-speed auto-negotiating to enable attaching any 10 Mb or 100 Mb or 1000 Mb (Gb) device
- Two models for heavy-duty application environments:
  - Hardened for Factory Floor
  - Premium-rated for -40 to 85°C, and outdoors
- Integral terminal blocks for DC power input, external AC power supply optional
- Same packaging and mounting options as popular Magnum 14-Series Converter Switches and Media Converters



Hardened for Factory Floor



Premium-rated for Outdoors

Combine a Gb Fiber Media Converter and a two-port 10/100/1000 copper Switch, and you have the Magnum CSG14 Converter Switch™, a new high-speed flexible edge-of-the-network industrial Ethernet product. Add in Gb fiber port choices for all multi-mode and single-mode Gb fiber connector types plus DC or AC input power selection, and the metal case and configuration choices you expect from Magnum products, and you have the answer to many Gigabit connectivity applications in industrial networks.

The Magnum CSG14 family of Gb Converter Switches with a Gb Fiber port built-in covers the full range of Gb fiber port choices. Models available provide a) fixed Gb fiber ports for short distance SX fiber, b) fixed Gb fiber ports for 2km multi-mode, c) fixed LC-type transceivers for robust single-mode Gb fiber, and d) SFP ports (Small Form-factor Pluggable) for flexible choices of the transceiver distance needed. The compact package is ideal for industrial network edge installations. Where a Gb Media Converter might have been used, a Gb Converter Switch offers a better value.

The Magnum CSG14H Hardened units are for factory floor applications. Any fiber port type may be selected. The CSG14H 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. In addition to a Hardened AC power option and jack, terminals for internal DC power choices at 12V, 24V or -48V DC are included. 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 panel-mounting (brackets included), DIN-Rail mounting or mounting via a rack-mount tray.

The Magnum CSG14P Premium-rated units are for temperature un-controlled applications, typically located outdoors. The CSG14P models are built with premium-grade extended temperature components, and use similar thermal techniques (patent pending) as the CSG14H Hardened units. In addition to a Premium-rated AC power option and jack, terminals for internal DC power choices at 12V, 24V or -48V DC are included. The ambient temperature rating is -40°C to 85°C. When used outdoors, the CSG14P should be protected from falling rain. Mounting options include panel-mounting (brackets included), DIN-Rail mounting or mounting via a rack-mount tray.

All CSG14 Converter Switch models come with two (2) sets of LED indicators. One set is on the front for viewing convenience when the unit is DIN-Rail or panel-mounted, and one LED set is mounted in the end adjacent to the ports for easy viewing when units are in a rack-mount tray. The Magnum CSG14 and CS14 family of Converter Switches and other Magnum products are designed and manufactured in the USA and backed by a three-year warranty.



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Industrial Networking at Its Best™

### PERFORMANCE:

Fiber port: 1000 Mb, all types of connectors for multi-mode or single-mode  
 RJ-45 Ports Data Rate: 10 / 100 / 1000 Mbps, FDX and HDX modes.  
 Auto-negotiation and auto-cross MDI-MDIX on both RJ-45 ports  
 Non-blocking switching, 64KB packet buffer memory  
 Address buffer storage = 1K addresses  
 Address buffer age-out time = 300 seconds

### NETWORK STANDARDS:

Ethernet IEEE 802.3, IEEE 802.3u & ab; IEEE 802.1p, 1000BASE-TX, 1000BASE-SX, -LX, -ZX

### 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 CSG14 Converter Switches.

### OPERATING ENVIRONMENT:

Ambient Temperature ratings:  
■ CSG14H: the ambient temperature rating is -25°C to 60°C long term per independent agency tests (UL), or -40°C to 85°C short term per IEC Type Tests  
■ CSG14P: the ambient temperature ratings of -40°C to 75°C long term per indep. agency tests (UL), or -40°C to 85°C short term per IEC Type Tests.  
 Storage temperature, all models: -40° to 212°F (-40°C to 100°C)  
 Cold start: CSG14H model to -20°C, CSG14P model to -40°C  
 Ambient Relative Humidity, all models: 5% - 95% (non-condensing)  
 Altitude, all models: -200 to 50,000 ft. (-60 to 15,000m)  
 Conformal coating (humidity protection) option, request quote.  
 H and P models are designed for NEBS compliance, including vibration, shock, and altitude.

### PACKAGING:

Enclosure: Robust sheet metal (steel); H&P models: 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: CSG14 Switch Units: 4.6 oz (130g)  
 Power Supply - Hd, Hi: 5.8 oz (165g)  
 Power Supply - Pd, Pi: 7.9 oz (225g)  
 Cooling Method: Convection, case used as a heat sink.

### MOUNTING FOR CSG14 FAMILY OF SWITCH UNITS:

Metal panel mounting clips: included  
 DIN-Rail mounting option:  
 Model # DIN-RAIL MC2, 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)



### SWITCHES:

Fiber port default is FDX, RJ-45s are triple-speed auto-negotiating

### RJ-45 PORT CONNECTORS:

RJ-45 triple-speed 10/100/1000 auto-negotiation and auto-cross: shielded 8-Pin female.  
 Supports shielded (STP) and unshielded (UTP) twisted pair cables

### LED INDICATORS, two sets: top-front and in end with ports:

POWER: ON for power applied  
 Gb per RJ-45 port: Steady ON for Gb, OFF for 100 or 10 Mb speed  
 LK/ACT per port: Steady ON for LINK with no traffic, blinking for Activity.  
 10/100 and Gb per port in end: Steady ON for 100Mb,  
 OFF for 10Mb, Gb ON/OFF

POWER: ON for power applied

Fiber port: LK/ACT: Steady ON for LINK with no traffic, blinking for Activity.

### POWER SUPPLIES for AC (EXTERNAL):

Power input DC jack (8 to 15V) is 2.5mm, center +ve, with 6ft. DC cord  
■ Input: 100-240vac at 47-63 Hz for "-Hd", "Hi" models, see Note 1,2  
■ Input: 95-260vac at 47-63 Hz for "-Pd", "Pi" models, see Note 1,2

### POWER INPUT OPTIONS for DC:

12V DC, internal (range of 8.0 to 15V DC), built-in screw terminal block for +, -, ground. The 12V DC jack is also present.  
 24V DC internal (range of 18 to 36V DC) built-in screw terminal for +, -, ground. The 12V DC jack is also present.  
 -48V DC internal (range of 30 to 60V DC), built-in screw terminal block for +, -, ground. The 12V DC jack is also present.  
 Note1: the 12V DC jack can be used for dual source DC power input  
 Note2: internal DC power floats, user may ground + or - if desired.  
 Power Consumption, all models: 4 Watts typical. 5 Watts max.

### AGENCY APPROVALS AND STANDARDS COMPLIANCE:

UL listed (UL60950), cUL, CE, Emissions meet FCC Part 15, Class A.  
 NEBS L3 and ETSI compliant  
 IEC61850 EMC and Operating Conditions Class C for Power Substations  
 P model: NEMA TS-2 and TEES for traffic control equipment  
 IEEE 1613 Environmental Standard for Electric Power Substations

WARRANTY: Three years

Made in USA

- External 12V1A power supply, wall plug or power cord for North America AC receptacles. Temperature rating same as CSG14H, see above. (North America: for spare, order Model PSH-12V1A-Hd. International: order Model PSH-12V1A-Hi with IEC plug).
- External 12V1A power supply, rated for outdoor temperatures same as CSG14P, see above. Universal AC input with recessed IEC plug. (North America: for spare, order Model PSP-12V1A-Pd, International: order Model PSP-12V1A-Pi with IEC plug).

### FIBER PORT CONNECTORS:

"ff" selections of the "fiber flavor" (see table below):

"SX" = 1000BASE-SX-SC: fiber optic 850nm multimode with SC type, 550 m. nom., 2 km per Power Budget  
 "ESX" = 1000BASE-SX Extended, fiber optic 1310nm multimode with SC, 2 km nom., 3 km per Power Budget  
 "LX10" = 1000BASE-LX-SLC: fiber optic 1310nm single-mode with LC type, 10 km nom., 22 km per Power Budget  
 "LX25" = 1000BASE-LX-SLC: fiber optic 1310nm single-mode with LC type, 25 km nom., 40 km per Power Budget  
 "ZX40" = 1000BASE-ZX-SLC: fiber optic 1550nm single-mode with LC type, 40 km nom., 60 km per Power Budget  
 "ZX70" = 1000BASE-ZX-SLC: fiber optic 1550nm single-mode with LC type, 70 km nom., 90 km per Power Budget  
 "SFP" = open SFP transceiver slot in the fiber position. (Order SFP as a separate item)

"SFP-SX" = 1000BASE-SX-LC: fiber optic 850 nm multimode SFP, 550 m. nominal, 2km per Power Budget  
 "SFP-ESX" = 1000BASE-ESX-LC Extended, fiber optic 1310nm multimode w/ LC, 2 km nom., 3 km per Pwr Budget  
 "SFP-LX10" = 1000BASE-LX-SLC: fiber optic 1310nm single-mode SFP, 10 km nominal, 22km per Power Budget  
 "SFP-LX25" = 1000BASE-LX-SLC: fiber optic 1310nm single-mode SFP, 25 km nominal, 40km per Power Budget  
 "SFP-ZX40" = 1000BASE-ZX-SLC: fiber optic 1550nm single-mode SFP, 40 km nominal, 60km per Power Budget  
 "SFP-ZX70" = 1000BASE-ZX-SLC: fiber optic 1550nm single-mode SFP, 70 km nominal, 90km per Power Budget  
 For other Gb fiber connectors or distances, request quote.

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Model #	POWER INPUT					MOUNTING
	Hd, Hi AC external +12V Term Blk	Pd, Pi AC external +12V Term Blk	12V DC Term. Block	24V DC Term. Block	-48V DC Term. Block	Panel Clips included or DIN-Rail
CSG14H-ff-Hd, Hi	X		X			Panel incl.
CSG14H-ff-12VDC			X			Panel incl.
CSG14H-ff-24VDC				X		Panel incl.
CSG14HR-ff-24VDC				X		DIN-Rail
CSG14H-ff-48VDC					X	Panel incl.
CSG14P-ff-Pd, Pi		X	X			Panel incl.
CSG14P-ff-12VDC			X			Panel incl.
CSG14P-ff-24VDC				X		Panel incl.
CSG14PR-ff-24VDC				X		DIN-Rail
CSG14P-ff-48VDC					X	Panel incl.

■ Factory Floor ■ Outdoors



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