

PB00103

Magnum CSG14 Gigabit Converter Switch

High-speed, flexible, edge-of-network Ethernet product for Gigabit connectivity applications in industrial networks



This switch family covers the full range of Gb fiber port choices, with a compact design that is ideal for industrial network edge installations. Provides excellent value compared to a traditional Gb Media Converter.

Features:

- Provides one Gb fiber port and two (2) 10/100/1000 copper switch ports
- Two RJ45 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 °C 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

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 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
- d) SFP ports (Small Form-factor Pluggable) for flexible choices of the transceiver distance needed.

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.

**Be certain.
Belden.**

Applications



Hardened for Factory Floor

The Magnum CSG14H Hardened units are for factory floor applications. The CSG14H models are built with high grade components and are constructed using special thermal techniques 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.



Premium-rated for Outdoors

The Magnum CSG14P Premium-rated units are for temperature uncontrolled applications, typically located outdoors. The CSG14P models are built with premium grade extended temperature components, and use similar thermal techniques 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.

Technical Information

	CSG14H	CSG14P
Performance		
Fiber Port	1000 Mb, all types of connectors for multi-mode or single-mode	
RJ45 Ports Data Rate	10 / 100 / 1000 Mbps, FDX and HDX modes. Auto-negotiation and auto-cross MDI-MDIX on both RJ45 ports	
Non-blocking Switching	64KB packet buffer memory	
Address Buffer Storage	1K addresses	
Address Buffer Age-out Time	300 seconds	
Network Standards		
Compliance With	Ethernet IEEE 802.3, IEEE 802.3u & ab, 802.1p; 1000BASE-TX, 1000 BASE-SX, -LX, -ZX	
VLANs Support		
Description	Data packets that have the 4 bytes tagged VLAN field (IEEE 802.1q) inserted in them are received and transmitted unchanged by all by all CSG14 Converter Switches	
Operating Environment		
Ambient Temperature Ratings	-25°C to 60°C long term per independent agency tests (UL), or -40°C to 85°C short term per IEC Type Tests	-40°C to 75°C long term per independent agency tests (UL), or -40°C to 85°C short term per IEC Type Tests.
Storage Temperature	-40°F to 212°F (-40°C to 100°C)	
Cold Start	-20°C	-40°C
Ambient Relative Humidity	5% - 95% (non-condensing) Conformal coating (humidity protection) optional, request quote	
Altitude	-200 to 50,000 ft. (-60 to 15,000m)	
NEBS Compliance	Yes—including vibration, shock, altitude	



Technical Information (continued)

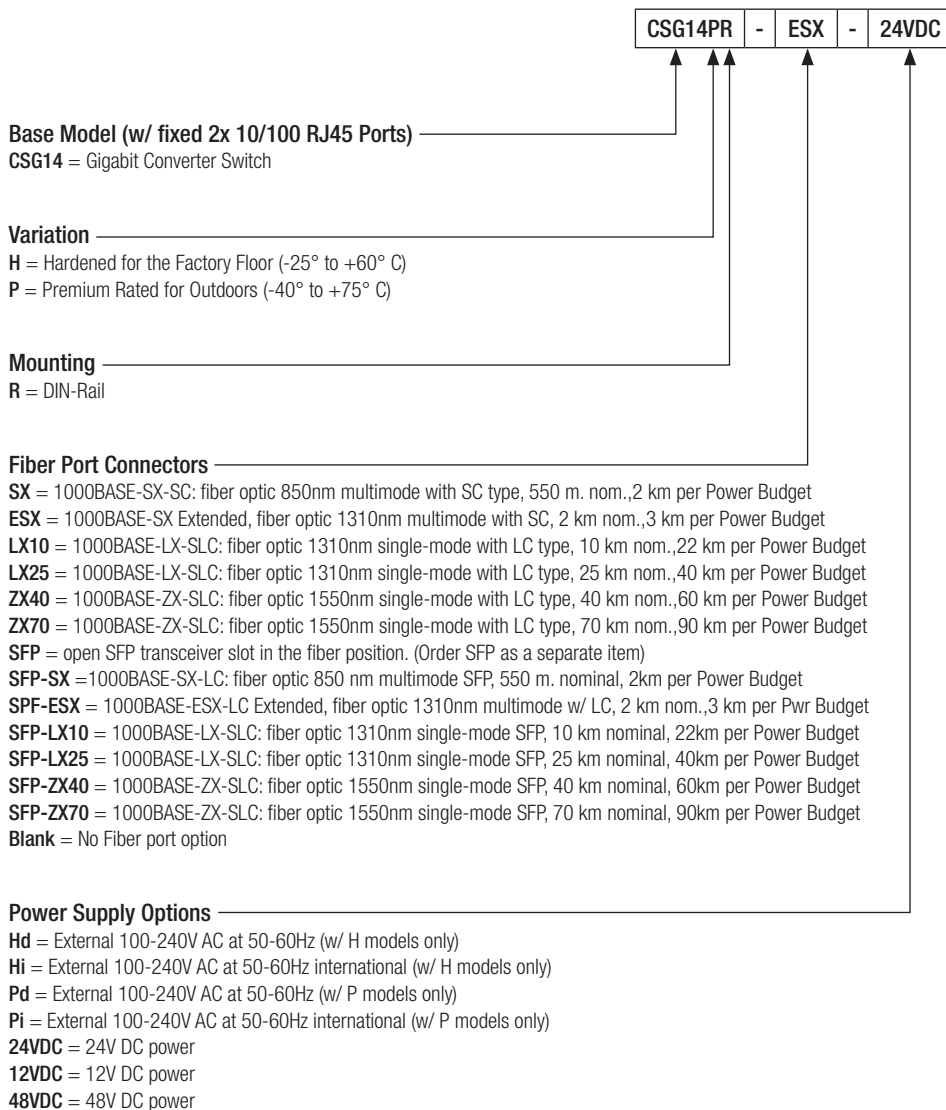
	CSG14H	CSG14P
Packaging		
Enclosure	Robust sheet metal (steel), IEC 529 rated IP 40	
Unit Dimensions	3.5 in H x 3.0 in W x 1.0 in D (8.9 cm x 7.6 cm x 2.5 cm)	
Weight	CSG14 Switch Units: 4.6 oz (130g)	
Power Supply—Hd, Hi	5.8 oz (165g)	
Power Supply—Pd, Pi	7.9 oz (225g)	
Cooling Method	Convection, case used as a heat sink	
Switches		
Fiber Ports	Default is FDX	
RJ45 Ports	Triple speed, auto-negotiating	
Connectors		
Fiber Ports “ff” selections of the “fiber flavor”	“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	
RJ45 Ports	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 (dual: top front, in end)		
Power	ON for power applied	
Gb per RJ45 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 100 Mb, OFF or 10 Mb, ON/OFF for Gb	
Power		
Power Supplies for AC (External)	100-240V AC at 47-63 Hz for “-Hd”, “Hi” models, see footnote 1,2	95-260V AC at 47-63 Hz for “-Pd”, “Pi” models, see footnote 1,2
	Power input DC jack (8 to 15V) is 2.5mm, center +ve, with 6ft. DC cord	
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 10 to 36V DC) built-in screw terminal for +, -, ground. The 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. For PoE: Total power input required = 66 watts max or 1.4a @48VDC	
Power Consumption	4 Watts typical. 5 Watts max	
Approvals/Standards Compliance		
All Models	UL listed (UL60950), cUL, CE, Emissions meet FCC Part 15, Class A NEBS L3 and ETSI compliant, including vibration, shock, and altitude IEEE 1613 Environmental Standard for Electric Power Substations IEC61850 EMC and Operating Conditions Class C for Power Substations	
P Models	NEMA TS-2 and TEES for traffic control equipment	
Warranty		
Made in USA	Three [3] years	
Mounting		
Metal Panel Mounting	Clips included	
DIN-Rail Mounting	Model # DIN-RAIL MC2	
Rack-Mount	Model MC14-TRAY. Depth: 6.0”, Width 17”, Height 2.25”(15 cm D x 43cm W x 5.7cm H)	



1: External 12V1A power supply, wall plug or power cord for North America AC receptacles. Temperature rating same as S14H, see above. (North America: for spare, order Model PSH-12V1A-Hd. Intl: order Model PSH-12V1A-Hi with IEC plug).

2: External 12V1A power supply, rated for outdoor temperatures same as S14P, see above. Universal AC input with recessed IEC plug. (North America: for spare, order Model PSP-12V1A-Pd, Intl: order Model PSP-12V1A-Pi with IEC plug).

Magnum CSG14 Configuration Guide



Got questions? Need to talk to an expert? Send us an email:
EMEA: garrettcomsalesinfo@belden.com **US:** ICS.Security@belden.com