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Product Bulletin

PB00108

Magnum CSG14U Universal Gigabit Converter Switch

Truly universal, high-speed, flexible, edge-of-network industrial Ethernet product that can handle any Gb fiber type (single-mode or multi-mode)

Integrated with the latest technology for easy, plug-in SFP fiber transceivers, this versatile switch covers any Gb or 100 Mb fiber media type and distance. For copper media attachment, use the 10/100/100 auto-negotiating RJ45 port.

Features:

- Provides two SFP open transceiver fiber switch ports and one 10/100/1000 copper switch port
- Each SFP port accepts either Gb or 100 Mb fiber SFP transceivers
- 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 12V, 24V, 48V DC power input, external AC power supply optional
- Same packaging and mounting options as popular Magnum CSG14-Series Gb Converter Switches

Convert anything to anything.

The latest technology of SFP fiber transceivers has been integrated into the Magnum Gb Converter Switch package to produce the Magnum CSG14U Universal Converter Switch. It can handle any Gb fiber type – multi-mode and single-mode – and fiber media distance with a selection of Gb SFP fiber transceivers, up to two of which can be plugged in. It can also handle any 100Mb fiber media type and distance in the same way, with a selection of 100Mb SFP fiber transceivers that similarly plug in. And, for copper media attachment, there is a 10/100/1000 auto-negotiating RJ45 port. Where Gb Ethernet is in use, the CSG14U converts all media combinations. It is Universal.

The CSG14U is a high-speed flexible edge-of-the-network industrial Ethernet product. The compact package is ideal for industrial network edge installations. It features 12V, 24V or 48V DC power input terminal blocks, or AC input via industrial grade external power supplies. It has the metal case and DIN-Rail or panel-mounting choices you expect from Magnum industrial grade products.

All CSG14U Universal 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 CSG14U and CSG14 family of Gb 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 CSG14UH Universal Hardened units are for factory floor applications. The CSG14UH models are built with high-grade components and are constructed using special thermal techniques 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.

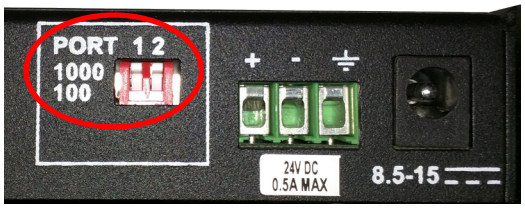
Premium-rated for Outdoors

The Magnum CSG14UP Universal Premium-rated units are for temperature un-controlled applications, typically located outdoors. The CSG14UP models are built with premium-grade extended temperature components, and use similar thermal techniques as the CSG14UH Hardened units. The ambient temperature rating is -40°C to 85°C. When used outdoors, the CSG14UP should be protected from falling rain.

Technical Information

	CSG14UH	CSG14UP
Performance		
Fiber Ports	Two Industry standard SFP (Small Form-factor Pluggable) FDX open transceiver ports that accept 1000 Mb and 100Mb SFPs User switch selection of Gb or 100Mb speed, per port.	
RJ45 Port Data Rate	10 / 100 / 1000 Mbps, FDX and HDX modes. Auto-negotiation and auto-cross MDI-MDIX	
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, 100BASE-FX	
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 CSG14U Universal 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)	
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: 6.1 oz (173g)	
Power Supply—Hd, Hi	Hd, Hi: 5.8 oz (165g)	Pd, Pi: 7.9 oz (225g)
Cooling Method	Convection, case used as a heat sink	

Technical Information (continued)

	CSG14UH	CSG14UP
SFP Speed Selection Switches		
Each SFP Port	Factory-set to Gb speed Users may select 100 Mb via DIP switches on back of unit Individually speed-selectable After changing speed switch setting, power down the unit	
Connectors		
Gb SFP Fiber Transceivers	"SFP-SX"=1000BASE-SX-LC: fiber optic 850 nm multimode SFP, 550 m. nominal, 2km per Power Budget "SFP-ESX"= 1000BASE-SX Extended, fiber optic 1310nm multimode with LC, 2 km nom.,3 km per Power 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	
100 Mb SFP Fiber Transceivers	"SFP100P-FXMM2"=100FX SFP-LC Premium MM plug-in, multi-mode, 2Km distance (formerly "XSFPLXMM") "SFP100P-FXSM20"= 100FX SFP-LC Premium SM-20 plug-in, single-mode, 20Km distance (formerly "XSFPLXSM") "SFP100P-FXSM40"= 100FX SFP-LC Premium SM-40 plug-in, single-mode, 40Km distance (formerly "XSFPEXSM")	
For Other Gb Fiber Connectors	Request quote	
RJ45 Port	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 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	
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	
Rack-Mount	Model MC14-TRAY. Depth: 6.0", Width 17", Height 2.25"(15 cm D x 43cm W x 5.7cm H)	
DIN-Rail Mounting	Model # DIN-RAIL MC2	

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).

Fiber Port Connectors

Model Number	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
CSG14UH-ff-Hd, Hi	•		•			Panel incl.
CSG14UH-ff-12VDC			•			Panel incl.
CSG14UH-ff-24VDC				•		Panel incl.
CSG14UH-ff-24VDC				•		DIN-Rail
CSG14UH-ff-48VDC					•	Panel incl.
CSG14UP-ff-Pd, Pi		•	•			Panel incl.
CSG14UP-ff-12VDC			•			Panel incl.
CSG14UP-ff-24VDC				•		Panel incl.
CSG14UP-ff-24VDC				•		DIN-Rail
CSG14UP-ff-48VDC					•	Panel incl.

Factory Floor | Outdoors

Belden Competence Center

As the complexity of communication and connectivity solutions has increased, so have the requirements for design, implementation and maintenance of these solutions. For users, acquiring and verifying the latest expert knowledge plays a decisive role in this. As a reliable partner for end-to-end solutions, Belden offers expert consulting, design, technical support, as well as technology and product training courses, from a single source: Belden Competence Center. In addition, we offer you the right qualification for every area of expertise through the world's first certification program for industrial networks. Up-to-date manufacturer's expertise, an international service network and access to external specialists guarantee you the best possible support for products. Irrespective of the technology you use, you can rely on our full support – from implementation to optimization of every aspect of daily operations.

About Belden

Belden Inc., a global leader in high quality, end-to-end signal transmission solutions, delivers a comprehensive product portfolio designed to meet the mission-critical network infrastructure needs of industrial, enterprise and broadcast markets. With innovative solutions targeted at reliable and secure transmission of rapidly growing amounts of data, audio and video needed for today's applications, Belden is at the center of the global transformation to a connected world. Founded in 1902, the company is headquartered in St. Louis, USA, and has manufacturing capabilities in North and South America, Europe and Asia.

For more information, visit us at **www.belden.com** and follow us on Twitter **@BeldenIND**.

Got questions? Need to talk to an expert? Send us an email:

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