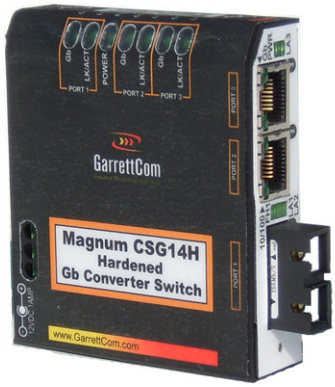
Magnum CSG14

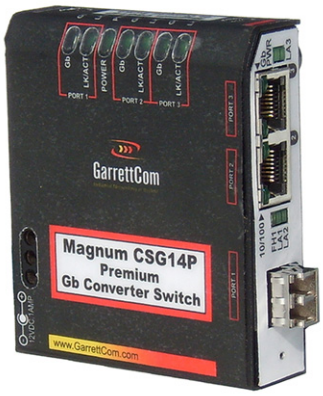
Gigabit Converter Switch

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™

Specifications

Magnum CSG14
Gigabit Converter Switch

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

1: 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).
2: 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
"SPF-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.

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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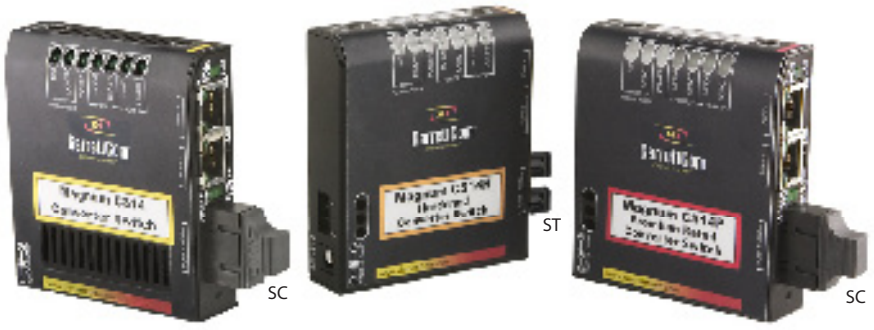
Magnum CS14

Converter Switch with 100 Mb Fiber



Office and Wiring Closet | Hardened for Factory Floor | Premium-rated for Outdoors

Features

- Provides one 100 Mb fiber port and two (2) 10/100 copper switch ports
- Two RJ-45 ports support IEEE 802.3u to enable attaching any 10 Mb or 100 Mb device
- Three models for three application environments:
  - Office, wiring closet
  - Factory floor
  - Outdoors
- AC power for all models, Factory floor and Outdoor models also have integral DC terminal blocks
- Same packaging and mounting options as the popular Magnum 14-Series Media Converters

Combine a 100 Mb Fiber Media Converter and a two-port 10/100 copper Switch, and you have the Converter Switch, a new flexible edge-of-the-network Ethernet product. Add in fiber port choices for all multi-mode and single-mode fiber connector types plus AC or DC input power selection and multiple application environments, and you have the Magnum™ CS14 Converter Switch™.

The Magnum CS14 family of Converter Switches with a 100 Mb Fiber port built in covers the full range of application environments, with regular (office), Hardened (factory floor), and Premium-rated (outdoor) versions. Extra features for heavy-duty and extended temperature operation ranges are included selectively in the Hardened factory-floor and Premium-rated outdoor models. This selection of models and fiber port types offers the best price-to-value ratio for each user and installation. Where a Media Converter might have been used, a Converter Switch offers a better value. The compact package is ideal for network edge installations, and is able to be conveniently mounted to suit any application.

The Magnum CS14 regular-package units are for office and indoor wiring closet environments. These are the economical base units in the CS14 Switch family. An external AC power supply for either North America (-d, 115vac 60Hz) or international (-I, 230vac, 50Hz) is included. The ambient temperature rating is 0°C to 40°C, office grade. A robust metal case with convection cooling is featured. Metal mounting clips are included, and rack-mount tray options are available.

The Magnum CS14H Hardened units are for factory floor applications. The CS14H 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 8 to15V, 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 stand-alone panel-mounting, DIN-Rail, or rack-mount tray.

The Magnum CS14P Premium-rated units are for temperature un-controlled applications, typically located outdoors. The CS14P models are built with premium-grade extended temperature components, and use similar thermal techniques (patent pending) as the CS14H Hardened units. In addition to a Premium-rated AC power option and jack, terminals for internal DC power choices at 8 to15V, 24V or -48V DC are included. When used outdoors, the CS14P should be protected from falling rain. Mounting options include stand-alone panel-mounting, DIN-rail, or rack-mount tray.

All CS14 Converter Switch models come with two (2) sets of LED indicators. One set is on the front for viewing convenience when the unit is wall-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 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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Specifications

Magnum CS14 Converter Switch
with 100 Mb fiber

PERFORMANCE:
Fiber port: 100 Mb HDX / FDX, all types of connectors for multi-mode or single-mode
RJ-45 Ports Data Rate: 10 / 100Mbps, FDX and HDX modes.
Auto-negotiation and auto-cross MDI-MDIX on both 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 802.3, IEEE 802.3u; IEEE 802.1p, 100BASE-TX, 10BASE-T, 100BASE-FX

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:
CS14: the ambient temperature rating is 0°C to 40°C.
CS14H: 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
CS14P: the ambient temperature ratings of –40°C to 75°C long term per indep. agency tests (UL), or –50°C to 100°C short term per IEC Type Tests.
Storage temperature, all models: -40° to 185°F (-40°C to 85°C)
Cold start: CS14H model to -20°C, CS14P 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)
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: CS14 Switch Units: 4.6 oz (130g)
Power Supply - d, i: 5.8 oz (165g)
Power Supply - Hd, Hi: 5.8 oz (165g)
Power Supply - Pd, Pi: 7.9 oz (225g)
Cooling Method: Convection on regular model, case used as a heat sink on H and P models.
H&P models: IEC 529 rated IP40

MOUNTING FOR CS14 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 has manual selection of HDX or FDX, default is FDX

FIBER PORT CONNECTORS:
"ff" selections of the "fiber flavor" (see table below):
"SC"= 100BASE-FX-SC: fiber optic multi-mode with SC type, 2 km
"ST"= 100BASE-FX-ST: fiber optic multi-mode with ST type, 2 km
"MTRJ"= 100BASE-FX-MTRJ: fiber optic multi-mode w/ MTRJ, 2 km
"MLC"= 100BASE-FX-MLC: FO multi-mode with LC, 2Km
"SSC"= 100BASE-FX-SSC: fiber optic single-mode with SC, 20 km
"SSCL"= 100BASE-FX-SSCL: fib. op. sgl-m SC, "Long Reach" 40 km
"SST"= 100BASE-FX-SST: fiber optic single-mode with ST type , 20 km
"SLC"- 100BASE-FX-SLC: fiber optic sgl-m with LC-type , 15 km
For other fiber connectors, request quote.

RJ-45 PORT CONNECTORS:
RJ-45 with auto-cross, 100BASE-TX and 10BASE-T: shielded 8-Pin female. Supports shielded (STP) and unshielded (UTP) Cat. 3, 4, 5. For PoE Pass-through option on H and P models, request quote.

LED INDICATORS, dual, top front and in end:
POWER: ON for power applied
10/100 per RJ-45 port: Steady ON for 100 Mb, OFF for 10 Mb speed
LK/ACT per port: Steady ON for LINK with no traffic, blinking for Activity.
F/H per port in end: Steady ON for F/D mode, OFF for H/D mode.

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

POWER SUPPLIES for AC (EXTERNAL):
Power input DC jack (8 to 15V) is 2.5mm, center +ve, with 6ft. DC cord
Input: 95-125vac at 60 Hz for "-d" models, 215-240vac at 50 Hz for "-i" models that have IEC power connector in the ext power unit.
Input: 100-240vac at 47-63 Hz for "-Hd", "Hi" models, see footnote 1
Input: 95-260vac at 47-63 Hz for "-Pd", "Pi" models, see footnote 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: 4.8 Watts typical. 6 Watts max.

AGENCY APPROVALS AND STANDARDS COMPLIANCE:
UL listed (UL60950), cUL, CE, Emissions meet FCC Part 15, Class A.
NEBS L3 and ETSI compliant
H and P models: IEEE P1613 Env. Std for Electric Power Substations
IEC61850 EMC and Operating Conditions Class C for Power Substations
P model: NEMA TS-2 and TEES for traffic control equipment
P model: designed for UL 2043 above-the-ceiling installation
All models: compliant with EN50155 Railway Applications Standard

WARRANTY: Three years

Made in USA

1: External 12V1A power supply, wall plug or power cord for North America AC receptacles. Temperature rating same as CS14, see above. (North America: for spare, order Model PSH-12V1A-Hd. International: order Model PSH-12V1A-Hi with IEC plug).
2: External 12V1A power supply, rated for outdoor temperatures same as CS14, 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).

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