



HIRSCHMANN

A BELDEN BRAND

Product Bulletin

PB00072AG

MSP40 Full Gigabit Layer 3 Switch

Meet high bandwidth needs in large industrial networks with a 28-port, full Gigabit Ethernet switch that's compactly designed and highly ruggedized.



Hirschmann's MSP40 switch joins the fast growing MSP family to offer complete modularity and various high-speed port options. This single device gives you access to far more Gigabit ports than any other similar modular compact switches on the market.

- **Flexible design** – deliver on increasing bandwidth demands with up to 28 Gigabit speed ports. All of the ports/modules are hot swappable so you can make changes with no downtime.
- **High-performance capabilities** – select up to four 2.5 Gigabit Ethernet (GE) ports and easily upgrade to 10 Gigabit speeds in the future.
- **Easily supply more PoE+ power** – swap in the MSP Power over Ethernet Plus (PoE+) module to offer 120 more watts of power (per module) when you need it.

The MSP40 switch offers a unique combination of features – all designed to help network engineers and system integrators keep pace with growing bandwidth requirements in large-scale industrial networks. As more data continues to be transferred to the network layer (Layer 3), the MSP40 switch can easily adapt to these high data levels by enabling each port to support Gigabit uplink speeds.

Applications

The switch can meet the bandwidth needs of larger industrial networks or networks that may expand their size or distance in

the future. With its extensive port options housed in a rugged, yet compact device, the MSP40 switch is ideal for harsh and space-constrained applications, especially in the transportation, discrete manufacturing, automotive and mining industries.

Legacy networks with copper cabling can use the MSP40 switches today, as well as if they upgrade to fiber cabling in the future. The switch's interchangeable modules make this update from copper to fiber simple, without needing to buy and install a new switch.

Your Benefits

Depending on your network's current and future bandwidth needs, you can select from 28 single Gigabit ports, or opt to use the device's first module slot for up to four 2.5 GE ports. The 2.5 GE port option is unique to Belden and Hirschmann products – and is expected to be a future IEEE standard.

For networks that anticipate needing a 10 Gigabit device in the future, the MSP40 will offer the flexibility to enable these speeds by simply plugging in a new module. The architecture to support 10 Gigabits speeds already exists within the hardware.

A new product to serve your needs. Be certain.



MSP40 Full Gigabit Layer 3 Switch and MSP PoE+ Module



Belden has extended its range of configurable modular switches for mission-critical applications with the MSP40 Full Gigabit switch with Layer 2 and Layer 3 capabilities.

Three versions of the MSP40 switch are available, a 3-, 5- or 7-slot device. The modules placed within these slots are completely interchangeable, or "hot swappable," on a live network – without requiring a network shutdown.

The MSP40 family currently supports 120-watt power requirements though Power over Ethernet Plus (PoE+) with a built-in power supply. For applications that require more power, however, such as pan-tilt-zoom cameras, a new module is available. The MSP PoE+ Module doesn't take power from the switch, but from an external source. It offers significantly more power by placing the new module into the existing device for an additional 120 watts of power.

Grow your bandwidth to meet changing demands – more Gigabit ports makes it easy.

Benefits at a Glance

- Increase bandwidth with 28 Gigabit Ethernet ports
 - Far more GE ports than competitive products
 - Reusable modules that can be used on any slot (first slot is reserved for a newly designed and unique 2.5 GE module)
 - Up to four 2.5 GE ports for high availability with media redundancy protocol (MRP) and link aggregation
 - 10 Gigabit-ready (future module upgrade)
- Modular setup with hot swappable ports and Layer 2/Layer 3 capabilities
- High-grade metal/aluminum housing for mounting on a DIN rail
- Optionally extended temperature range from -40 °C to +70 °C (standard is from 0 °C to +60 °C)
- Click-in mechanism for tool-free module assembly
- Cost-effective powering of terminal equipment via PoE+ function up to 120 watts (per media module)
- Simple configuration and diagnosis using HiDiscovery, Industrial HiVision or web interface
- Standards and approvals:
 - Transportation: NEMA TS2, EN 50121-4
 - Safety: EN 60950-1, cUL508
 - Hazardous areas: ISA 12.12.01, CSA 22.2 number 213, ATEX Zone 2
 - Railroad: EN 50121-4:2006 declaration
 - Transformer stations: IEC 61850-3, IEEE 1613
 - Marine: GL, BV, DNV, ABS, LR





MSP MICE Switch Power Configurations

2.5 Gigabit/Gigabit Ethernet Uplink Ports, Gigabit Ethernet Uplink Ports with PoE+ Capability

M S P 4 0 - 0 0 2 8 0 S C Z 9 9 9 H H E 3 A X X . X

Design

- MSP40** = Full Gigabit Ethernet Ports
- MSP42 = Full Gigabit Ethernet Ports with PoE(+) Capability
- MSP30 = Gigabit Ethernet Uplink Ports
- MSP32 = Gigabit Ethernet Uplink Ports with PoE(+) Capability

Number of Fast Ethernet Ports

- 00** = 00 x 10/100 Mbit/s (MSP40/MSP42) 16 = 16 x 10/100 Mbit/s
- 08 = 08 x 10/100 Mbit/s 24 = 24 x 10/100 Mbit/s

Number of Gigabit Ethernet Ports

- 00 = 00 x 10/100/1000 Mbit/s 20 = 20 x 10/100/1000 Mbit/s (MSP40/MSP42)
- 12 = 12 x 10/100/1000 Mbit/s (MSP40/MSP42) **28** = 28 x 10/100/1000 Mbit/s (MSP40/MSP42)

Number of 10 Gigabit Ethernet Ports

- 0** = 10/100/1000/10000 Mbit/s

Temperature Range

- S** = Standard 0 °C to +60 °C
- T = Extended -40 °C to +70 °C
- E = Extended -40 °C to +70 °C with conformal coating

Power Supply

- C** = 24/36/48 V DC (18 to 60 V DC)
- P = 47 to 57 V DC (PoE), 53 to 57 V DC (PoE+)

Approvals

- | | |
|------------------------------------------|---------------------------------------|
| Z9 = CE, FCC, EN 61131 (EN 60950) | VT = VY + EN50121-4 |
| Y9 = Z9 + cUL508 (UL60950) | T9 = Z9 + EN50121-4 |
| W9 = Z9 + ATEX Zone 2 | TY = T9 + cUL508 (UL60950) |
| WY = Y9 + ATEX Zone 2 | U9 = Z9 + GL (ABS, BV, DNS, LR) |
| X9 = Y9 + ISA 12.12.01 Class 1 Div. 2 | UY = U9 + cUL508 (UL60950) |
| V9 = Z9 + IEC 61850, IEEE 1613 | UW = UY + ATEX Zone 2 |
| VY = V9 + cUL508 (UL60950) | UX = UY + ISA 12.12.01 Class 1 Div. 2 |
| VU = VY + GL (ABS, BV, DNS, LR) | |

Software Packages

- 99** = Reserved
- UR = Unicast Routing
- MR = Multicast Routing

Customization

- HH** = Hirschmann Standard
- HX = Hirschmann Extreme

Software Configuration

- E** = Entry (Hirschmann Standard Configuration)

Software Level

- 3A** = HiOS Layer 3 Advanced
- 2A = HiOS Layer 2 Advanced

Software Release

- XX.X** = Current Software Release
- 06.2 = Software Release for MSP40/MSP42

NOTE: The last four categories (**Customization, Software Configuration, Software Level and Software Release**) are optional.



MICE Switch Power Media Module Configurations

Fast Ethernet Ports, Fast Ethernet/Gigabit Ethernet Ports, Fast Ethernet/Gigabit Ethernet Ports with PoE+ Capability, Fast Ethernet/Gigabit Ethernet/2.5 Gigabit Ethernet Ports

MSM40-T1 T1 T1 T1 S Z9 HH 9 E 99.9 99

Design

- MSM20 = Fast Ethernet Ports
- MSM24 = Fast Ethernet Digital Input/Output
- MSM40** = Fast Ethernet/Gigabit Ethernet Ports
- MSM42 = Fast Ethernet/Gigabit Ethernet Ports with PoE(+) Capability
- MSM46 = Fast Ethernet/Gigabit Ethernet Ports with PoE(+) Capability over external power
- MSM50 = 2.5 Gigabit/Gigabit Ethernet Ports

Port Type 1. Uplink

- T1** = Twisted Pair (TX)/RJ45 (10/100/1000 Mbit/s)
- T5 = Twisted Pair (TX)/M12 (10/100 Mbit/s)
- C1 = Combo Port Twisted Pair (TX)/RJ45 (10/100/1000 Mbit/s) & - Fiber Optic SFP Cage (100/1000 Mbit/s)
- G2 = Singlemode Long Haul FX DSC 200 km (100 Mbit/s)
- L2 = Singlemode Long Haul FX DSC (100 Mbit/s)
- S4 = Singlemode FX ST (100 Mbit/s)
- Q6 = SFP Slot (1000/2500 Mbit/s)
- M2 = Multimode FX DSC (100 Mbit/s)
- M4 = Multimode FX ST (100 Mbit/s)
- I/O = Digital Input/Output
- S2 = Singlemode FX DSC (100 Mbit/s)

Port Type 2. Uplink

(see port type 1. Uplink)

Port Type 3. Uplink

(see port type 1. Uplink)

Port Type 4. Uplink

(see port type 1. Uplink)

Temperature Range

- S** = 0 °C to +60 °C
- T** = -40 °C to +70 °C
- P** = -40 °C to +70 °C inclusive conformal coating

Approvals

- Z9** = CE, FCC, EN 61131 (EN 60950)
- Y9 = Z9 + cUL508 (UL60950)
- W9 = Z9 + ATEX Zone 2
- WY = Y9 + ATEX Zone 2
- X9 = Y9 + ISA 12.12.01 Class 1 Div. 2
- V9 = Z9 + IEC 61850, IEEE 1613
- VY = V9 + cUL508 (UL60950)
- VU = VY + GL (ABS, BV, DNS, LR)
- VT = VY + EN50121-4
- T9 = Z9 + EN50121-4
- TY = T9 + cUL508 (UL60950)
- U9 = Z9 + GL (ABS, BV, DNS, LR)
- UY = U9 + cUL508 (UL60950)
- UW = UY + ATEX Zone 2
- UX = UY + ISA 12.12.01 Class 1 Div. 2

Customization

- HH** = Hirschmann Standard
- HX** = Hirschmann Extreme

Hardware Configuration

- 9** = No FPGA

Software Configuration

- E** = Entry (without configuration)

Software Release

- 99.9** = No Software

Maintenance

- 99** = No Maintenance Version

NOTE: The categories (Customization, Hardware Configuration, Software Configuration and Software Release) are optional.

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