

SIGNAMAX

- Media Converters
- Ethernet Switches
- Industrial Ethernet
- SFP Interface Modules

NETWORK SOLUTIONS



2017 CATALOG
www.signamax.com



A MEDIA CONVERTERS

10/100/1000 to 1000 SX/LX Media Converters..... A1
 10/100/1000 to 100/1000 SFP Media Converter..... A3
 10/100/1000 to 100/1000 OAM Managed SFP Media Converters... A4
 Gigabit Ethernet Media Converters..... A5
 Gigabit Singlemode to Multimode Media Converters/Repeater... A6
 10/100 to 100FX Media Converters..... A7
 10/100 to 100FX Media Converters with USB Power Option..... A8
 10/100 to 100FX Single Fiber WDM Media Converters A9
 100FX Singlemode to Multimode Media Converters A11
 DIN-Rail Mounting Bracket..... A11
 16-Bay Rack Mount Media Converter Chassis..... A12
 DIN-Rail Rack Mount Bracket..... A12
 10/100 Ethernet Extender A13
 10/100 to 100FX PoE+ Media Converter A14
 10/100 to 100FX Power Device PoE Media Converter A14
 10/100/1000 to 1000 SFP PoE+ Media Converter..... A15
 10/100/1000 to 100/1000 OAM Managed Media Converters..... A16
 12-Channel Rack Mount Converters A17

B ETHERNET SWITCHES

24-Port 100/1000 Managed Layer 2+ SFP Switch Plus 4 10GbE SFP+ Ports..... B1
 24-Port 10/100/1000 Managed Layer 2+ Switch Plus 4 10GbE SFP+ Ports..... B3
 24-Port 10/100/1000 Managed Layer 2+ Switch..... B5
 24-Port 10/100/1000 Managed Layer 2+ PoE+ Switches B7
 24-Port 100FX Managed Layer 2+ Switch Plus 4 Gigabit Dual Media Ports..... B9
 24-Port 10/100 Managed Layer 2+ Switch Plus 4 Gigabit Dual Media Ports..... B10
 24-Port 10/100/1000 WebSmart Layer 2 Switch..... B11
 16-Port 10/100/1000 Unmanaged PoE+ Switch..... B12
 5-Port 10/100/1000 Unmanaged PoE+ Switch..... B13
 1-Port Gigabit Capable PoE+ Power Injector..... B13
 4-Port 10/100 Unmanaged PoE Switch Plus One 100FX Port..... B14
 24-Port 10/100/1000 Unmanaged Switch..... B15
 8-Port 10/100/1000 Unmanaged Compact Switch..... B15
 8-Port 100 SFP or 8-Port 1000 SFP Compact Unmanaged Fiber Switches..... B16
 8-Port 10/100 Unmanaged PoE+ Switches..... B17
 PoE/PoE+ Ethernet Switch Capacity Chart:..... B18

C INDUSTRIAL ETHERNET

10/100/1000 to Gigabit SFP Industrial Media Converters..... C1
 Gigabit Ethernet Industrial Media Converters..... C2
 10/100 to 100FX Industrial Media Converters..... C3
 10/100/1000 to 1000 SFP PoE+ Industrial Media Converter..... C4
 10/100 to 100FX Industrial PoE+ Media Converters..... C5
 1-Port Gigabit Capable Industrial PoE+ Power Injector..... C6
 10/100 Managed Layer 2+ Industrial PoE+ Switches..... C7
 10/100 Managed Layer 2+ Industrial Switch..... C9
 8-Port 10/100 Managed Layer 2+ Industrial PoE Switch..... C11
 12-Port 10/100 Managed Layer 2+ Industrial Switch..... C13
 10/100/1000 Unmanaged Industrial PoE+ Switches..... C15
 10/100/1000 Unmanaged Compact Industrial Switches..... C16
 10/100/1000 Unmanaged Industrial Switches..... C17
 10/100 Unmanaged Compact Industrial Switches..... C18
 2-Port 10/100 Unmanaged Compact Industrial Switch..... C19
 DIN-Rail Rack Mount Bracket..... C19
 PoE/PoE+ Industrial Power Supply Selection Chart:..... C20
 48 Volt Industrial Power Supply..... C21
 24 Volt Industrial Power Supply..... C22

D SFP FIBER MODULES

10GbE SFP+ Fiber Modules..... D1
 1000Base SFP Fiber Modules..... D2
 1000Base WDM SFP Fiber Modules..... D3
 1000Base CWDM SFP Fiber Modules..... D4
 Gigabit Ethernet and Fast Ethernet Copper SFP Modules..... D4
 100BaseFX/BX SFP Fiber Modules..... D5
 100BaseFX/BX WDM SFP Fiber Modules..... D5



SIGNAMAX

Keeping Your World Connected



Stay Connect With Us:



[linkedin.com/company/signamax-inc](https://www.linkedin.com/company/signamax-inc)



twitter.com/Signamax_Inc



[youtube.com/user/SignamaxINC](https://www.youtube.com/user/SignamaxINC)



[facebook.com/Signamax-Inc](https://www.facebook.com/Signamax-Inc)

FULFILLING OUR VISION...

Serving customers extends beyond the technology and with a consultative approach, Signamax opens dialogue about what will make the experience with us a better one.

Signamax is dedicated to a clear, consistent, and comprehensive policy that includes commitments to customers, employees, and distributors. Signamax aspires to make it easier to do business.

At Signamax headquarters, based in Miami, FL, we specialize in the implementation and application of Ethernet Switches, Media Converters, and Power over Ethernet products for applications where connectivity is crucial. Along this journey, we continually grow our knowledge to improve performance and provide you, our customers, innovative technologies.

Offering the broadest array of solutions for your business, Signamax makes every effort to help customers identify products to solve today's problems while future-proofing for tomorrow's requirements.

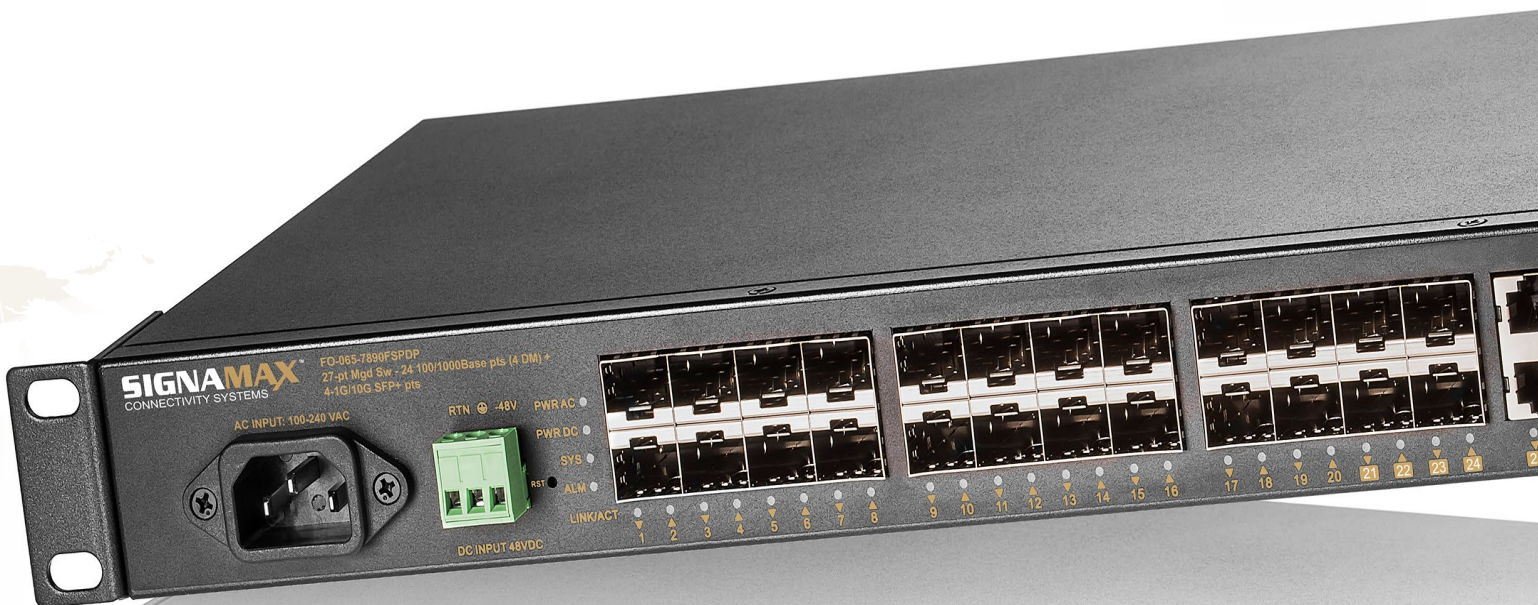
Our Network Solutions products are used by a wide variety of customers including enterprise, government, education, retail, industrial, security, and service providers. The Signamax Network Solutions advantage is the flexibility, scalability, and universality for all types of implementation.

A well designed, properly installed, and a regularly maintained network reduces cost of ownership at all stages of its lifetime and provides a faster return on your investment. Signamax products range from industry leading media gateways, which allow voice, video, and data services to be delivered to the home and business, right through to high-speed platforms providing significant network infrastructure.

Build a complete end-to-end networking solution through a single vendor ranging from powerful 10 Gigabit switches right through to media converters that are commercial and industrial grade. Signamax offers a wide range of high-performance and cost-effective options that are tested to ensure that the product consistently meets IEEE international standards.

The strength and integrity of our products are backed by our experienced technical staff and by our long-term performance warranties that provide the peace of mind you require.

Critical networks run on solutions that consistently produce results and meet or exceed the expectations of the application as well as the customer. By building strong foundations with customers, along with, understanding the challenges they face, Signamax develops products and features that exceed customer expectations - Keeping Your World Connected.

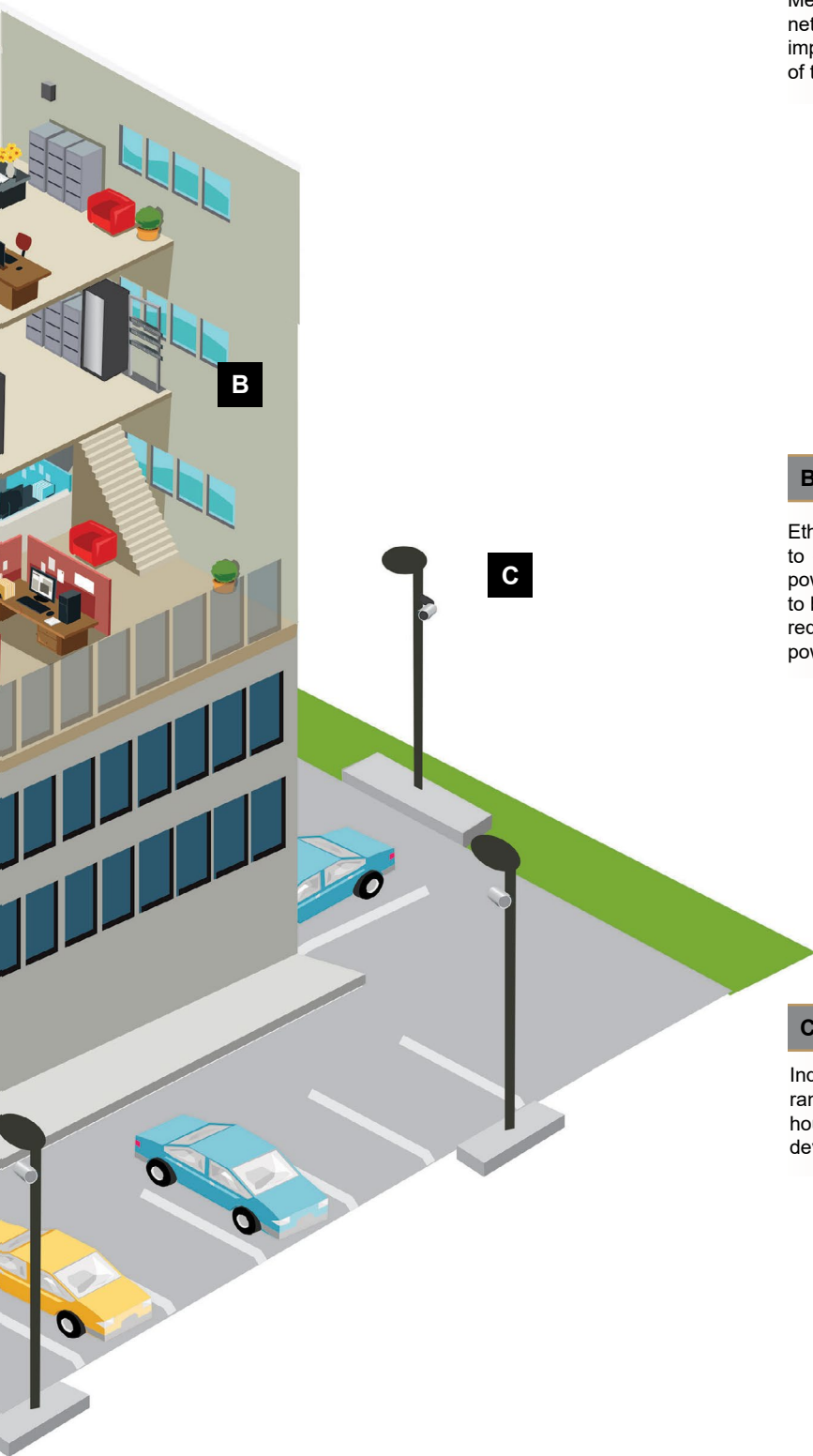


IP Security Network

Security systems today have the critical burden of monitoring the parking lot, the building, and the people inside to ensure the safety and protection of business assets. A typical complete solution for IP-based security includes cameras, motion detectors, thermal monitoring units, and access control devices such as keypads for entry and exiting the building. The adoption of tracking systems using RFID systems and thermal sensors can prevent unauthorized access to critical areas of the building by unauthorized personnel. Administering a system like this may also help a company save money and become a little greener by monitoring and controlling lighting systems and HVAC equipment. Since these systems are IP-based, a single physical network infrastructure can provide support for such systems, as well as a private network for a number of different departments' needs.

This network strategy requires high-reliability equipment providing stable connections to these security devices. A strong, efficient network comprised of Signamax PoE/PoE+ Ethernet switches, media converters, and SFP modules ensures your business' physical and operational safety.





A MEDIA CONVERTERS:

Media Converters allow a mix of fiber optic and copper cabling in the building network. They provide network distance extension, EMI/RFI rejection, and improved data security in the cabling system, thereby extending the reach of the security and corporate data infrastructure.



B ETHERNET SWITCHES:

Ethernet PoE/PoE+ switches provide both a data pathway and power to control and monitoring devices. They provide a means of extending power to devices over low-voltage cable, rather than requiring AC power to be run to each device. This reduces labor costs, high-voltage licensing requirements, and overall operating costs for the devices these switches power.



C INDUSTRIAL ETHERNET:

Industrial media converters and switches support extended temperature ranges, making them an excellent option for the NEMA rated boxes that house the IP camera connections in the parking lot and the system control devices in other uncontrolled environments.



MEDIA CONVERTERS



Media Converters

~AN EFFORTLESS AND COST-EFFECTIVE WAY TO ESTABLISH A FIBER OPTIC CABLING INFRASTRUCTURE WITHIN YOUR EXISTING NETWORK.

INCLUDED IN THIS SECTION:

10/100/1000 to 1000 SX/LX Media Converters..... A1

10/100/1000 to 100/1000 SFP Media Converter..... A3

10/100/1000 to 100/1000 OAM Managed SFP Media Converters..A4

Gigabit Ethernet Media Converters.....A5

Gigabit Singlemode to Multimode Media Converters/Repeater.. A6

10/100 to 100FX Media Converters.....A7

10/100 to 100FX Media Converters with USB Power Option.....A8

10/100 to 100FX Single Fiber WDM Media ConvertersA9

100FX Singlemode to Multimode Media ConvertersA11

DIN-Rail Mounting Bracket.....A11

16-Bay Rack Mount Media Converter Chassis..... A12

DIN-Rail Rack Mount Bracket.....A12

10/100 Ethernet ExtenderA13

10/100 to 100FX PoE+ Media Converter A14

10/100 to 100FX Power Device PoE Media ConverterA14

10/100/1000 to 1000 SFP PoE+ Media Converter..... A15

10/100/1000 to 100/1000 OAM Managed Media Converters.....A16

12-Channel Rack Mount Converters A17



10/100/1000 to 1000 SX/LX Media Converters

KEY FEATURES

- Extremely low latency supports larger multi-hop networks
- Extremely high reliability; MTBF of over 112 years
- Gigabit transmission supports 9K bytes jumbo frames
- IEEE 802.3x flow control for full duplex and back pressure for half duplex supported
- DIP switch configuration for link fault signaling and fiber auto/force mode
- Full wire-speed forwarding rate
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1196A	10/100/1000BaseT/TX to 1000BaseSX Media Converter, SC/MM 220 m Span on 62.5 μ m Fiber / 550 m Span on 50 μ m Fiber
065-1196AED	10/100/1000BaseT/TX to 1000BaseSX Media Converter, SC/MM 2 km Span on 62.5 μ m or 50 μ m Fiber
065-1196ALX	10/100/1000BaseT/TX to 1000BaseLX Media Converter, SC/SM, 10 km Span
065-1196ALXED	10/100/1000BaseT/TX to 1000BaseLX Media Converter, SC/SM, 20 km Span

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseSX
 IEEE 802.3z 1000BaseLX

Ports

1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port, plus 1 - 1000BaseSX or 1000BaseLX fiber optic port

LED Status Indicators

Per Unit: Power; LFS Status; Full Duplex

Per RJ-45 Port: Link Copper; Copper port speed

(Green = 1000 Mbps, Amber = 100 Mbps, off = 10 Mbps)

Per Fiber Port: Link Fiber

Performance

Latency: $\leq 1.5 \mu$ s (FIFO).

MTBF: 985,339.89 hours (112.48 years), calculated via the Part Stress Analysis Method.

Throughput, per port: @ 1000Base: 1,488,100 pps (64-byte packets);

@ 100Base: 148,810 pps (64-byte packets)

Switch Fabric Speed: 4.0 Gbps (non-blocking, wire speed performance)

Frame Buffer: 12K total

Jumbo Frame Support: 9K packets supported

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C)

Storage Temperature: -14°F to 158°F (-10°C to 70°C)

Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)

Weight: 0.33 lb (150 g)

Certifications

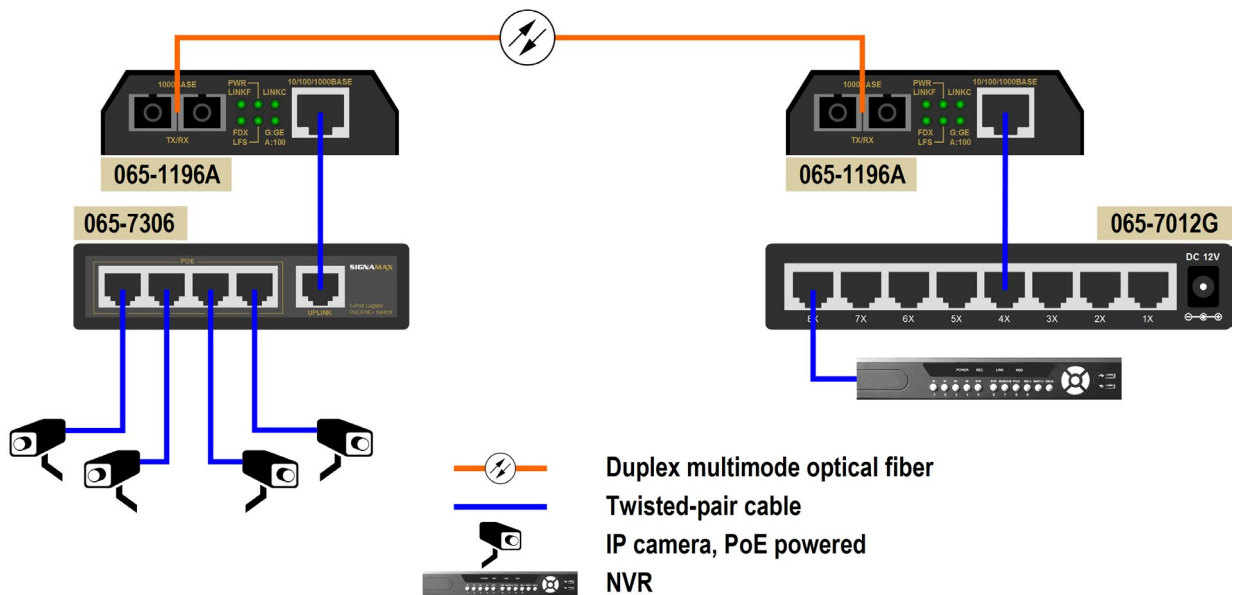
CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

Application Reference - Small Security Camera Network, Extended Over Fiber:

Many security networks are small in scale, but still require extension over fiber to reach desired areas of coverage at distances greater than 100 meters from the Network Video Recorder (NVR). The diagram shows how a pair of 10/100/1000 to 1000SX media converters can extend the distances from the NVR's Network Switch up to 220 meters (using OM1) to the PoE switch supporting up to 4 PoE cameras. If OM2 or OM3 were used, the span distance could be even longer, up to 550 meters, using the same media converters.



DIN-Rail Mounting Bracket

KEY FEATURES

- Sturdy and versatile
- Clips onto 35 mm "Top Hat" DIN-rail
- Clip is engineered for vertical or horizontal orientation
- Supports 065-11xx series & 065-1696SFPDR media converters

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-11DINMT	DIN Rail Mounting for 065-11xx and 065-1696SFPDR Media Converters

10/100/1000 to 100/1000 SFP Media Converter

KEY FEATURES

- Dual-rate 1000Base or 100Base SFP capability
- Extremely low latency supports larger multi-hop networks
- Extremely high reliability; MTBF of over 212 years
- Gigabit transmission supports 9K bytes jumbo frames
- IEEE 802.3x flow control for full duplex and back pressure for half duplex supported
- DIP switch configuration for link fault signaling, fiber auto/force mode, and SFP speed
- Full wire-speed forwarding rate
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1196SFPDR	10/100/1000BaseT/TX to Dual-Rate 100Base or 1000Base SFP Media Converter
Fiber types, 100 or 1000Base speed, and distances spanned are SFP module-dependent.	

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3u 100BaseFX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseSX
 IEEE 802.3z 1000BaseLX
 IEEE 802.3x Flow Control

Ports

1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port, plus 1 - Dual-rate 100Base or 1000Base SFP port.
 See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Unit: Power; LFS Status; Full Duplex
Per RJ-45 Port: Link Copper; Copper port speed
 (Green = 1000 Mbps, Amber = 100 Mbps, off = 10 Mbps)
Per SFP Port: Link Fiber

Performance

Latency: $\leq 1.6 \mu\text{s}$ (FIFO).
MTBF: 1,857,775.35 hours (212.07 years), calculated via the Part Stress Analysis Method.
Throughput, per port: @ 1000Base: 1,488,100 pps (64-byte packets);
 @ 100Base: 148,810 pps (64-byte packets)
Switch Fabric Speed: 4.0 Gbps (non-blocking, wire speed performance)
Frame Buffer: 12K total
Jumbo Frame Support: 9K packets supported

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C)
Storage Temperature: -14°F to 158°F (-10°C to 70°C)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)
Weight: 0.33 lb (150 g)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

10/100/1000 to 100/1000 OAM Managed SFP Media Converters

KEY FEATURES

- Dual-rate 1000Base or 100Base SFP capability
- IEEE 802.3ah OAM management standard supported
- Supports SNMP v1 & v2c management
- Supports Q-in-Q double tagged frame transparent
- Supports in-band loop back and diagnostic
- Gigabit transmission supports 9K bytes jumbo frames
- IEEE 802.3x flow control for full duplex and back pressure for half duplex supported
- Full wire-speed forwarding rate
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1696SFPDR	10/100/1000BaseT/TX to Dual-Rate 100Base or 1000Base OAM Managed SFP Media Converter
Fiber types, 100 or 1000Base speed, and distances spanned are SFP module-dependent	

SPECIFICATIONS

Applicable Standards

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3u 100BaseFX
- IEEE 802.3ab 1000BaseT
- IEEE 802.3z 1000BaseSX
- IEEE 802.3z 1000BaseLX
- IEEE 802.3x Flow Control
- IEEE 802.3ah Operations, Administration, & Maintenance (OAM)

Ports

- 1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port, plus 1 - Dual-rate 100Base or 1000Base SFP port.
- See page D1 – D5 for SFP ordering information.

LED Status Indicators

- Per Unit:** Power; LFS Status; Full Duplex; OAM Loop
- Per RJ-45 Port:** Link Copper; Copper port speed (Green = 1000 Mbps, Amber = 100 Mbps, off = 10 Mbps)
- Per SFP Port:** Link Fiber

Performance

- Latency:** $\leq 1.6 \mu\text{s}$ (FIFO).
- MTBF:** 1,857,775.35 hours (212.07 years), calculated via the Part Stress Analysis Method.
- Throughput, per port:** @ 1000Base: 1,488,100 pps (64-byte packets); @ 100Base: 148,810 pps (64-byte packets)
- Switch Fabric Speed:** 4.0 Gbps (non-blocking, wire speed performance)
- Frame Buffer:** 12K total
- Jumbo Frame Support:** 9K packets supported

VLAN Capabilities

- IEEE 802.1Q Tag-based VLAN supported; up to 4K active VLANs possible
- Supports Q-in-Q Double Tagged Frame Transparent

Management

- IEEE 802.3ah OAM supported.
- Access Methods:** Via SNMP agent and Web browser.
- Software Upgrade Capability:** Via TFTP
- SNMP v1 and v2c Network Management supported.
- Supports In-Band Loop Back and Diagnostic.

Electrical Characteristics

- 12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

- Operating Temperature:** 32°F to 122°F (0°C to 50°C);
- Storage Temperature:** -14°F to 158°F (-10°C to 70°C)
- Relative Humidity:** 5% to 95% (non-condensing)

Physical Characteristics

- Dimensions:** 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)
- Weight:** 0.33 lb (150 g)

Certifications

- CE, FCC, ROHS, VCCI Class A

Warranty

- Limited Lifetime

Gigabit Ethernet Media Converters

KEY FEATURES

- Converts twisted-pair to fiber at gigabit speed
- IEEE 802.3z & 802.3ab standard supported
- P/N 065-1195SFP supports SFP modules for flexible 1000Base fiber connection
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1195	1000BaseT to 1000BaseSX Media Converter, SC/MM 220 m Span on 62.5 μm Fiber / 550 m Span on 50 μm Fiber
065-1197	1000BaseT to 1000BaseLX Media Converter, SC/SM, 10 km Span
065-1197ED	1000BaseT to 1000BaseLX Media Converter; SC/SM, 20 km Span
065-1195SFP	1000BaseT to 1000Base SFP Media Converter

Fiber type and distances spanned are SFP module-dependent for P/N 065-1195SFP

SPECIFICATIONS

Applicable Standards

IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX
IEEE 802.3z 1000BaseLX

Ports

P/N 065-1195/1197/1197ED: 1 - RJ-45 1000BaseT port plus 1-fiber optic 1000BaseSX/LX port with varying connectors and span per P/N

P/N 065-1195SFP: 1 - RJ-45 1000BaseT port plus 1 - 1000Base SFP port.
See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Unit: Power; Transmit (TX); Receive (RX)

Per RJ-45 Port: Link Copper; Full Duplex/Collision (FDX/COL);

Per Fiber Port: Link Fiber

Performance

Latency: < 4.2 μs (LIFO)

Throughput, per port: @ 1000Base:1,488,100 pps (64-byte packets)

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C);

Storage Temperature: -13°F to 158°F (-25°C to 70°C)

Relative Humidity: 10% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)

Weight: 0.33 lb (150 g)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

Gigabit Singlemode to Multimode Media Converters/Repeater

KEY FEATURES

- Convert singlemode fiber to multimode fiber at gigabit speed
- P/N 065-1198 repeats singlemode fiber signals at gigabit speed for phase jitter correction
- IEEE 802.3z standard supported
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1194	1000BaseLX SC/SM, 10 km Span to 1000BaseSX SC/MM, 220 m Span on 62.5 μ m Fiber / 550 m Span on 50 μ m Fiber Media Converter
065-1194ED	1000BaseLX SC/SM, 20 km Span to 1000BaseSX SC/MM, 220 m Span on 62.5 μ m Fiber / 550 m Span on 50 μ m Fiber Media Converter
065-1198XLD	1000BaseLX SC/SM, 20 km Span to 1000BaseLX, SC/SM 20 km Span Repeater

SPECIFICATIONS

Applicable Standards

IEEE 802.3z 1000BaseSX
IEEE 802.3z 1000BaseLX

Ports

P/N 065-1194/1194ED: 1 - Fiber optic 1000BaseSX port plus 1-fiber optic 1000BaseLX port

P/N 065-1198XLD: 2 - Fiber optic 1000BaseLX ports

LED Status Indicators

Per Unit: Power

Per Fiber Port: Port A Link (SDA); Port B Link (SDB)

Performance

Latency: $\leq 4.2 \mu$ s (FIFO).

Throughput, per port: @ 1000Base: 1,488,100 pps (64-byte packets)

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C);

Storage Temperature: -14°F to 158°F (-10°C to 70°C)

Relative Humidity: 10% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)

Weight: 0.33 lb (150 g)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

10/100 to 100FX Media Converters

KEY FEATURES

- Switching models available with SC, ST, MT-RJ, and LC connectors
- Non-switching (NS) models available with ST or SC connectors
- DIP switch configuration for link fault signaling and fiber auto/force mode
- Built-In 10/100BaseT/TX Switch utilizes store-and-forward architecture
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1100	10/100BaseT/TX to 100BaseFX Media Converter ST/MM, 2 km Span
065-1110	10/100BaseT/TX to 100BaseFX Media Converter SC/MM, 2 km Span
065-1172	10/100BaseT/TX to 100BaseFX Media Converter MT-RJ/MM, 2 km Span
065-1174	10/100BaseT/TX to 100BaseFX Media Converter LC/MM, 2 km Span
065-1120	10/100BaseT/TX to 100BaseFX Media Converter SC/SM, 15 km Span
065-1120ED	10/100BaseT/TX to 100BaseFX Media Converter SC/SM, 40 km Span
065-1120XLD	10/100BaseT/TX to 100BaseFX Media Converter SC/SM, 75 km Span
Non-Switching 100BaseTX to 100BaseFX Media Converters	
065-1100NS	100BaseTX to 100BaseFX Media Converter ST/MM, 2 km Span
065-1110NS	100BaseTX to 100BaseFX Media Converter SC/MM, 2 km Span
065-1120NS	100BaseTX to 100BaseFX Media Converter SC/SM, 15 km Span

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

Ports

P/Ns 065-1100/1110/1172/1174/1120/1120ED/1120XLD: 1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus 1 - fiber optic 100BaseFX port with varying connectors and span per P/N

P/Ns 065-1100NS/1110NS/1120NS: 1 - RJ-45 100BaseTX Auto-MDI/MDIX port plus 1 - fiber optic 100BaseFX port with varying connectors and span per P/N

LED Status Indicators

Per Unit: Power

Per RJ-45 Port: Link/Activity, Full Duplex/Collision (FDX/COL); RJ-45 port speed

Per Fiber Port: Link/Activity, Full Duplex/Collision (FDX/COL)

Performance

Latency: < 4.2 μ s (LIFO)

Throughput @ 100Base: 148,809 pps (64-byte packets)

Speed: 100BaseTX: 100/200 Mbps for half/full duplex; 10BaseT: 10/20 Mbps for half/full duplex

MAC Address Capacity: 1K; Memory: 256 KB

Non-Switching 100BaseT to 100BaseFX models:

Latency: < 21 Bit Times

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C);

Storage Temperature: -14°F to 158°F (-10°C to 70°C)

Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)

Weight: 0.33 lb (150 g)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

10/100 to 100FX Media Converters with USB Power Option

KEY FEATURES

- Available with SC, ST, MT-RJ, and LC connectors
- DIP switch configuration for link fault signaling and fiber auto/force mode
- Built-In 10/100BaseT/TX switch utilizes store-and-forward architecture
- USB power option for added convenience
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1100LFS	10/100BaseT/TX to 100BaseFX Media Converter ST/MM, 2 km Span, USB Power Option
065-1110LFS	10/100BaseT/TX to 100BaseFX Media Converter SC/MM, 2 km Span, USB Power Option
065-1172LFS	10/100BaseT/TX to 100BaseFX Media Converter MT-RJ/MM, 2 km Span, USB Power Option
065-1174LFS	10/100BaseT/TX to 100BaseFX Media Converter LC/MM, 2 km Span, USB Power Option
065-1120LFS	10/100BaseT/TX to 100BaseFX Media Converter SC/SM, 15 km Span, USB Power Option

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

Ports

1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus 1 - fiber optic 100BaseFX port with varying connectors and span per P/N

LED Status Indicators

Per Unit: Power

Per RJ-45 Port: Link/Activity, Full Duplex/Collision (FDX/COL);

RJ-45 port speed

Per Fiber Port: Link/Activity, Full Duplex/Collision (FDX/COL)

Performance

Latency: < 4.2 μ s (LIFO)

Throughput, per port: @ 100Base: 148,809 pps (64-byte packets)

Speed: 100BaseTX: 100/200 Mbps for half/full duplex; 10BaseT: 10/20 Mbps for half/full duplex

MAC Address Capacity: 1K; Memory: 256 KB

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included. USB power connector on the rear panel optionally powers converter from computer's USB port

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C);

Storage Temperature: -14°F to 158°F (-10°C to 70°C)

Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)

Weight: 0.33 lb (150 g)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

10/100 to 100FX Single Fiber WDM Media Converters

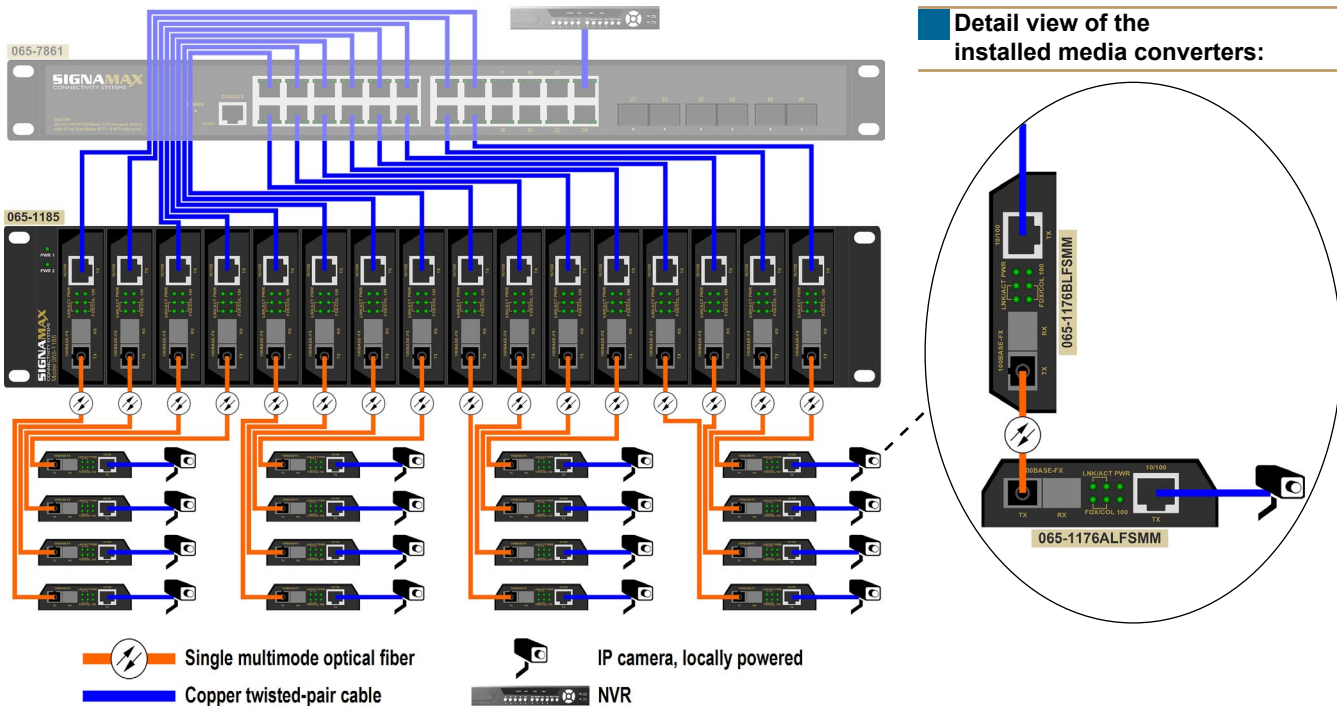
KEY FEATURES

- Doubles the capacity of fiber optic networks; transmits and receives over single fiber strand
- Available with SC simplex connector
- DIP switch configuration for link fault signaling and fiber auto/force mode
- Built-in 10/100BaseT/TX Switch utilizes store-and-forward architecture
- USB power option for added convenience
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



Application Reference - Single-Fiber IP Camera Backhaul:

Single-fiber media converters can be used for IP camera support where existing single-strand fiber solutions that were previously used for analog video cameras are already in place. This application shows sixteen such circuits backhauled to a Gigabit switch with a Network Video Recorder (NVR) connected to support the IP cameras.



10/100 to 100FX Single Fiber WDM Media Converters

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1176ALFS	10/100BaseT/TX to 100BaseFX Single Fiber (WDM) Media Converter SC Simplex/SM, Tx=1310 nm; Rx=1550 nm, 20 km Span
065-1176BLFS	10/100BaseT/TX to 100BaseFX Single Fiber (WDM) Media Converter SC Simplex/SM, Tx=1550 nm; Rx=1310 nm, 20 km Span
065-1176AEDLFS	10/100BaseT/TX to 100BaseFX Single Fiber (WDM) Media Converter SC Simplex/SM, Tx=1310 nm; Rx=1550 nm, 40 km Span
065-1176BEDLFS	10/100BaseT/TX to 100BaseFX Single Fiber (WDM) Media Converter SC Simplex/SM, Tx=1550 nm; Rx=1310 nm, 40 km Span
065-1176ALFSMM	10/100BaseT/TX to 100BaseFX Single Fiber (WDM) Media Converter SC Simplex/MM, Tx=1310 nm; Rx=1550 nm, 2 km Span
065-1176BLFSMM	10/100BaseT/TX to 100BaseFX Single Fiber (WDM) Media Converter SC Simplex/MM, Tx=1550 nm; Rx=1310 nm, 2 km Span

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

Ports

1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus 1 - WDM fiber optic 100BaseFX port with varying span per P/N

LED Status Indicators

Per Unit: Power
Per RJ-45 Port: Link/Activity, Full Duplex/Collision (FDX/COL); RJ-45 port speed
Per Fiber Port: Link/Activity, Full Duplex/Collision (FDX/COL)

Performance

Latency: < 4.2 μs (LIFO)
Throughput, per port: @ 100Base: 148,809 pps (64-byte packets)
Speed: 100BaseTX: 100/200 Mbps for half/full duplex; 10BaseT: 10/20 Mbps for half/full duplex;
MAC Address Capacity: 1K; Memory: 256 KB

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included. USB power connector on the rear panel optionally powers converter from computer's USB port.

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C);
Storage Temperature: -13°F to 158°F (-25°C to 70°C)
Relative Humidity: 10% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)
Weight: 0.33 lb (150 g)

Certifications

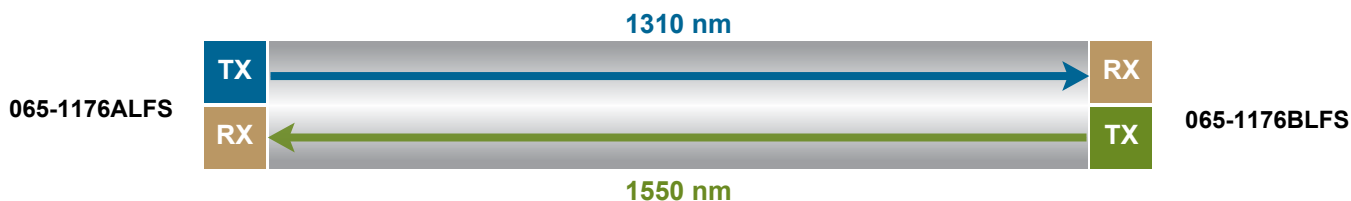
CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

Application Reference - Wave Division Multiplexing (WDM):

A single strand of fiber optic cable can send and receive data using two separate light spectra. Signamax "A" version WDM converters transmit on the 1310 nm spectrum and receive on the 1550 nm spectrum. Signamax "B" version WDM converters transmit on the 1550 nm spectrum and receive on the 1310 nm spectrum. They must be used in "A" and "B" pairs.



100FX Singlemode to Multimode Media Converters

KEY FEATURES

- Flexibility extends transmission distance via multimode to singlemode fiber conversion
- LEDs monitor network status
- Singlemode spans up to 75 km
- Supports wall mounting, DIN-rail mounting or use with media converter rack mount chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1130	100BaseFX SC/SM, 15 km Span to 100BaseFX ST/MM, 2 km Span
065-1130ED	100BaseFX SC/SM, 40 km Span to 100BaseFX ST/MM, 2 km Span
065-1132	100BaseFX SC/SM, 15 km Span to 100BaseFX SC/MM, 2 km Span
065-1132ED	100BaseFX SC/SM, 40 km Span to 100BaseFX SC/MM, 2 km Span
065-1132XLD	100BaseFX SC/SM, 75 km Span to 100BaseFX SC/MM, 2 km Span

SPECIFICATIONS

Applicable Standards

IEEE 802.3u 100BaseFX

Ports

1 - Fiber optic 100BaseFX port, plus 1 - fiber optic 100BaseFX port with varying connectors per P/N

LED Status Indicators

Per Unit: Power

Per Fiber Port: Port A Link (SDA); Port B Link (SDB)

Performance

Latency: < 21 bit times

Throughput, per port: @ 100Base: 148,809 pps (64-byte packets)

Speed: 100BaseFX: 100/200 Mbps for half/full duplex

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

Operating Temperature: 32°F to 122°F (0°C to 50°C);

Storage Temperature: -13°F to 158°F (-25°C to 70°C)

Relative Humidity: 10% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.19" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)

Weight: 0.33 lb (150 g)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime



DIN-Rail Mounting Bracket

KEY FEATURES

- Sturdy and versatile
- Clips onto 35 mm "Top Hat" DIN-rail
- Clip is engineered for vertical or horizontal orientation
- Supports 065-11xx series & 065-1696SFPDR media converters

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-11DINMT	DIN Rail Mounting for 065-11xx and 065-1696SFPDR Media Converters

16-Bay Rack Mount Media Converter Chassis

KEY FEATURES

- Supports 16 converters in 2U of rack space
- Dual redundant load-sharing power supplies
- Four redundant fans for system cooling
- Rugged aluminum & steel construction
- Simple & quick field maintenance
- Intelligent power backplane
- Individually fused converter mounting bays



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1185	16-Bay Rack Mount Media Converter Chassis, AC
AC-1185	Spare Redundant Power Supply 90 - 240 V AC
1185FAN	Spare Individual Fan Assembly

SPECIFICATIONS

Capacity

Sixteen bays, for up to sixteen 065-11xx series media converters.

Cooling

Two 42.5 cfm side-mounted fans, plus one fan for each of the two redundant power supplies.

LED Status Indicators

Per Unit: Power 1/Power 2: Power supply on-line

Physical Characteristics

Dimensions: 17.3" L x 10.9" W x 3.5" H (440 mm x 276 mm x 90 mm)
2 standard rack units

Weight: Approximately 18.7 lb (8.5 kg), fully loaded

Environmental Requirements

Operating Temperature: 32°F to 104°F (0°C to 40°C)

Storage Temperature: -13°F to 158°F (-25°C to 70°C)

Relative Humidity: 5% to 95% (non-condensing)

Power Supplies

Load-sharing and hot-swappable; 2 supplied as standard equipment. Power status LED on each power supply, as well as remote status LEDs on front panel. Specifications, each:

Input: 90-240 V AC, 47-63 Hz.

Output: Normal +12 V DC (Min. +11.88 V, Max. +12.12 V, 7.0 Amps)

Total Regulation: +/- 1.0%, Rip. 120 mV, Load 1.0%, Line 0.5%

Overload Protection: All outputs protected against short circuit conditions; automatic recovery

Over-Voltage Protection: Output level exceeding 13.2 Volts causes shutdown - automatic recovery

Certifications

UL 1950 listed, CE, FCC, ROHS

Warranty

Limited Lifetime

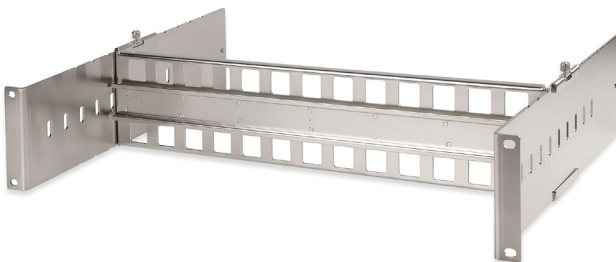
DIN-Rail Rack Mount Bracket

KEY FEATURES

- Heavy-duty cold rolled steel construction
- Unique variable depth design permits use with any depth DIN-rail equipment
- Adjustable in depth from 2" to 8.25" (50 mm to 210 mm)
- Dimensions 19" W x 4.13" H x 11.22" D

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-18TR	19 Inch DIN-rail Rack Mount for Industrial Products



10/100 Ethernet Extender

KEY FEATURES

- Enhanced Safety features UL 60950 Listed
- Operates transparently to higher layer protocols such as TCP/IP
- Ethernet port offers 10/100 Mbps & full/half-duplex operation
- Ethernet extender port offers 8 speeds with speed indicator LEDs
- Up to 100 Mbps at 984' (300 m) down to 1 Mbps at 8,530' (2,600 m)
- Symmetrical & asymmetrical VDSL operation supported
- Effortless configurable DIP switches for local or remote operation
- Extended operating temperature ranges -4°F to 140°F (-20°C to 60°C)
- Diverse mounting options include wall, DIN-rail, or the Signamax rack mount media converter chassis



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1167A	10/100BaseT/TX Ethernet Extender Media Converter

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
Ethernet over VDSL

Ports

1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX, plus 1 - RJ-11 Ethernet Extender

LED Status Indicators

End Panel: PWR (green).

10/100BaseT/TX Port: Link/Activity (green), Link Speed (yellow).

Ethernet Extender Port (labeled Line): Performance Mode (Per); Remote Mode (RMT); Local Mode (LOC); Symmetrical Mode (SYM); Asymmetrical Mode (ASM); Port Speed LEDs (20, 40, 60, 80, 100 Mbps); Link/Activity.

Top Panel: Port Speed LEDs (20, 40, 60, 80, 100 Mbps)

Performance

Ethernet Port Throughput @ 100Base: 148,810 pps (64-byte packets)

Ethernet Extender (Line) Port Throughput: Distance-dependent.

Twisted Pair Ethernet Port: 10 Mbps or 100 Mbps; 100 meters

Ethernet Extender Port: Up to 100 Mbps @ 984 ft (300 m) down to 1 Mbps @ 8,530 ft (2,600 m); supports symmetrical or asymmetrical VDSL operation.

Cable: Telephone line 24 AWG (0.5 mm diameter, 1-pair wire) or larger.

Note: All speed selections are Symmetrical on the DSL (RJ11) port and Full duplex on the Ethernet port. The data rate will vary according to the line quality.

Electrical Characteristics

12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Maximum Power Consumption: 4.56 W; 0.38 A @ 12 V DC

Protection: Over current protection; Reverse polarity protection

Environmental Requirements

Operating Temperature: -4°F to 140°F (-20°C to 60°C);

Tested To: -4°F to 158°F (-20°C to 70°C)

Storage Temperature: -4°F to 158°F (-20°C to 70°C)

Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.33" L x 3.16" W x 0.91" H (109.2 mm x 83 mm x 23.8 mm)

Weight: 0.33 lb (150 g)

Certifications

CE

Safety: UL60950; EN60950-1, IEC60950-1;

EMI: FCC Part 15, Class A; VCCI, Class A; EN61000-6-4; EN61000-3-3

EMS: ESD Standards (IEC 61000-4-2); Radiated FRI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6fc); Operation/Storage/Transport; Criterion 3 Shock (IEC 60068-2-27Ea) Free Fall FED Std 101C Method 5007.1 (Free Fall w/package)

Warranty

Limited Lifetime

10/100 to 100FX PoE+ Media Converter

KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- Converts 100BaseTX port to 100BaseFX
- Extensive LED indicators for network diagnostics
- Extended operating temperature range 14°F to 122°F (-10°C to 50°C)
- External 52 V DC 1.4 Amp power supply
- Supports wall-mount installation



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1050ASC	10/100BaseT/TX to 100BaseFX PoE+ Media Converter SC/MM, 2 km Span

SPECIFICATIONS

Applicable Standards

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3u 100BaseFX
- IEEE 802.3af PoE
- IEEE 802.3at PoE+

Ports

- 1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus 1 - fiber optic 100BaseFX port

LED Status Indicators

- Per Unit:** Power
- Per RJ-45 Port:** PoE PSE, Link/Activity, Speed (100TX),
- Per Fiber Port:** Link/Activity; Speed (100FX)

Environmental Requirements

- Operating Temperature:** 14°F to 122°F (-10°C to 50°C)
- Storage Temperature:** -4°F to 158°F (-20°C to 70°C)
- Relative Humidity:** 5% to 90% (non-condensing)

Performance

- Latency:** <4.5 μs (LIFO).
- Throughput @ 100Base:** 148,810 pps (64-byte packets)

Electrical Characteristics

- Maximum Wattage:** <33 Watts
- PSE Power Feed Support:** "Endpoint" via TP pin 1, 2, 3, 6
- Maximum PoE Wattage Deliverable:** 30 Watts
- External Power Supply:** Input: 100 ~ 240 VAC, 50 ~ 60 Hz
Output: 52 VDC, 1.4 Amp Power supply included.

Physical Characteristics

- Dimensions:** 3.62"L x 3.74"W x 1.10"H (92 mm x 95 mm x 28 mm)
- Includes built-in wall mounting bracket.
- Weight:** 1.66 lb (0.75 kg)

Certifications

- CE, FCC, ROHS, VCCI Class A

Warranty

- Limited Lifetime

10/100 to 100FX Power Device PoE Media Converter

KEY FEATURES

- Supports PoE (15.4 watt) Power Source Equipment (PSE)
- Converts 100BaseTX to 100BaseFX
- Applicable for areas no power outlet is available
- DIP switch configuration for link fault signaling and fiber auto/force mode

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1052SC	10/100BaseT/TX to 100BaseFX PD PoE Media Converter SC/MM, 2 km Span



10/100/1000 to 1000 SFP PoE+ Media Converter

KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- Twisted pair port supports 10/100/1000BaseT/TX
- Switch-selectable link fault signaling with far end fault capability
- External 48 V DC 0.83 Amp power supply
- Gigabit transmission supports 9K bytes jumbo frames



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1050GSFP	10/100/1000BaseT/TX to 1000Base SFP PoE+ Media Converter
Fiber types and distances spanned are SFP module-dependent.	

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseSX/LX (1000Base SFP-dependent)
 IEEE 802.3z 1000BaseUX/ZX (1000Base SFP-dependent)
 IEEE 802.3x Flow Control
 IEEE 802.3af PoE
 IEEE 802.3at PoE+

Ports

1 – RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port, plus 1 – 1000Base SFP port.
 See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Unit: Power
 Per RJ-45 Port: 100M/Act, 1000M/Act
 Per SFP Port: Link/Activity

Performance

Latency: <4.5 μ s (LIFO)
 Throughput, per port: @ 1000Base: 1,488,100 pps (64-byte packets)

Electrical Characteristics

Maximum Wattage: 36 Watts
 PSE Power Feed Support: "Endpoint", via TP pin 1, 2, 3, 6
 Maximum PoE Wattage Deliverable: 30 Watts
 External Power Supply: Input: 100 ~ 240 VAC, 50 ~ 60 Hz
 Output: 48 V DC; 0.83 Amp
 Power supply included.

Physical Characteristics

Dimensions: 4.02" L x 2.96" W x 0.91" H (102 mm x 75 mm x 23 mm)
 Weight: 0.51 pounds (230 grams)

Environmental Requirements

Operating Temperature: 32°F to 113°F (0°C to 45°C)
 Storage Temperature: -4°F to 194°F (-20°C to 90°C)
 Relative Humidity: 10 to 90% (non-condensing)

Certifications

CE, FCC, ROHS

Warranty

Limited Lifetime

10/100/1000 to 100/1000 OAM Managed Media Converters

KEY FEATURES

- One fiber interface supports dual rate 100BaseFX/BX or 1000BaseSX/LX/BX fiber transmission
- IEEE 802.3ah OAM management standard supported
- Supports SNMP v1 & v2c management
- Supports Q-in-Q double tagged frame transparent
- Supports in-band loop back and diagnostic
- DIP switch configuration for link fault signaling
- Gigabit transmission supports 9K bytes jumbo frames
- Full wire-speed forwarding rate
- Extended operating temperature range 23°F to 131°F (-5°C to 55°C)



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1610OAM	10/100/1000BaseT/TX to Dual-Rate 1000SX/BX or 100FX/BX SC/MM OAM Managed Media Converter 1000SX/BX span: 220 m on 62.5 μm MM fiber/550 m on 50 μm MM fiber, 100FX/BX span: 2 km on 62.5 μm or 50 μm MM fiber
Singlemode option available, contact customer service for special orders.	

SPECIFICATIONS

Applicable Standards

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3u 100BaseFX
- IEEE 802.3ab 1000BaseT
- IEEE 802.3z 1000BaseSX
- IEEE 802.3z 1000BaseLX
- IEEE 802.3x Flow Control
- IEEE 802.3ah Operations, Administration, & Maintenance (OAM)

Ports

- 1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port, plus
- 1 - Dual-Rate 100BaseFX/BX or 1000BaseSX/LX/BX fiber port

LED Status Indicators

- Per Unit:** Power; OAM LOOP
- Per Copper RJ-45 Port:** Speed, FDX, Link/Activity
- Per Fiber Port:** Link/Activity

Performance

- Latency:** <4.2 μs (LIFO).
- Throughput, per port:** 14,880 pps for 10 Mbps; 148,810 pps for 100 Mbps; 1,488,100 pps for 1000 Mbps (64-byte packets)
- Switch Fabric Speed:** 4.0 Gbps (non-blocking, wire speed performance)
- MAC Address Capacity:** 1K
- Jumbo Frame Support:** 9K packets supported

VLAN Capabilities

- IEEE 802.1Q Tag-based VLAN supported; up to 4K active VLANs possible
- Supports Q-in-Q Double Tagged Frame Transparent

Management

- IEEE 802.3ah OAM supported.
- Access Methods:** Via SNMP agent and Web browser.
- Software Upgrade Capability:** Via TFTP
- SNMP v1 and v2c Network Management supported.
- Supports In-Band Loop Back and Diagnostic.

Electrical Characteristics

- 12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

- Operating Temperature:** 23°F to 131°F (-5°C to 55°C);
- Storage Temperature:** -4°F to 158°F (-20°C to 70°C)
- Relative Humidity:** 5% to 95% (non-condensing)

Physical Characteristics

- Dimensions:** 4.8" L x 3.94" W x 1.28" H (122 mm x 100 mm x 32.5 mm)
- Housing:** Metal case, with built-in fiber splice tray.
- Weight:** 1.1 lb (0.5 kg)

Certifications

- CE, FCC, ROHS, VCCI Class A

Warranty

- Limited Lifetime

12-Channel Rack Mount Converters

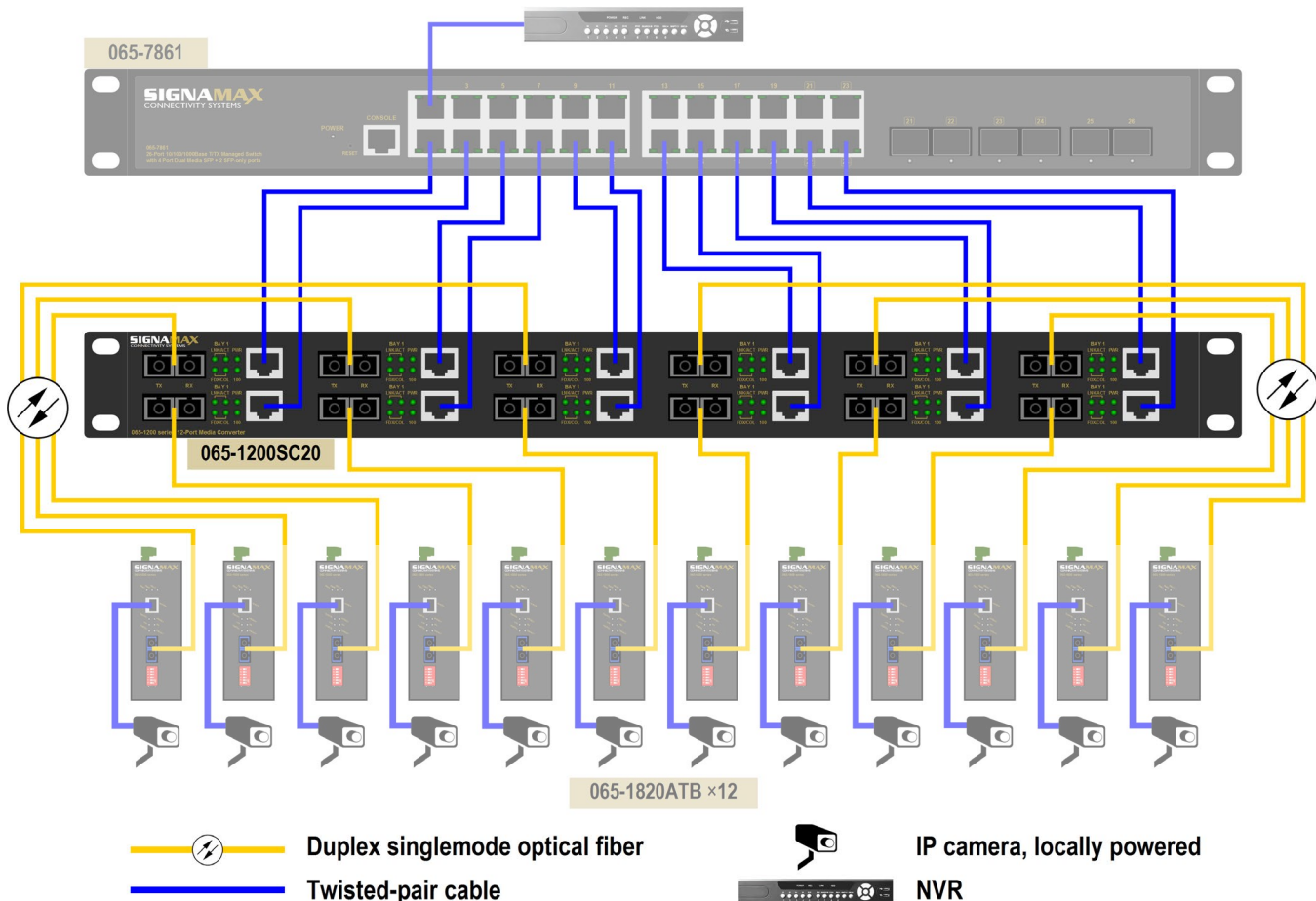


KEY FEATURES

- 12 media converter channels in 1U of rack space
- Media conversion between 10/100BaseT/TX and 100BaseFX or from 1000BaseT to 1000BaseSX/LX
- Dual redundant load-sharing power supplies
- Link fault signaling on all switching converters
- Built-In 10/100BaseT/TX Switch utilizes store-and-forward architecture

Application Reference - Video Surveillance Camera Network:

The 12-channel media converter can be used to “front-end” switches and increase the fiber optic handling capacity, as shown by the 12 IP cameras being supported with the singlemode fiber connections to the switch’s copper ports.



12-Channel Rack Mount Converters

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1200ST00	12-Channel 10/100BaseT/TX to 100BaseFX Media Converter, ST/MM, 2 km Span
065-1200SC10	12-Channel 10/100BaseT/TX to 100BaseFX Media Converter, SC/MM, 2 km Span
065-1200LC74	12-Channel 10/100BaseT/TX to 100BaseFX Media Converter, LC/MM, 2 km Span
065-1200SC20	12-Channel 10/100BaseT/TX to 100BaseFX Media Converter, SC/SM, 15 km Span
065-1200SC95	12-Channel 1000BaseT to 1000BaseSX Media Converter, SC/MM, 220/550 m Span

Extended singlemode option available, contact customer service for special orders.

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3x Flow Control

Ports

Switched Fast Ethernet Series:

Multimode versions: 10/100BaseT/TX to 100BaseFX, MM fiber; choice of SC, ST, or LC connectors. Maximum distance: 2 km.

Singlemode versions: 10/100BaseT/TX to 100BaseFX, SC/SM. Maximum distance: up to 75 km

Gigabit Ethernet Series:

P/N 065-1200SC95: 1000BaseT to 1000BaseSX, SC/SM. Maximum distance, 1000BaseSX port: 220 m over 62.5 μ m MM fiber or 550 m over 50 μ m MM fiber (full duplex only)

LED Status Indicators

Switched Fast Ethernet Series:

Per unit: Power status, Speed

Per port: Link/Activity, FDX/COL

Gigabit Ethernet Series:

Per unit: Power status, FDX/COL, TX, RX

Per port: LNKF (fiber port), LNKC (copper port)

Electrical Characteristics

AC Input: 100 - 260 V AC, 47 - 63 Hz internal universal power supply.

Above specifications apply to each power supply (2 are provided standard, in a load-sharing redundant configuration)

Performance

Switched Fast Ethernet Series:

Latency: < 4.2 μ s (LIFO)

Throughput, per port: @ 100Base: 148,809 pps (64-byte packets)

Speed: 100BaseTX: 100/200 Mbps for half/full duplex; 10BaseT: 10/20 Mbps for half/full duplex

Maximum MAC Capacity: 1K; Memory: 256 KB

Gigabit Ethernet Series:

Latency: < 4.2 μ s (LIFO)

Throughput, per port: @ 1000Base: 1,488,100 pps (64-byte packets)

Environmental Requirements

Operating Temperature: 0° to 40°C (32° to 140° F)

Storage Temperature: -25°C to 70°C (-13°F to 158°F)

Relative Humidity: 10% to 90% (non-condensing)

Physical Characteristics

Dimensions: 17.3" W x 8.0" D x 1.8" H (440 mm x 205 mm x 45 mm)
Standard 19 in rack mounting hardware included

Weight: 6.8 lb (3.1 kg)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Limited Lifetime

ETHERNET SWITCHES



Ethernet Switches

~BUILD YOUR BOTTOM LINE WITH THE CONVENIENCE OF POWER OVER ETHERNET AND MANAGED SWITCHES TO EXPAND YOUR NETWORK'S REACH AND CAPABILITIES.

INCLUDED IN THIS SECTION:

24-Port 100/1000 Managed Layer 2+ SFP Switch Plus 4 10GbE SFP+ Ports.....	B1
24-Port 10/100/1000 Managed Layer 2+ Switch Plus 4 10GbE SFP+ Ports.....	B3
24-Port 10/100/1000 Managed Layer 2+ Switch.....	B5
24-Port 10/100/1000 Managed Layer 2+ PoE+ Switches.....	B7
24-Port 100FX Managed Layer 2+ Switch Plus 4 Gigabit Dual Media Ports.....	B9
24-Port 10/100 Managed Layer 2+ Switch Plus 4 Gigabit Dual Media Ports.....	B10
24-Port 10/100/1000 WebSmart Layer 2 Switch.....	B11
16-Port 10/100/1000 Unmanaged PoE+ Switch.....	B12
5-Port 10/100/1000 Unmanaged PoE+ Switch.....	B13
1-Port Gigabit Capable PoE+ Power Injector.....	B13
4-Port 10/100 Unmanaged PoE Switch Plus One 100FX Port.....	B14
24-Port 10/100/1000 Unmanaged Switch.....	B15
8-Port 10/100/1000 Unmanaged Compact Switch.....	B15
8-Port 100 SFP or 8-Port 1000 SFP Compact Unmanaged Fiber Switches.....	B16
8-Port 10/100 Unmanaged PoE+ Switches.....	B17
PoE/PoE+ Ethernet Switch Capacity Chart:.....	B18



24-Port 100/1000 Managed Layer 2+ SFP Switch Plus 4 10GbE SFP+ Ports



KEY FEATURES

- Dual speed SFP+ ports for 10 Gigabit Ethernet or Gigabit Ethernet fiber connectivity
- Dual speed SFP ports for fast Ethernet or Gigabit Ethernet fiber connectivity
- Bandwidth rate control via port-policer
- IEEE 802.3az Energy Efficient Ethernet standard supported
- IPv6 and s-Flow support
- Dual power capability supports simultaneous AC/DC switch powering
- IEEE 802.1AB Link Layer Discovery Protocol and Media Endpoint Discovery standard supported
- Supports RSTP/MSTP/STP for Ethernet redundancy
- Supports port-based VLAN and IEEE 802.1Q VLAN Tagging and GVRP
- IP multicast filtering through IGMP snooping V1, V2 & V3
- IEEE 802.1p QoS with eight priority queues
- IPv6 and IPv4 static routing supported
- IEEE 802.3 ad Link Aggregation Control Protocol standard supported
- RS-232 console, Telnet, SNMP v1, v2c & v3, RMON, SSL/SSH, HTTP (web browser), and TFTP Management
- Supports command line interface in RS-232 console
- IEEE 802.1x Port-Based Network Access Control with RADIUS supported
- Per-port programmable MAC address locking
- Static secure MAC addresses supported
- Port mirroring, both inbound and outbound
- Supports Network Time Protocol (NTP)

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7890FSFPDP	24-Port 100/1000Base SFP Managed Layer 2+ Switch with 4-10/100/1000BaseT/TX Dual Media Ports plus 4 1000Base/10GbE SFP+ only Ports



10GbE SFP+ Fiber Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-80SR10G300M	10GBaseSR SFP+ Module 850 nm - LC/MM, 300 m Span
065-80LR10G10KM	10GBaseLR SFP+ Module 1310 nm - LC/SM, 10 km Span

Refer to page D2 for more SFP part number options.

24-Port 100/1000 Managed Layer 2+ SFP Switch Plus 4 10GbE SFP+ Ports

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3ae 10GbE over fiber
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1s Multiple Spanning Tree Protocol
IEEE 802.1w Rapid Spanning Tree Protocol
IEEE 802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control
IEEE 802.1AB LLDP /LLDP-MED
IEEE 802.3ad LACP

Ports

24 - 100/1000Base SFP ports with 4 Dual Media ports supporting RJ-45 10/100/1000BaseT/TX ports, plus 4 - 1000Base/10GbE ports with SFP+ only ports. See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power
Per Port: Copper: Status (Link/Activity), 10/100/1000M
SFP Port: Status (Link/Activity/SPD), 100/1000M
SFP+ Port: Status (Link/Activity/SPD), 1000M/10GbE

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per switch: 95,232 Mpps
Switch Fabric Speed: 128 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 32K
Jumbo Frame Support: up to 10056 bytes frame size
Port Mirroring: Inbound and Outbound, assignable to any port

Network Security

Secure Socket Layer / Secure Shell (SSL/SSH)
IEEE 802.1x access control with RADIUS and TACACS+
Management Access Policy Control (ACL):
Supports up to 512 entries. Drop or rate limitation based on:

- Source and destination MAC, VLAN ID or IP address, protocol, port,
- Differentiated services code point (DSCP) / IP precedence
- TCP/UDP source and destination ports
- 802.1p priority
- Ethernet type
- Internet Control Message Protocol (ICMP) packets
- TCP flag

InterNetworking Protocols Supported

Link Layer Discovery Protocol and Media Endpoint Discovery:
IEEE 802.1AB
Link Aggregation Control Protocol Trunking: IEEE 802.3ad; 26 trunking groups; up to 4 ports for each group.
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol:
IEEE 802.1Q with GVRP/ GARP
Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol / Rapid Spanning Tree /Multiple Spanning Tree Protocol: IEEE 802.1d/1w/1s
Static Routing: IPv4 and IPv6 Unicast Static Routing

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4,096 active VLANs possible
Q-in-Q VLAN supported, to efficiently enable Subscriber Aggregation
Private VLAN Edge; Voice VLAN

QoS Capabilities

Supports Layer 4 TCP/UDP port and ToS classification
Supports 802.1p QoS with eight hardware queues
Supports Strict Priority and Weighted Round Robin (WRR)
Supports priority in a Q-in-Q tag for Bandwidth Control
Classification:

- Port based
- 802.1p VLAN priority based
- IPv4/IPv6 precedence / DSCP based
- Differentiated Services (DiffServ)
- Classification and re-marking ACLs

Supports bandwidth rating per port

- Ingress policer
- Egress shaping and rate control

Management

Access Methods: Console port access via RS-232C/RJ-45 local console serial port (cable included with switch), SSH/SSL, Telnet, SNMP, or HTTP.

Software Upgrade Capability: Via HTTP, TFTP in-band, Console out-of-band

SNMP v1, v2c, and v3 Network Management

RFC 1213 MIB (MIB-II)

RFC 1757 RMON MIB

RFC 1493 Bridge MIB

RFC 1643 Ethernet MIB

Enterprise MIB

Other Management:

- HTTP/HTTPS; SSH
- DHCP Client/ DHCPv6 Client
- Cable Diagnostics
- Ping
- Syslog
- Telnet Client
- IPv6 Management

Electrical Characteristics

AC Input Range: 100 - 240 V AC, 50/60 Hz internal universal power supply

DC Input: 24 - 72 V DC

Environmental Requirements

Operating Temperature: 32°F to 104°F (0°C to 40°C)

Storage Temperature: -4°F to 158°F (-20°C to 70°C)

Operating Humidity: 10 to 90% (non-condensing)

Altitude: 10,000 feet or less (3,000 meters or less)

Physical Characteristics

Dimensions: 17.4" W x 8.1" D x 1.73" H (442 mm x 211 mm x 44 mm)

Housing: Metal case. 19 in rack mounting hardware included.

Weight: 6.8 lbs (3.1 kg)

Certifications

CE

EMI: FCC; EN 55022 (CISPR 22 Class A); EN 61000-3;

EMS: EN 61000-4-2/3/4/5/6/8/11; EN 55024

Warranty

Five Years (Including power supply)

24-Port 10/100/1000 Managed Layer 2+ Switch Plus 4 10GbE SFP+ Ports

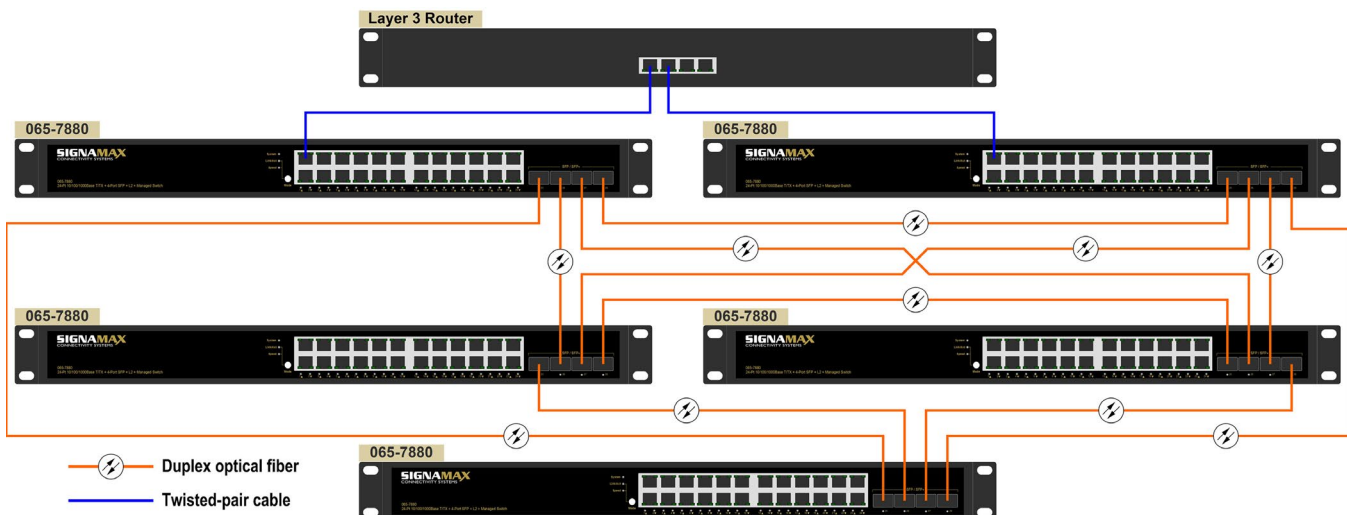


KEY FEATURES

- Dual speed SFP+ ports for 10GbE Ethernet or Gigabit Ethernet fiber connectivity
- IEEE 802.3az Energy Efficient Ethernet standard supported
- IPv6 and s-Flow support
- Easy-Port-Configuration for ease of setup in the IP phone, IP camera, or wireless environments
- IEEE 802.1AB Link Layer Discovery Protocol and Media Endpoint Discovery standard supported
- Supports RSTP/MSTP/STP for Ethernet Redundancy
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Supports port-based VLAN and IEEE 802.1Q VLAN Tagging and GVRP
- IEEE 802.1p QoS with four priority queues
- Single IP Management for up to 16 Switches
- IEEE 802.3ad Link Aggregation Control Protocol standard supported
- RS-232 Console, Telnet, SNMP v1, v2c & v3, RMON, SSL/SSH, HTTP (web browser), and TFTP Management
- Supports command line interface in RS-232 console
- Secure Shell /Secure Socket Layer and IEEE 802.1x Port-Based Network Access Control with RADIUS supported
- Bandwidth rate control, via port-policer
- Per-port programmable MAC address locking
- Static secure MAC addresses supported
- Port mirroring, both inbound and outbound
- Supports Network Time Protocol (NTP)

Application Reference - Mesh Network Utilizing Managed Switches:

A configuration of this type offers no single point of failure and the data packet's inter-switch hops from origin to destination are minimized, improving network performance. Applications that are mission-critical, such as security access control, real-time surveillance cameras, and mirrored data storage, benefit by eliminating outages and decreasing data transit time.



24-Port 10/100/1000 Managed Layer 2+ Switch Plus 4 10GbE SFP+ Ports

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7880	24-Port 10/100/1000BaseT/TX Managed Layer 2+ Switch plus 4-1000Base/10GbE SFP+ only Ports

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3ae 10GbE over fiber
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1s Multiple Spanning Tree Protocol
IEEE 802.1w Rapid Spanning Tree Protocol
IEEE 802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control
IEEE 802.1AB LLDP / LLDP-MED
IEEE 802.3ad LACP

Ports

24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, plus 4 - 1000Base/10 GbE SFP+ only ports.
See page D1 - D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power
Per Port: Copper: Status (Link/Activity), 10/100/1000M
SFP Port: Status (Link/Activity/SPD), 100/1000M
SFP+ Port: Status (Link/Activity/SPD), 1000M/10GbE

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per switch: 95.232 Mpps
Switch Fabric Speed: 128 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 32K
Jumbo Frame Support: up to 10056 bytes frame size
Port Mirroring: Inbound and Outbound, assignable to any port

Network Security

Secure Socket Layer / Secure Shell (SSL/SSH)
IEEE 802.1x access control with RADIUS and TACACS+
Management Access Policy Control (ACL):
Supports up to 512 entries. Drop or rate limitation based on:
•Source and destination MAC, VLAN ID or IP address, protocol, port,
•Differentiated services code point (DSCP) / IP precedence
•TCP/ UDP source and destination ports
•802.1p priority
•Ethernet type
•Internet Control Message Protocol (ICMP) packets
•TCP flag

Internetworking Protocols Supported

Link Layer Discovery Protocol and Media Endpoint Discovery:
IEEE 802.1AB
Link Aggregation Control Protocol Trunking: IEEE 802.3ad; 26 trunking groups; up to 4 ports for each group.
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/ GARP
Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol / Rapid Spanning Tree / Multiple Spanning Tree Protocol: IEEE 802.1d/1w/1s
Static Routing: IPv4 and IPv6 Unicast Static Routing

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4,096 active VLANs possible
Q-in-Q VLAN supported, to efficiently enable Subscriber Aggregation
Private VLAN Edge; Voice VLAN

QoS Capabilities

Supports Layer 4 TCP/UDP port and ToS classification
Supports 802.1p QoS with eight hardware queues
Supports Strict Priority and Weighted Round Robin (WRR)
Supports priority in a Q-in-Q tag for Bandwidth Control
Classification:
•Port based
•802.1p VLAN priority based
•IPv4/IPv6 precedence / DSCP based
•Differentiated Services (DiffServ)
•Classification and re-marking ACLs
Supports bandwidth rating per port
•Ingress policer
•Egress shaping and rate control

Management

Access Methods: Console port access via RS-232C/RJ-45 local console serial port (cable included with switch), SSH/SSL, Telnet, SNMP, or HTTP.
Software Upgrade Capability: Via HTTP, TFTP in-band, Console out-of-band.
SNMP v1, v2c, and v3 Network Management

RFC 1213 MIB (MIB-II)

RFC 1757 RMON MIB

RFC 1493 Bridge MIB

RFC 1643 Ethernet MIB

Enterprise MIB

Other Management:

- HTTP/HTTPS; SSH
- DHCP Client/ DHCPv6 Client
- Cable Diagnostics
- Ping
- Syslog
- Telnet Client
- IPv6 Management

Electrical Characteristics

AC Input Range: 100 - 240 V AC, 50/60 Hz internal universal power supply

Environmental Requirements

Operating Temperature: 32°F to 113°F (0°C to 45°C)

Storage Temperature: -4°F to 158°F (-20°C to 70°C)

Operating Humidity: 10 to 90% (non-condensing)

Altitude: 10,000 feet or less (3,000 meters or less)

Physical Characteristics

Dimensions: 17.4" W x 8.1" D x 1.73" H (442 mm x 211 mm x 44 mm)

Housing: Metal case. 19 in rack mounting hardware included.

Weight: 5.3 lb (2.4 kg)

Certifications

CE, FCC, ROHS

Warranty

Five Years (Including power supply)

24-Port 10/100/1000 Managed Layer 2+ Switch



KEY FEATURES

- Dual Speed SFP ports for fast or Gigabit Ethernet fiber connectivity
- IEEE 802.3az Energy Efficient Ethernet standard supported
- IPv6 and s-Flow support
- Easy-port-configuration for ease of setup in the IP phone, IP camera or wireless environments
- IEEE 802.1AB Link Layer Discovery Protocol and Media Endpoint Discovery standard supported
- Supports RSTP/MSTP/STP for Ethernet redundancy
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Supports Port-Based VLAN and IEEE 802.1Q VLAN Tagging and GVRP
- IEEE 802.1p QoS with four priority queues
- Single IP management for up to 16 switches
- IEEE 802.3ad Link Aggregation Control Protocol standard supported
- RS-232 Console, Telnet, SNMP v1, v2c & v3, RMON, SSL/SSH, HTTP (web browser), and TFTP management
- Supports command line interface in RS-232 console
- Secure Shell /Secure Socket Layer and IEEE 802.1x Port-Based Network Access Control with RADIUS supported
- Bandwidth rate control via port-policer
- Per-port programmable MAC address locking
- Static secure MAC addresses supported
- Port mirroring, both inbound and outbound
- Supports Network Time Protocol (NTP)

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7861	24-Port 10/100/1000BaseT/TX Managed Switch with 4-100/1000Base SFP Dual Media Ports plus 2-100/1000Base SFP only Ports



1000Base SFP Fiber Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-79SXMG	1000BaseSX SFP Module - MM/LC, 220 m Span on 62.5 μm Fiber / 550 m Span on 50 μm Fiber
065-79SXEDMG	1000BaseSX SFP Module 1310 nm - LC/MM, 2 km Span
065-79LXMG	1000BaseLX SFP Module 1310 nm - LC/SM, 10 km Span

Refer to page D2 for more SFP part number options.

24-Port 10/100/1000 Managed Layer 2+ Switch

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3az Energy Efficient Ethernet standard
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1s Multiple Spanning Tree Protocol
IEEE 802.1w Rapid Spanning Tree Protocol
IEEE 802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control
IEEE 802.1AB LLDP/LLDP-MED
IEEE 802.3ad LACP

Ports

24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, with 4 Dual Media ports supporting 100/1000Base SFP, plus 2-100/1000Base ports with SFP only ports.
See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power
Per Port: Twisted-Pair Port: Status (Link/Activity), 10/100/1000M
SFP Port: Status (Link/Activity/SPD), 100/1000M

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per switch: 35.712 Mpps
Switch Fabric Speed: 52.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K
Frame Buffer: 1,392 KB on-chip frame buffer
Jumbo Frame Support: up to 9 Kbytes frame size
Port Mirroring: Inbound and Outbound, assignable to any port

Network Security

Secure Socket Layer / Secure Shell (SSL/SSH)
IEEE 802.1x access control with RADIUS authentication Management Access Policy Control (ACL)

Internetworking Protocols Supported

Link Layer Discovery Protocol and Media Endpoint Discovery:
IEEE 802.1AB
Link Aggregation Control Protocol Trunking: IEEE 802.3ad, 13 trunking groups; up to 16 ports for each group.
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/ GARP
Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol / Rapid Spanning Tree / Multiple Spanning Tree Protocol: IEEE 802.1d/1w/1s

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4,096 active VLANs possible
Q-in-Q VLAN supported, to efficiently enable Subscriber Aggregation

QoS Capabilities

Supports Layer 4 TCP/UDP port and ToS classification
Supports 802.1p QoS with four level priority queue
Supports priority in a Q-in-Q tag for Bandwidth Control
Supports bandwidth rating per port via port-policer
Ingress and Egress rate limits: 1000 Mbps in 100 Kbps increments

Management

Access Methods: Console port access via RS-232C/RJ-45 local console serial port (cable included with switch), SSH/SSL, Telnet, SNMP, or HTTP.
Software Upgrade Capability: Via HTTP, TFTP in-band, Console out-of-band
SIM (Single IP Management): Up to 16 switches can be managed via a single IP address. Virtual stacking via switch uplink channels; no extra proprietary stacking hardware required. Distributed stacking; no physical central wiring closet is needed
SNMP v1, v2c, and v3 Network Management
RFC 1213 MIB (MIB-II)
RFC 1757 RMON MIB
RFC 1493 Bridge MIB
RFC 1643 Ethernet MIB
Enterprise MIB

Electrical Characteristics

AC Input Range: 100 - 240 V AC, 50/60 Hz internal universal power supply
Maximum Wattage: 20 Watts

Environmental Requirements

Operating Temperature: 32°F to 104°F (0°C to 40°C)
Storage Temperature: -4°F to 158°F (-20°C to 70°C)
Operating Humidity: 5 to 90% (non-condensing)

Physical Characteristics

Dimensions: 17.4" W x 6.7" D x 1.73" H (442 mm x 170.3 mm x 44 mm)
19 in rack mounting hardware included
Weight: 4.19 lb (1.9 kg)

Certifications

CE
EMI: FCC; EN 55022 (CISPR 22 Class A); EN 61000-3;
EMS: EN 61000-4-2/3/4/5/6/8/11; EN 55024

Warranty

Five Years (Including power supply)

24-Port 10/100/1000 Managed Layer 2+ PoE+ Switches

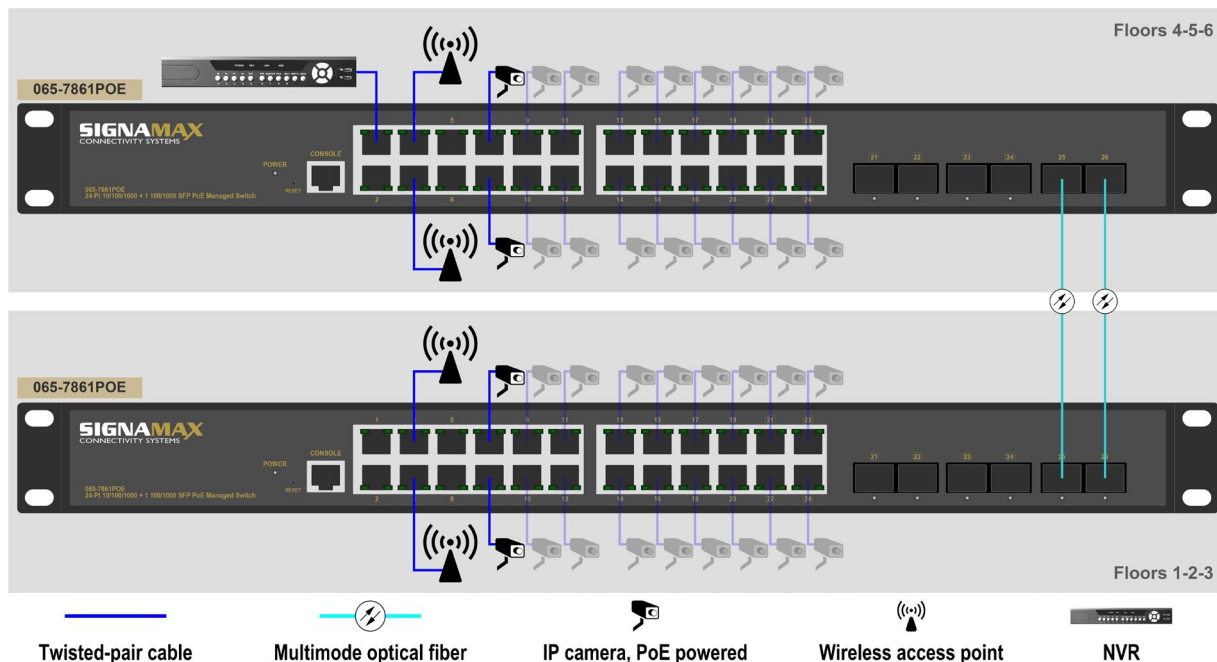


KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- Dual speed SFP ports for fast Ethernet or Gigabit Ethernet fiber connectivity
- IEEE 802.3az Energy Efficient Ethernet standard supported
- IPv6 and s-Flow Support
- Easy-Port-Configuration for ease of setup in the IP phone, IP camera, or wireless environments
- IEEE 802.1AB Link Layer Discovery Protocol and Media Endpoint Discovery standard supported
- Supports RSTP/MSTP/STP for Ethernet redundancy
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Supports port-based VLAN and IEEE 802.1Q VLAN Tagging and GVRP
- IEEE 802.1p QoS with four priority queues
- Single IP Management for up to 16 switches
- IEEE 802.3 ad Link Aggregation Control Protocol standard supported
- RS-232 console, Telnet, SNMP v1, v2c & v3, RMON, SSL/SSH, HTTP (web browser), and TFTP Management
- Supports command line interface in RS-232 console
- Secure Shell /Secure Socket Layer and IEEE 802.1x Port-Based Network Access Control with RADIUS supported
- Bandwidth rate control, via port-policer
- Per-port programmable MAC address locking
- Static secure MAC addresses supported
- Port mirroring, both inbound and outbound
- Supports Network Time Protocol (NTP)

Application Reference - Surveillance Camera Redundancy:

This diagram showcases a six-story building with an installation of surveillance cameras and wireless access points supported by two PoE+ switches connected by redundant multimode fiber. The switch installed on the fifth floor covers floors 4, 5, and 6, and the switch installed on the second floor covers floors 1, 2, and 3. The Network Video Recorder connected to the PoE+ switch on the 5th floor receives all video feeds from cameras connected to both switches.



24-Port 10/100/1000 Managed Layer 2+ PoE+ Switches

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7861POE	24-Port 10/100/1000BaseT/TX Managed PoE+ Switch with 4-100/1000Base SFP Dual Media Ports plus 2-100/1000Base SFP only Ports, 185 Watts PoE Power
065-7861POE-FP	24-Port 10/100/1000BaseT/TX Managed PoE+ Switch with 4-100/1000Base SFP Dual Media Ports plus 2-100/1000Base SFP only Ports, 370 Watts PoE Power

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3af PoE
IEEE 802.3at PoE+
IEEE 802.3az Energy Efficient Ethernet standard
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1s Multiple Spanning Tree Protocol
IEEE 802.1w Rapid Spanning Tree Protocol
IEEE 802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control
IEEE 802.1AB LLDP/LLDP-MED
IEEE 802.3ad LACP

Ports

24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports supporting PoE or PoE+, with 4 Dual Media ports supporting 100/1000Base SFP ports, plus 2-100/1000Base ports with SFP only ports.
See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators:

Per Switch: Power
Per Port: Twisted-Pair Port: Status (Link/Activity); Green = 100M, Amber = 100M; PoE Active
SFP Port: Status (Link/Activity/SPD), 100/1000M

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per switch: 38.69 Mpps
Switch Fabric Speed: 52.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K
Frame Buffer: 1,392 KB on-chip frame buffer
Jumbo Frame Support: up to 9 Kbytes frame size
Port Mirroring: Inbound and Outbound, assignable to any port

Network Security

Secure Socket Layer / Secure Shell (SSL/SSH)
IEEE 802.1x access control with RADIUS authentication Management Access Policy Control (ACL)

Internetworking Protocols Supported

Link Layer Discovery Protocol and Media Endpoint Discovery:
IEEE 802.1AB
Link Aggregation Control Protocol Trunking: IEEE 802.3ad, 13 trunking groups; up to 16 ports for each group.
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/GARP
Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol / Rapid Spanning Tree / Multiple Spanning Tree Protocol: IEEE 802.1d/1w/1s

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4,096 active VLANs possible
MAC-based VLAN; Management VLAN; Private VLAN Edge (PVE); Voice VLAN (Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate QoS levels.)

QoS Capabilities

Supports 802.1p QoS with eight level hardware priority queue.
Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR) with user-variable weighting.
Supports QoS Control Lists (QCL) for advance programmable QoS classification.
Supports bandwidth rating per port via port-policer
Ingress and Egress rate limits: 100 Kbps up to 1 Gbps for 1000Base ports

Power over Ethernet (PoE) Capabilities

24 IEEE 802.3af PoE/802.3at PoE+ Power Source Equipment (PSE) ports PoE supported as endpoint with 48 Volt DC power through RJ-45 pins 1, 2, 3, and 6; PoE-PSE activity LED indicator.
065-7861POE: 185 watts of total PoE power (up to 30 watts delivered to each of 6 ports, up to 15.4 watts delivered to each of 12 ports, or up to 7.7 watts delivered to each of 24 ports); 185 watts dedicated to PoE+ power provisioning.
065-7861POE-FP: 370 watts of total PoE power (up to 30 watts delivered to each of 12 ports, up to 15.4 watts delivered to each of 24 ports); 500 watts total power available for PoE and switch operation. Auto-detects powered devices and consumption levels. Supports per port power consumption monitoring.

Management

Access Methods: Console port access via RS-232C/RJ-45 local console serial port (cable included with switch), SSH/SSL, Telnet, SNMP, or HTTP.
Software Upgrade Capability: Via HTTP, TFTP in-band, Console out-of-band
SIM (Single IP Management): Up to 16 switches can be managed via a single IP address. Virtual stacking via switch uplink channels; no extra proprietary stacking hardware required. Distributed stacking; no physical central wiring closet is needed.
SNMP v1, v2c, and v3 Network Management:
RFC 1213 MIB (MIB-II)
RFC 1757 RMON MIB
RFC 1493 Bridge MIB
VLAN MIB (IEEE802.1Q/RFC2674)
Private MIB

Electrical Characteristics

AC Input Range: 100 - 240 V AC, 50/60 Hz internal universal power supply
Maximum Wattage: 20 Watts, plus PoE+ load (370 Watts PoE+ load, maximum)

Environmental Requirements

Operating Temperature: 32°F to 104°F (0°C to 40°C)
Storage Temperature: -4°F to 158°F (-20°C to 70°C)
Operating Humidity: 10 to 90% (non-condensing)

Physical Characteristics

065-7861POE:
Dimensions: 17.4" W x 11.81" D x 1.73" H (442 mm x 300 mm x 44 mm)
19 in rack mounting hardware included.
Weight: 8.5 lb (3.9 kg)
065-7861POE-FP:
Dimensions: 17.4" W x 15.15" D x 1.73" H (442 mm x 384.8 mm x 44 mm)
19 in rack mounting hardware included.
Weight: 11.22 lb (5.1 kg)

Certifications

CE
Safety: UL 60950
EMI: FCC; EN 55022 (CISPR 22 Class A); EN 61000-3;
EMS: EN 61000-4-2/3/4/5/6/8/11; EN 55024

Warranty

Five Years (Including power supply)

24-Port 100FX Managed Layer 2+ Switch Plus 4 Gigabit Dual Media Ports



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7734FSFPR	24-Port 100Base SFP Managed Switch plus 4-10/100/1000BaseT/TX Dual Media Ports and Redundant Power Supplies

*Specifications on B10.

KEY FEATURES

- Supports Recover-Ring™ and RSTP/MSTP/STP for Ethernet redundancy
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Supports port-based VLAN and IEEE 802.1Q VLAN Tagging and GVRP
- IEEE 802.1p QoS with four priority queues
- MAC-based trunking with automatic link fail-over
- RS-232 console, Telnet, SNMP v1, v2c & v3, RMON, web browser, and TFTP Management
- Supports command line interface in RS-232 console
- Complies with EN50121-4 Railway Application Environment
- IEEE 802.1x Port-Based Network Access Control standard supported
- Bandwidth Rate Control
- Per-port programmable MAC address locking
- Up to 24 static secure MAC addresses supported
- Port Mirroring
- Supports Network Time Protocol (NTP)
- Supports 8192 MAC addresses with 3 Mbits memory buffer
- SFP ports for fast Ethernet or Gigabit Ethernet fiber optic expansion
- 100 to 240 V AC, 50/60 Hz redundant internal universal power supplies for reliability and flexibility

100BaseFX/BX SFP Fiber Modules



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-73FXMM5MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/MM, 5 km Span
065-73FXSM20MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 20 km Span
065-73FXSM40MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 40 km Span
065-73FXSM80MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 80 km Span
065-73FXSM110MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 110 km Span

Refer to page D2 for more SFP part number options.

24-Port 10/100 Managed Layer 2+ Switch Plus 4 Gigabit Dual Media Ports



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-77344DMR	24-Port 10/100BaseT/TX Managed Switch plus 4-10/100/1000BaseT/TX Dual Media Ports and Redundant Power Supplies

*Key Features on B9.

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX (via SFP module)
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1s Multiple Spanning Tree Protocol
IEEE 802.1w Rapid Spanning Tree Protocol
IEEE 802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control

Ports

P/N 065-7734FSFPR: 24 - 100Base SFP ports, plus 4 - 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX Dual Media ports with 1000Base SFP ports
P/N 065-77344DMR: 24 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, plus 4 - 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX Dual Media ports with 1000Base SFP ports.
See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power Status 1 & 2
Per Port: 100Base SFP, 10/100/1000T/TX, Gigabit Ethernet SFP: Link/Activity
Gigabit Ethernet SFP: SFP emplaced

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per port: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 12.8 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K; Per-port programmable MAC address locking
Up to 24 Static Secure MAC addresses per port
Frame Buffer: 3 Mbits
Port Mirroring: Inbound and Outbound, assignable to any port

Internetworking Protocols Supported

Recover-Ring™: Supports recovery of ring-based network architecture in <15 ms. Proprietary.
MAC-based Trunking: 2 Fast Ethernet +1 Gigabit Ethernet trunking groups; up to 4 ports for each group
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/ GARP
Multicasting: IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol/Rapid Spanning Tree/Multiple Spanning Tree Protocol: IEEE 802.1d/1w/1s

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4096 active VLANs possible

QoS Capabilities

Supports 802.1p QoS with four level priority queue
Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR) with user-variable weighting.
Supports bandwidth rating per port
Ingress and Egress rate limits: 1 Kbps up to 100 Mbps for 10/100 ports, up to 1 Gbps for 1000Base ports

Management

Access Methods: Console port access via RS-232C DB-9 local console serial port, Telnet remote access, SNMP agent, and Web browser.

Software Upgrade Capability: Via TFTP

SNMP v1, v2c, and v3 Network Management

RFC 1213 MIB (MIB-2)

RFC 1757 RMON MIB

RFC 1493 Bridge MIB

VLAN MIB (IEEE802.1Q/RFC2674)

Private MIB

Electrical Characteristics

AC Input Range: 100-240 V AC, 50/60 Hz redundant internal universal power supplies, load-sharing and hot-swappable
Maximum Wattage: 35.4 Watts maximum.

Environmental Requirements

Operating Temperature: 32°F to 113°F (0°C to 45°C);
Storage Temperature: -14°F to 185°F (-10°C to 45°C).
Operating Humidity: 5 to 95% (non-condensing)

Physical Characteristics

Dimensions: 17.4" W x 14.1" D x 1.74" H (442 mm x 360 mm x 44.2 mm)
19 in rack mounting hardware included.
Weight: 7.5 lb (3.4 kg)

Certifications

CE, FCC, ROHS

Warranty

Five Years (Including power supply)

24-Port 10/100/1000 WebSmart Layer 2 Switch



KEY FEATURES

- WebSmart browser-based switch administration
- Four dual media ports for flexible fiber connection
- Supports 10/100/1000 Mbps speed and duplex mode auto-negotiation
- Supports 9600 bytes jumbo frames
- IEEE 802.3x Flow Control for full duplex operation standard supported
- Supports Port Mirroring
- IEEE 802.3ad Link Aggregation Control Protocol standard supported for up to 12 groups with up to 12 ports per group

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7940D-WS	24-Port 10/100/1000BaseT/TX WebSmart Switch with 4-1000Base Dual Media Ports

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseSX/LX
 IEEE 802.3z 1000BaseXD/ZX
 IEEE 802.3 Auto-Negotiation
 IEEE 802.1q VLAN
 IEEE 802.1p Class of Service
 IEEE 802.3x Flow Control
 IEEE 802.1x Access Control
 IEEE 802.3ad LACP

Ports

24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, with 4 - 1000Base Dual Media SFP ports (shared with ports 21, 22, 23, & 24)
 See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Switch: Power
Per Port: Link/Activity, Speed

Performance

Latency: <4.3 μ s (FIFO)
Throughput, per port: @10Base: 14,880 pps; 100Base: 148,810 pps;
 @ 1000Base: 1,488,100 pps (64-byte packets)
Switch Fabric Speed: 48.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K
Buffer Memory: 500 Kbytes
Jumbo Frame Support: 9600 byte frames are supported.

VLAN Capabilities

Port-based VLAN and IEEE 802.1Q Tag-based VLAN
 4096 VLAN IDs supported

QoS Capabilities

Supports 802.1p QoS with four priority queues
 Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR)
 Supports DSCP priority (DiffServ)
 Supports bandwidth rating per port
 Ingress and Egress rate limits: 1000 Mbps in 1 Mbps increments

Link Aggregation

Link Aggregation Control Protocol Trunking: IEEE 802.3ad, 12 trunking groups; up to 12 ports for each group.

Administration

Via IP address assignment (web browser-based)
 SNMP v1, v2c Network Management

Electrical Characteristics

AC Input Range: 100 ~ 240 VAC, 50 ~ 60 Hz internal universal power supply
Maximum Wattage: 20 Watts, all ports with four SFP modules installed; power saving supported (port idle time & cable length)

Environmental Requirements

Operating Temperature: 32°F to 104°F (0°C to 40°C)
Storage Temperature: -4°F to 158°F (-20°C to 70°C)
Operating Humidity: 10 to 90% (non-condensing)

Physical Characteristics

Dimensions: 17.4" W x 6.7" D x 1.73" H (442 mm x 170.3 mm x 44 mm)
 19 in rack mounting hardware included.
Weight: 5.28 lb (2.4 kg)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Five Years (Including power supply)

16-Port 10/100/1000 Unmanaged PoE+ Switch



KEY FEATURES

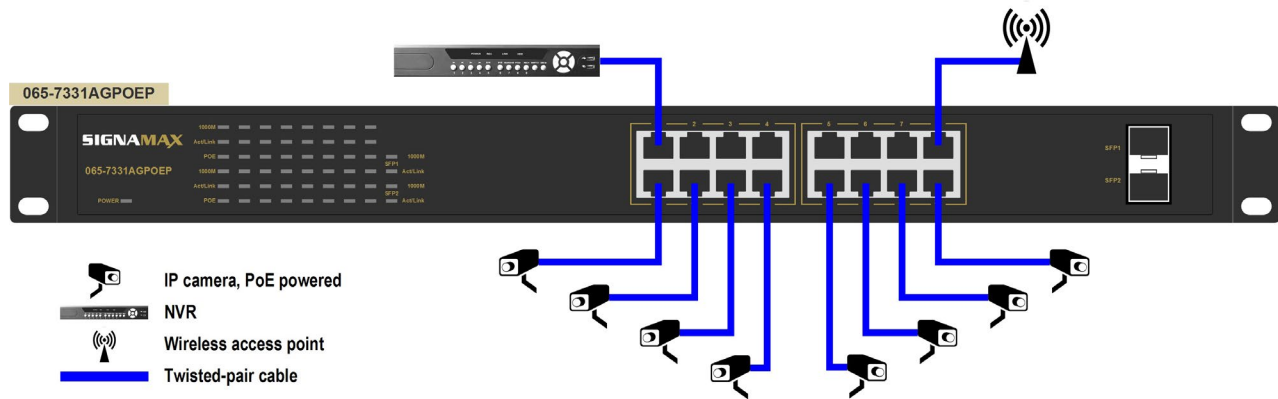
- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- 250 watts internal power supply
- Auto-detection of powered devices and power consumption levels
- LED indicators for data and PoE activity

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7331AGPOEP	16-Port 10/100/1000BaseT/TX Unmanaged PoE+ Switch plus 2-1000Base SFP only Ports

Application Reference - Indoor Video Surveillance:

In order to provide indoor video surveillance for security, as well as PoE+ support for the wireless access point, the Signamax 10/100/1000 unmanaged PoE+ switch was used to power the PoE cameras connected via Category 5e (or better) cabling and deliver their video streams to the Network Video Recorder at the central data switch location. The switch's Gigabit Ethernet capability allows for maximum wireless performance.



SPECIFICATIONS

Applicable Standards

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3ab 1000BaseT
- IEEE 802.3z 1000BaseSX/LX
- IEEE 802.3z 1000BaseDX/ZX
- IEEE 802.3af PoE
- IEEE 802.3at PoE+
- IEEE 802.3x Flow Control

Ports

16 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation Auto-MDI/MDIX ports, plus 2 - 1000Base SFP only ports. See page D1 - D5 for SFP ordering information.

LED Status Indicators

- Per Switch: Power
- Per Twisted-Pair Port: Link/Activity, PoE+ Activity (ports 1-16)
- Per 1000Base SFP Port: Link/Activity

Performance

- Latency: <20 μs (LIFO).
- Throughput, per port: 1,488,000 pps (64-byte packets)
- Switch Fabric Speed: 36 Gbps (non-blocking, wire speed performance)
- MAC Address Capacity: 8K

Electrical Characteristics

- Maximum Switch Wattage Required w/o PoE+ support: 25 Watts
- Maximum PoE Wattage Deliverable: 225 Watts
- Up to 30 watts delivered to each of 7 ports, up to 15.4 watts delivered to each of 14 ports, or up to 7.7 watts delivered to each of 16 ports
- Internal Power Supply AC Input: 100 - 240 V AC, 50/60 Hz

Environmental Requirements

- Operating Temperature: 32°F to 104°F (0°C to 40° C)
- Storage Temperature: -40°F to 158°F (-40°C to 75° C)
- Operating Humidity: 10 to 90% (non-condensing)

Physical Characteristics

- Dimensions: 17.3" W x 13.78" D x 1.73" H (440 mm x 350 mm x 44 mm)
- 19 in rack mounting hardware included.
- Weight: 11 lbs (5 kg)

Certifications

- CE, FCC, ROHS

Warranty

- Five Years (Including power supply)

5-Port 10/100/1000 Unmanaged PoE+ Switch

KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- LED indicators for data and PoE activity
- Plug & play for simple installation and operation
- Auto-detection of powered devices and power consumption levels
- Wall mounting kit included



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7306	5-Port 10/100/1000BaseT/TX Switch with 4 PoE+ Ports

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3af PoE
 IEEE 802.3at PoE+
 IEEE 802.3x Flow Control

Ports

5 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation Auto-MDI/MDIX ports

LED Status Indicators

Per Switch: Power
Per Port: Link/Activity, PoE+ Activity (ports 1-4)

Performance

Latency: <7.5 μ s (LIFO).
Throughput, per port: 1,488,000 pps (64-byte packets)
Switch Fabric Speed: 10 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 1K

Physical Characteristics

Dimensions: 3.62" W x 3.23" D x 0.87" H (92 mm x 82 mm x 22 mm)
Housing: Metal case
Weight: 0.46 lbs (0.21 kg)

Electrical Characteristics

Maximum Switch Wattage Required w/o PoE+ support: 8 Watts
Maximum PoE Wattage Deliverable: 76 Watts
 Up to 30 watts delivered to each of 2 ports, up to 15.4 watts delivered to each of 4 ports
External Power Supply AC Input: 100 - 240 V AC, 50/60 Hz, 2.5 Amp
External Power Supply DC Output: 52 V DC, 1.85 Amp

Environmental Requirements

Operating Temperature: 32°F to 113°F (0°C to 40°C)
Storage Temperature: -4°F to 194°F (-20°C to 90°C)
Operating Humidity: 10 to 90% (non-condensing)

Certifications

CE, FCC, ROHS

Warranty

Five Years (Including power supply)



1-Port Gigabit Capable PoE+ Power Injector

KEY FEATURES

- 10BaseT, 100BaseTX, and 1000BaseT support
- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- Rugged wall-mountable high-strength molded housing

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-POEINJ-GA	1-Port 10/100/1000BaseT/TX PoE+ Power Injector

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT, 100BaseTX, 1000BaseT
 IEEE 802.3af PoE (15.4 watts)
 IEEE 802.3at PoE+ (30 watts)

Ports

1 - RJ-45 10/100/1000BaseT/TX inbound data port, plus
 1 - RJ-45 10/100/1000BaseT/TX outbound data plus power port.

Electrical Characteristics

Input Power: Voltage: 90 to 264 V AC; Current: 750 mA;
Output Power: 53 V DC \pm 2 V DC; 31.8 Watts.
Pin Assignment and Polarity: 4 & 5 (+); 7 & 8 (-).

Environmental Requirements

Operating Temperature: 14°F to 104°F (-10°C to 40°C)
Storage Temperature: -22°F to 158°F (-30°C to 70°C)
Operating Humidity: 35% to 95% (non-condensing)

Physical Characteristics

Case Dimensions: 5.39" W x 2.44" D x 1.26" H (137 mm x 62 mm x 32 mm)
Housing: Molded Case
Weight: 0.419 lb (190 g)

Warranty

Five Years

4-Port 10/100 Unmanaged PoE Switch Plus One 100FX Port



KEY FEATURES

- Supports PoE (15.4 watt) Power Source Equipment (PSE)
- 100BaseFX SC multimode fiber port for easy fiber extension
- Internal power supply
- Auto-detection of powered devices and power consumption levels
- LED indicators for data and PoE activity
- Wall mounting kit included

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-73051FXSCPOE	4-Port 10/100BaseT/TX PoE Switch with 4 PoE Ports and 1-100BaseFX SC/MM Port

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3af PoE
IEEE 802.3x Flow Control

Ports

4 - RJ-45 10/100BaseT/TX Auto-Negotiation Auto-MDI/MDIX ports, with
1 - 100BaseFX port, 2 km span

LED Status Indicators

Per Switch: Power
Per Port: Link/Activity, PoE Activity (ports 1-4)

Performance

Latency: <7.5 μ s (LIFO)
Throughput, per port: 148,810 pps (64-byte packets)
Switch Fabric Speed: 1 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 1K

Physical Characteristics

Dimensions: 7.09"W x 4.53"D x 1.38"H (180 mm x 115 mm x 35 mm)
Housing: Metal case
Weight: 1.28 lbs (0.58 kg)

Electrical Characteristics

Maximum Switch Wattage Required w/o PoE support: 8 Watts
Maximum PoE Wattage Deliverable: 48 Watts
Up to 15.4 watts delivered to each of 3 ports, or up to 7.7 watts delivered to each of 4 ports
Internal Power Supply AC Input: 100 - 240 V AC, 50/60 Hz

Environmental Requirements

Operating Temperature: 32°F to 113°F (0°C to 45°C)
Storage Temperature: -4°F to 194°F (-20°C to 90°C)
Operating Humidity: 10 to 90% (non-condensing)

Certifications

CE, FCC, ROHS

Warranty

Five Years (Including power supply)

24-Port 10/100/1000 Unmanaged Switch

KEY FEATURES

- Gigabit Ethernet power in a simple plug-and-play switch
- IEEE 802.3x Flow Control for full duplex operation support

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7341GF	24-Port 10/100/1000BaseT/TX Unmanaged Switch plus 2-1000Base SFP Ports



SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3 Auto-Negotiation
 IEEE802.3x Flow Control

Ports

24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, plus 2-1000Base SFP ports.

LED Status Indicators

Per Switch: Power
Per Port: Link/Activity, 1000 Mbps

Performance

Latency: <4.3 μ s (FIFO)
Throughput, per port: @ 10Base: 14,880 pps; @ 100Base: 148,810 pps; @ 1000Base: 1,488,100 pps (64-byte packets)
Switch Fabric Speed: 48.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K

Electrical Characteristics

AC Input Range: 100 - 240 V AC, 50/60 Hz internal universal power supply

Environmental Characteristics

Operating Temperature: 32°F to 104°F (0°C to 40°C)
Storage Temperature: -40°F to 158°F (-40°C to 70°C)
Operating Humidity: 10% to 90% (non-condensing)

Physical Characteristics

Dimensions: 17.4" W x 7.09" D x 1.73" H (442 mm x 180 mm x 44 mm)
 19 in rack mounting hardware included.
Weight: 5.28 lb (2.4 kg)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Five Years (Including power supply)

8-Port 10/100/1000 Unmanaged Compact Switch



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7012G	8-Port 10/100/1000BaseT/TX Unmanaged Compact Switch

KEY FEATURES

- Gigabit Ethernet power in a simple plug-and-play switch
- High-strength, rugged metal housing
- Extended operating temperature range 32°F to 113°F (0°C to 45°C)

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3x Flow Control

Ports

8 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports.

LED Status Indicators:

Per Switch: Power
Per Port: Link/Activity, 1000 Mbps

Performance

Latency: <4.6 μ s (FIFO)
Throughput, per port: @ 10Base: 14,880 pps; @ 100Base: 148,810 pps; @ 1000Base: 1,488,100 pps (64-byte packets)
Switch Fabric Speed: 16.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K

Electrical Characteristics

AC Input Range: 12 V DC. External 100 – 240 V AC 50/60 Hz. Power supply included.

Environmental Requirements

Operating Temperature: 32°F to 113°F (0°C to 45°C)
Storage Temperature: 14°F to 140°F (-10°C to 60°C)
Operating Humidity: 10% to 90% (non-condensing)

Physical Characteristics

Dimensions: 5.35" W x 2.19" D x 0.98" H (13.6 mm x 7.4 mm x 2.5 mm) **Housing:** Metal case
Weight: 0.635 lb (288 g)

Certifications

CE, FCC, ROHS, VCCI Class A

Warranty

Five Years (Including power supply)

8-Port 100 SFP or 8-Port 1000 SFP Compact Unmanaged Fiber Switches



KEY FEATURES

- 8 100Base or 8 1000Base SFP ports supported, plus one dual media 10/100/1000 or 1000Base SFP port
- Auto send data control on the Dual Media 10/100/1000 BaseT/TX port
- Store and forward 1000 Mbps non-blocking switch matrix
- Broadcast storm protection
- Network status LED indicators
- 12 V DC 2 Amp external power supply included
- Extended operating temperature ranges 14°F to 140°F (-10°C to 60°C)
- High-strength, rugged metal case, desktop form factor with wall mount kit

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7310SFP	8-Port 100Base SFP Unmanaged Switch plus 1-10/100/1000BaseT/TX Dual Media Port
065-7310GSFP	8-Port 1000Base SFP Unmanaged Switch plus 1-10/100/1000BaseT/TX Dual Media Port

SPECIFICATIONS

Applicable Standards

IEEE802.3 10BaseT
IEEE802.3u 100BaseTX/FX
IEEE802.3u 100BaseBX
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3ab 1000BaseT
IEEE802.3x Flow Control

Ports

P/N 065-7310SFP:
8- 100Base SFP ports, plus 1 - 10/100/1000 Auto-Negotiation, Auto-MDI/MDIX Dual Media port with 1000Base SFP port.

P/N 065-7310GSFP:
8- 1000Base SFP ports, plus 1 - 10/100/1000 Auto-Negotiation, Auto-MDI/MDIX Dual Media port with 1000Base SFP port.
See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Switch: Power (Green)
Per Port: Link/Activity (Green)

Electrical Characteristics

Input Requirements: 12 V DC, 2 Amp external power supply included. Maximum power consumption: 10 Watts.

Performance

Latency: < 5.1 μ s
MTBF: 100,000 hours.
Throughput, per port: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps, 1,488,100 pps for 1000 Mbps
Switch Fabric Speed: 10 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 1K

Environmental Requirements

Operating Temperature: 14°F to 140°F (-10°C to 60°C)
Storage Temperature: -40°F to 176°F (-40°C to 80°C)
Operating Humidity: 5 to 90% (non-condensing)

Physical Characteristics

Dimensions: 7.56" W x 4.72" D x 1.10" H (192 mm x 120 mm x 28 mm); **Housing:** Metal case
Weight: 1.44 lb (0.65 kg.)

Certifications

CE, FCC, ROHS

Warranty

Five Years (Including power supply)

8-Port 10/100 Unmanaged PoE+ Switches



KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- Auto-detection of powered devices and power consumption levels
- LED indicators for data and PoE activity
- 150 watts internal power supply - P/N 065-7309POEP
- 250 watts internal power supply - P/N 065-7309POEP-FP

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7309POEP	8-Port 10/100BaseT/TX Unmanaged PoE+ Switch plus 1-10/100/1000BaseT/TX Dual Media Port, Desktop
065-7309POEP-FP	8-Port 10/100BaseT/TX Unmanaged PoE+ Switch plus 1-10/100/1000BaseT/TX Dual Media Port, Rack-Mount

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseSX/LX
 IEEE 802.3z 1000BaseUX/ZX
 IEEE 802.3af PoE
 IEEE 802.3at PoE+
 IEEE 802.3x Flow Control

Ports

8 - RJ-45 10/100BaseT/TX Auto-Negotiation Auto-MDI/MDIX ports, plus 1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation Auto-MDI/MDIX Dual Media port with 1000Base SFP port.
 See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Switch: Power
Per Twisted-Pair Port: Link/Activity, PoE+ Activity (ports 1-8)
Per 1000Base SFP Port: Link/Activity

Performance

Latency: <20 μ s (LIFO)
Throughput, per port: 1,488,000 pps (64-byte packets)
Switch Fabric Speed: 36 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 1K

Environmental Requirements

Operating Temperature: 32°F to 104°F (0°C to 40° C)
Storage Temperature: -40°F to 158°F (-40°C to 75° C)
Operating Humidity: 10 to 90% (non-condensing)

Electrical Characteristics

P/N 065-7309POEP:

Maximum Switch Wattage Required w/o PoE+ support: 15 Watts

Maximum PoE Wattage Deliverable: 135 watts

Up to 30 watts delivered to each of 4 ports, up to 15.4 watts delivered to each of 8 ports

Internal Power Supply AC Input: 100 - 240 V AC, 50/60 Hz

P/N 065-7309POEP-FP:

Maximum Switch Wattage Required w/o PoE+ support: 15 Watts

Maximum PoE Wattage Deliverable: 235 watts

Up to 30 watts delivered to each of 7 ports, up to 15.4 watts delivered to each of 8 ports

Internal Power Supply AC Input: 100 - 240 V AC, 50/60 Hz

Physical Characteristics

P/N 065-7309POEP:

Dimensions: 11.02" W x 7.09" D x 1.73" H (280 mm x 180 mm x 44 mm)

Weight: 5.5 lbs (2.5 kg)

P/N 065-7309POEP-FP:

Dimensions: 17.3" W x 7.09" D x 1.73" H (440 mm x 180 mm x 44 mm)

Weight: 6.17 lbs (2.8 kg)

Certifications

CE, FCC, ROHS

Warranty

Five Years (Including power supply)

PoE/PoE+ Ethernet Switch Capacity Chart:

Pg Ref.	Product	PoE/ PoE+ Ports	Fiber Uplink Ports	Max. Total PoE/PoE+ Power	Max. PoE+ Devices	Max. PoE Devices	
					Power Class 4 -- 30 Watts	Power Class 3 -- 15.4 Watts	Power Class 2 -- 7.7 Watts
Managed 10/100/1000 PoE+ Layer 2+ Switches							
B7	065-7861POE	24	Up to 6 100/1000Base SFP	185W	6	12	24
B7	065-7861POE-FP	24	Up to 6 100/1000Base SFP	370W	12	24	24
Unmanaged 10/100/1000 PoE+ Layer 2 Switches							
B12	065-7331AGPOEP	16	2 1000BaseSFP	225W	7	14	16
B13	065-7306	4	0	76W	2	4	4
Unmanaged 10/100 PoE+ Layer 2 Switches							
B17	065-7309POEP	8	1 1000BaseSFP	135W	4	8	8
B17	065-7309POEP-FP	8	1 1000BaseSFP	235W	7	8	8
Unmanaged 10/100 PoE Layer 2 Switch							
B14	065-73051FXSCPOE	4	1 100BaseFX SC/MM	48W	0	3	4

Note: The actual number of PoE and PoE+ devices a switch can support depends upon the mix of PoE and PoE+ Power Class devices connected. The maximums stated above assume all devices connected are the same PoE Power Class. A mix of PoE and PoE+ Power Class 1, 2, 3, and 4 devices may allow a higher device count, up to the maximum number of PoE ports in a switch.

For the most accurate estimate of PoE ports needed for your particular project, please call Signamax's Technical Support line and one of our Application Technicians will be eager to assist you.

INDUSTRIAL ETHERNET



Industrial Ethernet

~CONQUER YOUR GREATEST NETWORK CHALLENGES WITH CONVERTERS AND SWITCHES THAT CAN STAND UP TO THE HARSHTEST WORKING ENVIRONMENTS.

INCLUDED IN THIS SECTION:

10/100/1000 to Gigabit SFP Industrial Media Converters.....	C1
Gigabit Ethernet Industrial Media Converters.....	C2
10/100 to 100FX Industrial Media Converters.....	C3
10/100/1000 to 1000 SFP PoE+ Industrial Media Converter.....	C4
10/100 to 100FX Industrial PoE+ Media Converters.....	C5
1-Port Gigabit Capable Industrial PoE+ Power Injector.....	C6
10/100 Managed Layer 2+ Industrial PoE+ Switches.....	C7
10/100 Managed Layer 2+ Industrial Switch.....	C9
8-Port 10/100 Managed Layer 2+ Industrial PoE Switch.....	C11
12-Port 10/100 Managed Layer 2+ Industrial Switch.....	C13
10/100/1000 Unmanaged Industrial PoE+ Switches.....	C15
10/100/1000 Unmanaged Compact Industrial Switches.....	C16
10/100/1000 Unmanaged Industrial Switches.....	C17
10/100 Unmanaged Compact Industrial Switches.....	C18
2-Port 10/100 Unmanaged Compact Industrial Switch.....	C19
DIN-Rail Rack Mount Bracket.....	C19
PoE/PoE+ Industrial Power Supply Selection Chart:.....	C20
48 Volt Industrial Power Supply.....	C21
24 Volt Industrial Power Supply.....	C22



10/100/1000 to Gigabit SFP Industrial Media Converters

KEY FEATURES

- NEMA TS1/2 Environmental requirements compliant for traffic control equipment
- IEC61000-6-2 EMC Generic Standard Immunity compliant for industrial environment
- UL 508 Listed
- One SFP port for Gigabit fiber optic extension
- DIP switch configuration for link fault signaling, link down alarm, plus fiber auto/force mode
- Alarms for power failure and port link failure via relay output
- Redundant 24 V DC terminal block power inputs
- Supports DIN-rail or panel mount installations



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1896SFPTB	10/100/1000BaseT/TX to 1000Base SFP Industrial Media Converter

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseSX/LX
 SFP Multi-Source Agreement (MSA)

Ports

1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port, plus
 1 - 1000Base SFP port. See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Unit: Power1, Power2, Power3 (Green). Fault, LFS
Per Port: 10/100/1000BaseT/TX port: Link/Activity, Speed, Full Duplex/Collision. 1000Base SFP port - Link/Activity

Performance

Latency: <4.2 μ s
Throughput, per port: @ 1000BaseT 1,488,100 pps; @ 100BaseTX: 148,810 pps; @ 10BaseT: 14,881 pps (64-byte packets)

Electrical Characteristics

DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
 See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)
Storage Temperature: -40°F to 185°F (-40°C to 85°C)
Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 1.97 W" x 4.33" D x 5.31" H (50 mm x 110 mm x 135 mm)
Housing: IP30 protection, metal case. Pre-attached DIN-rail included.
Weight: 1.76 lb (0.8 kg)

Certifications

NEMA TS1/2 Environmental requirements for traffic control equipment
Safety: UL 508
EMI: FCC; EN61000-6-3
EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage Dip Standards (IEC 61000-4-11)
Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6 Fc); Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32 Ed)

Warranty

Limited Lifetime

Gigabit Ethernet Industrial Media Converters

KEY FEATURES

- NEMA TS1/2 Environmental requirements compliant for traffic control equipment
- IEC61000-6-2 EMC Generic Standard Immunity compliant for industrial environment
- UL 1604 Class 1, Division 2 Classified for use in hazardous locations.
- 1000Base fiber optic port available with MM, SM, and WDM SM
- DIP switch configuration for link fault signaling, link down alarm, plus fiber auto/force mode
- Alarms for power failure and port link failure via relay output
- Redundant 24 V DC terminal block power inputs
- Supports DIN-rail or panel mount installations



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1895TB	1000BaseT to 1000BaseSX Industrial Media Converter SC/MM, 220 m Span on 62.5 μ m Fiber / 550 m Span on 50 μ m Fiber
065-1897TB	1000BaseT to 1000BaseSX Industrial Media Converter SC/SM, 10 km Span

SPECIFICATIONS

Applicable Standards

IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX

Ports

P/N 065-1895TB: 1 - RJ-45 1000BaseT Auto-MDI/MDIX port plus
1 - 1000BaseSX port

P/N 065-1897TB: 1 - RJ-45 1000BaseT Auto-MDI/MDIX port plus
1 - 1000BaseLX port

LED Status Indicators

Per Unit: Power1, Power2, (Green), Fault, LFS

Per Port: 1000BaseT port: Link/Copper, TX, RX 1000BaseSX/LX port: Link/Fiber, TX, RX

Performance

Latency: <4.2 μ s

Throughput, per port: @ 1000BaseT 1,488,100 pps (64-byte packets)

Electrical Characteristics

DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)

Storage Temperature: -40°F to 185°F (-40°C to 85°C)

Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 1.97 W" x 4.33" D x 5.31" H (50 mm x 110 mm x 135 mm)

Housing: IP30 protection, metal case. Pre-attached DIN-rail included.

Weight: 1.76 lb (0.8 kg)

Certifications

NEMA TS1/2 Environmental requirements for traffic control equipment

Safety: UL 1604: Classified for ITE Equipment for use in hazardous locations:

Class 1, Division 2 group A, B, C, & D: Temp Code T4A; -25C < Tamb < 74C

UL 60950, EN 60950, IEC 60950, IEC 61000-6-2

EMI: FCC; EN61000-6-3

EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3);
Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI
Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage
Dip Standards (IEC 61000-4-11)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6 Fc);
Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-
2-32 Ed)

Warranty

Limited Lifetime

10/100 to 100FX Industrial Media Converters

KEY FEATURES

- NEMA TS2 Environmental requirements compliant for traffic control equipment
- 100BaseFX port available with multimode and singlemode fiber interfaces
- DIP switch configuration for link fault signaling, link down alarm, plus speed/duplex mode
- Supports 2K MAC addresses
- Broadcast storm filtering
- Back-pressure and IEEE 802.3x Compliant Flow Control
- Alarms for power failure and port link failure via relay output
- Redundant 24 V DC terminal block power inputs
- Supports DIN-rail or panel mount installations



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1800ATB	10/100BaseT/TX to 100BaseFX Industrial Media Converter, ST/MM, 2 km Span
065-1810ATB	10/100BaseT/TX to 100BaseFX Industrial Media Converter, SC/MM, 2 km Span
065-1820ATB	10/100BaseT/TX to 100BaseFX Industrial Media Converter, SC/SM, 15 km Span

SPECIFICATIONS

Applicable Standards

IEEE802.3 10BaseT
 IEEE802.3u 100BaseTX
 IEEE802.3u 100BaseFX
 IEEE802.3x Flow Control and Back pressure

Ports

1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus
 1 - fiber optic 100BaseFX port

LED Status Indicators

Per Unit: Power1, Power2, (Green), Fault, LFS
Per Port: 10/100BaseT/TX port: 100 Mbps Speed, Link/Activity, FDX/COL
 100BaseFX port: Link/Activity, FDX/COL

Performance

Latency: < 4.2 μs (LIFO)
Throughput, per port: @ 100Base: 148,810 pps (64-byte packets)

Electrical Characteristics

DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
 See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 176°F (-40°C to 80°C)
Storage Temperature: -50°F to 200°F (-45°C to 93°C)
Operating Humidity: 10% to 95% (non-condensing)

Physical Characteristics

Dimensions: 1.97" W x 5.35" D x 4.33" H (50 mm x 136 mm x 110 mm)
Housing: IP30 protection, metal case. Pre-attached DIN-rail included.
Weight: 1.76 lb (0.8 kg)

Certifications

NEMA TS2 Environmental requirements for traffic control equipment
Safety: UL 1604: Classified for ITE Equipment for use in hazardous locations: Class 1, Division 2 group A, B, C, & D: Temp Code T4A; -25C < Tamb < 74C UL 60950, EN 60950, IEC 60950, IEC 61000-6-2
EMI: FCC; EN61000-6-3; EN55022 (CISPR22 ClassA), EN55024 (CISPR24 Class A), CE EN 6100-4-4/5/6
EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage Dip Standards (IEC 61000-4-11)
Environmental Test Compliance: Vibration Resistance (IEC 60068); Operation/Storage/Transport Shock (IEC 60068-2-27); Free Fall (IEC 60068-2-32)

Warranty

Limited Lifetime

10/100/1000 to 1000 SFP PoE+ Industrial Media Converter

KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- 1000Base SFP fiber interface for flexibility
- Supports full wire-speed forwarding rate
- Provides 228K bits buffer memory
- 48 to 57 V DC terminal block power input
- Supports DIN-rail or panel mount installations

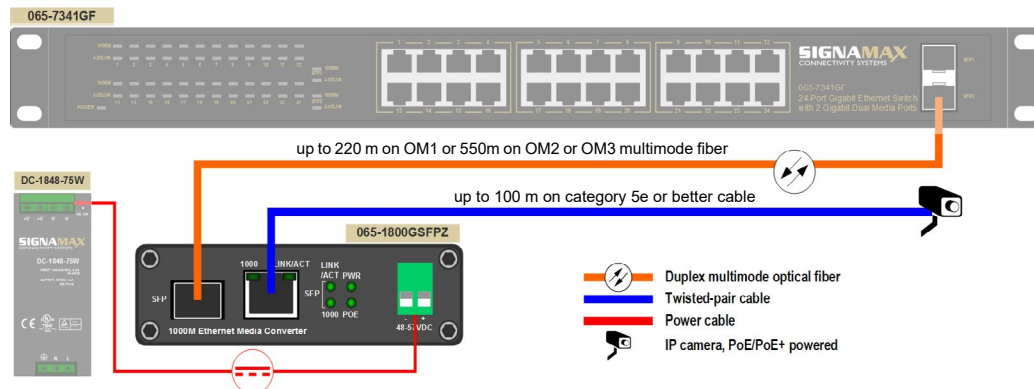


ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1800GSFPZ	10/100/1000BaseT/TX to 1000Base SFP Industrial Media Converter
Fiber types, 100 or 1000Base speed, and distances spanned are SFP module-dependent.	

Application Reference - IP Camera Connection Over Fiber:

An IP camera is being powered and the data path is being supported by the PoE+ Industrial Media Converter. The camera signal is carried via the SFP fiber interface modules in the media converter and the network switch.



SPECIFICATIONS

Applicable Standards

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3ab 1000BaseT
- IEEE 802.3az Gigabit Fiber
- IEEE 802.3x Flow Control and Back pressure

Ports

- 1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port, plus 1 - 1000Base SFP port. See page D1 – D5 for SFP ordering information.

LED Status Indicators

- Per Unit:** Power Status (Power)
- Per Port:** 10/100/1000BaseT/TX port: Link/Activity, Speed; 1000Base SFP port: Link/Activity, Speed
- PoE:** PD connect/PD disconnect

Performance

- Latency:** < 4.2 μ s (LIFO)
- Throughput, per port:** @ 1000BaseT: 1,488,100 pps (64-byte packets)

Electrical Characteristics

- DC Input Range:** 48 to 57 V DC Connected via Terminal Block
- See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

- Operating Temperature:** -40°F to 176°F (-40°C to 80°C)
- Storage Temperature:** -40°F to 185°F (-40°C to 85°C)
- Operating Humidity:** 5% to 95% (non-condensing)

Physical Characteristics

- Dimensions:** 1.10" W x 3.74" D x 2.76" H (28 mm x 95 mm x 70 mm)
- Housing:** Aluminum case. Pre-attached DIN-rail included.
- Weight:** 0.55 lb (0.25 kg.)

Certifications

- CE**
- Safety:** EN61000-6-2
- EMI:** FCC, EN55022:2006+A1: 2007 Class A
- Surge Protection:** RJ45: 1KV; Power: 500W
- ESD:** 4KV/8KV

Warranty

- Limited Lifetime

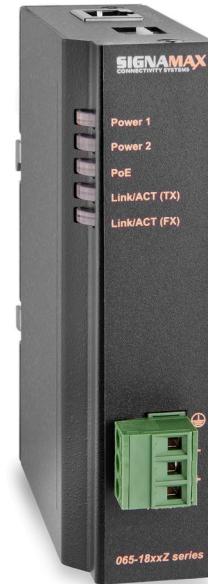
10/100 to 100FX Industrial PoE+ Media Converters

KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- DIP switch configuration for link fault signaling, link down alarm, plus speed/duplex mode
- 48 V DC terminal block power inputs
- Supports DIN-rail or panel mount installations

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-1800Z	10/100BaseT/TX to 100BaseFX Industrial PoE+ Media Converter, ST/MM, 2 km Span
065-1810Z	10/100BaseT/TX to 100BaseFX Industrial PoE+ Media Converter, SC/MM, 2 km Span
065-1820Z	10/100BaseT/TX to 100BaseFX Industrial PoE+ Media Converter, SC/SM, 20 km Span



SPECIFICATIONS

Applicable Standards

IEEE802.3 10BaseT
IEEE802.3u 100BaseTX/100BaseFX
IEEE802.3x Flow Control and Back pressure

Ports

1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus 1 - fiber optic 100BaseFX port

LED Status Indicators

Per Unit: Power Status (Power)
Per Port: 10/100BaseT/TX port: Link/Activity, Full-duplex/Collision 100BaseFX port: Link/Activity; PoE: PD connect/PD disconnect

Performance

Latency: < 4.2 μ s (LIFO)
Throughput, per port: @ 100Base: 148,810 pps (64-byte packets)

Electrical Characteristics

DC Input Range: 48 to 57 V DC Connected via Redundant Terminal Block; 48 to 52 V DC input supports up to 15.4 Watts, 52 to 57 V DC input supports up to 30 Watts. See page C21 for DIN-Rail Mount Industrial Power Supplies.

Environmental Requirements

Operating Temperature: 14°F to 140°F (-10°C to 60°C)
Storage Temperature: -40°F to 185°F (-40°C to 85°C)
Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 1.18 W" x 2.76" D x 3.33" H (30 mm x 70 mm x 110 mm)
Housing: IP30 protection, metal case. Pre-attached DIN-rail included.
Weight: 0.55 lb (0.25 kg)

Certifications

Safety: EN61000-6-2
EMI: FCC; EN61000-6-4, EN55022, EN61000-3-2, EN61000-3-3
EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 1000-4-8); Voltage Dip Standards (IEC 61000-4-11)

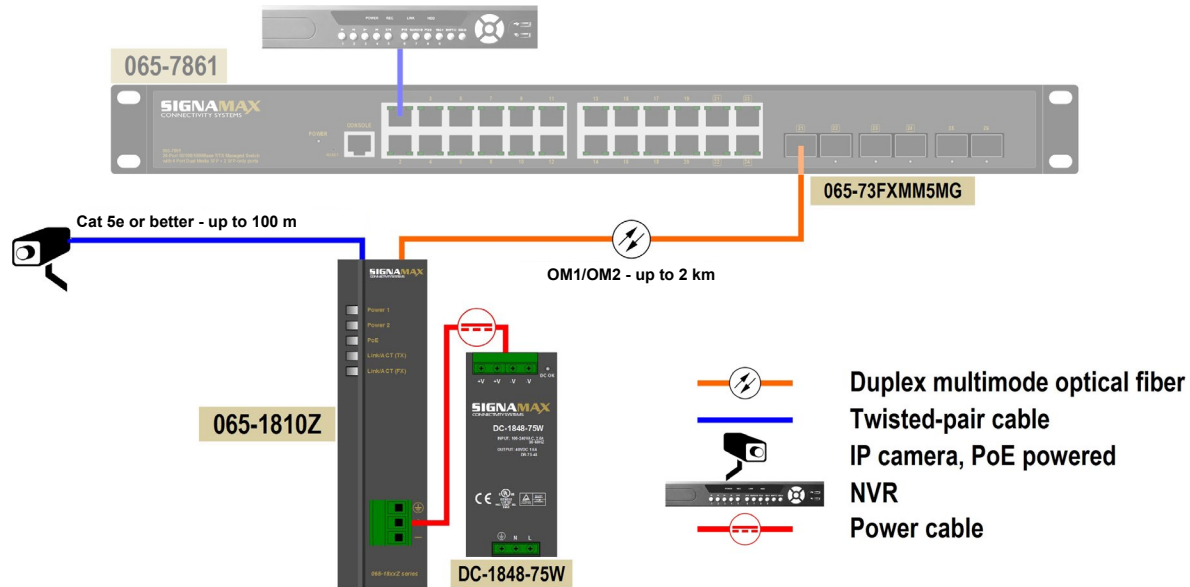
Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6 Fc); Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32 Ed)

Warranty

Limited Lifetime

Application Reference - Outdoor IP Security Camera Extension:

When an individual security camera must be located outdoors, it is crucial the industrial media converter be able to handle wide temperature extremes. An industrial media converter extends the circuit over fiber optic cable to areas operating in temperatures ranging from 14°F to 140°F (-10°C to 60°C). An industrial hardened power supply that operates in the same temperature range is also recommended.



1-Port Gigabit Capable Industrial PoE+ Power Injector

KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- Rugged housing with extensive operating temperature range
- Auto-detection of PD and power consumption levels
- LED indicators showing data & PoE activity

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-18POEINJZ	1-Port 10/100/1000BaseT/TX PoE+ Industrial Power Injector



SPECIFICATIONS

Applicable Standards

- IEEE 802.3 10BaseT, 100BaseTX, 1000BaseT
- IEEE 802.3af PoE (15.4 watts)
- IEEE 802.3at PoE+ (30 watts)

Ports

- 1 - RJ-45 10/100/1000BaseT/TX inbound data port, plus
- 1 - RJ-45 10/100/1000BaseT/TX outbound data plus power port.

Electrical Characteristics

- DC Input Power:** 48 V DC Connected via Redundant Terminal Block
- Output Power:** 46 V DC to 57 V DC; 30 Watts.
- Pin Assignment and Polarity:** 1 & 2 (+); 3 & 6 (-).

Environmental Requirements

- Operating Temperature:** -40°F to 167°F (-40°C to 75°C)
- Storage Temperature:** -40°F to 185°F (-40°C to 85°C)
- Operating Humidity:** 5% to 95% (non-condensing)

Physical Characteristics

- Case Dimensions:** 3.74" W x 1.57" D x 1.18"H (95 mm x 40 mm x 30 mm)
- Housing:** Metal Case
- Weight:** 0.55 lb (249.5 g)

Warranty

- Five Years

10/100 Managed Layer 2+ Industrial PoE+ Switches

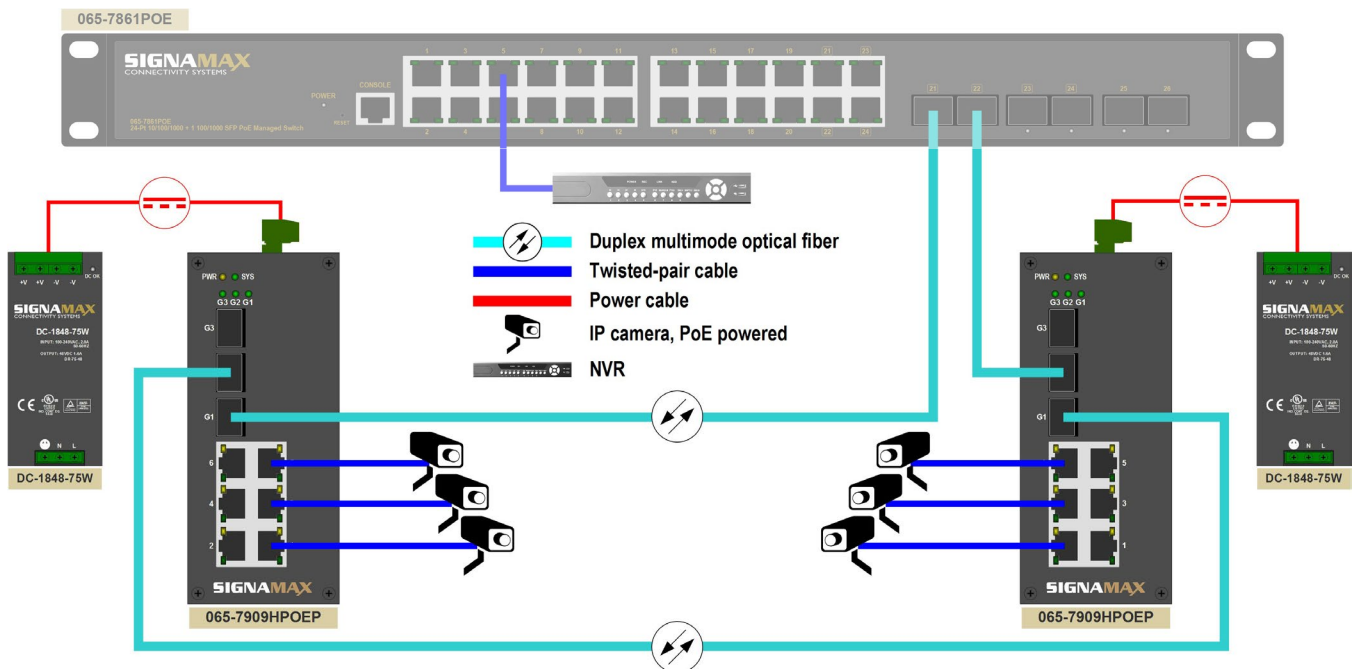
KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- PoE control and scheduling
- Fanless operation
- Supports Recover-Ring II™ and RSTP/STP for Ethernet redundancy
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Supports port-based VLAN and IEEE 802.1Q VLAN tagging and GVRP
- IEEE 802.1p QoS with four priority queues
- Manual, static LACP, and dynamic LACP trunking with automatic link fail-over
- RS-232 console, Telnet, SNMP v1, v2c & v3, RMON, SSL/SSH, web browser, and TFTP Management
- Supports command line interface in RS-232 console
- Secure Shell /Secure Socket Layer, HTTPS, and IEEE 802.1x RADIUS security standard supported
- Bandwidth egress rate control
- Port mirroring, both inbound and outbound
- Supports Network Time Protocol (NTP)



Application Reference - Surveillance Camera Ring Redundancy:

A redundant path has been created for the signals from the IP surveillance cameras, so if a fiber link to either of the remote switches is cut, the traffic from all the cameras is carried back to the Network Video Recorder (NVR) via the remaining fiber path. This avoids a single point of fiber connection failure.



10/100 Managed Layer 2+ Industrial PoE+ Switches

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7909HPOEP	6-Port 10/100BaseT/TX Managed Industrial PoE+ Switch plus 3-1000Base SFP Ports
065-7910HPOEP	8-Port 10/100BaseT/TX Managed Industrial PoE+ Switch plus 2-1000Base SFP Ports

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3af PoE (15.4 watt)
IEEE 802.3at PoE+ (30 watt)
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE802.1w Rapid Spanning Tree Protocol
IEEE802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control
IEEE 802.1AB LLDP/LLDP-MED
IEEE 802.3ad LACP

Ports

P/N 065-7909HPOEP: 6 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, plus 3 –1000Base SFP ports.

P/N 065-7910HPOEP: 8 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, plus 2 –1000Base SFP ports.

See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power Status 1

Per Port: PoE+ for 10/100TX: (Amber); Link/Activity, 10/100 Speed: (Green), Link/Activity, Gigabit Speed: (Green); SFP Activity: (Green)

Performance

Latency: <4.5 μ s (LIFO).

Throughput, per port: 1.48810 million pps (64-byte packets)

Switch Fabric Speed: 8.0 Gbps (non-blocking, wire speed performance)

MAC Address Capacity: 8 K MAC addresses; Per-port programmable MAC address locking; Up to 24 Static Secure MAC addresses per port

Frame Buffer: 1 MB

Port Mirroring: Inbound and Outbound, assignable to any port

Internetworking Protocols Supported

Recover-Ring II™: Supports recovery of ring-based network architecture in <20 ms. Proprietary.

Link Aggregation Control Protocol Trunking: Up to 13 LACP trunking groups; up to 8 ports for each group

GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/ GARP

Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3

Spanning Tree Protocol / Rapid Spanning Tree Protocol: IEEE 802.1d/1w

Link Layer Discovery Protocol: IEEE 802.1AB

VLAN Capabilities

Port-based VLAN; IEEE 802.1Q Tag-based VLAN; up to 255 active VLANs possible

QoS Capabilities

Supports 802.1p QoS with four level priority queue

Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR) with user-variable weighting.

Supports bandwidth egress rating per port; Bandwidth Egress Rate Limiting

Management

Access Methods: Console port access via RS-232C RJ-45 local console serial port, Telnet remote access, SNMP agent, and Web browser.

Software Upgrade Capability: Via TFTP

SNMP v1, v2c, and v3 Network Management

RFC 1213 MIB (MIB-2)

RFC 1757 RMON MIB

RFC 1493 Bridge MIB

P-Bridge MIB

Q-Bridge MIB

RSTP MIB

Ethernet-Like MIB

Electrical Characteristics

Maximum Switch Power Consumption w/o PoE connections: 15 Watts.

Maximum IEEE 802.3at PoE+ Power Consumption:

P/N 065-7909HPOEP: Full load with 6 ports PoE+ (30 W for each PoE port): 180 Watts.

P/N 065-7910HPOEP: Full load with 8 ports PoE+ (30 W for each PoE port): 240 Watts.

Maximum Total Power Consumption:

P/N 065-7909HPOEP (Switch plus 6 PoE+ ports at full load): 195 Watts.

P/N 065-7910HPOEP (Switch plus 8 PoE+ ports at full load): 255 Watts.

DC Input Range: 48 - 57 V DC, connected via redundant terminal block.

See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)

Storage Temperature: -40°F to 185°F (-40°C to 85°C)

Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 2.37" W x 4.55" D x 5.45" H (60.2 mm x 115.5 mm x 138.5 mm)

Housing: IP40 protection, metal case. Pre-attached DIN-rail and wall mounting kit included.

Weight: 1.65 lbs (750 g)

Certifications

CE

Safety: EN60950-1, IEC60950-1;

EMI: FCC; EN61000-6-3; EN55022; EN61000-3-2; EN61000-3-3

EMS: ESD Standards (IEC 61000-4-2); Radiated FRI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8);

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6fc); Operation/Storage/Transport; Criterion 3 Shock (IEC 60068-2-27) Half-Sine Shock Pulse; Operation; Half-Sine Shock Pulse; Storage/Transport; Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

10/100 Managed Layer 2+ Industrial Switch

KEY FEATURES

- Supports Recover-Ring II™ and RSTP/STP for Ethernet redundancy
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Supports port-based VLAN and IEEE 802.1Q VLAN tagging and GVRP
- IEEE 802.1p QoS with four priority queues
- Manual, static LACP, and dynamic LACP trunking with automatic link fail-over
- RS-232 console, Telnet, SNMP v1, v2c & v3, RMON, SSL/SSH, web browser, and TFTP Management
- Supports command line interface in RS-232 console
- Secure Shell /Secure Socket Layer, HTTPS, and IEEE 802.1x RADIUS security standard supported
- Bandwidth egress rate control
- Port mirroring, both inbound and outbound
- Supports Network Time Protocol (NTP)



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7912HTB	4-Port 10/100BaseT/TX Managed Industrial Switch plus 4-100BaseFX Ports SC/MM plus 2 1000Base SFP Ports

1000Base SFP Fiber Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-79SXMG-H	1000BaseSX SFP Module - MM/LC, 220 m Span on 62.5 μm Fiber / 550 m Span on 50 μm Fiber
065-79SXEDMG-H	1000BaseSX SFP Module 1310 nm - LC/MM, 2 km Span
065-79LXMG-H	1000BaseLX SFP Module 1310 nm - LC/SM, 10 km Span
065-79LXEDMG-H	1000BaseLX SFP Module 1310 nm - LC/SM, 40 km Span
065-79XDMG-H	1000BaseXD SFP Module 1550 nm - LC/SM, 40 km Span
065-79ZXMG-H	1000BaseZX SFP Module 1550 nm - LC/SM, 80 km Span
065-79EZXMG-H	1000BaseEZ SFP Module 1550 nm - LC/SM, 110 km Span

Industrial Temperature Range -40° C to 85° C



10/100 Managed Layer 2+ Industrial Switch

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE802.1w Rapid Spanning Tree Protocol
IEEE802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control
IEEE 802.1AB LLDP/LLDP-MED
IEEE 802.3ad LACP

Ports

4 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports plus 4 – 100BaseFX SC/MM ports plus 2 –1000Base SFP ports.
See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power Status 1
Per Port: Link/Activity, 10/100 Speed: (Green), Link/Activity, Gigabit Speed: (Green); SFP Activity: (Green)

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per switch: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 8.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K
Frame Buffer: 1 MB
Port Mirroring: Inbound and Outbound, assignable to any port

Networking Protocols Supported

Recover-Ring II™: Supports recovery of ring-based network architecture in <20 ms. Proprietary.
Link Aggregation Control Protocol Trunking: Up to 13 LACP trunking groups; up to 8 ports for each group
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/ GARP
Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol / Rapid Spanning Tree Protocol: IEEE 802.1d/1w
Link Layer Discovery Protocol: IEEE 802.1AB

QoS Capabilities

Supports 802.1p QoS with four level priority queue
Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR) with user-variable weighting.
Supports bandwidth egress rating per port; Bandwidth Egress Rate Limiting

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 255 active VLANs possible

Management

Access Methods: Console port access via RS-232C RJ-45 local console serial port, Telnet remote access, SNMP agent, and Web browser.

Software Upgrade Capability: Via TFTP

SNMP v1, v2c, and v3 Network Management

RFC 1213 MIB (MIB-2)

RFC 1757 RMON MIB

RFC 1493 Bridge MIB

P-Bridge MIB

Q-Bridge MIB

RSTP MIB

Ethernet-Like MIB

Electrical Characteristics

Maximum Switch Power Consumption: 15 Watts.

DC Input Range: 24 - 48 V DC, connected via redundant terminal block.

See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)

Storage Temperature: -40°F to 185°F (-40°C to 85°C)

Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 2.37" W x 4.55" D x 5.45" H (60.2 mm x 115.5 mm x 138.5 mm)

Housing: IP40 protection, metal case. Pre-attached DIN-rail and wall mounting hardware included.

Weight: 1.65 lbs (750 g)

Certifications

CE

Safety: EN60950-1, IEC60950-1

EMI: FCC; EN61000-6-3; EN55022; EN61000-3-2; EN61000-3-3

EMS: ESD Standards (IEC 61000-4-2); Radiated FRI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6fc); Operation/Storage/Transport; Criterion 3 Shock (IEC 60068-2-27) Half-Sine Shock Pulse; Operation; Half-Sine Shock Pulse; Storage/Transport; Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

8-Port 10/100 Managed Layer 2+ Industrial PoE Switch



KEY FEATURES

- Supports PoE (15.4 watt) Power Source Equipment (PSE)
- PoE control and scheduling
- Supports Recover-Ring II™ and RSTP/STP for Ethernet redundancy
- IP multicast filtering through IGMP snooping V1, V2 & V3
- Supports port-based VLAN and IEEE 802.1Q VLAN tagging and GVRP
- IEEE 802.1p QoS with four priority queues
- Manual, static LACP, and dynamic LACP trunking with automatic link fail-over
- RS-232 console, Telnet, SNMP v1, v2c & v3, RMON, SSL/SSH, web browser, and TFTP Management
- Supports command line interface in RS-232 console
- Secure Shell /Secure Socket Layer, HTTPS, and IEEE 802.1x RADIUS security standard supported
- Fanless operation
- Bandwidth egress rate control
- Port mirroring, both inbound and outbound
- Supports Network Time Protocol (NTP)

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7909HPOE	8-Port 10/100BaseT/TX Managed Industrial PoE Switch plus 1-100/1000Base SFP only Port



48 Volt Industrial Power Supply

KEY FEATURES

- Built-in DIN-rail mount
- Overload protection to 150% of rated power; constant Current limiting, recovers automatically

ORDERING INFORMATION

PART NO.	DESCRIPTION
DC-1848-120W	120 Watt DIN-rail Mount Power Supply, Input 88 to 132 / 176 to 264 V AC (47 to 63 Hz.), Switch-Selectable, or 120 to 370 V DC, 48 V DC Output.

Refer to page C21 for other DIN-Rail Mount Industrial Power Supplies.

8-Port 10/100 Managed Layer 2+ Industrial PoE Switch

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX/FX
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3af PoE (15.4 watt)
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE802.1w Rapid Spanning Tree Protocol
IEEE802.1D Spanning Tree Protocol compatible
IEEE 802.1Q Tagged VLAN with GVRP
IEEE 802.3x Flow Control
IEEE 802.1x Access Control
IEEE 802.1AB LLDP/LLDP-MED
IEEE 802.3ad LACP

Ports

8 - RJ-45 10/100BaseT/TX ports Auto-Negotiation, Auto-MDI/MDIX plus 1–100/1000Base SFP port.
See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power Status 1
Per Port: PoE+ for 10/100TX: (Amber); Link/Activity, 10/100 Speed: (Green), Link/Activity, Gigabit Speed: (Green); SFP Activity: (Green)

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per port: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 8.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K
Frame Buffer: 1 MB
Port Mirroring: Inbound and Outbound, assignable to any port.

Internetworking Protocols Supported

Recover-Ring II™: Supports recovery of ring-based network architecture in <20 ms. Proprietary.
Link Aggregation Control Protocol Trunking: Up to 13 LACP trunking groups; up to 8 ports for each group
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/ GARP
Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol / Rapid Spanning Tree Protocol: IEEE 802.1d/1w
Link Layer Discovery Protocol: IEEE 802.1AB

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 255 active VLANs possible

QoS Capabilities

Supports 802.1p QoS with four level priority queue
Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR) with user-variable weighting.
Supports bandwidth egress rating per port, Bandwidth Egress Rate Limiting.

Management

Access Methods: Console port access via RS-232C RJ-45 local console serial port, Telnet remote access, SNMP agent, and Web browser.

Software Upgrade Capability: Via TFTP

SNMP v1, v2c, and v3 Network Management

RFC 1213 MIB (MIB-2)

RFC 1757 RMON MIB

RFC 1493 Bridge MIB

P-Bridge MIB

Q-Bridge MIB

RSTP MIB

Ethernet-Like MIB

Electrical Characteristics

Maximum Switch Power Consumption w/o PoE connections: 15 Watts.

Maximum PoE Power Consumption: Full load with 8 ports PoE (15.4 W for each PoE port): 123.2 Watts.

Maximum Total Power Consumption (Switch plus 8 PoE ports at full load): 138.2 Watts.

DC Input Range: 48 to 57 V DC Connected via Redundant Terminal Block
See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)

Storage Temperature: -40°F to 185°F (-40°C to 85°C)

Operating Humidity: 5 to 95% (non-condensing)

Physical Characteristics

Dimensions: 4.84" W x 4.80" D x 1.80" H (123 mm x 122 mm x 45.8 mm)

Housing: IP40 protection, metal case. Pre-attached DIN-rail and wall mounting kit included.

Weight: 1.65 lbs (750 g)

Certifications

CE

Safety: EN60950-1, IEC 60950-1;

EMI: FCC; EN61000-6-3; EN55022; EN61000-3-2; EN61000-3-3

EMS: ESD Standards (IEC 61000-4-2); Radiated FRI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage Dip Standards (IEC 61000-4-11)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6fc); Shock (IEC 60068-2-27); Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

12-Port 10/100 Managed Layer 2+ Industrial Switch

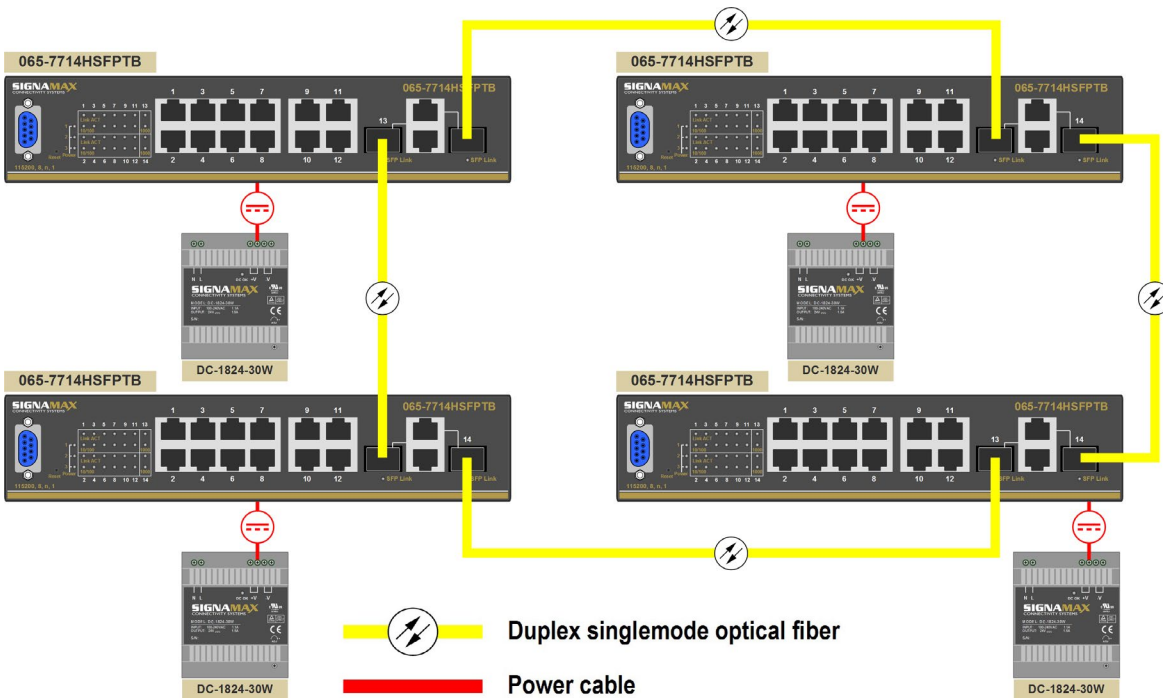


KEY FEATURES

- NEMA TS1/2 Environmental requirements compliant for traffic control equipment
- IEEE 802.1w RSTP, IEEE 802.1S MSTP, and IEEE 802.1D STP standard supported
- Recover-Ring™ capability - recovery time < 15 ms
- Two hardened SFP dual media ports
- Port mirroring for enhanced network monitoring
- Bandwidth rate control
- IP multicast filtering through IGMP snooping V1, V2 & V3
- IEEE 802.1p QoS with four priority queues
- IEC61000-6-2 EMC Generic Standard Immunity compliant for industrial environment
- MAC-based trunking with automatic link failover for bandwidth aggregation
- Supports port-based VLAN and IEEE 802.1Q VLAN tagging and GVRP
- IEEE 802.1x access control improves network security
- Redundant 24 V DC terminal block power inputs

Application Reference - Industrial Ring Network with Recover-Ring™:

Industrial managed switches are connected so if a fiber link is cut, the Recover-Ring™ allows the network's data traffic can be re-routed to another path for the signals in less than 15 milliseconds. This avoids a single point of fiber connection failure, and allows extremely fast network recovery.



12-Port 10/100 Managed Layer 2+ Industrial Switch

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7714HSFPTB	12-Port 10/100BaseT/TX Managed Industrial Switch plus 2-10/100/1000BaseT/TX Dual Media Ports
065-7714HDINMT	DIN-Rail Mounting Hardware for 065-7714HSFPTB Switch
065-7714HPANELMT	Panel Mounting Hardware for 065-7714HSFPTB Switch
065-7714HRACKMT	19 Inch Rack Mounting Hardware for 065-7714HSFPTB Switch

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1D Spanning Tree Protocol
IEEE 802.1s Multiple Spanning Tree Protocol
IEEE 802.1w Rapid Spanning Tree Protocol
IEEE 802.1Q Tagged VLAN
IEEE 802.3x Flow Control
IEEE 802.1x Access Control

Ports

12 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus
2 - Dual Media 10/100/1000BaseT/TX ports with 1000Base SFP ports.
See page D1 – D5 for SFP ordering information.
Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

Per Switch: Power Status 1, 2, & 3
Per Port: Link/Activity, 10/100 or 10/100/1000 speed

Performance

Latency: <4.5 μ s (LIFO).
Throughput, per port: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 8.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K; Per-port programmable MAC address locking
Up to 24 Static Secure MAC addresses per port
Frame Buffer: 2 MB
Port Mirroring: Inbound and Outbound, assignable to any port.

Network Security

IEEE 802.1x Access Control.

Internetworking Protocols Supported

MAC-based Trunking: 2 Fast Ethernet +1 Gigabit Ethernet trunking groups; up to 4 ports for each group
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol: IEEE 802.1Q with GVRP/ GARP
Multicasting: Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
Spanning Tree Protocol / Rapid Spanning Tree / Multiple Spanning Tree Protocol: IEEE 802.1d/1w/1s
Recover-Ring™: Supports recovery of ring-based network architecture in <15 ms. Proprietary

VLAN Capabilities

Port-based VLAN; IEEE 802.1Q Tag-based VLAN; up to 4K active VLANs possible

QoS Capabilities

Supports 802.1p QoS with four level priority queue.
Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR) with user-variable weighting.
Supports bandwidth rate limiting
Ingress and Egress rate limits:
Ports 1-12: 64 Kbps up to 100 Mbps
Ports 13 & 14: 64 Kbps up to 1000 Mbps

Management

Access Methods: Console port access via RS-232C/DB-9 local console serial port, Telnet remote access, SNMP agent, or Web browser.

Software Upgrade Capability: Via TFTP

SNMP v1, v2c, and v3 Network Management

RFC 1213 MIB (MIB-2)

RFC 1757 RMON MIB

RFC 1493 Bridge MIB

VLAN MIB (IEEE802.1Q/RFC2674)

Private MIB

Electrical Characteristics

DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)

Tested to: -40°F to 185°F (-40°C to 85°C)

Storage Temperature: -40°F to 185°F (-40°C to 85°C)

Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 9.25" W x 4.92" D x 1.97" H (235 mm x 125 mm x 50 mm)

Housing: IP30 protection, metal case.

Weight: 3.74 lb (1.7 kg)

Certifications

CE

NEMA TS1/2 Environmental requirements for traffic control equipment

Safety: UL508, EN60950-1, IEC 60950-1

EMI: FCC; EN61000-6-3; EN55022; EN61000-3-2; EN61000-3-3

EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3);

Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI

Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage

Dip Standards (IEC 61000-4-11)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6 Fc);

Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

10/100/1000 Unmanaged Industrial PoE+ Switches

KEY FEATURES

- Supports PoE+ (30 watt) Power Source Equipment (PSE)
- MAC address capacity of 8K
- Supports 9.6K bytes jumbo frames
- 2,000 V DC power line EFT protection & 6000 V DC Ethernet ESD protection
- Redundant 48 - 55 V DC terminal block power input
- IP30 protection metal case



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7407GPOEP	5-Port 10/100/1000BaseT/TX Unmanaged Industrial PoE+ Switch with 4-PoE+ Ports plus 2-100/1000Base SFP Ports
065-7410GPOEP	8-Port 10/100/1000BaseT/TX Unmanaged Industrial PoE+ Switch plus 2-100/1000Base SFP Ports

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseSX/LX
 IEEE 802.3af PoE (15.4 watt)
 IEEE 802.3at PoE+ (30 watt)

Ports

P/N 065-7407GPOEP: 4 - RJ-45 10/100/1000 Auto-Negotiation, Auto-MDI/MDIX ports, plus 1 - 10/100/1000 Auto-Negotiation, Auto-MDI/MDIX port plus 2 - 100/1000 Dual Rate SFP ports

P/N 065-7910HPOEP: 8 - RJ-45 10/100/1000 Auto-Negotiation, Auto-MDI/MDIX ports, plus 2 - 100/1000 Dual Rate SFP ports
 See page D1 – D5 for SFP ordering information.

LED Status Indicators

Per Switch: Power Unit: P1 (Green), P2 (Green), fault (Red)

Per Port: Ethernet port: Link/Activity (Green), 1000 Mbps; SFP: Link/Activity (Green)

Performance

Latency: <4.5 μs (LIFO).
Throughput, per port: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 20.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8K

Physical Characteristics

P/N 065-7407GPOEP:
Dimensions: 1.18" W x 3.90" D x 5.59" H (30 mm x 99 mm x 142 mm)
Weight: 1.27 lbs. (576 g.)

P/N 065-7410GPOEP:
Dimensions: 1.81" W x 3.85" D x 5.59" H (46 mm x 98 mm x 142 mm)
Weight: 1.69 lbs. (766 g.)

Housing: IP30 protection, metal case. Pre-attached DIN-rail and wall mounting kit included.

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75° C)

Storage Temperature: -40°F to 185°F (-40°C to 85° C)

Operating Humidity: 5 to 95% (non-condensing)

Electrical Characteristics

Maximum Total Power Consumption:

P/N 065-7407GPOEP: Full load with 4 ports PoE+ (30 W for each PoE port): 110 Watts @ 48 V, 130 Watts @ 51-55 V

P/N 065-7410GPOEP: Full load with 8 ports PoE+ (30 W for each PoE port): 210 Watts @ 48 V, 250 Watts @ 51-55 V

See page C21 for DIN-Rail Mount Industrial Power Supplies

Certifications

Safety: UL 61010

EMI: FCC

EMS: ESD Standards (IEC 61000-4-2); Radiated FRI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage Dip Standards (IEC 61000-4-11)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6fc); Shock (IEC 60068-2-27); Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

10/100/1000 Unmanaged Compact Industrial Switches

KEY FEATURES

- IEEE802.3az Energy Efficient Ethernet standard supported
- Compact metal case for rugged environments
- Pre-installed DIN-rail mount
- Supports 10K bytes jumbo frames
- High speed, non-blocking four traffic Class QoS switch fabric



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7405GTB	5-Port 10/100/1000BaseT/TX Unmanaged Industrial Switch
065-7405G1SXTB	4-Port 10/100/1000BaseT/TX Unmanaged Industrial Switch plus 1-1000BaseSX SC/MM Port, 220 m Span on 62.5 µm Fiber / 550 m Span on 50 µm Fiber

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3x Flow Control
IEEE 802.1az Energy Efficient Ethernet
IEEE 802.1p Quality of Service(QoS)

Ports

P/N 065-7405GTB: 5 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports

P/N 065-7405G1SXTB: 4 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports plus 1 - fiber optic 1000BaseSX port

LED Status Indicators

Per Unit: Power (Green)

Per Port: 10/100 Mbps Link/Activity (Green), 1000 Mbps Link/Activity (Yellow)

Performance

Latency: <5.1 µs

Throughput, per port: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps, 1,488,000 for 1000 Mbps (64-byte packets)

Switch Fabric Speed: 1.0 Gbps (non-blocking, wire speed performance)

MAC Address Capacity: 8K; Buffer Memory: 1 Mb

Electrical Characteristics

DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)

Storage Temperature: -40°F to 185°F (-40°C to 85°C)

Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 1.18" W x 4.49" H x 3.23" D (30 mm x 114 mm x 82 mm)

Housing: IP30 protection, metal case

Weight: 0.7 lb (0.34 kg)

Certifications

Safety: UL508

EMI: FCC; VCCI Class A; EN61000-6-4; EN55022 (ClassA)

EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage Dip Standards (IEC 61000-4-11)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6 Fc); Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

10/100/1000 Unmanaged Industrial Switches

KEY FEATURES

- Broadcast storm protection
- Network status LED indicators
- Redundant 12 to 36 V DC terminal block power input range
- Extended operating temperature range -40°F to 185°F (-40°C to 85°C)
- IP40 rugged, high-strength, dust proof, and closed design metal case



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7404GATB	4-Port 10/100/1000BaseT/TX Unmanaged Industrial Switch
065-7408GATB	8-Port 10/100/1000BaseT/TX Unmanaged Industrial Switch

SPECIFICATIONS

Applicable Standards

IEEE802.3 10BaseT
IEEE802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE802.3x Flow Control

Ports

P/N 065-7404GATB: 4 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports.

P/N 065-7408GATB: 8 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports

LED Status Indicators

Per Switch: Power 1 (Green); Power 2 (Green)
Per Port: 10/100/1000 Mbps Link/Activity (Green)

Performance

Latency: < 5.1 μ s
Throughput, per port: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps, 1,488,100 pps for 1000 Mbps
MAC Address Capacity: 1K

Electrical Characteristics

DC Input Range: 12 to 36 V DC Connected via Redundant Terminal Block
See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 185°F (-40°C to 85°C)
Storage Temperature: -40°F to 185°F (-40°C to 85°C)
Operating Humidity: 5 to 95% (non-condensing)

Physical Characteristics

P/N 065-7404GATB:
Dimensions: 2.38" W x 5.51" H x 4.65" D (60.5 mm x 140 mm x 118 mm)
Weight: 1.46 lb (0.66 kg)
P/N 065-7408GATB:
Dimensions: 2.38" W x 5.51" H x 4.65" D (60.5 mm x 140 mm x 118 mm)
Weight: 1.56 lb (0.71 kg)
Housing: IP40 protection, metal case

Certifications

EMI: FCC, EN55022 (CISR22 ClassA)
EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8)
Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6 Fc); Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

10/100 Unmanaged Compact Industrial Switches

KEY FEATURES

- IEC61000-6-2 EMC Generic Standard Immunity compliant for industrial environment
- IEEE802.3az 10BaseTe standard supported
- IEEE 802.1p QoS with two priority queues
- IEEE 802.3az Energy Efficient Ethernet standard supported
- Supports maximum frame length of up to 1552 bytes.
- Redundant 24 V DC, 1.5 Amp rated terminal block power input.



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7405ACTB	5-Port 10/100BaseTe/TX Unmanaged Industrial Switch
065-7405AC1FXSCTB	4-Port 10/100BaseTe/TX Unmanaged Industrial Switch plus 1-100BaseFX SC/MM Port
065-7405AC1FXSMTB	4-Port 10/100BaseTe/TX Unmanaged Industrial Switch plus 1-100BaseFX SC/SM Port

SPECIFICATIONS

Applicable Standards

IEEE802.3 10BaseTe (backwards-compatible with 10BaseT)
IEEE802.3u 100BaseTX
IEEE802.3u 100BaseFX
IEEE 802.1p Quality of Service (QoS)
IEEE802.3az Energy Efficient Ethernet
IEEE802.3x Flow Control

Ports

P/N 065-7405ACTB: 5 - RJ-45 10/100BaseTe/TX Auto-Negotiation, Auto-MDI/MDIX ports

P/N 065-7405AC1FXSCTB/SMTB: 4 - RJ-45 10/100BaseTe/TX Auto-Negotiation, Auto-MDI/MDIX ports plus 1-100BaseFX port

LED Status Indicators

Per Switch: Power1 (Green), Power2 (Green), Fault (Red)
10/100BaseT/TX Ports: Link/Activity (Green), 100 Mbps Speed (Amber)

Performance

Latency: < 5.1 μ s
Throughput, per port: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps
MAC Address Capacity: 1K

Electrical Characteristics

DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
See page C21 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: 14°F to 140°F (-10°C to 60°C)

Storage Temperature: -13°F to 185°F (-25°C to 85°C)

Operating Humidity: 5 to 95% (non-condensing)

Physical Characteristics

Dimensions: 1.02" W x 2.76" D x 4.33" H (26 mm x 70 mm x 110 mm)

Housing: IP30 protection, plastic case

Weight: 0.44 lb (0.2 kg.)

Certifications

Safety: UL60950

EMI: FCC; CE EN 6100-6-2, CE EN 6100-6-3

EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage Dip Standards (IEC 61000-4-11)

Environmental Test Compliance: Vibration Resistance (IEC 60068-2-6 Fc); Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32 Ed)

Warranty

Five Years

2-Port 10/100 Unmanaged Compact Industrial Switch

KEY FEATURES

- EN 61000 series standards for Industrial Environment verified
- Full wire-speed performance with 1024 MAC addressing
- Compact metal case for rugged environments
- Pre-installed DIN-rail mount
- Harden multi-port media converter option



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7403HTB	2-Port 10/100BaseT/TX Unmanaged Industrial Switch plus 1-100BaseFX SC/MM Port, 2 km Span

SPECIFICATIONS

Applicable Standards

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3u 100BaseFX
 IEEE 802.3x Flow Control

Ports

2 - 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports plus
 1 - 100BaseFX port

LED Status Indicators

Per Switch: Power (Green)
Per 10/100 Port: Link/Activity (Amber), 100 Mbps speed (Green)
Per 100FX Port: Link/Activity (Green)

Performance

Latency: <7.1 μ s
Throughput, per port: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps, (64-byte packets)
Switch Fabric Speed: 4.0 Mbps (non-blocking, wire speed performance)
MAC Address Capacity: 1K

Electrical Characteristics

Maximum Switch Power Consumption: 2.4 Watts
DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)
Storage Temperature: -40°F to 185°F (-40°C to 85°C)
Operating Humidity: 5% to 95% (non-condensing)

Physical Characteristics

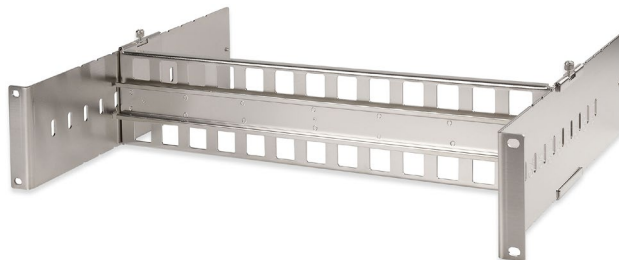
Dimensions: 1.58" W x 3.82" H x 3.03" D (40 mm x 97 mm x 77 mm)
Housing: IP30 protection, metal case
Weight: 0.57 lb (260 g)

Certifications

Safety: UL 60950-1
EMI: FCC; EN55022 (ClassA)
EMS: ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8)
Environmental Test Compliance: Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32)

Warranty

Five Years



DIN-Rail Rack Mount Bracket

KEY FEATURES

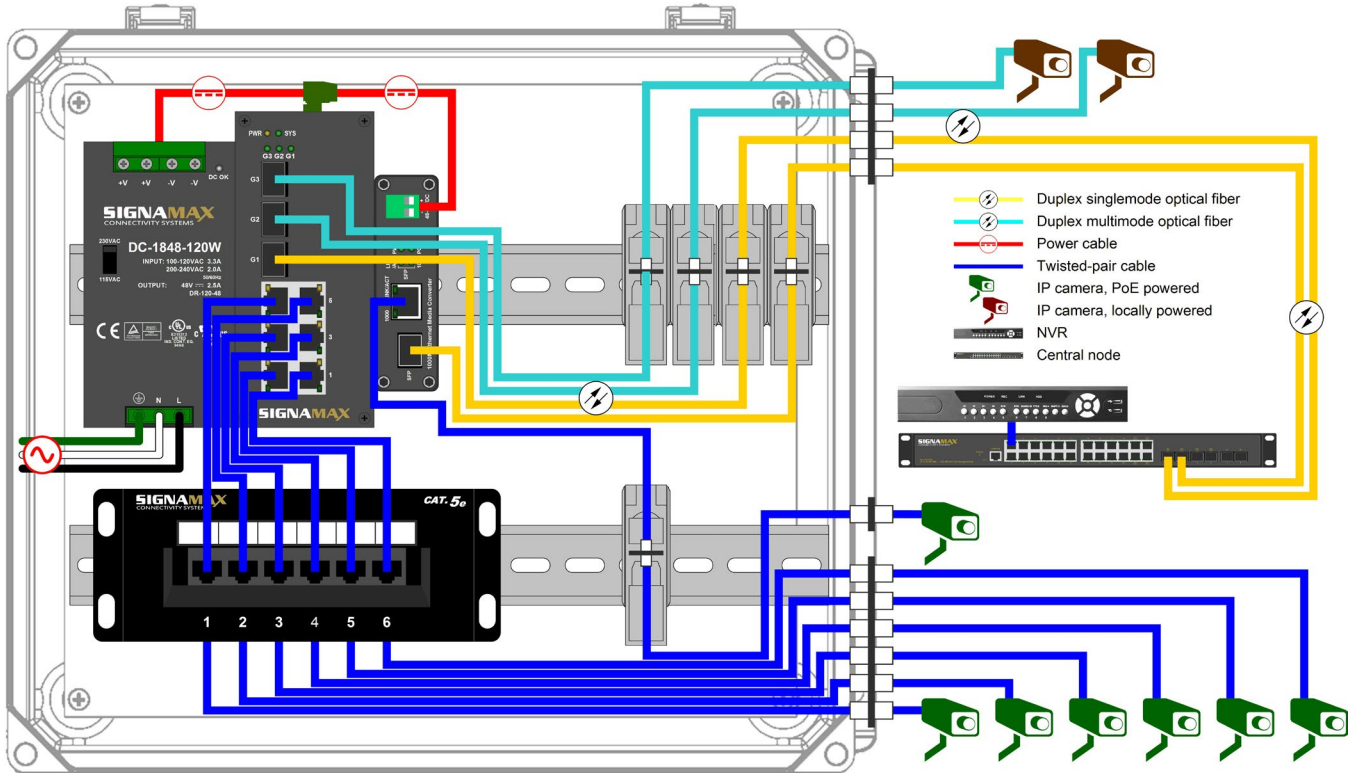
- Heavy-duty cold rolled steel construction
- Unique variable depth design permits use with any depth DIN-rail equipment
- Adjustable in depth from 2" to 8.25" (50 mm to 210 mm)
- Dimensions 19" W x 4.13" H x 11.22" D (464 mm x 105 mm x 285 mm)

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-18TR	19 Inch DIN-rail Rack Mount for Industrial Products

Application Reference - Outdoor NEMA Box Camera Deployment

The illustration below demonstrates a typical deployment of cameras scattered around an outdoor area like a college campus. Utilizing the 48 Volt power supply (DC-1848-120W) we supply both devices while cutting down heat displacement and maximizing space within the NEMA enclosure. The PoE Managed Switch (065-7909HPOEP) supplies the power to the IP cameras scattered throughout the coverage area and offers email alerts for port status indications plus additional management tools for the network administrator. The PoE Media Converter (065-1800GSFPZ) allows for a small expansion to an additional PoE IP camera. This showcase highlights the ability of the Signamax Network & Connectivity Solutions to meet the most demanding applications.



Signamax Connectivity Solutions Products shown above include: KI-DIN-RMM-SL (keystone jacks); 6458JPL-C5E-DR
Note: For more premise products, refer to our Connectivity Solutions catalog or visit www.signamax.com.

PoE/PoE+ Industrial Power Supply Selection Chart:

Pg Ref	Product	Product Power Consumption	Max PoE/PoE+		*Total Max Consumption	Recommended Power Supply	
			15.4W	30W		Full Load	Half Load
Industrial PoE/PoE+ Media Converters							
C4	065-1800GSFPZ	6		1	36	DC-1848-75W	
C5	065-18XXZ	3.6		1	33.6	DC-1848-75W	
Industrial PoE/PoE+ Ethernet Switches							
C8	065-7909HPOEP	15		6	195	DC-1848-240W	
	065-7910HPOEP			8	255	DC-1848-480W	DC-1848-240W
C11	065-7407GPOEP	10		4	130	DC-1848-240W	DC-1848-75W
	065-7410GPOEP			8	250	DC-1848-480W	DC-1848-240W
C13	065-7909HPOE	15	8	0	138.2	DC-1848-240W	DC-1848-75W

* Total Max Consumption: All available port(s) pulling max wattage plus the product consumption. Equation for total consumption:

$$\text{Product Power Consumption} + (\text{PD Consumption} \times \text{PD Qty})$$

Example: 065-7909HPOEP - 15 + (Cameras @ 15.4W x 4 Qty) = 76.6 W total ~ DC-1848-120W

Non-PoE industrial Ethernet products' recommended power supply is the Signamax 24 Volt Industrial DC-1824-Series.

48 Volt Industrial Power Supply

KEY FEATURES

- Built-in DIN-rail mount
- Safety: UL508, TUV EN60950-1 approved
- EMS immunity: EN61000-4-2, 3, 4, 5, 6, 8, 11, ENV50204, EN55024, EN61000-6-2, (EN50082-2) Heavy Industry Level, Criteria A
- EMI Conduction & Radiation: EN55011, EN55022 (CISPR22) Class B
- 48 V DC power output with overvoltage protection to 65 V
- Overload protection to 150% of rated power; constant current limiting, recovers automatically

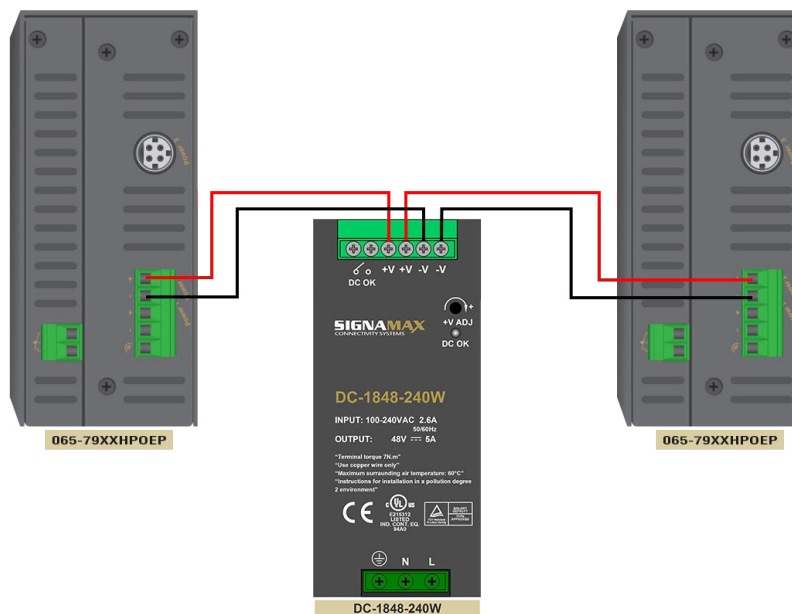


ORDERING INFORMATION

PART NO.	DESCRIPTION
DC-1848-75W	75 Watt DIN-Rail Mount Power Supply, Input 88 to 264 V AC (47 to 63 Hz.) or 120 to 370 V DC, 48 V DC Output. Operating Temperature: 14°F to 140°F (-10°C to 60°C)
DC-1848-120W	120 Watt DIN-rail Mount Power Supply, Input 88 to 132 / 176 to 264 V AC (47 to 63 Hz.), Switch-Selectable, or 120 to 370 V DC, 48 V DC Output. Operating Temperature: 14°F to 140°F (-10°C to 60°C)
DC-1848-240W	240 Watt DIN-rail Mount Power Supply, Input 88 to 264 V AC (47 to 63 Hz.), or 120 to 370 V DC, 48 V DC Output. Operating Temperature: 14°F to 140°F (-10°C to 60°C)
DC-1848-480W	480 Watt DIN-rail Mount Power Supply, Input 90 to 240 V AC (47 to 63 Hz.), or 127 to 370 V DC, 48 V DC Output. Operating Temperature: -13°F to 158°F (-25°C to 70°C)

Application Reference - Powering Two Typical Industrial Switches:

The DC-1824-75W, DC-1824-120W & DC-1848-Series can power two devices simultaneously, allowing a greater flexibility on deploying a system to meet specific needs while saving on space and keeping heat displacement low.



24 Volt Industrial Power Supply

KEY FEATURES

- Built-in DIN-rail mount
- Safety: UL60950-1, TUV EN60950-1 approved; design refers to EN50178.
- EMS immunity: EN61000-4-2, 3, 4, 5, 6, 8, 11, ENV50204, EN55024, EN61000-6-2, EN61204-3 Heavy Industry Level, Criteria A.
- EMI Conduction & Radiation: UL60950-1, TUV EN60950-1 approved; design refers to EN50178.
- 24 V DC power output with overvoltage protection to 32.4 V
- Overload protection to 150% of rated power; constant current limiting, recovers automatically

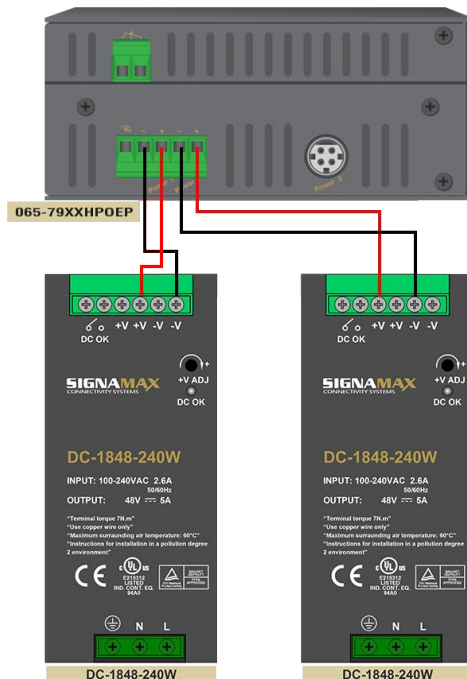


ORDERING INFORMATION

PART NO.	DESCRIPTION
DC-1824-30W	30 Watt DIN-Rail Mount Power Supply, Input 85 to 264 V AC (47 to 63 Hz.) or 120 to 370 V DC, 24 V DC Output. Operating Temperature: 14°F to 140°F (-10°C to 60°C)
DC-1824-60W	60 Watt DIN-Rail Mount Power Supply, Input 88 to 264 V AC (47 to 63 Hz.) or 120 to 370 V DC, 24 V DC Output. Operating Temperature: 14°F to 140°F (-10°C to 60°C)
DC-1824-75W	75 Watt DIN-Rail Mount Power Supply, Input 88 to 264 V AC (47 to 63 Hz.) or 120 to 370 V DC, 24 V DC Output. Operating Temperature: 14°F to 140°F (-10°C to 60°C)
DC-1824-120W	120 Watt DIN-Rail Mount Power Supply, Input 88 to 132 / 176 to 264 V AC (47 to 63 Hz.), Switch-Selectable, or 120 to 370 V DC, 24 V DC Output. Operating Temperature: 14°F to 140°F (-10°C to 60°C)

Application Reference - Dual Power For Typical Industrial Switch:

The DC-1824-Series & DC-1848-Series are capable of powering industrial switches by themselves, but if there is a failure in one of the units for whatever reason, the other power supply can seamlessly take over to ensure system up-time.



SFP FIBER MODULES



SFP Fiber Modules

~DESIGN YOUR NEXT NETWORK WITH BANDWIDTH AND ACCESS THAT IS UP TO THE GROWING DEMAND OF YOUR BUSINESS'S FIBER OPTIC INTERCONNECTIVITY NEEDS.

INCLUDED IN THIS SECTION:

10GbE SFP+ Fiber Modules.....	D1
1000Base SFP Fiber Modules.....	D2
1000Base WDM SFP Fiber Modules.....	D3
1000Base CWDM SFP Fiber Modules.....	D4
Gigabit Ethernet and Fast Ethernet Copper SFP Modules.....	D4
100BaseFX/BX SFP Fiber Modules.....	D5
100BaseFX/BX WDM SFP Fiber Modules.....	D5



10GbE SFP+ Fiber Modules

KEY FEATURES

- RoHS compliant
- Meets the SFP Multi-Source Agreement (MSA)
- Up to 40 km link distance models available (indicative only)
- Hot pluggable
- Metal enclosure, low EMI
- Extended temperature models available
- Low power dissipation

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-80SR10G300M	10GBaseSR SFP+ Module 850 nm - LC/MM, 300 m Span
065-80LR10G10KM	10GBaseLR SFP+ Module 1310 nm - LC/SM, 10 km Span



SUMMARY SPECIFICATIONS

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-80SR10G300M (Lt Brown Clasp)	SR 850 nm	VCSEL	6.5 dBm	300 m	3.3 V	0 ~ 70°C
065-80LR10G10KM (Blue Clasp)	LR 1310 nm	DFB Laser	6.5 dBm	10 km	3.3 V	0 ~ 70°C

10GbE XFP Fiber Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-82SR10G300M	10GBaseSR XFP Module 850 nm - LC/MM, 300 m Span
065-82LR10G10KM	10GBaseLR XFP Module 1310 nm - LC/SM, 10 km Span
065-82LR10G40KM	10GBaseLR XFP Module 1550 nm - LC/SM, 40 km Span



SUMMARY SPECIFICATIONS

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-82SR10G300M (Lt Brown Clasp)	SR 850 nm	VCSEL	6.5 dBm	300 m	3.3 V	0 ~ 70°C
065-82LR10G10KM (Blue Clasp)	LR 1310 nm	DFB Laser	6 dBm	10 km	3.3 V	0 ~ 70°C
065-82LR10G40KM (Red Clasp)	ER 1550 nm	TEC Cooled EML DFB LD	12.8 dBm	40 km	3.3 V	0 ~ 70°C

1000Base SFP Fiber Modules

KEY FEATURES

- RoHS compliant
- Meets the SFP Multi-Source Agreement (MSA)
- Up to 110 km link distance models available (indicative only)
- Hot pluggable
- Metal enclosure, low EMI
- Extended temperature models available
- Low power dissipation

ORDERING INFORMATION (Standard)

PART NO.	DESCRIPTION
065-79SXMG	1000SX SFP Module - MM/LC, 220 m Span on 62.5 μ m Fiber / 550 m Span on 50 μ m Fiber
065-79SXEDMG	1000BaseSX SFP Module 1310 nm - LC/MM, 2 km Span
065-79LXMG	1000BaseLX SFP Module 1310 nm - LC/SM, 10 km Span
065-79LXEDMG	1000BaseLX SFP Module 1310 nm - LC/SM, 40 km Span
065-79XDMG	1000BaseXD SFP Module 1550 nm - LC/SM, 40 km Span
065-79ZXMG	1000BaseZX SFP Module 1550 nm - LC/SM, 80 km Span
065-79EZXMG	1000BaseEZSFP Module 1550 nm - LC/SM, 110 km Span
Standard Temperature Range 0°C to 70°C	



ORDERING INFORMATION (Industrial)

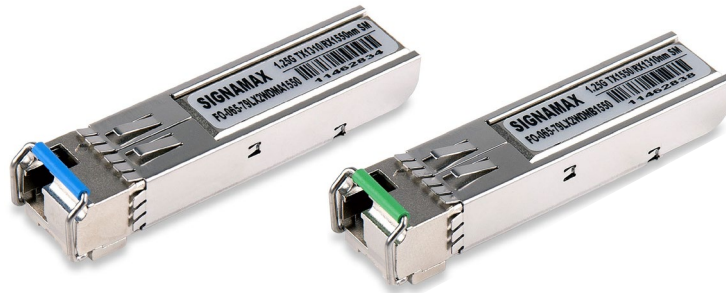
PART NO.	DESCRIPTION
065-79SXMG-H	1000SX SFP Module - MM/LC, 220 m Span on 62.5 μ m Fiber / 550 m Span on 50 μ m Fiber
065-79SXEDMG-H	1000BaseSX SFP Module 1310 nm - LC/MM, 2 km Span
065-79LXMG-H	1000BaseLX SFP Module 1310 nm - LC/SM, 10 km Span
065-79LXEDMG-H	1000BaseLX SFP Module 1310 nm - LC/SM, 40 km Span
065-79XDMG-H	1000BaseXD SFP Module 1550 nm - LC/SM, 40 km Span
065-79ZXMG-H	1000BaseZX SFP Module 1550 nm - LC/SM, 80 km Span
065-79EZXMG-H	1000BaseEZSFP Module 1550 nm - LC/SM, 110 km Span
Industrial Temperature Range -40°C to 85°C	



SUMMARY SPECIFICATIONS

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-79SXMG	SX	VCSEL	9 dBm	220 m on 62.5 μ m	3.3 V	0 ~ 70°C
065-79SXMG-H	850 nm			550m on 50 μ m		-40 ~ 85°C
065-79SXEDMG	MLX	FP Laser	11 dBm	2 km	3.3 V	0 ~ 70°C
065-79SXEDMG-H	1310 nm					-40 ~ 85°C
065-79LXMG	LX	FP Laser	11 dBm	10 km	3.3 V	0 ~ 70°C
065-79LXMG-H	1310 nm					-40 ~ 85°C
065-79LXEDMG	LX	DFB Laser	22 dBm	40 km	3.3 V	0 ~ 70°C
065-79LXEDMG-H	1310 nm					-40 ~ 85°C
065-79XDMG	XD	DFB Laser	18 dBm	40 km	3.3 V	0 ~ 70°C
065-79XDMG-H	1550 nm					-40 ~ 85°C
065-79ZXMG	ZX	DFB Laser	23 dBm	80 km	3.3 V	0 ~ 70°C
065-79ZXMG-H	1550 nm					-40 ~ 85°C
065-79EZXMG	EZX	DFB Laser	30 dBm	110 km	3.3 V	0 ~ 70°C
065-79EZXMG-H	1550 nm					-40 ~ 85°C

1000Base WDM SFP Fiber Modules



ORDERING INFORMATION

PART NO.	DESCRIPTION
065-79LX1WDMMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 10 km Span
065-79LX1WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 10 km Span
065-79LX2WDMMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 20 km Span
065-79LX2WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 20 km Span
065-79LX4WDMMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 40 km Span
065-79LX4WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 40 km Span
065-79LX6WDMMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 60 km Span
065-79LX6WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 60 km Span

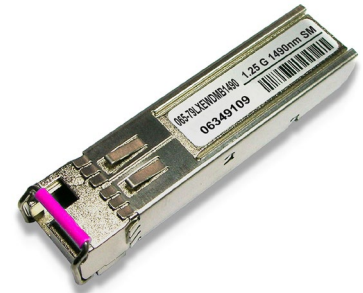
SUMMARY SPECIFICATIONS

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-79LX1WDMMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	FP Laser	11 dBm	10 km	3.3 V	0 ~ 70°C
065-79LX1WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	11 dBm	10 km	3.3 V	0 ~ 70°C
065-79LX2WDMMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	FP Laser	16 dBm	20 km	3.3 V	0 ~ 70°C
065-79LX2WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	16 dBm	20 km	3.3 V	0 ~ 70°C
065-79LX4WDMMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	DFB Laser	20 dBm	40 km	3.3 V	0 ~ 70°C
065-79LX4WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	20 dBm	40 km	3.3 V	0 ~ 70°C
065-79LX6WDMMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	DFB Laser	24 dBm	60 km	3.3 V	0 ~ 70°C
065-79LX6WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	24 dBm	60 km	3.3 V	0 ~ 70°C

1000Base CWDM SFP Fiber Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-79LXCWDMA1490	CWDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1490 nm - LC/SM SX, 10 km
065-79LXCWDMB1490	CWDM 1.25 Gbps SFP Tx: 1490 nm/Rx: 1310 nm - LC/SM SX, 10 km
065-79LXEWDMA1490	CWDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1490 nm - LC/SM SX, 20 km
065-79LXEWDMB1490	CWDM 1.25 Gbps SFP Tx: 1490 nm/Rx: 1310 nm - LC/SM SX, 20 km



SUMMARY SPECIFICATIONS

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-79LXCWDMA1490 (Blue Clasp)	TX: 1310 nm RX: 1490 nm	FP Laser	13 dBm	10 km	3.3 V	-5 ~ 70°C
065-79LXCWDMB1490 (Violet Clasp)	TX: 1490 nm RX: 1310 nm	DFB Laser	13 dBm	10 km	3.3 V	-5 ~ 70°C
065-79LXEWDMA1490 (Blue Clasp)	TX: 1310 nm RX: 1490 nm	FP Laser	13 dBm	20 km	3.3 V	-5 ~ 70°C
065-79LXEWDMB1490 (Violet Clasp)	TX: 1490 nm RX: 1310 nm	DFB Laser	13 dBm	20 km	3.3 V	-5 ~ 70°C

Gigabit Ethernet and Fast Ethernet Copper SFP Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
Gigabit Ethernet Copper SFP	
065-791000TMG	1000BaseT Twisted-Pair SFP Module, RJ-45, 100 m Span
065-791000TTXMG	10/100/1000BaseT/TX Twisted-Pair SFP Module, RJ-45, 100 m Span
Fast Ethernet Copper SFP	
065-73TXMG	10/100BaseT/TX Twisted-Pair SFP Module, RJ-45, 100 m Span



SUMMARY SPECIFICATIONS

PART NO.	MINIMUM DATA RATE	MAXIMUM DATA RATE	TYPICAL BIT ERROR RATE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
Gigabit Ethernet SFP	065-791000TMG	1000 Mbps	1000 Mbps	3.3 V	0 ~ 70°C
	065-791000TTXMG	10 Mbps	1000 Mbps	3.3 V	0 ~ 70°C
Fast Ethernet SFP	065-73TXMG	10 Mbps	100 Mbps	3.3 V	0 ~ 70°C

Note: 10/100/1000BaseT/TX operation requires an SGMII interface with no clocks in the host system. With a SERDES interface that does not support SGMII, the module will operate at 1000BaseT only.

100BaseFX/BX SFP Fiber Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-73FXMM5MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/MM, 5 km Span
065-73FXSM20MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 20 km Span
065-73FXSM40MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 40 km Span
065-73FXSM80MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 80 km Span
065-73FXSM110MG	100BaseFX / OC-3 / STM-1 SFP Module - LC/SM, 110 km Span



SUMMARY SPECIFICATIONS

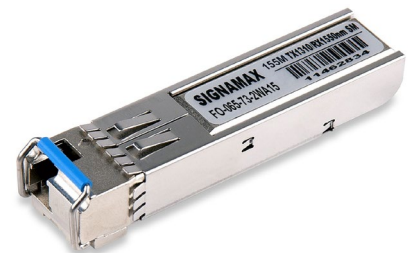
PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-73FXMM5MG	1300 nm Nominal	Uncooled LED	10.5 dBm	5 km	3.3 V	0 ~ 70°C
065-73FXSM20MG	1300 nm	FP Laser	19 dBm	20 km	3.3 V	0 ~ 70°C
065-73FXSM40MG	1310 nm	FP Laser	29 dBm	40 km	3.3 V	0 ~ 70°C
065-73FXSM80MG	1550 nm	DFB Laser	29 dBm	80 km	3.3 V	0 ~ 70°C
065-73FXSM110MG	1550 nm	DFB Laser	34 dBm	110 km	3.3 V	0 ~ 70°C

100BaseFX/BX WDM SFP Fiber Modules

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-73-MWA15	WDM 155 Mbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/MM SX, 2 km
065-73-MWB15	WDM 155 Mbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/MM SX, 2 km
065-73-2WA15	WDM 155 Mbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 20 km
065-73-2WB15	WDM 155 Mbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 20 km

Additional options for span are available. Visit our website for ordering information.



SUMMARY SPECIFICATIONS

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-73-MWA15 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	FP Laser	15 dBm	2 km	3.3 V	0 ~ 70°C
065-73-MWB15 (Green Clasp)	TX: 1550 nm RX: 1310 nm	FP Laser	15 dBm	2 km	3.3 V	0 ~ 70°C
065-73-2WA15 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	FP Laser	17 dBm	20 km	3.3 V	0 ~ 70°C
065-73-2WB15 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	17 dBm	20 km	3.3 V	0 ~ 70°C

PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE
065-1050ASC	A14	065-1196ALXED	A1	065-73FXSM20MG	D5	065-79LX2WDMA1550	D3
065-1050GSFP	A15	065-1196SFPDR	A3	065-73FXSM40MG	D5	065-79LX2WDMB1550	D3
065-1052SC	A14	065-1197	A5	065-73FXSM80MG	D5	065-79LX4WDMA1550	D3
065-1100	A7	065-1197ED	A5	065-73-MWA15	D5	065-79LX4WDMB1550	D3
065-1100LFS	A8	065-1198XLD	A6	065-73-MWB15	D5	065-79LX6WDMA1550	D3
065-1100NS	A7	065-11DINMT	A2/11	065-73TXMG	D4	065-79LX6WDMB1550	D3
065-1110	A7	065-1200LC74	A18	065-7403HTB	C20	065-79LXCWDMA1490	D4
065-1110LFS	A8	065-1200SC10	A18	065-7404GATB	C17	065-79LXCWDMB1490	D4
065-1110NS	A7	065-1200SC20	A18	065-7405AC1FXSCTB	C18	065-79LXEDMG	D2
065-1120	A7	065-1200SC95	A18	065-7405AC1FXSMTB	C18	065-79LXEDMG-H	D2
065-1120ED	A7	065-1200ST00	A18	065-7405ACTB	C18	065-79LXEWDMA1490	D4
065-1120LFS	A8	065-1610OAM	A16	065-7405G1SXTB	C16	065-79LXEWDMB1490	D4
065-1120NS	A7	065-1696SFPDR	A4	065-7405GTB	C16	065-79LXMG	D2
065-1120XLD	A7	065-1800ATB	C3	065-7407GPOEP	C15	065-79LXMG-H	D2
065-1130	A11	065-1800GSFPZ	C4	065-7408GATB	C17	065-79SXEDMG	D2
065-1130ED	A11	065-1800Z	C5	065-7410GPOEP	C15	065-79SXEDMG-H	D2
065-1132	A11	065-1810ATB	C3	065-7714HDINMT	C14	065-79SXMG	D2
065-1132ED	A11	065-1810Z	C5	065-7714HPANELMT	C14	065-79SXMG-H	D2
065-1132XLD	A11	065-1820ATB	C3	065-7714HRACKMT	C14	065-79XDMG	D2
065-1167A	A13	065-1820Z	C5	065-7714HSFPTB	C14	065-79XDMG-H	D2
065-1172	A7	065-1895TB	C2	065-77344DMR	B10	065-79ZXMG	D2
065-1172LFS	A8	065-1896SFPTB	C1	065-7734FSFPR	B9	065-79ZXMG-H	D2
065-1174	A7	065-1897TB	C2	065-7861	B5	065-80LR10G10KM	D1
065-1174LFS	A8	065-18POEINJZ	C6	065-7861POE	B7	065-80SR10G300M	D1
065-1176AEDLFS	A10	065-18TR	A12/C19	065-7861POE-FP	B7	065-82LR10G10KM	D1
065-1176ALFS	A10	065-7012G	B15	065-7880	B3	065-82LR10G40KM	D1
065-1176ALFSMM	A10	065-73051FXSCPOE	B14	065-7890FSFPDP	B1	065-82SR10G300M	D1
065-1176BEDLFS	A10	065-7306	B13	065-7909HPOE	C11	065-POEINJ-GA	B13
065-1176BLFS	A10	065-7309POEP	B17	065-7909HPOEP	C7	1185FAN	A12
065-1176BLFSMM	A10	065-7309POEP-FP	B17	065-791000TMG	D4	AC-1185	A12
065-1185	A12	065-7310GSFP	B16	065-791000TTXMG	D4	DC-1824-120W	C22
065-1194	A6	065-7310SFP	B16	065-7910HPOEP	C7	DC-1824-30W	C22
065-1194ED	A6	065-73-2WA15	D5	065-7912HTB	C9	DC-1824-60W	C22
065-1195	A5	065-73-2WB15	D5	065-7940D-WS	B11	DC-1824-75W	C22
065-1195SFP	A5	065-7331AGPOEP	B12	065-79EZXMGM	D2	DC-1848-120W	C21
065-1196A	A1	065-7341GF	B15	065-79EZXMGM-H	D2	DC-1848-240W	C21
065-1196AED	A1	065-73FXMM5MG	D5	065-79LX1WDMA1550	D3	DC-1848-480W	C21
065-1196ALX	A1	065-73FXSM110MG	D5	065-79LX1WDMB1550	D3	DC-1848-75W	C21

SIGNAMAX CONNECTIVITY SOLUTIONS



Designed To Work Together & Engineered To Deliver Guaranteed Performance.

Signamax offers one of the broadest arrays of solutions for your business. Establish a cabling infrastructure engineered to accommodate information systems that offers the flexibility, scalability, and universality for all types of implementation. Signamax has the advanced manufacturing capabilities, rigorous testing, and stringent standards to ensure your connectivity solution will stand up to the challenge. Signamax supports today's most advanced networking technologies through a comprehensive line of structured cabling products, both copper and fiber optic, designed to work together as a system.

From Category 6A, to 5e, to fiber optics, work area outlets, patch panels, cross-connect systems and much more, Signamax equips you with high-quality, high-performance solutions for information transport networks such as FLS systems, industrial control systems, cabling systems of single-user and multi-user buildings.

Signamax Connectivity Solutions also provides:

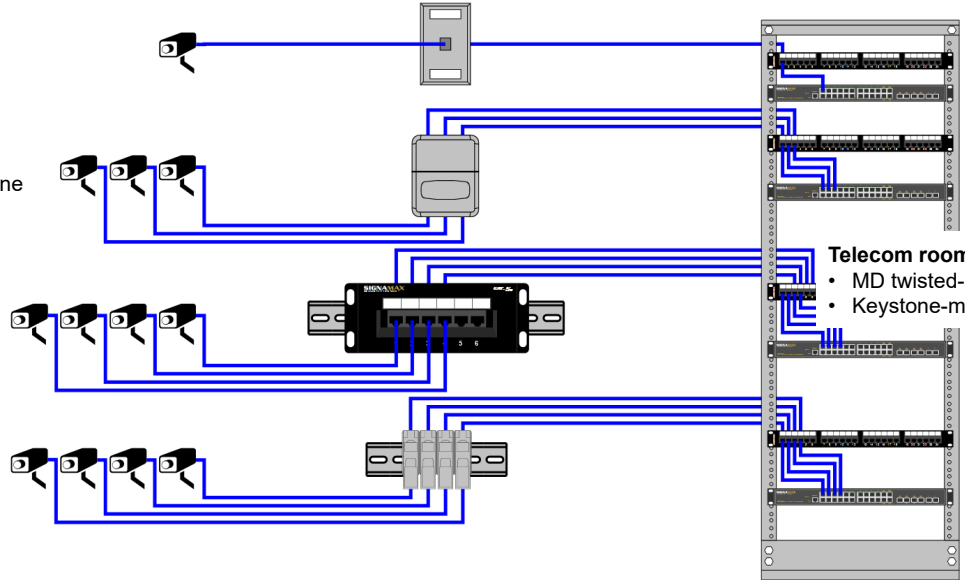
- High performance-to-price ratio that maximizes ROI
- Pre-sale network design help, so you can choose the optimal solution
- A continuously evolving line of products to meet emerging needs
- TAA compliance for government installations
- BICSI accredited training
- Certification programs that ensure a quality installation
- Post-sale support from an experienced US-based technical staff
- Warranties that provide peace of mind

Effectively adapt to the evolving future in a faster way, whether you are supporting a large enterprise, data center, or a small business infrastructure, Signamax offers the system solutions your organization requires. Browse our systems in the links below for more detailed information on how we are – Keeping Your World Connected.

Application Reference - Short-Range System Built Using Twisted-Pair Inside-Plant Cabling:

Remote locations:

- Wall mount faceplates & keystone modules
- Surface mount boxes & keystone modules
- DIN-rail mount panels
- DIN-rail module holders & keystone modules

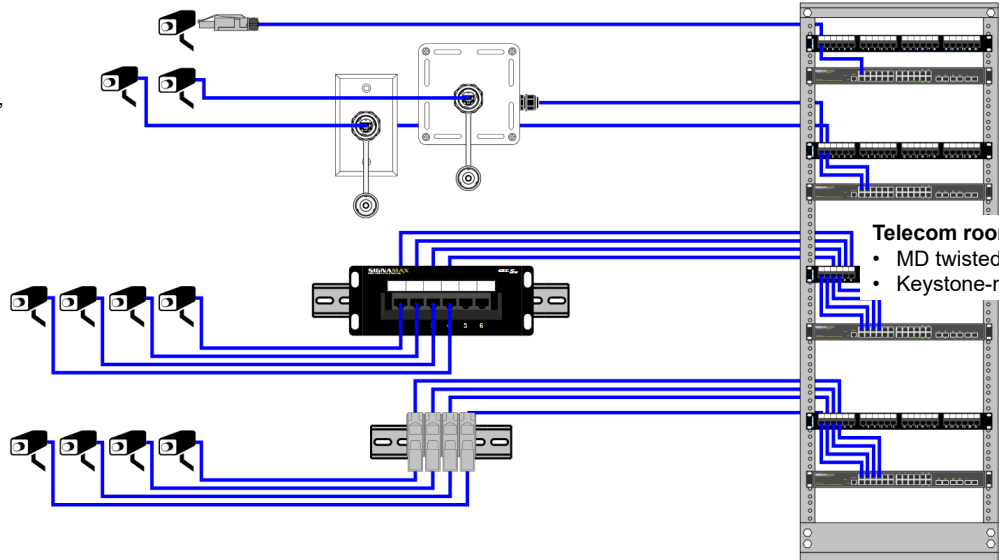


- Telecom room:**
- MD twisted-pair panels
 - Keystone-module panels

Application Reference - Short-Range System Combining Inside & Outside-Plant Components:

Remote locations:

- Direct attachment plug
- Industrial grade faceplates, keystone modules, & surface-mount boxes
- DIN-rail mount panels
- DIN-rail module holders & keystone modules

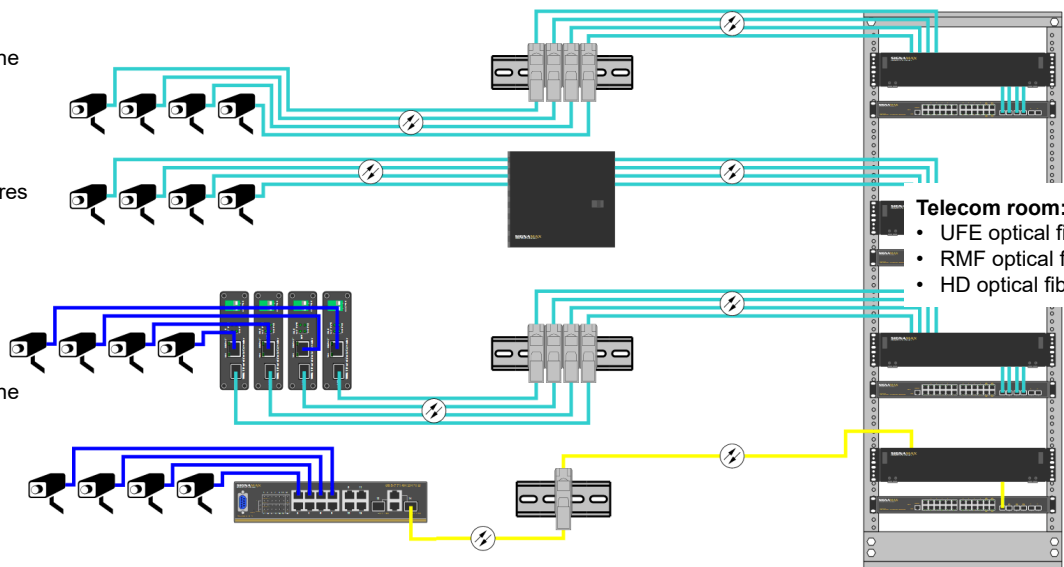


- Telecom room:**
- MD twisted-pair panels
 - Keystone-module panels

Application Reference - Medium to Long-Range (Campus or WAN) System Utilizing Optical Fiber Cabling:

Remote locations:

- Optical fiber keystone modules & DIN-rail modules
- Wall mount enclosures
- Optical fiber keystone modules & DIN-rail modules



- Telecom room:**
- UFE optical fiber enclosures
 - RMF optical fiber panels
 - HD optical fiber panels

WARRANTY

Questions on your project or experiencing problems, contact our Technical Support team for assistance.



TECHNICAL SUPPORT CONTACT INFORMATION

Hours: Mon-Fri 9AM to 5PM EST

Call: (US) 800.446.2377 (International) 305.944.7710

Email: techsupport@signamax.com

Web: www.signamax.com



LIMITED LIFETIME WARRANTY

SIGNAMAX, Inc. warrants this product against defects in materials and workmanship for the life of the product to the original purchaser.



FIVE YEAR WARRANTY

SIGNAMAX, Inc. warrants this product against defects in materials and workmanship for a period of FIVE (5) years to the original purchaser.

If you discover a defect, SIGNAMAX will, at its sole option, repair or exchange the product at no charge to you, provided you contact SIGNAMAX Technical Support to obtain a Return Material Authorization (RMA) Number and instructions on where and how to obtain repair.

Note: a copy of your bill of sale bearing the SIGNAMAX model number as proof of date of purchase is required for each product returned for warranty service. Before returning product, remove all non-SIGNAMAX RAM, accessories, and options. SIGNAMAX can not be liable for the return or care of any non-SIGNAMAX products, nor accept responsibility for loss or damage of product in transit.

This warranty does not apply if the product has been damaged by accident, installation or removal of product, abuse, misuse, misapplication, neglect, fire, water, lightning, or other acts of nature, failure to follow supplied instructions, has been modified, repaired or undergone attempted repair by unauthorized personnel without the written consent of SIGNAMAX; has a serial number that has been removed, modified, or defaced.

SIGNAMAX reserves the right to use remanufactured, refurbished, or used parts and components in making warranty repairs.

Certain features of third-party software or hardware designed for the host system may not be available when used with this product. Accordingly, SIGNAMAX does not warrant or represent that all software or hardware will function error-free when used in conjunction with this SIGNAMAX product.

This warranty is in lieu of all other warranties, whether oral or written, express or implied. All express and implied warranties for this product, including the implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the warranty period.

No warranties, express or implied, will apply after this period. SIGNAMAX shall not be liable for any lost profits, damage to other property caused any defect in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial use, incidental and/or consequential damages for the breach of any express or implied warranty, including damage to property and, to the extent permitted by law, damages for personal injury, even if SIGNAMAX has been advised of the possibility of such damages.

Some states do not allow the inclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, therefore the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.

SIGNAMAX



SIGNAMAX[™]
CONNECTIVITY SYSTEMS

999 N.W. 159th Drive, Miami, FL 33169 • 800.446.2377 • www.signamax.com



© Signamax, Inc. All rights reserved.
2017NS

