SIGNAMAX™

- Media Converters
- Ethernet Switches
- Industrial Media Converters & Switches
- SFP Fiber Modules

NETWORK CONNECTIVITY SYSTEMS

Catalog

www.signamax.com

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KEEPING YOUR WORLD Connected

SIGNAMAX™

www.signamax.com

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In today's technology-driven world, the backbone of your organization is your network — keeping you connected to staff, customers, suppliers, and the world at large. To run a successful enterprise, you need a network that's reliable, rapid, and ready to support the growth and change your business will experience. Signamax is the supplier that can provide you with the network products that are up to those challenges.

For 30 Years….

The Signamax mission has been to provide the highest value products for your network connectivity projects. As your source for Network connectivity solutions, Signamax delivers the features and benefits you demand — including greater performance, reliability, ease of use and flexibility.

In this catalog you will find the comprehensive products Signamax **Network Connectivity Systems** offers in a wide range of high-performance, cost effective options for Ethernet, Fast Ethernet, and Gigabit Ethernet applications.

The solutions include **Media Converters, Ethernet Switches, Industrial Media Converters & Switches and SFP Fiber Modules.** From the smallest project to the largest, Signamax has the range of network solutions to meet the demands for high-speed, high bandwidth connectivity.

You'll find that our products are designed better, install with greater ease and bring an unparalleled level of value, performance and reliability to your network. They are designed for the most demanding applications and engineered to meet stringent standards and specifications. Each product is manufactured to the highest quality standards then tested to ensure that it exceeds IEEE International Standards.

The strength and integrity of our products are backed by the skills and experience of our technical staff. We are dedicated to providing high-quality, high-performance, high-value networking solutions — all backed by long-term performance warranties that provide the peace of mind you require.

So, if want to keep your world connected — reliably and rapidly, both now and in the future — choose the company that can make it happen, Signamax.

SIGNAMAX™ NETWORK CONNECTIVITY SYSTEMS

Media Converters

Media Converters are an easy and cost-effective way to establish a fiber optic cabling infrastructure within your existing network. Media Converters are especially useful when expanding the reach of a LAN to span multiple locations, or connecting multiple LANs to form one large campus area network. Since premise networks are primarily copper-based, media converters can extend the reach of the LAN to over 100 kilometers.

Signamax provides a wide array of converters to support your Ethernet, Fast Ethernet, and Gigabit Ethernet requirements. Signamax has rack mountable and chassis-based converter systems to support clustered installations, and stand-alone managed converters to handle dispatch to outlying locations and Fiber to the Home (FTTH) environments.

Where management is not needed, our series of unmanaged converters provides simplicity with Link Fault Signaling, to allow managed switches to reroute when a path fails, and the ability to force speed and/or duplex modes to work where less flexible converters cannot.

If flexibility is a key requirement, our 10/100/1000BaseT/TX to 100/1000Base SFP media converters provide high quality at a high-value price.

Advantages of Signamax Media Conversion Products

Signamax provides Media Converter products featuring the highest ROI in the industry when comparing Performance, Reliability, Warranty and Price. Whether in a traditional application of extending the reach of your network signal or a Backbone or Campus application, we have the solution you need, providing:

Cost Savings: Extend the life of your Legacy Switches and Equipment by easily converting Copper RJ-45 ports to Fiber Optic.

Flexibility: Models available to suit almost any configuration requirement.

Reliability: Signamax Media Converters are recognized in the industry for providing the highest performance year after year, and are supported by our Limited Lifetime Warranties.

Network Control: Models are available with robust Management capabilities including SMNP, VLANs and much more.

With pre-sales design, post-design support and the Limited Lifetime Warranty, Signamax can help maximize the ROI of your network project and assure high uptime and value.

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1-Port Gigabit Capable PoE/PoE+
Power Injector A14

Media Converters

10/100/1000BaseT/TX to 100/1000Base 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 121 Years
- Gigabit Transmission Supports 9K Bytes Jumbo Frames
- Supports IEEE 802.3x Flow Control for Full Duplex and Back Pressure for Half Duplex
- 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
- Limited Lifetime Warranty

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 802.3ab 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.
1 - Dual-rate 1000Base or 100Base SFP receptacle.

LED Status Indicators
Power; LFS Status; Link Copper; Link Fiber;
Copper port speed (Green = 1000 Mbps, Amber = 100 Mbps, off = 10 Mbps)
SFP fiber port speed indicator.

Peformance
Latency: ≤1.6 µs (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

Fiber Interface
SFP-dependent. See page D1 – D4 for SFP ordering information.
See our website at www.signamax.com for SFP specification information.

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A;
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

10/100/1000BaseT/TX to 100/1000BaseSX/LX Media Converters

Key Features

- Extremely Low Latency Supports Larger Multi-Hop Networks
- Extremely High Reliability; MTBF of Over 121 Years
- Gigabit Transmission Supports 9K Bytes Jumbo Frames
- Supports IEEE 802.3x Flow Control for Full Duplex and Back Pressure for Half Duplex
- 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
- Limited Lifetime Warranty

Ordering Information

PART NO.	DESCRIPTION
065-1196A	10/100/1000BaseT/TX to 1000BaseSX Media Converter, SC/MM 220 m Span on 62.5 µm Fiber / 550 m Span on 50 µm Fiber
065-1196AED	10/100/1000BaseT/TX to 1000BaseSX Media Converter, SC/MM 2 km Span on 62.5 µm or 50 µm 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.
1 - 1000BaseSX or 1000BaseLX fiber optic port, SC connectors

LED Status Indicators
Power; LFS Status; Link Copper; Link Fiber;
Copper port speed (Green = 1000 Mbps, Amber = 100 Mbps, off = 10 Mbps)
SFP fiber port speed indicator.

Peformance
Latency: ≤1.5 µs (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

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

10/100/1000BaseT/TX to 100/1000Base OAM Managed SFP Media Converters

Key Features

- Dual-Rate 1000Base or 100Base SFP Capability
- Complies with the IEEE 802.3ah OAM Management Standard
- Supports SNMP v1 & v2c Management.
- Supports Q-in-Q Double Tagged Frame Transparent
- Supports IN-BAND Loop Back and Diagnostic
- Gigabit Transmission Supports 9K Byte Jumbo Frame
- Supports IEEE 802.3x Flow Control for Full Duplex and Back Pressure for Half Duplex
- Full Wire-Speed Forwarding Rate
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- Limited Lifetime Warranty

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 802.3ab 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.
1 - Dual-rate 1000Base or 100Base SFP receptacle.

LED Status Indicators
Power; LFS Status; Link Copper; Link Fiber; OAM Loop.
Copper port speed (Green = 1000 Mbps, Amber = 100 Mbps, off = 10 Mbps)
SFP fiber port speed indicator.

Peformance
Latency: ≤1.6 µs (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.

Fiber Interface
SFP-dependent. See page D1 – D4 for SFP ordering information.
See our website at www.signamax.com for SFP specification information.

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

10/100/1000BaseT/TX to 100/1000Base OAM Managed Media Converters

Key Features

- One Fiber Interface Supports Dual Rate 100BaseFX/BX or 1000BaseSX/LX/BX Fiber Transmission
- Complies with the IEEE 802.3ah OAM Management Standard
- 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 Byte Jumbo Frame
- Full Wire-Speed Forwarding Rate
- 23° F to 131° F (-5° C to 55° C) Operating Temperature Range
- Limited Lifetime Warranty

Ordering Information

PART NO.	DESCRIPTION
065-1610OAM	10/100/1000BaseT/TX to Dual-Rate 1000BaseSX/BX or 100BaseFX/BX SC/MM OAM Managed Media Converter 1000BaseSX/BX span: 220 m on 62.5 µm MM fiber/550 m on 50 µm MM fiber, 100BaseFX/BX span: 2 km on 62.5 µm or 50 µm MM fiber
065-1610OAMED	10/100/1000BaseT/TX to Dual-Rate 1000BaseSX/BX or 100BaseFX/BX SC/MM OAM Managed Media Converter 1000BaseSX/BX span or 100BaseFX/BX span: 2 km on either 62.5 µm or 50 µm MM fiber
065-1620OAM10	10/100/1000BaseT/TX to Dual-Rate 1000BaseLX/BX or 100BaseFX/BX SC/SM OAM Managed Media Converter 1000BaseLX/BX span or 100BaseFX/BX span: 10 km on SM fiber
065-1620OAM20	10/100/1000BaseT/TX to Dual-Rate 1000BaseLX/BX or 100BaseFX/BX SC/SM OAM Managed Media Converter 1000BaseL/BX span or 100BaseFX/BX span: 20 km on SM fiber

Specifications

Applicable Standards
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
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.
1 - Dual-rate 100BaseFX/BX or 1000BaseSX/LX/BX fiber port.

LED Status Indicators
Per Media Converter: Power; OAM LOOP
Per Copper RJ-45 Port: Speed, FDX, LNK/ACT
Per Fiber Port: LNK/ACT

Peformance
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: 1,024 MAC addresses
Jumbo Frame Support: 9 K 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.

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

Gigabit Ethernet Media Converters

Key Features

- Converts Twisted-Pair to Fiber at Gigabit Speed
- Auto-MDIX for Twisted-Pair
- IEEE 802.3z & 802.3ab Compliant
- 065-1195SFP Model Supports SFP Modules for Flexible 1000Base Fiber Connection
- FCC Class A & CE Approved
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- Limited Lifetime Warranty

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 dependent for P/N 065-1195SFP	

Specifications

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

Ports
1 - 1000BaseT port ; Category 5e or better cable, 100 m maximum distance **and** 1 - Fiber optic 1000BaseSX port; 62.5 µm MM fiber optic cable, 220 m maximum distance or 50 µm MM fiber optic cable, 550 m maximum distance (Model 065-1195) **or** 1 - Fiber optic 1000BaseLX port; 9 µm SM fiber cable, spanning 10 km maximum distance (065-1197) or 20 km maximum distance (065-1197ED) **or** 1 - 1000 Base SFP module receptacle port (065-1195SFP). See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

LED Status Indicators
Power; Transmit (TX); Receive (RX); Full Duplex/Collision (FDX/COL); Link Copper (LNK C); Link Fiber (LNK F)

Peformance
Latency: < 4.2 µs (LIFO)
Throughput @ 1000Base: 1,488,100 pps (64-byte packets)

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

Gigabit Singlemode to Multimode Media Converters and Repeater

Key Features

- Convert Singlemode Fiber to Multimode Fiber at Gigabit Speed
- 065-1198 Repeats Singlemode Fiber Signals at Gigabit Speed for Phase Jitter Correction
- IEEE 802.3z Compliant
- FCC Class A & CE Approved
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- Limited Lifetime Warranty

Ordering Information

PART NO.	DESCRIPTION
065-1194	1000BaseLX SC/SM, 10 km Span to 1000BaseSX SC/MM, 220 m Span on 62.5 µm Fiber / 550 m Span on 50 µm Fiber Media Converter
065-1194ED	1000BaseLX SC/SM, 20 km Span to 1000BaseSX SC/MM, 220 m Span on 62.5 µm Fiber / 550m Span on 50µm Fiber Media Converter
065-1198	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
1 - Fiber optic 1000BaseSX; 62.5 µm MM fiber optic cable, 220 m maximum distance or 50 µm MM fiber optic cable, 550 m maximum distance (065-1194 and 065-1194ED) **or** 1 - Fiber optic 1000BaseLX port; 9 µm SM fiber optic cable, spanning 20 km maximum distance (065-1198) **and** 1 - Fiber optic 1000BaseLX port; 9 µm SM fiber optic cable, spanning 10 km maximum distance (065-1194) or 20 km maximum distance (065-1194ED and 065-1198).

LED Status Indicators
Power; Port A Link (SDA); Port B Link (SDB)

Peformance
Latency: < 4.2 µs (LIFO)
Throughput @ 1000Base: 1,488,100 pps (64-byte packets)

Power
Power Requirement: 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 40°C);
Storage Temperature: -13°F to 158°F (-25°C to 70°C)
Relative Humidity: 10% to 95% (non-condensing)

Physical Characteristics
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

10/100BaseT/TX to 100BaseFX Media Converters

Key Features

- Built-In 10/100BaseT/TX Switch
- Available with SC, ST, MT-RJ and LC Connectors
- Link Fault Signaling, For Use with Managed Switches
- DIP switches for Forcing Speed and Duplex Mode On Ports
- Utilize Store-and-Forward Architecture
- Non-Switching (NS) Models Available with ST or SC Connectors
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- Limited Lifetime Warranty

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/SC, 15 km Span
065-1120ED	10/100BaseT/TX to 100BaseFX Media Converter SC/SC, 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, 100BaseFX

Ports
1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDIX port; Category 5 or better cable, 100 m maximum distance for 100BaseTX, Category 3 or better cable, 100 m maximum distance for 10BaseT (065-1100/1110/1172/1174/1120/1120ED/1120XLD) **or** 1 - RJ-45 Auto-MDIX 100BaseTX port; Category 5 or better cable, 100 m maximum distance for 100BaseTX (065-1100NS/1110NS/1120NS) **plus** 1 - fiber optic 100BaseFX port; 62.5 µm or 50 µm MM fiber cable, 2 km maximum distance (all multi-mode models) **or** 1 - fiber optic 100BaseFX port; 9 µm SM fiber cable, spanning: 15 km maximum distance (065-1120 and 065-1120NS) or 40 km maximum distance (065-1120ED) or 75 km maximum distance (065-1120XLD).

LED Status Indicators
Per Unit: Power status, RJ-45 port speed; **Per Port:** LNK/ACT, FDX/COL;

Performance
Latency: < 4.2 µs (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; **Switching Method:** Store-and-Forward
Maximum MAC Addresses: 1,024 entries; **Memory:** 256 KB
Non-Switching 100BaseT to 100Base FX models:
Latency: < 21 Bit Times

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A;
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

10/100BaseT/TX to 100BaseFX Media Converters with USB Power Option

Key Features

- Built-In 10/100BaseT/TX Switch
- Available with SC, ST, MT-RJ and LC Connectors
- Link Fault Signaling, For Use with Managed Switches
- DIP switches for Forcing Speed and Duplex Mode On Ports
- Utilize Store-and-Forward Architecture
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- USB Power Option for Added Convenience
- Limited Lifetime Warranty

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
065-1120EDLFS	10/100BaseT/TX to 100BaseFX Media Converter SC/SM, 40 km Span, USB Power Option
065-1120XLDLFS	10/100BaseT/TX to 100BaseFX Media Converter SC/SNM 75 km Span, USB Power Option

Specifications

Applicable Standards
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX, 100BaseFX

Ports
1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto/MDIX port; Category 5 or better cable, 100 m maximum distance for 100BaseTX, Category 3 or better cable, 100 m maximum distance for 10BaseT (1100LFS/1110LFS/1172LFS/1174LFS/1120LFS/1120EDLFS/1120XLDLFS) **plus** 1 - fiber optic 100BaseFX port; 62.5 µm or 50 µm MM fiber cable, 2 km maximum distance (all MM models) **or** 1 - fiber optic 100BaseFX port; 9 µm SM fiber cable, spanning: 15 km maximum distance (065-1120LFS) or 40 km maximum distance (065-1120EDLFS) or 75 km maximum distance (065-1120XLDLFS).

LED Status Indicators
Per Unit: Power status, RJ-45 port speed; **Per Port:** LNK/ACT, FDX/COL;

Performance
Latency: < 4.2 µs (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; **Switching Method:** Store-and-Forward
Maximum MAC Addresses: 1,024 entries; **Memory:** 256 KB

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

10/100BaseT/TX to 100BaseFX Single Fiber WDM Media Converters

Key Features

- Built-In 10/100BaseT/TX Switch
- Doubles the Capacity of Fiber Optic Networks
- Available with SC Simplex Connector
- Link Fault Signaling, For Use with Managed Switches
- DIP Switches for Forcing Speed and Duplex Mode On Ports
- Utilize Store-and-Forward Architecture
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- USB Power Option for Added Convenience
- Limited Lifetime Warranty

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, 100BaseFX

Ports
1 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDIX port; Category 5 or better cable, 100 m maximum distance for 100BaseTX, Category 3 or better cable, 100 me maximum distance for 10BaseT **plus**
1 - WDM fiber optic 100BaseFX port; 9 µm SM fiber optic cable, spanning 20 km maximum distance (065-1176ALFS and 065-1176BLFS)
or 1 - WDM fiber optic 100BaseFX port; 9 µm SM fiber optic cable, spanning 40 km maximum distance (065-1176AEDLFS and 065-1176BEDLFS)
or 1 - WDM fiber optic 100BaseFX port; 62.5 µm or 50 µm MM fiber optic cable, spanning 2 km maximum distance (065-1176AEDLFSMM and 065-1176BEDLFSMM)

LED Status Indicators
Per Unit: Power status, RJ-45 port speed; Per Port: LNK/ACT, FDX/COL;

Performance
Latency: < 4.2 µs (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; **Switching Method:** Store-and-Forward
Maximum MAC Addresses: 1,024 entries; **Memory:** 256 KB

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

100BaseFX Singlemode to Multimode Media Converters

Key Features

- Flexibility Extends Transmission Distance via MM to SM Fiber Conversion
- LEDs Monitor Network Status
- Singlemode Spans up to 75 km
- IEEE 802.3u Compliant
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- Limited Lifetime Warranty

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
065-1130XLD	100BaseFX SC/SM, 75 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
Models 065-1130/1132/1130ED/1132ED/1130XLD/1132XLD:
1 - fiber optic 100BaseFX port; 62.5 µm or 50 µm MM fiber optic cable, 2 km maximum distance **plus** 1 - fiber optic 100BaseFX port; 9 µm SM fiber optic cable, spanning 15 km (065-1130 & 065-1132) or 40 km (065-1130ED & 065-1132ED) or 75 km (065-1130XLD & 065-1132XLD)

LED Status Indicators
Power; Port A Link (SDA); Port B Link (SDB)

Performance
Latency: < 21 bit times
Throughput @ 100Base: 148,809 pps (64-byte packets)
Speed: 100BaseFX: 100/200 Mbps for half/full duplex

Power
Power Requirement: 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
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

10/100BaseT/TX Ethernet Extender

Key Features

- Operates Transparently to Higher Layer Protocols Such As TCP/IP
- Ethernet Port: 10/100 Mbps; Full/Half-Duplex Operation with Auto-Negotiation and Auto-MDI/MDIX
- Ethernet Extender (RJ-11) Port: Eight Speeds with Speed Indicator LEDs On Top of Unit
- Up to 30 Mbps @ 1,968' (600m) Down to 1 Mbps @ 6,233' (1,900m); Supports Symmetrical VDSL Operation
- High-Speed Full-Duplex 30 Mbps Communications Link Capability Over Existing Copper Wire
- Single Configuration DIP Switch for Local or Remote Operation on RJ-11 Ethernet Extender Port
- -4° F to 140° F (-20° C to 60° C) Operating Temperature Range
- Supports Wall Mounting, DIN-Rail Mounting or Use with Media Converter Rack Mount Chassis
- Limited Lifetime Warranty

Ordering Information

PART NO.	DESCRIPTION
065-1167	10/100BaseT/TX Ethernet Extender Media Converter
065-1167DIN	10/100BaseT/TX Ethernet Extender Media Converter with Pre-attached DIN-Rail Mount

Specifications

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

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

LED Status Indicators
End Panel: Per Unit: PWR (green).
10/100BaseT/TX Port (labeled Ethernet): Lnk/Act (green), Fdx (green).
Ethernet Extender Port (labeled Line): Lnk (green); Err (green); Loc (green); Rmt (green).
Top Panel: Ethernet Extender (Line) Port Speed: LED 1 (green/amber); LED 2 (green/amber); LED 3 (green/amber); LED 4 (green/amber).
Combination of illuminated LEDs indicates speed achieved.

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 30 Mbps @ 1,968 feet (600 meters) down to 1 Mbps @ 6,233 feet (1,900 meters); supports symmetrical VDSL operation.
Cable: Telephone line 24 AWG (0.5mm diameter, 1-pair wire) or larger.

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

Environmental Requirements
Operating Temperature: -4°F to 140°F (-200°C to 60°C);
Storage Temperature: -4°F to 158°F (-20°C to 70°C)
Relative Humidity: 10% to 95% (non-condensing)

Physical Characteristics
Case 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
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty
Limited Lifetime

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
- Limited Lifetime Warranty

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
Power 1/Power 2: Power supply on-line

Physical Characteristics
Chassis 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 ~ 104°F (0°C ~ 40°C)
Storage Temperature: -13°F ~ 158°F (-25°C ~ 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 Volts AC, 47-63 Hz.
Output: Normal +12 Volts DC (Min. +11.88 Volts, Max. +12.12 Volts, 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
FCC Part 15 Class A, CE Class A, UL 1950 listed

Warranty
Limited Lifetime

DIN-Rail Mounting Bracket

Key Features

- Sturdy and Versatile
- Clips onto 35mm “Top Hat” DIN Rail
- Clip is Repositionable 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

12-Channel Rack Mount Media 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
- Auto-Negotiation of 10 Mbps and 100 Mbps Speed and Duplex Mode on TX Port
- Dual Redundant Load-Sharing Power Supplies
- Link Fault Signaling on All Switching Converters
- Store-and Forward Switching for 10BaseT to 100BaseTX Conversion
- Back-Pressure & IEEE 802.3x Compliant Flow Control
- Limited Lifetime Warranty

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
065-1200MT72	12-Channel 10/100BaseT/TX to 100BaseFX Media Converter, MT-RJ/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
065-1200SC20ED	12-Channel 10/100BaseT/TX to 100BaseFX Media Converter, SC/SM, 40 km Span
065-1200SC20XLD	12-Channel 10/100BaseT/TX to 100BaseFX Media Converter, SC/SM, 75 km Span
065-1200SC95	12-Channel 1000BaseT to 1000BaseSX Media Converter, SC/MM, 220/550 m Spn
065-1200SC97	12-Channel 1000BaseT to 1000BaseLX Media Converter, SC/SM, 10 km Span
065-1200SC97ED	12-Channel 1000BaseT to 1000BaseLX Media Converter, SC/SM, 20 km Span

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, LC, or MT-RJ connectors. Maximum distance: 2 km.
Singlemode versions:
10/100BaseT/TX to 100BaseFX, SC/SM. Maximum distance: up to 75 km
LED Status Indicators:
Per unit: Power status, Speed
Per port: LNK/ACT, FDX/COL

Gigabit Ethernet Series:
065-1200SC95 version:
1000BaseT to 1000BaseSX, SC/SM. Maximum distance, 1000BaseSX port: 220 m over 62.5 µm MM fiber or 550 m over 50 µm MM fiber (full duplex only)
065-1200SC97 & 065-1200SC97ED versions:
1000BaseT to 1000BaseLX, SC/SM. Maximum distance, 1000BaseLX port: 10 km (065-1200SC97) or 20 km (065-1200SC97ED) (full duplex only)
LED Status Indicators:
Per unit: Power status, FDX/COL, TX, RX
Per port: LNKF (fiber port), LNKC (copper port)

Performance

Switched Fast Ethernet Series:
Latency: < 4.2 µs (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
Switching Method: Store-and-Forward
Maximum MAC Addresses: 1,024 entries
Memory: 256 KB
Gigabit Ethernet Series:
Latency: < 4.2 µs (LIFO)
Throughput @ 1000Base: 1,488,100 pps (64-byte packets)

Power

AC Input: 100 ~ 260 VAC, 47 ~ 63 Hz internal universal power supply
Above specifications apply to each power supply (2 are provided standard, in a load-sharing redundant configuration)

Environmental Requirements

Operating Temperature: 0º - 40ºC (32º - 140º 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)
Weight: 6.8 lb (3.1 kg)
Standard 19-in rack mounting hardware included

Certifications

Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A
Manufactured in an ISO 9001 facility.

Warranty

Limited Lifetime

10/100BaseT/TX to 100BaseFX PoE Media Converter

Key Features

- PoE 802.3af PSE Compatible, to Save Power Infrastructure Costs
- Link Fault Signaling (LFS) with Far End Fault
- DIP Switches for Setting PoE Configuration
- Internal AC Power Supply
- Over-Current Protection & Under-Current Detection
- Minimum Load Sensing
- Fault Protection Input
- Limited Lifetime Warranty

Ordering Information

PART NO.	DESCRIPTION
065-1050ST	10/100BaseT/TX to 100BaseFX PoE PSE Media Converter, ST/MM, 2 km Span
065-1050SC	10/100BaseT/TX to 100BaseFX PoE PSE Media Converter, SC/MM, 2 km Span
Converters are available in SC singlemode versions with 15, 40 and 75 km spans	

Specifications

Applicable Standards
IEEE 802.3x 10BaseT, 100BaseTX, 100BaseFX
IEEE 802.3af Power over Ethernet (PoE)

Ports
1 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port; Category 5 or better cable, 100 m maximum distance for 100TX, Category 3 or better cable, 100 m maximum distance for 10BaseT. **plus** 1 - Fiber optic 100BaseFX port; 62.5 µm or 50 µm MM fiber, 2 km maximum distance (Models 065-1050ST & 065-1050SC) **or** 1 - Fiber optic 100BaseFX port; 9 µm SM fiber, spanning: 15 km maximum distance (065-1050SM) or 40 km maximum distance (065-1050SMED) or 75 km maximum distance (065-1050SMXLD).

LED Status Indicators
Power, PoE, TP Link/Act, 100, FX Link/Act, FDX/COL, 4W, 7W, 15.4W, Power Bad

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

Power
Maximum Wattage: 24 Watts
PSE Power Feed Support: "Endpoint" via TP pin 1, 2, 3, 6
Maximum PoE Wattage Deliverable: 15.4 Watts (with a 15.4 Watt PoE device connected)
AC Input: 100 ~ 240 VAC, 50 ~ 60 Hz internal universal power supply

Environmental Requirements
Operating Temperature: 32°F to 122°F (0°C to 50°C)
Storage Temperature: -4°F to 158°F (-20°C to 70°C)
Relative Humidity: 5% to 90%, (non-condensing)

Physical Characteristics
Case Dimensions: 6.2" W x 5.2" D x 1.6" H (158 mm x 133 mm x 40 mm)
Weight: 1.66 lb (0.75 kg)

Certifications
Safety: CE Mark Class A
EMI: FCC Part 15 Class A; VCCI Class A

Warranty
Limited Lifetime

1-Port Gigabit Capable PoE/PoE+ Power Injector

Key Features

- 10BaseT, 100BaseTX, and 1000BaseT Support
- PoE (15.4 watts) and PoE+ (30 watts) Supported
- Rugged Wall-Mountable High-Strength Molded Housing

Ordering Information

PART NO.	DESCRIPTION
065-POEINJ-G	1-Port 10/100/1000 PoE/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 jack.
1 - RJ-45 10/100/1000BaseT/TX outbound data + power jack.

Power
Input Power: Voltage: 90 to 264 V AC; Current: 750 mA;
Output Power: 53 V DC ± 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)
Relative Humidity: 35% to 95%, (non-condensing)

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

Warranty
Five Year

SIGNAMAX™ NETWORK CONNECTIVITY SYSTEMS

Ethernet Switches

Signamax offers a variety of Layer 2 and Layer 2+ Ethernet Switches operating in the data link layer. The Switches support a wide array of applications that will give your Company easy, cost-effective ways to expand your network's reach and capabilities.

Signamax Ethernet Switches provide capabilities such as:

Power over Ethernet (PoE): Permits your existing cabling plant to support DC power delivery to: Voice over IP (VoIP) telephones, so that PBX expenses can be eliminated; Wireless Access Points, for extension of your network to wireless workstations; and IP-based cameras and Biometric devices for surveillance and security.

The use of Signamax PoE switches means that power need not be extended to inconvenient locations using the expensive existing AC power grid.

Network Transmission Speeds: Cost-effective network speed increases can be facilitated by Signamax Gigabit Ethernet access and core switches.

Economical Solutions: If plug and play convenience at low cost is the requirement, Signamax has the answers.

Network Control: Is the need for managed switches that can work independently for smaller enterprises in stacks of as many as 16 devices, but can work within an existing Network Control Center environment? Signamax has easy, high value answers for network administration and management with high information capabilities.

Let Signamax assist you by fulfilling your project requirements with high value and high performance Ethernet Switches, which will also help you build your bottom line.

26-Port 10/100/1000 Stackable Managed Switch....B1

26-Port 10/100/1000 Stackable Managed PoE/PoE+ Switches....B3

24-Port 10/100/1000 WebSmart Switch....B5

24-Port 10/100/1000 Unmanaged Switch....B6

8-Port 10/100/1000 Unmanaged Compact Switch....B6

24-Port 10/100 Managed Switches....B7

24-Port 10/100 Stackable Managed PoE Switch....B9

8-Port 10/100 Unmaganed Full-Power PoE Switch....B10

1-Port Gigabit Capable PoE/PoE+ Power Injector....B10

8-Port 100BaseFX Unmanaged Fiber Switches....B11

7-Port 10/100 + 1-100BaseFX Port Unmanaged Switches....B12

Ethernet Switches

26-Port 10/100/1000 Stackable Managed Switch

Key Features

- Dual Speed SFP Slots for Fast or Gigabit Ethernet Fiber Uplink
- 802.3az Energy Efficient Ethernet Standard
- 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 (LLDP) and Media Endpoint Discovery (LLDP-MED) Support
- 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 (SIM), Up to 16 Switches
- IEEE 802.3 ad Link Aggregation Control Protocol (LACP) Support
- 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
- Supports Secure Shell (SSH) / Secure Socket Layer (SSL) and IEEE 802.1x RADIUS Security
- 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)
- Full Wire-Speed Forwarding Rate

Ordering Information

PART NO.	DESCRIPTION
065-7861	26-Port 10/100/1000 Stackable Managed Switch with 4-100/1000Base SFP Dual Media Ports plus 2-100/1000 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
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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

26-Port 10/100/1000 Stackable Managed Switch

Specifications

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3az Energy Efficient Ethernet standard
IEEE 802.3x Flow Control
IEEE 802.3z 1000BaseSX/LX
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 802.1x Access Control
IEEE 802.1AB Link Layer Discovery Protocol (LLDP) / Media Endpoint Discovery (LLDP-MED)

Ports

24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports, including 4 Dual Media ports supporting 100/1000Base SFP slots.
2 - 100/1000Base ports with SFP receptacles only.
Broadcast/Multicast Storm Suppression enabled.
SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

LED Status Indicators:
Per Switch: Power
Per Port: Twisted-Pair Port: Status (LINK/ACT), 10/100/1000M
SFP Port: Status (LINK/ACT/SPD), 100/1000M

Performance

Latency: <4.5 µs (LIFO).
Throughput, per switch: 35.712 Mpps
Switch Fabric Speed: 52.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8 K MAC addresses
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 (LLDP) and Media Endpoint Discovery (LLDP-MED): IEEE 802.1AB
Link Aggregation Control Protocol (LACP) Trunking: IEEE 802.3ad
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol (GVRP/GARP): 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 (STP/RSTP/MSTP): 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

Bandwidth Control Capabilities

Bandwidth Rate Limiting: Via port-policer.

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, v2, and V3 Network Management
RFC 1213 MIB (MIB-II)
RFC 1757 RMON MIB
Statistics Group 1
History Group 2
Alarm Group 3
Event Group 9
RFC 1493 Bridge MIB
RFC 1643 Ethernet MIB
Enterprise MIB

Power

AC Input Range: 100 ~ 240 VAC, 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)
Relative 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

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

Warranty

Five Years, (Including power supply)

26-Port 10/100/1000 Stackable Managed PoE/PoE+ Switches

Key Features

- Supports IEEE 802.3af PoE and IEEE 802.3at PoE+ Devices
- Dual Speed SFP Slots for Fast or Gigabit Ethernet Fiber Uplink
- 802.3az Energy Efficient Ethernet Standard
- 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 (LLDP) and Media Endpoint Discovery (LLDP-MED) Support
- 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 (SIM), up to 16 Switches
- IEEE 802.3ad Link Aggregation Control Protocol (LACP) Support
- 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
- Supports Secure Shell (SSH) / Secure Sockets Layer (SSL) and IEEE 802.1x RADIUS Security
- 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
065-7861POE	26-Port 10/100/1000 Stackable Managed PoE/PoE+ Switch with 4-100/1000Base SFP Dual Media Ports plus 2-100/1000 SFP-Only Ports, 185 Watts PoE Power
065-7861POE-FP	26-Port 10/100/1000 Stackable Managed PoE/PoE+ Switch with 4-100/1000Base SFP Dual Media Ports plus 2-100/1000 SFP-Only Ports, 370 Watts PoE Power

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
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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

26-Port 10/100/1000 Stackable Managed PoE/PoE+ Switches

Specifications

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3af PoE PSE
IEEE 802.3at PoE+ PSE
IEEE 802.3az Energy Efficient Ethernet standard
IEEE 802.3x Flow Control
IEEE 802.3z 1000BaseSX/LX
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 802.1x Access Control
IEEE 802.1AB Link Layer Discovery Protocol (LLDP) / Media Endpoint Discovery (LLDP-MED)

Ports

24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports supporting PoE or PoE+, including 4 Dual Media ports supporting 100/1000Base SFP slots.
2-100/1000Base ports with SFP receptacles only.
Broadcast/Multicast Storm Suppression enabled.
SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

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

Performance

Latency: <4.5 µs (LIFO).
Throughput, per switch: 38.69 Mpps
Switch Fabric Speed: 52.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8 K MAC addresses
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

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

Internetworking Protocols Supported

Link Layer Discovery Protocol (LLDP) and Media Endpoint Discovery (LLDP-MED): IEEE 802.1AB
Link Aggregation Control Protocol (LACP) Trunking: IEEE 802.3ad
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol (GVRP/GARP): 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 (STP/RSTP/MSTP): 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.

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 / 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.

Bandwidth Control Capabilities

Bandwidth Rate Limiting: Via port-policer.

Management

Access Methods: Console port access via RS-232C /RJ-45 local console se rial 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, v2, and v3 Network Management:
RFC 1213 MIB (MIB-2)
RFC 1757 RMON MIB
RFC 1493 Bridge MIB
VLAN MIB (IEEE802.1Q/RFC2674)
Private MIB

Power

AC Input Range: 100 ~ 240 VAC, 50 ~ 60 Hz internal universal power supply
Maximum Wattage: 20 Watts, plus PoE / PoE+ load (370 Watts PoE / 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)
Relative Humidity: 10 to 90% RH, (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

Emissions: EN55022 (CISPR 22) Class A EN 61000-3; FCC Class A; CE Mark
Immunity: EN 61000-4-2/3/4/5/6/8/11; EN 55024

Warranty

Five Years, (Including power supply)

24-Port 10/100/1000 WebSmart Switch

Key Features

- WebSmart Browser-Based Switch Administration.
- 4 Dual Media Ports for Flexible Fiber Connection.
- Supports 10/100/1000 Mbps Speed and Duplex Mode Auto-Negotiation.
- Supports Auto MDI/MDI-X Functionality for Easy Uplink.
- Supports 802.3x Flow Control for Full Duplex Operation.
- Supports 9600 Byte Jumbo Frames.
- Supports Port Mirroring.
- Supports 802.3ad LACP Port Aggregation (up to 12 ports and 12 groups).

Ordering Information

PART NO.	DESCRIPTION
065-7940C-WS	24-Port 10/100/1000 WebSmart Switch plus 4-SFP Dual Media Ports

Specifications

Applicable Standards
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX/XD/ZX
IEEE 802.3x Flow Control
IEEE 802.3 Auto-negotiation
IEEE 802.1q VLAN
IEEE 802.1p Class of Service
IEEE 802.1x Access Control
IEEE 802.1d Spanning Tree
IEEE 802.1w Rapid Spanning Tree
IEEE 802.3ad Port Trunking with LACP

Ports
24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports.
4 - 1000Base Dual Media SFP ports (shared with ports 21, 22, 23, & 24)
SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

LED Status Indicators:
Per Switch: Power
Per Port: Link/Activity, Speed

Performance
Latency: <4.3 µs (FIFO)
Throughput (64-byte packets): 10Base: 14,880 pps; 100Base: 148,810 pps; 1000Base: 1,488,100 pps
Address Table Size: 8K MAC addresses
Buffer Memory: 500 Kbytes
Switch Fabric Speed: 48.0 Gbps
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; Weighted Round-Robin (WRR) or Strict Priority supported

Link Aggregation
Port Trunking with up to 12 trunking groups and IEEE 802.3ad Link Aggregation Control Protocol (LACP)

Bandwidth Control
Supports bandwidth rating per port; ingress and egress rate limits to 1000 Mbps in 1 Mbps increments

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

Power
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
OperatingTemperature: 32°F to 104°F (0°C to 40°C)
Storage Temperature: -4°F to 158°F (-20°C to 70°C)
Relative 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
Emissions: FCC, CE, VCCI Class A

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.
- Supports 10/100/1000 Mbps Speed and Duplex Mode Auto-Negotiation.
- Supports Auto MDI/MDI-X Functionality for Easy Uplink.
- Supports 802.3x Flow Control for Full Duplex Operation

Ordering Information

PART NO.	DESCRIPTION
065-7341G	24-Port 10/100/1000 Unmanaged Switch

Specifications

Applicable Standards
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3 Auto-negotiation

Ports
24 - 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: <4.3 µs (FIFO)
Throughput (64-byte packets): 10Base: 14,880 pps; 100Base: 148,810 pps; 1000Base: 1,488,100 pps
Address Table Size: 8K MAC addresses
Switch Fabric Speed: 48.0 Gbps

Power
AC Input Range: 100 ~ 240 VAC, 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)
Relative 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
Emissions: FCC, CE, VCCI Class A

Warranty
Five Years, (Including power supply)

8-Port 10/100/1000 Unmanaged Compact Switch

Key Features

- Gigabit Ethernet Power in a Simple Plug-and-Play Switch.
- Supports 10/100/1000 Mbps Speed and Duplex Mode Auto-Negotiation.
- Supports Auto MDI/MDI-X Functionality for Easy Uplink.
- Rugged High-Strength Metal Housing

Ordering Information

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

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 µs (FIFO)
Throughput (64-byte packets): 10Base: 14,880 pps; 100Base: 148,810 pps; 1000Base: 1,488,100 pps
Address Table Size: 8K MAC addresses
Switch Fabric Speed: 16.0 Gbps

Power
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)
Relative 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)
Metal Case
Weight: 0.635 lb (288 g)

Certifications
Emissions: FCC, CE, VCCI Class A

Warranty
Five Years, (Including power supply)

24-Port 10/100 Managed Switches

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 IEEE802.1Q 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
- Supports IEEE 802.1x Security
- Complies with EN50121-4 Railway Application Environment
- Bandwidth Rate Control
- Per-Port Programmable MAC Address Locking
- Up to 24 Static Secure MAC Addresses per Port
- Port Mirroring

Ordering Information

PART NO.	DESCRIPTION
065-77344DMR	24-Port 10/100 Managed Switch with 4-100/1000/1000BaseT/TX Dual Media Ports with 1000Base SFP Ports and Redundant Power Supplies
065-7734FSFPR	24-Port 100Base SFP Managed Switch with 4-100/1000/1000BaseT/TX Dual Media Ports with 1000Base SFP Ports and Redundant Power Supplies

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

24-Port 10/100 Managed Switches

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
24 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX; four (4) are 10/100/1000BaseT/TX Dual Media ports with SFP receptacles (065-77344DMR).
or
24 - 100Base SFP receptacles + 4 - 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX Dual Media ports with SFP receptacles (065-7734FSFPR). SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

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

Performance
Latency: <4.5 µs (LIFO).
Throughput, per port: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 12.8Gbps (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: 3 Mbits
Port Mirroring: Inbound and Outbound

Internetworking Protocols Supported
Recover-Ring™: Supports recovery of ring-based network architecture in <15ms. 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 (GVRP/GARP): 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 (STP/RSTP/MSTP): 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

Bandwidth Control Capabilities
Bandwidth Rate Limiting:
Ingress rate limits: 1 Kbps up to 100 Mbps for 10/100 ports, up to 1 Gbps for 1000Base ports
Egress rate limits: 1 Kbps up to 100 Mbps for 10/100 ports, up to 1 Gbps for 1000Base ports
Broadcast Storm Suppression:
Multicast/Broadcast/Unknown-Unicast Storm suppression

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, v2, and v3 Network Management:
RFC 1213 MIB (MIB-2)
RFC 1757 RMON MIB
RFC 1493 Bridge MIB
VLAN MIB (IEEE802.1Q/RFC2674)
Private MIB

Power
AC Input Range: 100~240VAC, 50~60Hz redundant internal universal power supplies, load-sharing and hot-swappable
Maximum Switch Power Consumption: 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).
Relative 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
EMI: FCC Part 15 Class A ; CE Mark Class A

Warranty
Five Years, (Including power supply)

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
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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

24-Port 10/100 Stackable Managed PoE Switch

Key Features

- PoE, To Save Power Infrastructure Costs
- 2 Dual Media Ports for Flexible Fiber Connection
- Supports 24 PoE Class 1 or 2 Devices;
- QoS Supports 4 Priority Queues
- 802.1D Compatible & 802.1w Rapid Spanning Tree
- Broadcast/Multicast Storm Control

Ordering Information

PART NO.	DESCRIPTION
065-7726SPOE	24-Port 10/100 Stackable Managed PoE Switch with 2-SFP/RJ-45 Dual Media Ports

Specifications

Applicable Standards
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1D/802.1w/802.1s Spanning Tree & Rapid Spanning Tree Protocols
IEEE 802.1Q Tagged VLAN with "Q-in-Q" support
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation
IEEE 802.1x Access Control

Ports
24 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports supporting PoE, including 2 Dual Media ports.
Broadcast/Multicast Storm Suppression enabled.
SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

LED Status Indicators
Per Switch: Power, CPU
Per Port: Link/Activity (separate for SFPs), 10/100 or 10/100/1000 speed for RJ-45 ports, PoE-PSE Active, PoE failure

Performance
Latency: <4.5 µs (LIFO).
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 12.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 8 K MAC addresses
Frame Buffer: 256 KB, on-chip
Jumbo Frame Support: up to 9 Kbytes frame size

Network Security
IEEE 802.1x access control with RADIUS authentication Management Access Policy Control (ACL)

Internetworking Protocols Supported
Link Aggregation Control Protocol (LACP): IEEE 802.1ad Port Trunking
GARP VLAN Registration Protocol / Generic Attribute Registration Protocol (GVRP/GARP): IEEE 802.1Q with GVRP/ GARP
Multicasting: Supports IGMP snooping including active and passive mode
Spanning Tree Protocol / Rapid Spanning Tree Protocol (STP/RSTP): IEEE 802.1d/1w/1s STP

VLAN Capabilities
Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4,096 active VLANs possible

QoS Capabilities
Supports 802.1p QoS with four level priority queue

Power over Ethernet (PoE) Capabilities
24 IEEE 802.3af PoE Power Source Equipment (PSE) ports; (up to 15.4 watts delivered to each of 12 ports, or up to 7.7 watts delivered to each of 24 ports)

Bandwidth Control Capabilities
Bandwidth Rate Limiting
Multicast/Broadcast/Unknown-Unicast Storm suppression.

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 Kermit/TFTP.
Virtual Stacking Management (VSM): Up to 16 switches can be managed via a single IP address.
SNMP v1, v2c Network Management

Power
AC Input Range: 100 ~ 240 VAC, 50 ~ 60 Hz internal universal power supply
Maximum Total Power Consumption: 210 Watts
Maximum PoE-Available Wattage: 185 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)
Relative Humidity: 5 to 90%, (non-condensing)

Physical Characteristics
Dimensions: 17.4" W x 8.23" D x 1.73" H (442 mm x 209 mm x 44 mm)
19-in rack mounting hardware included.
Weight: 7.5 lb (3.3 kg)

Certifications
FCC Part 15 Class A & CE Mark Approval

Warranty
Five Years, (Including power supply)

8-Port 10/100 Unmanaged Full-Power PoE Switch

Key Features

- Supports IEEE 802.3af Power over Ethernet Standard as PSE on All Eight PoE-TP Ports (End-Point)
- Full Power (15.4w) Support for all PoE-TP Ports Simultaneously; 124 Watts of PoE Power Available
- Auto-Detection of Powered Devices and Power Consumption Levels.
- True Non-Blocking, Wire-Speed Switching Matrix.
- LED Indicators for Data and POE Activity.

Ordering Information

PART NO.	DESCRIPTION
065-7308POE-FP	8-Port 10/100 Unmanaged Full-Power PoE Switch with 8-PoE Ports

Specifications

Applicable Standards
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.3x Flow Control

Ports
8 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports.
All ports are PoE equipped and are capable of full Power Class 1, 2, 3, or 0 PoE support simultaneously

LED Status Indicators:
Per Switch: Power
Per Port: Link/Activity, 10/100 speed, PoE Activity (ports 1-8)

Performance
Latency: <4.6 µs (FIFO)
Throughput: 148,810 pps (64-byte packets)
Address Table Size: 1024

Power
AC Input Range: 100 ~ 240 VAC, 50 ~ 60 Hz internal universal power supply
Maximum Wattage: 132 Watts
Maximum PoE Wattage Deliverable: 124 Watts (with 8 x 15.4 Watt PoE devices connected)

Environmental Requirements
Operating Temperature: 32°F to 113°F (0°C to 45°C)
Storage Temperature: 14°F to 158°F (-10°C to 70°C)
Relative Humidity: 10% to 90%, (non-condensing)

Physical Characteristics
Dimensions: 10.47" W x 6.3" D x 1.738" H (266 mm x 160 mm x 44 mm)
Weight: 3.08 lb (1.4 kg)

Certifications
FCC Part 15 Class A & CE Mark Approval; UL 60950-1, EN 60950-1, IEC 60950-1

Warranty
Five Years, (Including power supply)

1-Port Gigabit Capable PoE/PoE+ Power Injector

Key Features

- 10BaseT, 100BaseTX, and 1000BaseT Support
- PoE (15.4 watts) and PoE+ (30 watts) Supported
- Rugged Wall-Mountable High-Strength Molded Housing

Ordering Information

PART NO.	DESCRIPTION
065-POEINJ-G	1-Port 10/100/1000 PoE/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 jack.
1 - RJ-45 10/100/1000BaseT/TX outbound data + power jack.

Power
Input Power: Voltage: 90 to 264 V AC; Current: 750 mA;
Output Power: 53 V DC ± 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: -22°F to 158°F (-30°C to 70°C)
Relative Humidity: 35% to 95%, (non-condensing)

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

Warranty
Five Years

8-Port 100BaseFX Unmanaged Fiber Switches

Key Features

- Switchable Duplex Modes
- True Non-Blocking Architecture
- Full Wire Speed Forwarding
- SC and ST Multimode Versions

Ordering Information

PART NO.	DESCRIPTION
065-7310FSC	8-Port 100BaseFX SC/MM, 2 km Unmanaged Fiber Switch
065-7310FST	8-Port 100BaseFX ST/MM, 2 km Unmanaged Fiber Switch

Specifications

Applicable Standards
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

Ports
065-7310FSC: 8 - Fixed 100BaseFX ports, SC/MM
065-7310FST: 8 - Fixed 100BaseFX ports, ST/MM

LED Status Indicators:
Per Switch: Power
Per Port: Link/Activity, 100 Mbps detected, Full Duplex/Collision

Performance
Throughput: 148,810 packets per second (pps) (64-byte packets)
Switch Fabric Speed: 1.6 Gbps.
Address Table Size: 2,048 entries

Power
AC Input Range: 100 to 240 Volts AC; Frequency: 50 to 60 Hz.
Maximum Wattage: 15 Watts

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 90%, (non-condensing)

Physical Characteristics
Dimensions: 17.3" W x 8.1" D x 1.75" H (440 mm x 205 mm x 45 mm)
Weight: 6.2 lb (2.8 kg)
Mounting: Desktop or rack mounting

Certifications
FCC part 15 Class A, CE Mark Class A, VCCI Class A

Warranty
Five Years, (Including power supply)

7-Port 10/100 + 1-100BaseFX Port Unmanaged Switches

Key Features

- Provides 7 Ports for 10/100BaseT/TX and 1 Port for 100BaseFX
- True Non-Blocking Architecture
- Full Wire-Speed Forwarding Rate
- Store-and-Forward Mechanism
- Back Pressure and IEEE802.3x Compliant Flow Control
- Desktop or Wall-Mountable

Ordering Information

PART NO.	DESCRIPTION
065-7111SC	7-Port 10/100BaseT/TX + 1-Port 100BaseFX SC/MM, 2 km Span Unmanaged Switch
065-7111ST	7-Port 10/100BaseT/TX + 1-Port 100BaseFX ST/MM, 2 km Span Unmanaged Switch
065-7111SM	7-Port 10/100BaseT/TX + 1-Port 100BaseFX SC/SM, 15 km Span Unmanaged Switch

Specifications

Applicable Standards
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

Ports
7 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports
plus:
1 - Fixed 100BaseFX port, SC/MM (065-7111SC), ST/MM (065-7111ST), LC/MM (065-7111LC - Special Order), MT-RJ/MM (065-7111MT - Special Order)
Maximum distance: 2 km with 62.5 µm or 50 µm MM fiber cabling
or:
1 - Fixed 100BaseFX port, SC/SM
Maximum distance:
065-7111SM: 15 km with 9 µm SM fiber.
065-7111SMED: 40 km with 9 µm SM fiber (Special Order)
065-7111SMXLD: 75 km with 9 µm SM fiber (Special Order)

LED Status Indicators:
Per Switch: Power
Per Port: Link/Activity

Performance
Throughput: 148,810 pps at 100 Mbps, 14,800 pps at 10 Mbps (64-byte packets)
Switch Fabric Speed: 1.6 Gbps.
Address Table Size: 2,048 entries

Power
AC Input Range: 100 to 240 Volts AC; Frequency: 50 to 60 Hz.
Maximum Wattage: 15 Watts

Environmental Characteristics
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 90%, (non-condensing)

Physical Characteristics
Dimensions: 10.0" W x 5.3" D x 1.4" H (254 mm x 135 mm x 35 mm)
Weight: 3.5 lb (1.6 kg)
Mounting: Desktop or wall mounting

Certifications
FCC part 15 Class A, CE Mark Class A, VCCI Class A; UL 1950

Warranty
Five Years, (Including power supply)

SIGNAMAX™ NETWORK CONNECTIVITY SYSTEMS

Industrial Media Converters & Switches

When working in harsh environments that require extended temperature range and ruggedness, Signamax Connectivity Systems Industrial Media Converters and Switches are up to the task.

Flexibility: Signamax Industrial Media Converters are available in models supporting fiber Fast Ethernet and Gigabit Ethernet in fixed fiber transceiver models, plus a model supporting 10/100/1000BaseT/TX to 1000BaseSFP modules for high flexibility.

Reliability: Signamax Industrial Switches are available in unmanaged models supporting extreme temperature needs at a low cost — including Power over Ethernet (PoE) requirements – and managed models that are capable of supporting fully redundant mesh and ring network architectures at temperatures ranges from -40° F to 167°F (-40° C to 75°C), and have been tested for normal operation at 185°F (85°C).

Advanced Technology: Signamax offers Power over Ethernet Plus managed Industrial Media Converters and Ethernet Switch models featuring PoE+ (30 watts per port per the new IEEE 802.3at standard) that allows support of perimeter camera applications that use Pan-Tilt-Zoom IP cameras.

Network Recovery: In addition, your Industrial project can be configured with Signamax managed switches equipped with Recover-Ring™ technology that will re-route around a ring path failure in less than 15 ms.

Signamax solutions are tested and proven to provide exceptional results for projects where the installation environment is the greatest challenge.

10/100/1000 to Gigabit SFP Industrial Converter ..C1

Gigabit Ethernet Industrial Converters C2

10/100 to 100FX Industrial Converters.....C3

10/100 to 100FX Industrial PoE+ Converter C4

10/100 Managed Industrial PoE/PoE+ Switches C5

10/100 Managed Industrial PoE/PoE+ Desktop Switch C7

16-Port 10/100 Unmanaged Industrial PoE/PoE+ Switch C9

10/100 Unmanaged PoE Switches C10

12-Port 10/100 Managed Industrial Switch C11

10/100/1000 Unmanaged Industrial Switches C13

10/100 Unmanaged Industrial Switches C14

8-Port 10/100/1000 Unmanaged Compact Industrial Switch C15

5-Port 10/100 Unmanaged Compact Industrial Switch C16

Industrial Power Supplies.....C17

DIN-Rail Rack Mount Bracket C18

Industrial Media Converters & Switches

10/100/1000 to Gigabit SFP Industrial Media Converters

Key Features

- Meets NEMA TS1 Environmental Requirements for Traffic Control Equipment
- Meets IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment
- UL 508 Listed
- One SFP Socket 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 24V 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 24 V DC Redundant Power Terminal Block

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.
1 - 1000BaseSFP port with SFP port meeting SFP Multi-Source Agreement (MSA), supporting IEEE 802.3z 1000BaseSX/LX standard specifications
See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification 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

Peformance
Throughput @ 1000BaseT: 1,488,100 pps
Throughput @ 100BaseTX: 148,810 pps
Throughput @ 10BaseT: 14,881 pps
(64-byte packets)

Power
DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
See page C17 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)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics
Dimensions: 1.97 W" L x 4.33" D x 5.31" H (50 mm x 110 mm x 135 mm)
Housing: IP30 protection, metal case
Weight: 1.76 lb (0.8 kg)

Certifications
NEMA TS1/2 Environmental requirements for traffic control equipment
Safety: UL 508
EMI: FCC Part 15 Class A; 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

- Meets NEMA TS1 Environmental Requirements for Traffic Control Equipment
- Meets IEC61000-6-2 EMC Generic Standard Immunity 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 24V 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 µm Fiber / 550 m Span on 50 µm Fiber, 24 V DC Redundant Power Terminal Block
065-1897TB	1000BaseT to 1000BaseSX Industrial Media Converter SC/SM, 10 km Span 24 V DC Redundant Power Terminal Block
065-1897EDTB	1000BaseT to 1000BaseLX Industrial Media Converter SC/SM, 15 km Span 24 V DC Redundant Power Terminal Block

Specifications

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

Ports
1 - RJ-45 1000BaseT Auto-Negotiation, Auto-MDI/MDIX port.
1 - 1000BaseSX port, SC/MM, 220 m Span on 62.5 µm fiber / 550 m Span on 50 µm fiber (065-1895TB) **or** 1-1000BaseLX port, SC/SM, 10 km span (065-1897TB) **or** 1-1000BaseLX port, SC/SM, 15 km span (065-1897EDTB)

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

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

Power
DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
See page C17 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)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics
Dimensions: 1.97 W" L x 4.33" D x 5.31" H (50 mm x 110 mm x 135 mm)
Housing: IP30 protection, metal case
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 Part 15 Class A; 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

10/100BaseT/TX to 100BaseFX Industrial Media Converters

Key Features

- Meets NEMA TS1 Environmental Requirements for Traffic Control Equipment.
- Meets IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment.
- UL 1604 Class 1, Division 2 Classified for Use in Hazardous Locations.
- RJ-45 Port Auto-Negotiates 10/100Mbps & Full/Half-Duplex Mode, with Auto-MDIX
- 100FX Port Available with MM, SM, and WDM SM
- DIP Switch Configuration for Link Fault Signaling/Link Down Alarm, Plus Speed/Duplex Mode
- Non-Blocking Store-and-Forward Mechanism for Full Wire-Speed Performance
- Alarms for Power Failure and Port Link Failure via Relay Output.
- Redundant 24V DC Terminal Block Power Inputs
- Supports DIN-Rail or Panel Mount Installations

Ordering Information

PART NO.	DESCRIPTION
065-1800TB	10/100BaseT/TX to 100BaseSX Industrial Media Converter ST/MM, 2 km Span 24 V DC Redundant Power Terminal Block
065-1810TB	10/100BaseT/TX to 100BaseSX Industrial Media Converter SC/MM, 2 km Span 24 V DC Redundant Power Terminal Block
065-1820TB	10/100BaseT/TX to 100BaseSX Industrial Media Converter SC/SM, 15 km Span 24 V DC Redundant Power Terminal Block
065-1820EDTB	10/100BaseT/TX to 100BaseSX Industrial Media Converter SC/SM, 40 km Span 24 V DC Redundant Power Terminal Block
065-1820XLDTB	10/100BaseT/TX to 100BaseSX Industrial Media Converter SC/SM, 75 km Span 24 V DC Redundant Power Terminal Block

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.
1 - 100BaseFX port, ST/MM, 2 km span (065-1800TB) **or** 1-100BaseSX port, SC/MM, 2 km span (065-1810TB) **or** 1-100BaseFX port, SC/SM, 20 km span (065-1820TB) **or** 1-100BaseFX port, SC/SM, 40 km span (065-1820EDTB) **or** 1-100BaseFX port, SC/SM, 70 km span (065-1820XLDTB)

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

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

Power
DC Input Range: 12 to 48 V DC Connected via Redundant Terminal Block
See page C17 for DIN-Rail Mount Industrial Power Supplies

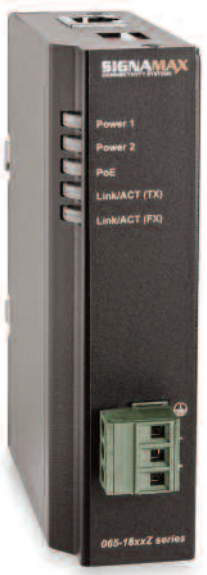
Environmental Requirements
Operating Temperature: -40°F to 167°F (-40°C to 75°C)
Storage Temperature: -40°F to 185°F (-40°C to 85°C)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics
Dimensions: 1.97 W" L x 4.33" D x 5.31" H (50 mm x 110 mm x 135 mm)
Housing: IP30 protection, metal case
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 Part 15 Class A; 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

10/100BaseT/TX to 100BaseFX Industrial PoE/PoE+ Media Converters



Key Features

- Supports IEEE802.3at PoE+ and IEEE802.3af PoE Standards.
- DIP Switch Configuration for Link Fault Signaling, Speed and Duplex Mode
- Industrial Operating Temperature -10°C to 60°C (14°F to 140°F)
- 48V 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/PoE+ Media Converter, ST/MM, 2 km Span, 48 V DC Redundant Power Terminal Block
065-1810Z	10/100BaseT/TX to 100BaseFX Industrial PoE/PoE+ Media Converter, SC/MM, 2 km Span, 48 V DC Redundant Power Terminal Block
065-1820Z	10/100BaseT/TX to 100BaseFX Industrial PoE/PoE+ Media Converter, SC/SM, 20 km Span, 48 V DC Redundant Power Terminal Block

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.
1 - 100BaseFX port, ST/MM, 2 km span (065-1800Z) **or** 1-100BaseSX port, SC/MM, 2 km span (065-1810Z) **or** 1-100BaseFX port, SC/SM, 20 km span (065-1820Z)

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

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

Power
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 VDC input supports up to 30 Watts
See page C17 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements
Operating Temperature: -4°F to 140°F (-10°C to 60°C)
Storage Temperature: -40°F to 185°F (-40°C to 85°C)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics
Dimensions: 1.18 W" L x 2.76" D x 3.33" H (30 mm x 70 mm x 110 mm)
Housing: IP30 protection, metal case
Weight: 0.55 lb (0.25 kg)

Certifications
Safety: EN 61000-6-2
EMI: FCC Part 15 Class A; 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 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 Managed Industrial PoE/PoE+ Switches

Key Features

- Supports PoE+ (30 watt) Power Source Equipment (PSE).
- PoE Control and Scheduling.
- Fanless Operation.
- 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 IEEE 802.1x Security.
- Bandwidth Rate Control.
- Per-Port Programmable MAC Address Locking.

- Up to 24 Static Secure MAC Addresses per Port.
- Port Mirroring, both Inbound and Outbound.
- Supports Network Time Protocol (NTP).
- Full Wire-Speed Forwarding Rate.
- -40°F to 167°F (-40°C to 75°C) Operating Temperature Range.

Ordering Information

PART NO.	DESCRIPTION
065-7705HPOEP	4-port 10/100 Managed Industrial PoE+ Switch with 4 PoE+ Ports plus 1-1000Base SFP Port
065-7706HPOEP	4-port 10/100 Managed Industrial PoE+ Switch with 4 PoE+ Ports plue 2-1000Base SFP Port
065-7710HPOEP	8-port 10/100 Managed Industrial PoE/POE+ Switch with 4 PoE+ Ports plus 4 PoE Ports plus 2-1000Base SFP Ports
065-7710H6POEP	8-port 10/100 Managed Industrial POE+ Switch with 6 PoE+ Ports plus 2-10/100 Non-PoE Ports plus 2-1000Base SFP Ports
065-7712HPOEP	8-port 10/100 Managed Industrial PoE/POE+ Switch with 4 PoE+ Ports plus 4 PoE Ports plus 2-100Base SFP Ports and 2-1000Base SFP Ports.

1000Base SFP Fiber Modules

Ordering Information (Industrial Temperature Range -40° C to 85° C)

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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

10/100 Managed Industrial PoE/PoE+ Switches

Specifications

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3af PoE PSE
IEEE 802.3at PoE+ PSE
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE802.1s Multiple Spanning Tree Protocol
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

Ports

4 - RJ-45 10/100BaseT/TX ports; 4 ports supporting IEEE 802.3at PoE+ at full 30 watts/port, plus 1-1000Base SFP port (065-7705HPOEP)
4 - RJ-45 10/100BaseT/TX ports; 4 ports supporting IEEE 802.3at PoE+ at full 30 watts /port, plus 2-1000Base SFP port (065-7706HPOEP)
8 - RJ-45 10/100BaseT/TX ports; 4 ports supporting IEEE 802.3at PoE+ at full 30 watts/port plus 4-ports supporting IEEE 802.3af at 15.4 watts/port plus 2-1000Base SFP port (065-7710HPOEP)
8 - RJ-45 10/100BaseT/TX ports; 6 ports supporting IEEE 802.3at PoE+ at full 30 watts/port plus 2-1000Base SFP port (065-7710H6POEP)
8 - RJ-45 10/100BaseT/TX ports; 4 ports supporting IEEE 802.3at PoE+ at full 30 watts/port plus 4-ports supporting IEEE 802.3af at 15.4 watts/port plus 2-100Base SFP port plus 2-1000Base SFP ports (065-7712HPOEP)
Broadcast/Multicast Storm Suppression enabled.
SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

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 µs (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: 8 K MAC addresses. Per-port programmable MAC address locking. Up to 24 Static Secure MAC addresses per port
Frame Buffer: 2 MB
Port Mirroring: Inbound and Outbound

Internetworking Protocols Supported

Recover-Ring: Supports recovery of ring-based network architecture in <20ms. 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 (GVRP/GARP): 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 (STP/RSTP/MSTP): IEEE 802.1d/1w/1s

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4,096 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.

Bandwidth Control Capabilities

Bandwidth Rate Limiting
Multicast/Broadcast/Unknown-Unicast Storm suppression

Management

Access Methods: Console port access via RS-232C/DB-9 local console serial port, Telnet remote access, SNMP, or Web browser.
Software Upgrade Capability: Via TFTP
SNMP v1, v2, and v3 Network Management:
RFC 1213 MIB (MIB-2)
RFC 1757 RMON MIB
RFC 1493 Bridge MIB
VLAN MIB (IEEE802.1Q/RFC2674)
Private MIB

Power

DC Input Range: 48 TO 57 V DC Connected via Redundant Terminal Block
See page C17 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)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 2.85" W x 5.6" D x 6.8" H (71.4 mm x 140 mm x 170 mm)
Housing: IP30 protection, metal case
Weight: 3.74 lb (1.7 kg)

Certifications

NEMA TS1/2 Environmental requirements for traffic control equipment
Safety: UL508, EN60950-1, IEC60950-1; CE Mark
EMI: FCC Part 15 Class A; 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 Managed Industrial PoE/PoE+ Desktop Switch

Key Features

- Supports PoE+ (30 watt) Power Source Equipment (PSE).
- PoE Control and Scheduling.
- Fanless Operation.
- 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 IEEE 802.1x Security.
- Bandwidth Rate Control.

- Per-Port Programmable MAC Address Locking.
- Up to 24 Static Secure MAC Addresses per Port.
- Port Mirroring, both Inbound and Outbound.
- Supports Network Time Protocol (NTP).
- Full Wire-Speed Forwarding Rate.
- -40°F to 167°F (-40°C to 75°C) Operating Temperature Range.

Ordering Information

PART NO.	DESCRIPTION
065-7708HPOEP	6-port 10/100 Managed Industrial PoE+ Switch with 4 PoE+ Ports plus 2-SFP/RJ-45 Dual Media Ports
065-7708HPM	Panel Mounting Hardware for 065-7708HPOEP
065-7708HRM	19 Inch Rack Mounting Hardware for 065-7708HPOEP

1000Base SFP Fiber Modules

Ordering Information (Industrial Temperature Range -40° C to 85° C)

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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

10/100 Managed Industrial PoE/PoE+ Desktop Switch

Specifications

Applicable Standards

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3af PoE PSE
IEEE 802.3at PoE+ PSE
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE802.1s Multiple Spanning Tree Protocol
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

Ports

Ports

6 - RJ-45 10/100BaseT/TX ports; 4 ports supporting IEEE 802.3at PoE+ at full 30 watts power per port.

2 - 10/100/1000BaseT/TX Dual Media ports with 1000Base SFP ports Broadcast/Multicast Storm Suppression enabled.

SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

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 µs (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: 8 K MAC addresses. Per-port programmable MAC address locking. Up to 24 Static Secure MAC addresses per port
Frame Buffer: 2 MB
Port Mirroring: Inbound and Outbound

Internetworking Protocols Supported

Recover-Ring: Supports recovery of ring-based network architecture in <20ms. 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 (GVRP/GARP): 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 (STP/RSTP/MSTP): IEEE 802.1d/1w/1s

VLAN Capabilities

Port-based VLAN
IEEE 802.1Q Tag-based VLAN; up to 4,096 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.

Bandwidth Control Capabilities

Bandwidth Rate Limiting
Multicast/Broadcast/Unknown-Unicast Storm suppression

Management

Access Methods: Console port access via RS-232C/DB-9 local console serial port, Telnet remote access, SNMP, or Web browser.
Software Upgrade Capability: Via TFTP
SNMP v1, v2, and v3 Network Management:
RFC 1213 MIB (MIB-2)
RFC 1757 RMON MIB
RFC 1493 Bridge MIB
VLAN MIB (IEEE802.1Q/RFC2674)
Private MIB

Power

DC Input Range: 48 TO 57 V DC Connected via Redundant Terminal Block
See page C17 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)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 7.87" W x 5.2" D x 1.97" H (200 mm x 134 mm x 50 mm)
Housing: IP30 protection, metal case. Optional panel and/or 19-in rack mounting hardware available.
Weight: 3.3 lb (1.5 kg)

Certifications

NEMA TS1/2 Environmental requirements for traffic control equipment
Safety: UL508, EN60950-1, IEC60950-1; CE Mark
EMI: FCC Part 15 Class A; 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

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

Key Features

- Supports IEEE 802.3at Power over Ethernet (PoE+) Power Source Equipment (PSE).
- Complies with NEMA TS1 & TS2 Environmental Requirements for Traffic Control Equipment
- Complies with IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment
- 1000 Mbps: Full-duplex; 10/100 Mbps: Full/Half-Duplex; Auto-Negotiation, Auto-MDI/MDIX.
- Full Wire-Speed Forwarding Rate.
- -40°F to 167°F (-40°C to 75°C) Operating Temperature Range, Tested for Operation @ -40°F to 185°F (-40°C to 85°C)
- Alarms for Power Failure via Relay Output.

Ordering Information

PART NO.	DESCRIPTION
065-7418HPOETB	16-port 10/100 Unmanaged Industrial POE+ Switch plus 2-10/100/100 Dual Media Ports

Specifications

Applicable Standards
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX
IEEE 802.3af PoE PSE
IEEE 802.3at PoE+ PSE

Ports
16 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port supporting IEEE 802.3at PoE+ at full 30 watts power per port
2 - 10/100/1000BaseT/TX Dual Media ports with 1000Base SFP receptacles SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

LED Status Indicators
Per Unit: Power status (Power1, Power2), Fault
Per Port: 10/100BaseT/TX - Link/ACT, 10/100, PoE
Gigabit Ethernet - Link/ACT, TX, SFP

Peformance
Switching Method: Store-and-Forward; 4,096 MAC addresses; 2.25 Mbits buffer memory
Latency: <4.5 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: 8.0 Gbps (non-blocking, wire speed performance)

Power
DC Input Range: 48-57 V DC, Connected via Redundant Terminal Block. See page C17 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)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics
Dimensions: 17.4 W" L x 8.07" D x 1.73" H (442 mm x 205 mm x 44.2 mm)
Housing: Metal case.19-in rack mounting hardware included
Weight: 6.61 lb (3 kg)

Certifications
NEMA TS1/2 Environmental requirements for traffic control equipment
Safety: UL508, EN60950-1, IEC60950-1; CE Mark
EMI: FCC Part 15 Class A; 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 Unmanaged Industrial PoE Switches

Key Features

- Meets NEMA TS1 and TS2 Environmental Requirements for Traffic Control Equipment
- Meets IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment
- Supports IEEE 802.3af Power over Ethernet (PoE) as Power Source Equipment (PSE)
- Alarms for Power Failure and Port Link Failure via Relay Output.
- Redundant 48 V DC Terminal Block Power Inputs.
- Supports DIN-rail or Panel Mount installations

Ordering Information

PART NO.	DESCRIPTION
065-7408PTB	8-port 10/100 Unmanaged Industrial PoE Switch with 4 PoE Ports, 48 V DC Redundant Power Terminal Block
065-7408P1FXSCTB	7-port 10/100 Unmanaged Industrial PoE Switch with 4 PoE Ports + 1-100BaseFX SC/MM Port, 2 km Span, 48 V DC Redundant Power Terminal Block
065-7408P1FXSTTB	7-port 10/100 Unmanaged Industrial PoE Switch with 4 PoE Ports + 1-100BaseFX ST/MM Port, 2 km Span, 48 V DC Redundant Power Terminal Block
065-7408P1FXSMTB	7-port 10/100 Unmanaged Industrial PoE Switch with 4 PoE Ports + 1-100BaseFX SC/SM Port, 20 km Span, 48 V DC Redundant Power Terminal Block

Specifications

Applicable Standards

IEEE802.3 10BaseT
IEEE802.3u 100BaseTX/100BaseFX
IEEE802.3x Flow Control and Back pressure
IEEE 802.3af PoE PSE

Ports

8 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port. Ports 1- 4 support IEEE 802.3af PoE as Power Source Equipment (PSE)
1 - 100BaseFX port, SC/MM, 2 km span (065-7408P1TXSCTB) **or**
1 - 100BaseSX port, SC/MM, 2 km span (065-7408P1TXSTTB) **or**
1- 100BaseFX port, SC/SM, 20 km span (065-7408P1TXSMTB)

LED Status Indicators

Per Unit: Power1 (Green), Power2 (Green), Power3 (Green)
Per Port: 10/100BaseT/TX port: Link/Activity (Green)
100BaseFX port: Link/Activity (Green)

Peformance

Switching Method: Store-and-Forward; 4,096 MAC addresses; 1 Mbits buffer memory
Latency: < 7.2 µs (LIFO)
Throughput, per port: 14,880 pps for 10 Mbps; 148,810 pps for 100 Mbps;

Power

DC Input Range: 48 V DC, Connected via Redundant Terminal Block.
See page C17 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)
Relative Humidity: 5% to 95% (non-condensing)

Physical Characteristics

Dimensions: 2.68 W" x 4.33" D x 5.31" H (68 mm x 110 mm x 135 mm)
Housing: IP30 protection, metal case
Weight: 2.2 lb (1 kg)

Certifications

NEMA TS1/2 Environmental requirements for traffic control equipment
Safety: UL508, EN60950-1, IEC60950-1
EMI: FCC Part 15 Class A; 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

12-Port 10/100 Managed Industrial Switch

Key Features

- Complies with NEMA TS1 & TS2 Environmental Requirements for Traffic Control Equipment
- -40°F to 167°F (-40°C to 75°C) Operating Temperature Range
- IEEE 802.1w RSTP, IEEE 802.1S MSTP and IEEE 802.1D STP Supported
- Recover-RingTM Capability - Recovery Time < 20 ms
- 2 Hardened SFP Dual Media Ports
- Port Mirroring for Enhanced Network Monitoring
- Bandwidth Rate Control
- Complies with IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment
- MAC-Based Trunking with Automatic Link Failover for Bandwidth Aggregation
- Supports Port-Based VLAN, IEEE 802.1Q VLAN Tagging, and GVRP
- IP Multicast Filtering via IGMP Snooping V1, V2 & V3
- IEEE 802.1p QoS Supports 4 Priority Queues
- 802.1x Access Control Improves Network Security
- Redundant Power via 24 V DC Terminal Block

Ordering Information

PART NO.	DESCRIPTION
065-7714HSFPTB	12-Port 10/100 Managed Industrial Switch plus 2-SFP/RJ-45 Gigabit 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

1000Base SFP Fiber Modules

Ordering Information (Industrial Temperature Range -40° C to 85° C)

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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

12-Port 10/100 Managed 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])
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.
2 - Dual Media RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports with corresponding 1000Base SFP auto-detecting ports. SFP Gigabit Ethernet and Fast Ethernet Modules are available. See page D1 – D4 for SFP ordering information. See our website at www.signamax.com for detailed SFP specification information.

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 µs (LIFO).
Throughput: 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: 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 (GVRP/GARP): 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 (STP/RSTP/MSTP): IEEE 802.1d/1w/1s

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.

Bandwidth Control Capabilities

Bandwidth Rate Limiting
Multicast/Broadcast/Unknown-Unicast Storm suppression

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, v2, and v3 Network Management:
RFC 1213 MIB (MIB-2)
RFC 1757 RMON MIB
RFC 1493 Bridge MIB
VLAN MIB (IEEE802.1Q/RFC2674)
Private MIB

Power

DC Input Range: 12 to 32 V DC, Connected via Redundant Terminal Block. See page C17 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)
Relative 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. Optional DIN-rail, panel, and/or 19-in rack mounting hardware sold separately.
Weight: 3.74 lb (1.7 kg)

Certifications

NEMA TS1/2 Environmental requirements for traffic control equipment
Safety: UL508, EN60950-1, IEC60950-1; CE Mark
EMI: FCC Part 15 Class A; 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 Switches

Key Features

- 5-Port 10/100/1000BaseT/TX or 4-Port 10/100/1000BaseT/TX plus 1-Port 1000BaseSX/LX
- IEEE802.3az EEE(Energy Efficient Ethernet) Supported
- Compact Size with Metal Case and DIN-Rail Mount Pre-Installed
- Jumbo Frame Support up to 10 K Bytes
- High Speed, Non-Blocking Four Traffic Class QoS Switch Fabric

Ordering Information

PART NO.	DESCRIPTION
065-7405GTB	5-port 10/100/1000 Unmanaged Industrial Switch, 48 V DC Redundant Power Terminal Block
065-7405G1SXTB	4-port 10/100/1000 Unmanaged Industrial Switch + 1-1000BaseFX SC/MM Port, 220 m Span on 62.5 µm Fiber / 550 m Span on 50 µm Fiber, 48 V DC Redundant Power Terminal Block
065-7405G1LXTB	4-port 10/100/1000 Unmanaged Industrial Switch + 1-1000BaseFX SC/SM Port, 10 km Span, 48 V DC Redundant Power Terminal Block

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 and Back pressure
IEEE 802.1az Energy Efficient Ethernet
IEEE 802.1p Quality of Service(QoS)

Ports
5 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port. (065-7405GTB)
4 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus 1 - 1000BaseSX port, SC/MM, 220 m Span on 62.5 µm Fiber / 550 m Span on 50 µm Fiber (065-7405G1SXTB)
4 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus 1 - 1000BaseLX port, SC/MM, 10 km Span (065-7405G1LXTB)

LED Status Indicators
Per Unit: Power (Green)
Per Port: 10/100 Mbps Link/ACT (Green),1000 Mbps Link/ACT (Yellow)

Peformance
Throughput: 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: 8 K MAC addresses
Buffer Memory: 1 Mb
Switch Architecture: Store and Forward

Power
DC Input Range: 12 to 48 V DC, Connected via Redundant Terminal Block. See page C17 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)
Relative 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 Class A, Part 15; VCCI Class A; EN61000-6-4; EN55022, Class A
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 Unmanaged Industrial Switches

Key Features

- Meets NEMA TS1 and TS2 Environmental Requirements for Traffic Control Equipment
- Meets IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment
- UL 1604 Class 1, Division 2 Classified for Use in Hazardous Locations
- Alarms for Power Failure and Port Link Failure via Relay Output
- Redundant 1.5 Amp rated, 24 V DC Terminal Block Power Inputs

Ordering Information

PART NO.	DESCRIPTION
065-7405TB	5-Port 10/100 Unmanaged Industrial Switch, 24 V DC Redundant Power Terminal Block
065-7408ATB	8-Port 10/100 Unmanaged Industrial Switch, 24 V DC Redundant Power Terminal Block
065-74091FXSCTB	8-Port 10/100 Unmanaged Industrial Switch + 1-Port 100BaseFX, SC/MM 2km Span, 24 V DC Redundant Power Terminal Block
065-74091FXSTTB	8-Port 10/100 Unmanaged Industrial Switch + 1-Port 100BaseFX, ST/MM 2 km Span, 24 V DC Redundant Power Terminal Block
065-74091FXSMTB	8-Port 10/100 Unmanaged Industrial Switch + 1-Port 100BaseFX, SC/SM 15 km Span, 24 V DC Redundant Power Terminal Block

Specifications

Applicable Standards

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

Ports

5 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports (065-7405TB)
8 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports (065-7408ATB)
8 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports plus 1-100BaseFX port, SC/MM, 2 km span (065-74091FXSCTB)
8 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports plus 1-100BaseFX port, ST/MM, 2 km span (065-74091FXSTTB)
8 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX ports plus 1-100BaseFX port, SC/SM, 15 km span (065-74091FXSMTB)

LED Status Indicators

Per Unit: Power1 (Green), Power2 (Green), Fault (Red)
Per Port: Link/Activity (Green), 100 Mbps Speed (Amber)

Peformance

Latency: <7.1 µs (LIFO).
Throughput: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps (64-byte packets)
Switch Fabric Speed: 24.0 Mbps (non-blocking, wire speed performance)
MAC Address Capacity: 2 K MAC addresses
Buffer Memory: 768 Kb
Switch Architecture: Store and Forward

Power

DC Input Range: 10 to 48 V DC, Connected via Redundant Terminal Block. See page C17 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements

Operating Temperature: -40°F to 167°F (-40°C to 75°C)
Storage Temperature: -50°F to 200°F (-45°C to 93°C)
Relative Humidity: 10% to 95%, (non-condensing)

Physical Characteristics

Dimensions: 1.97" W x 5.35" H x 4.33" D (50 mm x 136 mm x 110 mm)
Housing: IP30 protection, metal case
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 Class A, Part 15; CE EN6100-6-2, CE EN6100-6-3
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

8-Port 10/100/1000 Unmanaged Compact Industrial Switch

Key Features

- Eight 10/100/1000BaseT/TX RJ45 Ports
- Operating Temperature Range from 14° F to 158° F (-10° C to 70° C)
- Broadcast Storm Protection
- Redundant Power via 9 - 48 V DC Terminal Block
- Rugged High-Strength IP50 Metal Housing
- Auto-Detects 10/100/1000BaseT/TX Speed, Full/Half-Duplex Mode, and Auto-MDI/MDI-X
- DIN-Rail Mount Pre-Installed

Ordering Information

PART NO.	DESCRIPTION
065-7408GTB	8-Port 10/100/1000 Unmanaged Compact Industrial Switch

Specifications

Applicable Standards
EEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT

Ports
8 - RJ-45 10/100/1000BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port.
Broadcast/Multicast Storm Suppression enabled.

LED Status Indicators
Per Unit: Power Status 1 & 2
Per Port: 1Link/Activity, 10/100/1000 speed

Peformance
Latency: <4.6 µs (LIFO).
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 16.0 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 2 K MAC addresses

Power
DC Input Range: 9 to 48 V DC, Connected via Redundant Terminal Block.
See page C17 for DIN-Rail Mount Industrial Power Supplies

Environmental Requirements
Operating Temperature: 14°F to 158°F (-10°C to 70°C)
Storage Temperature: 40°F to 185°F (-40°C to 85°C)
Relative Humidity: 5% to 95%, (non-condensing)

Physical Characteristics
Dimensions: 1.78" W x 3.54" H x 3.07" D (45.2 mm x 90 mm x 78 mm)
Housing: IP50 protection, metal case
Weight: 0.56 lb (255 g)

Certifications
Safety: UL60950-1 2nd Ed. /CSA C22.2 No.60950-1-07 2nd Ed.; CE Mark
EMI: FCC Part 15 Class A; EN55022, EN61000-3-2, EN61000-3-3
EMS: EN55024:1998/A1:2001/A2:2003 (IEC 61000-4-2:1995/A2:2000)
IEC61000-4-3:2002, IEC 61000-4-4:2004
IEC 61000-4-5:1995/A1:2000, IEC 61000-4-6:1996/A1:2000
IEC 61000-4-8:1993/A1:2000, IEC 61000-4-11:1994/A: 2000
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

5-Port 10/100 Unmanaged Compact Industrial Switch

Key Features

- Meets IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment
- 1.5 Amp Rated, 48 V DC Terminal Block Power Input
- DIN-Rail Mount Pre-Installed

Ordering Information

PART NO.	DESCRIPTION
065-7405CTB	5-Port 10/100 Unmanaged Compact Industrial Switch, 48 V DC Redundant Power Terminal Block

Specifications

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

Ports
5 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port.

LED Status Indicators
Per Unit: Power1 (Green), Power2 (Green), Fault (Red)
Per Port: Link/Activity (Green), 100 Mbps Speed (Amber)

Peformance
Latency: <5.1 µs (LIFO).
Throughput: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps
Switch Fabric Speed: 1 Gbps (non-blocking, wire speed performance)
MAC Address Capacity: 2 K MAC addresses

Power
DC Input Range: 12 to 48 V DC, Connected via Redundant Terminal Block.
See page C17 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)
Relative Humidity: 5% to 95%, (non-condensing)

Physical Characteristics
Dimensions: 1.02" W x 4.33" H x 2.76" D (26 mm x 110 mm x 70 mm)
Housing: IP30 protection, metal case
Weight: 1.76 lb (0.8 kg)

Certifications
Safety: UL 60950, EN 60950, IEC 60950
EMI: FCC Class A, Part 15; CE EN6100-6-2, CE EN6100-6-3
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

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 Volts DC Power Output. Overvoltage Protection to 65 Volts
- 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)

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 Volts DC Power Output. Overvoltage Protection to 32.4 VDC or Better.

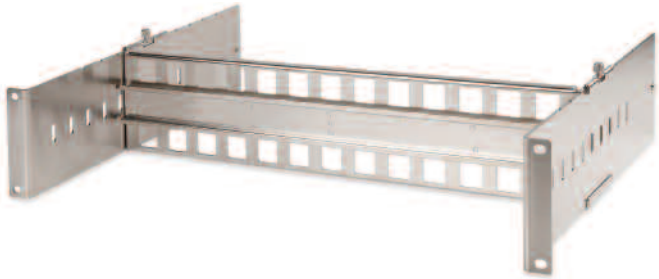
Ordering Information

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)

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 Inches to 8.25 Inches (50mm to 210mm)
- Dimensions 19" W x 4.13" H x 11.22" D (464mm x 105mm x 285mm)



Ordering Information

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

DIN-Rail Mounting Bracket

Key Features

- Sturdy and Versatile
- Clips onto 35mm “Top Hat” DIN Rail
- Clip is Repositionable 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

SIGNAMAX™ NETWORK CONNECTIVITY SYSTEMS

SFP Fiber Modules

As the network bandwidth and access requirements grow, fiber optic connectivity has become a requirement with many growing and new network projects. Signamax Connectivity Systems' Small Form-factor Pluggable (SFP) modules are a low-cost, highly flexible method of providing interconnectivity between switches or media converters that are equipped with standard SFP receptacles.

Flexibility: Signamax offers a wide variety of fiber optic SFPs supporting both Gigabit Ethernet and Fast Ethernet / SONET OC-3 / SDH STM-1 speeds.

Growth: Standard two-strand and Wave Division Multiplexing (WDM/CWDM) single-strand models are available to support Gigabit Ethernet requirements, allowing cost-effective bandwidth increases utilizing the fiber capacity that is already in place — even if all the fiber strands are in use by existing two-strand solutions.

Signamax also offers copper SFP solutions for switches whose connectivity is provided only by SFP receptacles, in both 10/100BaseT/TX models for Standard and Fast Ethernet, and models supporting Gigabit Ethernet in both 1000BaseT only or 10/100/1000BaseT/TX configurations.

Technology: Also available today are 10Gigabit Ethernet models in SFP+ and XFP configurations.

Signamax SFPs provide cost effective solutions for fiber connectivity, let us help you design your next network project with our pre-sales design support.

1000Base SFP Fiber Modules.....D1
1000Base SFP Industrial Fiber Modules D1
1000Base WDM SFP Fiber Modules.....D2
1000Base CWDM SFP Fiber Modules D2
Fast Ethernet Copper SFP Moduled D3
Gigabit Ethernet Copper SFP Modules D3
100BaseFX/BX SFP Fiber Modules D3
100BaseFX/BX WDM SFP Fiber Modules D4
10 Gigabit SFP+ Fiber Modules D4
10 Gigabit XFP Fiber Modules D4

SFP Fiber Modules

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 (-40° C to 85° C)
- Low Power Dissipation

Ordering Information (Standard Temperature Range 0° C to 70° C)

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
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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

Ordering Information (Industrial Temperature Range -40° C to 85° C)

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	1000BaseEZX SFP Module 1550 nm - LC/SM, 110 km Span

Summary Specifications

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

1000Base WDM SFP Fiber Modules

Ordering Information

PART NO.	DESCRIPTION
065-79LX1WDMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 10 km
065-79LX1WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 10 km
065-79LX2WDMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 20 km
065-79LX2WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 20 km
065-79LX4WDMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 40 km
065-79LX4WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 40 km
065-79LX6WDMA1550	WDM 1.25 Gbps SFP Tx: 1310 nm/Rx: 1550 nm - LC/SM SX, 60 km
065-79LX6WDMB1550	WDM 1.25 Gbps SFP Tx: 1550 nm/Rx: 1310 nm - LC/SM SX, 60 km

Summary Specifications

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-79LX1WDMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	FP Laser	11 dBm	10 km	3.3V	0 ~ 70°C
065-79LX1WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	11 dBm	10 km	3.3V	0 ~ 70°C
065-79LX2WDMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	FP Laser	16 dBm	20 km	3.3V	0 ~ 70°C
065-79LX2WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	16 dBm	20 km	3.3V	0 ~ 70°C
065-79LX4WDMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	DFB Laser	20 dBm	40 km	3.3V	0 ~ 70°C
065-79LX4WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	20 dBm	40 km	3.3V	0 ~ 70°C
065-79LX6WDMA1550 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	DFB Laser	24 dBm	60 km	3.3V	0 ~ 70°C
065-79LX6WDMB1550 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	24 dBm	60 km	3.3V	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	3.3V	-5 ~ 70°C
065-79LXCWDMB1490 (Violet Clasp)	TX: 1490 nm RX: 1310 nm	DFB Laser	13 dBm	10 km	3.3V	-5 ~ 70°C
065-79LXEWDMA1490 (Blue Clasp)	TX: 1310 nm RX: 1490 nm	FP Laser	13 dBm	20 km	3.3V	-5 ~ 70°C
065-79LXEWDMB1490 (Violet Clasp)	TX: 1490 nm RX: 1310 nm	DFB Laser	13 dBm	20 km	3.3V	-5 ~ 70°C

Fast and Gigabit Ethernet Copper SFP Modules

Ordering Information

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

Summary Specifications

PART NO.	MINIMUM DATA RATE	MAXIMUM DATA RATE	TYPICAL BIT ERROR RATE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
Fast Etherner SFP 065-065-73TXMG	10 Mbps	100 Mbps	10^{-10}	3.3V	0 ~ 70°C
Gigabit Ethernet SFP 065-791000TMG	1000 Mbps	1000 Mbps	10^{-10}	3.3V	0 ~ 70°C
065-791000TTXMG	10 Mbps	1000 Mbps	10^{-10}	3.3V	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	3.3V	0 ~ 70°C
065-73FXSM20MG	LX 1300 nm	FP Laser	19 dBm	20 km	3.3V	0 ~ 70°C
065-73FXSM40MG	LX 1310 nm	FP Laser	29 dBm	40 km	3.3V	0 ~ 70°C
065-73FXSM80MG	LX 1550 nm	DFB Laser	29 dBm	80 km	3.3V	0 ~ 70°C
065-73FXSM110MG	LX 1550 nm	DFB Laser	34 dBm	110 km	3.3V	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

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	3.3V	0 ~ 70°C
065-73-MWB15 (Green Clasp)	TX: 1550 nm RX: 1310 nm	FP Laser	15 dBm	2 km	3.3V	0 ~ 70°C
065-73-2WA15 (Blue Clasp)	TX: 1310 nm RX: 1550 nm	FP Laser	17 dBm	20 km	3.3V	0 ~ 70°C
065-73-2WB15 (Green Clasp)	TX: 1550 nm RX: 1310 nm	DFB Laser	17 dBm	20 km	3.3V	0 ~ 70°C

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 Spam

Summary Specifications

PART NO.	TX/RX SPECTRUM	LIGHT SOURCE	LINK POWER BUDGET	TYPICAL MAX DISTANCE	SUPPLY VOLTAGE	OPERATING TEMPERATURE
065-80SR10G300M (Light Brown Clasp)	SR 850 nm	VCSEL	6.5 dBm	300 m	3.3V	0 ~ 70°C
065-80LR10G10KM (Blue Clasp)	LR 1310 nm	DFB Laser	6.5 dBm	10 km	3.3V	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 (Light Brown Clasp)	SR 850 nm	VCSEL	6.5 dBm	300 m	3.3V	0 ~ 70°C
065-82LR10G10KM (Blue Clasp)	LR 1310 nm	DFB Laser	6 dBm	10 km	3.3V	0 ~ 70°C
065-82LR10G40KM (Red Clasp)	ER 1550 nm	TEC Cooled EML DFB LD	12.8 dBm	40 km	3.3V	0 ~ 70°C

Auto-negotiation - Is an Ethernet procedure by which two connected devices choose common transmission parameters, such as speed, duplex mode, and flow control.

Broadcast Storm - Message that has been broadcast across a network results in repeated numerous responses, each response results in still more responses which could lead to a network wide crash.

Class of service (CoS) - Is a parameter used in data and voice protocols to differentiate the types of payloads contained in the packet being transmitted. The objective of such differentiation is generally associated with assigning priorities to the data payload or access levels to the telephone call.

DIN-Rail - Is a metal rail of a standard type widely used for mounting circuit breakers and industrial control equipment inside equipment racks. Top hat rail 35-mm wide rail is used to mount Signamax equipment. (EN 50022 – 35 mm × 7.5 mm)

Duplex - Communication system is a point-to-point system composed of two connected parties or devices that can communicate with one another in both directions, simultaneously:

Half-Duplex (HDX) - Provides communication in both directions, but only one direction at a time (not simultaneously). Typically, once a party begins receiving a signal, it must wait for the transmitter to stop transmitting, before replying.

Full-Duplex (FDX) - Allows communication in both directions, this to happen simultaneously

Energy-Efficient Ethernet - Set of enhancements to the twisted-pair and backplane Ethernet family of computer networking standards that allow for less power consumption during periods of low data activity. The intention was to reduce power consumption by 50% or more, while retaining full compatibility with existing equipment. (IEEE 802.3az)

Flow control - Is a mechanism for temporarily stopping the transmission of data (IEEE 802.3x)

Generic Attribute Registration Protocol (GARP) - Allows bridges, switches or other similar devices to be able to register and de-register attribute values, such as VLAN identifiers and multicast group membership across a large LAN.

IEEE 802 - Refers to a family of IEEE standards dealing with local area networks (LAN) and metropolitan area networks (MAN)

IEEE 802.1 - Standards for LAN/MAN bridging, management and remote media access control (MAC). (Example: 802.1Q VLAN's and 802.1p Traffic Class Expediting and Dynamic Multicast Filtering)

IEEE 802.3 - Working group of standards defining the physical layer and data link layer's media access control (MAC) of wired Ethernet. (Example: 802.3z 1000BASE-X Gbit/s Ethernet over Fiber-Optic, 802.3af Power over Ethernet)

Ingress Protection (IP) Ratings - Degrees of protection from foreign objects such as solid and liquids afforded by the enclosure to protect interior equipment or circuitry.

First Digit (Protection from solid objects)
0 No Protection
1 Protection against objects >50mm
2 Protection against objects >12.5mm
3 Protection against objects >2.5mm
4 Protection against objects >1.0mm
5 Dust Protected (limited ingress)
6 Dust Tight Protection

Second Digit (Protection from moisture)
0 No Protection
1 Protection against vertically dripping water
2 Protection against spraying water ± 15º from vertical
3 Protection against spraying water ± 60º from vertical
4 Protection against spraying water ± 90º from vertical
5 Protection against low pressure jetting water
6 Protection against high pressure jetting water
7 Protection against temporary immersion (15cm and 1m)
8 Protection against continuous immersion under pressure

International Electrotechnical Commission (IEC) - Non-profit, non-governmental international standards organization that prepares and publishes International Standards for all electrical, electronic and related technologies – collectively known as "electrotechnology"

Internet Group Management Protocol (IGMP) - Is a communications protocol used by hosts and adjacent routers on IP networks to establish multicast group memberships.

> **IGMP snooping** is the process of listening to Internet Group Management Protocol (IGMP) network traffic. The feature allows a network switch to listen in on the IGMP conversation between hosts and routers. By listening to these conversations the switch maintains a map of which links need which IP multicast streams.

Jumbo Frames - Ethernet frames with more than the standard 1500 bytes of payload. Jumbo frames can carry up to 9000 bytes of payload. Dramatically improve network performance by raising effective bandwidth.

Latency - Is a time interval between the stimulation and response. A time delay between the cause and the effect of some physical change in the system being observed.

Link Aggregation Control Protocol (LACP) - Is a computer networking term to describe various methods of combining (aggregating) multiple network connections in parallel to increase throughput beyond what a single connection could sustain, and to provide redundancy in case one of the links fail. (IEEE 802.3ad)

Link Fault Signaling (LFS) – Detect and report fault on a physical (TX & RX) connection. When link is lost on one port, link is taken down on the device's other port. This allows far end fault detection as the link drop propagates across the circuit.

Media Converter - Is a simple networking device that makes it possible to connect two dissimilar media types such as twisted pair with fiber optic cabling.

Multi-link trunking - It allows grouping several physical Ethernet links into one logical Ethernet link to provide fault-tolerance and high-speed links between routers, switches, and servers.

Open Systems Interconnection (OSI) model - Is a conceptual model that characterizes and standardizes the internal functions of a communication system by partitioning it into abstraction layers:

> **Layer 1: Physical layer** - Relationship between a device and a physical transmission medium (e.g., a copper or fiber optical cable
>
> **Layer 2: Data link layer** - Provides a reliable link between two directly connected nodes, by detecting and possibly correcting errors that may occur in the physical layer
>
> **Layer 3: Network layer** - Provides the functional and procedural means of transferring data from one node to another connected to the same network. Every node has an address and which permits nodes connected to it to transfer messages. letting the network find the way to deliver ("route") the message to the destination node.
>
> **Layer 4: Transport layer** - Provides the reliable sending of data packets between nodes (with addresses) located on a network, providing reliable data transfer services to the upper layers.
>
> **Layer 5: Session layer** - Controls the dialogues (connections) between computers. It establishes, manages and terminates the connections between the local and remote application.
>
> **Layer 6: Presentation layer** - Establishes context between application-layer entities, in which the application-layer entities may use different syntax and semantics if the presentation service provides a mapping between them.
>
> **Layer 7: Application layer** - This layer interacts with software applications that implement a communicating component. closest to the end user, which means both the application layer and the user interact directly with the software application

Operations, Administration and Management (OAM) - Is the protocol for installing, monitoring and troubleshooting Ethernet Metropolitan Area Networks (MANs) and Ethernet Wide Area Networks (WANs). (IEEE 802.3ah)

Port mirroring - Used on a network switch to send a copy of network packets seen on one switch port (or an entire VLAN) to a network monitoring connection on another switch port. Network engineers or administrators use port mirroring to analyze and debug data or diagnose errors on a network

Power over Ethernet or PoE - Standardized systems which pass electrical power along with data on Ethernet cabling. This allows a single cable to provide both data connection and electrical power to devices.

> **IEEE 802.3af** - Power over Ethernet (PoE), 15.4 watt
>
> **IEEE 802.3at** - Power over Ethernet Plus (PoE+), 30 watt
>
> **Power source equipment (PSE)** - is a device such as a switch that provides power on the Ethernet cable.
>
> **Powered Device (PD)** - is a device powered by a PSE and thus consumes energy. Examples;wireless access points, IP Phones, and IP Cameras.

Q-in-Q - Allows packets to pass customer data from one end to other end between VLANs. Can also isolate customer traffic within a single LAN or to enable customer traffic flows between Virtual LANs in different locations.

Quality of service (QoS) - Specifies or guaranteed a certain level of performance to a data flow and ability to provide different priority to different applications, users, or data flows. (IEEE 802.1p)

Round-robin (RR) - Algorithms employed by process and network schedulers in computing. As the term is generally used, time slices are assigned to each process in equal portions and in circular order, handling all processes without priority.

> **Weighted round robin (WRR)** - is a scheduling discipline. Each packet flow or connection has its own packet queue in a network interface card. Each different Classification of Service (CoS) is assigned a separate queue according to its priority, with a particular weight as signed in the algorithm to ensure all packets eventually are forwarded.

Small form-factor pluggable transceiver (SFP) - Compact, hot-pluggable module used for both telecom and datacom applications. SFP is sometimes referred to as a Mini-GBIC SFP. They are available with a variety of transmitter and receiver types; selecting the appropriate transceiver required for each link to provide the required optical reach over the available optical fiber type.

Simple Network Management Protocol (SNMP) - Monitor network-attached devices for conditions, enables management of link status, monitoring chassis environmental statistics.

Spanning Tree Protocol - Is a network protocol that ensures a loop-free topology for any bridged Ethernet local area network. Allows a network design to include spare (redundant) links to provide automatic backup paths if an active link. (IEEE 802.1s, IEEE 802.1w, IEEE 802.1D)

Stackable Switch - Network switch that is fully functional operating standalone but which can also be set up to operate together with one or more other network switches, with this group of switches showing some of the characteristics of a single switch but having the port capacity of the sum of the combined switches. A common characteristic of a stack acting as a single switch is that there is a single IP address for remote administration of the stack as a whole. (Single IP Management (SIM))

Virtual Local Area Network, Virtual LAN or VLAN - Network of workstations that behave as if they are connected to the same wire even though they may actually be physically located on different segments of a LAN.

Wavelength-Division Multiplexing (WDM) - A technology which multiplexes a number of optical carrier signals onto a single optical fiber by using different wavelengths (frequency spectra) of laser light to carry differing information.

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