

10/100 to 100FX Managed Stand Alone Media Converters



Signamax Connectivity Systems' 065-1600 series Standalone Managed Switching 10/100 Media Converters are individually-housed SNMP-managed media converters available with singlemode and multimode interfaces to provide copper-to-fiber conversion for mission-critical networks. They are typically used as circuit endpoint devices in concert with the Signamax Managed Media Converter Rack Mount Chassis System to enable network managers to remotely monitor the status of their entire fiber optic Fast Ethernet network all the way to the fiber optic circuit's last termination. An individual SNMP management agent is included with each Signamax 065-1600 series standalone managed converter. Equipped with Link Fault Signaling (LFS) and Loopback Testing capabilities, they extend the enterprise LAN configuration range up to 60 km while simultaneously minimizing downtime and technician dispatch expense.

KEY FEATURES

- Intelligent Diagnostics for Fault Self-Detection
- External Loopback Capability
- Supports Broadcast Suppression
- Programmable Maximum Ethernet Frame Length Ranging from 1522 to 1536 bytes
- Supports Web-Based and Text-Based Management User Interface
- Supports SNMP with RMON
- Supports Bandwidth Rating Management
- Supports TFTP for Firmware Upgrades
- Supports DHCP Client
- Supports E-mail Client (SMTP RFC 821) and Mobile Phone Short Message (SMS) for Sending Traps and Alarm Messages
- Built-in Twisted-Pair Port 10/100 Switch with Store-and-Forward Architecture
- Auto-Negotiation RJ-45 Connector with Auto-MDIX
- LEDs for Functions, Links & Activity
- Singlemode Spans up to 60 Km
- Lifetime Performance Warranty

ORDERING INFORMATION

| Part Number | Description |
|-------------|-------------|
|-------------|-------------|

10/100 to 100FX Managed Stand Alone Media Converters

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|-------------|--|
| 065-1600 | 10/100 to 100FX MM/ST, 2 km Managed Converter |
| 065-1610 | 10/100 to 100FX MM/SC, 2 km Managed Converter |
| 065-1620 | 10/100 to 100FX SM/SC, 5 km Managed Converter |
| 065-1620ED | 10/100 to 100FX SM/SC, 20 km Managed Converter |
| 065-1620XLD | 10/100 to 100FX SM/SC, 60 km Managed Converter |

10/100 to 100FX Single Fiber WDM Managed Stand Alone Media Converters

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|--------------|--|
| 065-1676A | 10/100 to 100FX SM/SC, 20 km WDM Managed Converter Tx: 1310 nm Rx: 1550 nm |
| 065-1676B | 10/100 to 100FX SM/SC, 20 km WDM Managed Converter Tx: 1550 nm Rx: 1310 nm |
| 065-1676AED | 10/100 to 100FX SM/SC, 40 km WDM Managed Converter Tx: 1310 nm Rx: 1550 nm |
| 065-1676BED | 10/100 to 100FX SM/SC, 40 km WDM Managed Converter Tx: 1550 nm Rx: 1310 nm |
| 065-1676AXLD | 10/100 to 100FX SM/SC, 60 km WDM Managed Converter Tx: 1310 nm Rx: 1550 nm |
| 065-1676BXLD | 10/100 to 100FX SM/SC, 60 km WDM Managed Converter Tx: 1550 nm Rx: 1310 nm |

SPECIFICATIONS

• **APPLICABLE STANDARDS**

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

• **FIXED PORTS**

- 1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX, Cat 5 or better cable, 100 meters maximum distance for 100TX, Cat 3 or better cable, 100 meters maximum distance for 10BaseT

plus

- 1 fiber optic port meeting IEEE 802.3u 100FX standard specification; 62.5/125 or 50/125 micron multimode fiber, 2000 meters maximum distance.

or

- 1 fiber optic port meeting IEEE 802.3u 100FX standard specification; 9/125 micron singlemode fiber optic cable, 5 kilometers maximum distance (Model 065-1620)

or

- 20 kilometers maximum distance (Models 065-1620ED, 065-1676A, & 065-1676B)

or

- 40 kilometers maximum distance (Models 065-1676AED & 065-1676BED)

or

- 60 kilometers maximum distance (Models 065-1620XLD, 065-1676AXLD, & 065-1676BXLD)

• **PERFORMANCE**

- Latency:** < 9.0 μs (LIFO)
- Throughput @ 100Base:** 148,810 pps (64-byte packets)
- Throughput @ 1000Base:** 1,488,100 pps (64-byte packets)
- Flash Memory:** 4M bytes
- CPU Main Memory:** 16M bytes
- MAC Addresses Supported:** 2K
- Packet Buffer Memory:** Up to 48K

• **FIBER INTERFACE, MULTIMODE MODELS**

- Type:** LED
- Wavelength:** 1300 nm nominal (1270 nm maximum, 1380 nm minimum)
- Maximum Output Power:** - 14.0 dBm
- Minimum Output Power:** - 20.0 dBm
- Sensitivity:** -33.0 dBm
- Maximum Input Power:** - 8.0 dBm
- Link Power Budget:** 13.0 dB

• **FIBER INTERFACE, SINGLEMODE PN 065-1620**

- Type:** MQW Laser
- Wavelength:** 1300 nm nominal (1260 nm maximum, 1360 nm minimum)
- Maximum Output Power:** - 7.0 dBm
- Minimum Output Power:** - 15.0 dBm
- Sensitivity:** -28.0 dBm
- Maximum Input Power:** - 7.0 dBm
- Link Power Budget:** 13.0 dB

• **FIBER INTERFACE, SINGLEMODE PN 065-1620ED**

- Type:** MQW Laser
- Wavelength:** 1300 nm nominal (1260 nm maximum, 1360 nm minimum)
- Maximum Output Power:** - 7.0 dBm
- Minimum Output Power:** - 15.0 dBm
- Sensitivity:** -34.0 dBm
- Maximum Input Power:** - 7.0 dBm
- Link Power Budget:** 19.0 dB

• **FIBER INTERFACE, SINGLEMODE PN 065-1620XLD**

- Type:** MQW Laser
- Wavelength:** 1300 nm nominal (1270 nm maximum, 1350 nm minimum)
- Maximum Output Power:** + 3.0 dBm
- Minimum Output Power:** - 3.0 dBm
- Sensitivity:** -37.0 dBm
- Maximum Input Power:** - 0.0 dBm
- Link Power Budget:** 34.0 dB

• **FIBER INTERFACE, SINGLEMODE PN 065-1676A**

- Type:** MQW Laser
- Transmit Wavelength:** 1310 nm nominal (1260 nm maximum, 1360 nm minimum)
- Receive Wavelength:** 1550 nm nominal (1480 nm maximum, 1600 nm minimum)
- Maximum Output Power:** - 8.0 dBm
- Minimum Output Power:** - 14.0 dBm
- Sensitivity:** -33.0 dBm
- Maximum Input Power:** - 3.0 dBm
- Link Power Budget:** 19.0 dB

SPECIFICATIONS**• FIBER INTERFACE, SINGLEMODE PN 065-1676B**

Type: MQW Laser
Transmit Wavelength: 1550 nm nominal (1480 nm maximum, 1580 nm minimum)
Receive Wavelength: 1310 nm nominal (1260 nm maximum, 1360 nm minimum)
Maximum Output Power: - 8.0 dBm
Minimum Output Power: - 14.0 dBm
Sensitivity: -33.0 dBm
Maximum Input Power: - 3.0 dBm
Link Power Budget: 19.0 dB

• FIBER INTERFACE, SINGLEMODE PN 065-1676AED

Type: MQW Laser
Transmit Wavelength: 1310 nm nominal (1260 nm maximum, 1360 nm minimum)
Receive Wavelength: 1550 nm nominal (1490 nm maximum, 1600 nm minimum)
Maximum Output Power: - 3.0 dBm
Minimum Output Power: - 8.0 dBm
Sensitivity: -33.0 dBm
Maximum Input Power: - 3.0 dBm
Link Power Budget: 25.0 dB

• FIBER INTERFACE, SINGLEMODE PN 065-1676BED

Type: MQW Laser
Transmit Wavelength: 1550 nm nominal (1480 nm maximum, 1580 nm minimum)
Receive Wavelength: 1310 nm nominal (1260 nm maximum, 1360 nm minimum)
Maximum Output Power: - 3.0 dBm
Minimum Output Power: - 8.0 dBm
Sensitivity: -33.0 dBm
Maximum Input Power: - 3.0 dBm
Link Power Budget: 25.0 dB

• FIBER INTERFACE, SINGLEMODE PN 065-1676AXLD

Type: MQW Laser
Transmit Wavelength: 1310 nm nominal (1260 nm maximum, 1360 nm minimum)
Receive Wavelength: 1550 nm nominal (1490 nm maximum, 1600 nm minimum)
Maximum Output Power: - 3.0 dBm
Minimum Output Power: - 8.0 dBm
Sensitivity: -33.0 dBm
Maximum Input Power: - 3.0 dBm
Link Power Budget: 25.0 dB

• FIBER INTERFACE, SINGLEMODE PN 065-1676BXLD

Type: MQW Laser
Transmit Wavelength: 1550 nm nominal (1480 nm maximum, 1580 nm minimum)
Receive Wavelength: 1310 nm nominal (1260 nm maximum, 1360 nm minimum)
Maximum Output Power: - 3.0 dBm
Minimum Output Power: - 8.0 dBm
Sensitivity: -33.0 dBm
Maximum Input Power: - 3.0 dBm
Link Power Budget: 25.0 dB

• LED INDICATORS

Per Unit: Power
Per Port: Link/Activity, 100 Mbps Speed, FDX/Collision
Seven LEDs total

• PROTOCOLS SUPPORTED

- UDP RFC 768
- Telnet RFC 854
- TFTP RFC 783
- NTP RFC 1305
- IP RFC 791
- HTTP RFC 2068
- ICMP RFC 792
- DHCP RFC 2131 / RFC 2132
- TCP RFC 793
- SMTP RFC 821
- ARP RFC 826

• 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 Network Management**RFC 1213 MIB (MIB-II)**

- System MIB
- Interface MIB
- Address Translation MIB
- IP MIB
- ICMP MIB
- TCP MIB
- UDP MIB
- SNMP MIB

RMON**• PHYSICAL CHARACTERISTICS****Case dimensions:**

7.60"W x 3.96"D x 1.06"H (193mm x 100.5mm x 26.8mm)

Fiber connector protrusion varies with model.

Weight: 1.32 pounds (0.6 kilograms)

• ELECTRICAL CHARACTERISTICS

Maximum Wattage: 5 Watts

Power Supply: External, 2 Amps @ +5 V DC

• ENVIRONMENTAL CHARACTERISTICS

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 95%, non-condensing

• SAFETY

UL Listed

• WARRANTY

Lifetime