

**Signamax™ Connectivity Systems' 065-1400 series Managed Switching Media Converters provide the controllable solution for long distance connections between legacy 10BaseT networks and 100BaseTX Fast Ethernet networks.**

The 065-1400 series media converters are modular SNMP-managed media converter cards available with a variety of interfaces to provide copper -to-fiber conversion for mission-critical networks. They are used with the 065-1480 Managed Media Converter Rack Mount Chassis to enable network managers to remotely monitor the status of their entire network via RJ-45 (in band) or RS-232 (out of band) connection to the 065-1481 series SNMP Management Module included with every Signamax™ 065-1480 chassis system. Up to eighteen 065-1400 series managed media converters can be supported in a single 2U-high 065-1480 chassis. They extend the enterprise LAN configuration range up to 60km while simultaneously minimizing downtime expense. The 065-1400 series converters are designed as hot-swappable, plug-and-play devices that can be easily installed and maintained.



Signamax Connectivity Systems truly understands the needs of large-scale enterprise and carrier networks. In addition to full management capability through SNMP, the 065-1400 series media converters are equipped with Link Fault Signaling (LFS), needed to provide redundancy with automatic failover when used in concert with modern Ethernet switches equipped with Spanning Tree or Fast Spanning Tree Algorithms, and Loopback Testing that enables Network Control Centers to diagnose the root cause of a problem before a truck-roll technician dispatch. The LFS LED will immediately light to indicate when a cable has been severed or when some other cause of disruption in service has occurred. Simultaneously, via switches equipped with Spanning Tree or Fast Spanning Tree Algorithms, data transmission can be switched to a redundant link resulting in 'non-stop' network connectivity. The Loopback Test feature is enabled via the 065-1481 series management module (included standard in the 065-1480 chassis), and allows instant status knowledge of the state of the cable connection from local or remote sites to reliably discover where problems actually exist without dispatching a technician to visually inspect the cabling and equipment.

Together with the 065-1480 Managed Media Converter Rack Mount Chassis, the Signamax™ 065-1400 series media converter modules are a perfect solution for network applications that require managed devices coupled with easy, straightforward deployment and implementation. They are a truly cost-effective way to deploy fiber optic cabling in a managed switching environment without changing out currently employed high-cost switching hardware. They extend the lifespan of existing copper-based managed switches in addition to extending the distances those switches can reach.

#### KEY FEATURES

- *Automatic MDI/MDI-X crossover and NWay auto-negotiation on the RJ-45 port*
- *Link fault signaling (LFS) for problem awareness and automatic rerouting with Spanning Tree switches*
- *Loopback test for instant connectivity confirmation*
- *065-1481 management module has pushbutton for management system restart*
- *LED status indicators for power (PWR), link (LNK), activity (ACT), collision (COL), full-duplex (FD)*
- *"Hot-swap" slide-in module design*
- *Signamax SNMP management application software (HP OpenView and IBM/Tivoli NetView capable)*
- *3.3V low power consumption design*
- *Available with ST, SC, LC, MT-RJ, and VF-45 multimode connectors*
- *Available with SC and WDM singlemode connectors*
- *FCC Class A and CE approved*

For more information or technical support call us toll-free at 800 446-2377 or visit our Web Site at [www.signamax.com](http://www.signamax.com).

# 10/100 Switching Managed Media Converter

## Ordering Information

### 10/100 Switching Managed Media Converter

PART NUMBER	DESCRIPTION	FIBER TYPE
065-1400	10/100BaseT/TX to 100BaseFX Converter	ST Multimode
065-1410	10/100BaseT/TX to 100BaseFX Converter	SC Multimode
065-1420	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (30 km span)
065-1420ED	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (60 km span)
065-1470	10/100BaseT/TX to 100BaseFX Converter	VF-45 Multimode
065-1472	10/100BaseT/TX to 100BaseFX Converter	MT-RJ Multimode
065-1474	10/100BaseT/TX to 100BaseFX Converter	LC Multimode
065-1476A	10/100BaseT/TX to 100BaseFX Converter	WDM Singlemode (20 km span)
065-1476B	10/100BaseT/TX to 100BaseFX Converter	WDM Singlemode (20 km span)
065-1476AED	10/100BaseT/TX to 100BaseFX Converter	WDM Singlemode (30 km span)
065-1476BED	10/100BaseT/TX to 100BaseFX Converter	WDM Singlemode (30 km span)

### SPECIFICATIONS

#### APPLICABLE STANDARDS

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

#### FIXED PORTS

1 twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT

#### PLUS

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance

#### OR

1 SC duplex fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 20 kilometers maximum distance (model 065-1420) OR 40 kilometers maximum distance (model 065-1420ED)

#### OR

60 kilometers maximum distance (model 065-1420XLD)

#### OR

1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 20 kilometers maximum distance (models 065-1476A and 065-1476B)

#### OR

1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 40 kilometers maximum distance (models 065-1476AED and 065-1476BED)

#### SWITCHING METHOD

Store-and-Forward

#### MAXIMUM MAC ADDRESSES

2,048 entries

#### MEMORY

384 KB

#### FIBER INTERFACE, MULTIMODE MODELS

Type: LED

Wavelength: 1300 nm nominal

(1270 nm maximum, 1360 nm minimum)

Maximum Output Power: - 14.0 dBm

Minimum Output Power: - 20.0 dBm

Sensitivity: -31.0 dBm

Maximum Input Power: - 14.0 dBm

Link Power Budget: 11.0 dB

#### FIBER INTERFACE, SINGLEMODE PN 065-1420

Type: MQW Laser

Wavelength: 1310 nm nominal

(1261 nm maximum, 1360 nm minimum)

Maximum Output Power: - 8.0 dBm

Minimum Output Power: - 15.0 dBm

Sensitivity: -31.0 dBm

Maximum Input Power: - 7.0 dBm

Link Power Budget: 16.0 dB

#### FIBER INTERFACE, SINGLEMODE PN 065-1420ED

Type: MQW Laser

Wavelength: 1310 nm nominal

(1290 nm maximum, 1330 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 065-1476A

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

#### FIBER INTERFACE, SINGLEMODE PN 065-1476B

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 065-1476AED

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 065-1476BED

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

#### SPEED

100BaseTX: 100/200 Mbps for half/full duplex

10BaseT: 10/20 Mbps for half/full duplex

#### PERFORMANCE

Latency: < 0.25 µs (LIFO)

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

#### RELIABILITY

MTBF: 53,643 hours

#### LED INDICATORS

PWR: Red, indicates normal power

LNK: Green, illuminated when receiving link pulses from a compliant device

ACT: Green, flashing/illuminated when transmitting or receiving data packets

FD: Amber, illuminated when in full-duplex mode

COL: Amber, flashing when collision occurs

100: Green, illuminated when data transmission rate 100Mbps

LFS: Red, flashing when disruption in connection occurs

#### DIMENSIONS

Length 171.5 mm  $\phi$  Width 69 mm  $\phi$  Height 21.5 mm

6.75 inches x 2.72 inches x 0.85 inches

(Fiber connector protrusion varies with model)

#### WEIGHT

115 grams (0.33 pounds)

#### POWER

External power supply: 12 Volts DC; 0.8 A

(Supplied via 065-1480 chassis only)

#### POWER CONSUMPTION

2.8 Watts Maximum

#### OPERATING TEMPERATURE

0°C ~ 50°C (32°F ~ 122°F)

#### STORAGE TEMPERATURE

-20°C ~ 70°C (-4°F ~ 158°F)

#### OPERATING HUMIDITY

10 ~ 80%, non-condensing

#### STORAGE HUMIDITY

5 ~ 90%, non-condensing

#### EMISSIONS

FCC part 15 Class A, CE Mark

#### INCLUDES

User Manual

