

**10/100 to 100FX Single Fiber WDM Media Converters with LFS**



Signamax Connectivity Systems' Switching Single Fiber Wave Division Multiplexing (WDM) Media Converters with Link Fault Signaling allow data normally carried over two strands of fiber optic cable to be carried over a single strand of fiber optic cable, utilizing two different light spectra to carry signals in both directions simultaneously. This technology doubles the capacity of a company's fiber optic network, allowing a carrier or an enterprise business to minimize its operational costs by eliminating or delaying the deployment of additional fiber optic capacity. These converters are available in singlemode and multimode models, and span distances of up to 40 kilometers (24.85 miles) with the 065-1176AEDLFS and 065-1176BEDLFS models.

Since WDM Switching Media Converters utilize two different light spectra with one end of a circuit transmitting on the other ends receive frequency (and vice versa), they must be used in A/B pairs. For example, a singlemode fiber optic circuit utilizing these converters would therefore use a single strand of singlemode fiber optic cable plus one each of the 065-1176ALFS and 065-1176BLFS, or one each of the 065-1176AEDLFS and 065-1176BEDLFS and 065-1176BLFS, depending upon the distance spanned. All Signamax WDM converters are equipped with Link Fault Signaling to provide the means for an SNMP-managed switch to recognize a failure on a fiber channel or twisted-pair connection, enabling the switch to automatically route to a backup path if the connected switch is equipped with Spanning Tree Algorithm. Each WDM Media Converter provides a 10/100BaseT/TX auto-negotiating RJ-45 twisted-pair connector port, and features store-and-forward switching architecture. Auto-MDIX capability on the twisted-pair port is also provided for convenient connections.

**KEY FEATURES**

- 10/100 Switch Built-In for Full and Half Duplex Operation on Twisted Pair Port
- Auto-Negotiation and Auto-MDIX on RJ-45 Connector
- SC Simplex WDM Connector
- LEDs for Functions, Links & Activity
- Store-and-Forward Architecture
- Singlemode, Single Fiber Spans Up To 40 Km
- Multimode, Single Fiber Spans Up To 2 Km
- Lifetime Performance Warranty

**ORDERING INFORMATION**

Part Number	Description
065-1176ALFS	10/100BaseT/TX to 100BaseFX Single Fiber Media Converter SC Simplex Singlemode, Tx=1310 nm; Rx=1550 nm, 20 km Span
065-1176BLFS	10/100BaseT/TX to 100BaseFX Single Fiber Media Converter SC Simplex Singlemode, Tx=1550 nm; Rx=1310 nm, 20 km Span
065-1176AEDLFS	10/100BaseT/TX to 100BaseFX Single Fiber Media Converter SC Simplex Singlemode, Tx=1310 nm; Rx=1550 nm, 40 km Span
065-1176BEDLFS	10/100BaseT/TX to 100BaseFX Single Fiber Media Converter SC Simplex Singlemode, Tx=1550 nm; Rx=1310 nm, 40 km Span
065-1176ALFSMM	10/100BaseT/TX to 100BaseFX Single Fiber Media Converter SC Simplex Multimode, Tx=850 nm; Rx=1310 nm, 2 km Span
065-1176BLFSMM	10/100BaseT/TX to 100BaseFX Single Fiber Media Converter SC Simplex Multimode, Tx=1310 nm; Rx=850 nm, 2 km Span

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0651176 series 10272011

SPECIFICATIONS

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▪ **APPLICABLE STANDARDS**

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

▪ **FIXED PORTS**

1 Auto-MDIX 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 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning 20 kilometers maximum distance (models 065-1176ALFS and 065-1176BLFS)

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 065-1176AEDLFS and 065-1176BEDLFS)

or

1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 micron or 50/125 micron multimode fiber optic cable, spanning 2 kilometers maximum distance (models 065-1176AEDLFSMM and 065-1176BEDLFSMM)

▪ **FIBER INTERFACE, SINGLEMODE PN 065-1176ALFS**

**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 065-1176BLFS**

**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 065-1176AEDLFS**

**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 065-1176BEDLFS**

**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

## SPECIFICATIONS

### ■ FIBER INTERFACE, MULTIMODE PN 065-1176AEDLFSMM

**Type:** Tx: VCSEL Rx: FP Laser  
**Transmit Wavelength:** 850 nm nominal  
(830 nm maximum, 860 nm minimum)  
**Receive Wavelength:** 1310 nm nominal  
(1260 nm maximum, 1360 nm minimum)  
**Maximum Output Power:** - 3.0 dBm  
**Minimum Output Power:** - 6.0 dBm  
**Sensitivity:** - 28.0 dBm  
**Maximum Input Power:** - 3.0 dBm  
**Link Power Budget:** 22.0 dB

### ■ FIBER INTERFACE, MULTIMODE PN 065-1176BEDLFSMM

**Type:** MQW Laser  
**Transmit Wavelength:** 1310 nm nominal  
(1260 nm maximum, 1360 nm minimum)  
**Receive Wavelength:** 850 nm nominal  
(830 nm maximum, 860 nm minimum)  
**Maximum Output Power:** - 3.0 dBm  
**Minimum Output Power:** - 6.0 dBm  
**Sensitivity:** - 28.0 dBm  
**Maximum Input Power:** - 3.0 dBm  
**Link Power Budget:** 22.0 dB

### ■ PERFORMANCE

**Latency:** < 4.2  $\mu$ s (LIFO)  
**Throughput @ 100Base:** 148,810 pps (64-byte packets)

### ■ LED INDICATORS

**Per unit** - Power status, RJ-45 port speed  
**Per Port** - LNK/ACT, FDX/COL  
Six LEDs total

### ■ PHYSICAL CHARACTERISTICS

**Case dimensions:** 4.33"L x 3.19"W x 0.91"H (110mm x 81mm x 23mm)  
Fiber connector protrusion varies with model.  
**Weight:** 150 grams (0.33 pounds)

### ■ SAFETY

UL Listed

### ■ WARRANTY

Lifetime

SPECIFICATIONS