



BLACK BOX[®]

NETWORK SERVICES

WDM Extender



Key Features

- ▶ Combines two ports at their native signaling rates to double capacity without the cost and complexity of higher-speed transmission technology or the cost of installing additional Fiber cable.
- ▶ Redundant interface between switches ensures that one data channel is always available (if the fiber segment is intact.)
- ▶ WDM converters are designed as simple plug-and-play products.
- ▶ Data rates supported: 10Mbps (Passive only), 100Mbps, OC-3 and Gigabit.
- ▶ Two channel, Port Trunking (aggregation) capability e.g. 400Mbps, full duplex, Fast Ethernet.
- ▶ Fiber-to-fiber and Gigabit copper-to-fiber for flexibility for optimal network performance.
- ▶ The WDM-Extender series has a second PWR Jack for an optional, redundant, power supply connection.
- ▶ Link Fault Signaling allows rapid recovery of switch/server links if primary connection fails.
- ▶ Extremely compact chassis. A pair of WDM-Extender can be mounted side-by-side in a 19-in rack.



BLACK BOX's WDM-Extender provides an integrated Wavelength Division Multiplexing/Media conversion solution for Gigabit and Fast Ethernet applications. With an elegant synthesis of two separate technologies, WavePlex 2000 combines the benefits of active Media Conversion with parallel (shared) access to existing fiber segments.

A WDM-Extender can connect between copper and fiber segments and convert between multi-mode and single-mode fiber. Versions incorporating a passive (pass-through) optical port allow maintenance of preexisting equipment installations by multiplexing their connection (and new ones) with the WDM-Extender.

WDM-Extender technology enables two separate data streams to reside on a single fiber element. The data streams then flow in parallel as discrete, virtual channels to individual ports or separate devices. The WDM-Extender can be used as a redundant interface, ensuring that a data channel is available if the fiber link is intact. Modular cards under development will permit installation in BLACK BOX's 16-slot WDM-Extender and new 20-slot SNMP managed WDM-Extender rack chassis. Fast Ethernet and Gigabit connector options include: UTP Category (5) rated RJ-45 types and multi-mode and single-mode SC fiber types (with ST, LC and MT-RJ under development).

Overview & Ordering Informations

Model	Description	RJ-45/UTP	Multi Mode	Single Mode	WDM Port
(a)					
LGS301A	1000BASE-T / 1000BASE-SX	Two	-	-	Multi-mode
LGS301A-S	1000BASE-T / 1000BASE-LX	Two	-	-	Single-mode
LGS302A	1000BASE-T/ 1000BASE-SX	One	One Passive	-	Multi-mode
LGS302A-S	1000BASE-T / 1000BASE-LX	One	-	One Passive	Single-mode
on request	1000BASE-T / 1000BASE-SX/LX	One	One Active	-	Single-mode
LGS304A	1000BASE-SX / 1000BASE-SX	None	Two	(One Passive)	Multi-mode
on request	1000BASE-SX / 1000BASE-LX	None	One Active	One Passive	Single-mode
on request	1000BASE-SX / 1000BASE-LX	None	Two Active	-	Single-mode
(b)					
LHS301A	100BASE-TX / 100BASE-FX	Two	-	-	Multi-mode
LHS301A-S	100BASE-TX / 100BASE-FX	Two	-	-	Single-mode
LHS302A	100BASE-TX / 100BASE-FX	One	One Passive	-	Multi-mode
LHS302A-S	100BASE-TX / 100BASE-FX	One	-	One Passive	Single-mode
on request	100BASE-TX / 100BASE-FX	One	One Active	-	Single-mode
LH S304A	100BASE-FX / 100BASE-FX	-	Two	-	Multi-mode
on request	100BASE-FX / 100BASE-FX	-	One Active	One Passive	Single-mode
on request	100BASE-FX / 100BASE-FX	-	Two Active	-	Single-mode
(a) Gigabit Ethernet Transmission Distances:					
Multi Mode: 220m @ 62.5µm, 550m @ 50.0µm					
Single Mode: 5km @ 8.7µm / 10.0µm					
(b) Fast Ethernet Transmission Distances:					
Multi Mode: 600m @ 62.5µm, 600m @ 50.0µm					
Single Mode: 8km @ 8.7µm / 10.0µm					

Specifications

Dimensions — 2.54 x 20.10 x 20.64 cm (HxLxW)

Single Unit Weight — ~1 kg

Shipping Weight — for one pair of units with redundant power supplies: ~3kg

Power Supply — External switching power supplies
Two shipped w/ each unit for fault tolerance. 90/260 VAC and 47 to 63Hz, 1.0/0.5 amp.

Environmental —
Operating Temp.: 0 to 49 °C
Storage Temp.: -10 to 66 °C
Relative humidity: 5% to 95%, (non-condensing)

Regulatory —

- Designed in compliance with CE, UL, CSA, & TUV Safety standards.
- IEEE 802.3 / 10BASE-FL and 802.3U, Z, and A/B compliant.
- Lasers are Class 1 type that conform to US 21 CFR(J), EN 60825-1 and UL 1950 applications.
- ISO 9001 Certification

Gigabit, WDM-Extender series

Diagnostic LED Indicators —
1000BASE-T UTP Link
1000BASE-X (Fiber) Link
Transmit Traffic
Receive Traffic
Power Port 1, Power Port 2
Transmits 100 meters on Cat. 5, 5e UTP cable

Fast Ethernet, WDM-Extender series

Diagnostic LED Indicators —
100BASE-TX UTP Link
100BASE-FX (Fiber) Link
Transmit Traffic
Receive Traffic
Full Duplex
Power Port 1, Power Port 2
Transmits 100 meters on Cat. 5, UTP cable

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