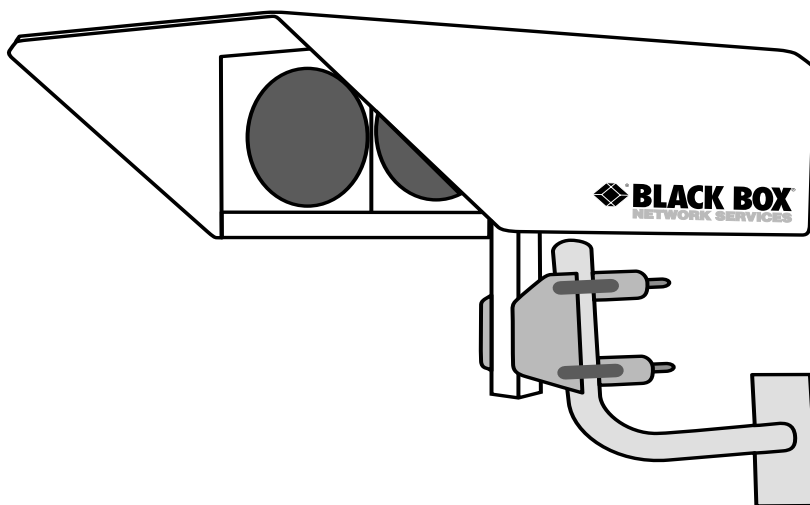




BLACK BOX[®]

NETWORK SERVICES

LaserLink



Key Features

- ▶ **Free Space, Wireless Communication**
- ▶ **Wire Speed:**
Ethernet (10 or 100 Mbps)
E1/E2/E3
T1/T2/T3
ATM 155
- ▶ **Secure Data Transmission**
- ▶ **Transparent Operation**
- ▶ **RJ-45 STP Connection**
- ▶ **Quick Installation and Re-deployment**

The LaserLink systems comprises of two laser heads and two Outdoor Interconnection Units (OIU) - one at each end. The laser Heads are installed outdoors, usually on the rooftops or sidewalls of the buildings where a clear optical path exists between the two sites. Next to the head the Outdoor interconnection Units provides fast and easy interconnection between the pre-installed patch cord of the head and the cable coming from the network equipment, which resides inside the building. Moreover the OIU houses the Power Supply Unit (PSU) of the system and the STP LAN interface. The PSU provides the low voltage power required to operate the laser head and the LAN port offers direct connectivity for standard 10Base-T or 100Base-TX network equipments. The system contains a built-in signal monitoring unit, which features a visual signal strength indicator and LINK status information accessible

on the rear cover of the head assembly, both the power and networks connections are realized using standard CAT 5 UTP cables.

The Complete Package

- 2 Laser Heads (2 outdoor units)
- 10Base-T interface, 100Base-T, E1/E2/E3, 1/T2/T3, ATM 155
- Maximum 5000 m distance between heads (depends of the Version)

Specifications

Light source — GaAlAs Laser Diode
Laser diode power (mW) — LaserLink...
 ...with distances of 150 m: 30mW
 ...with distances of 400 and 1200 m: 50 mW
 ...with distances of 2500 m: 4 x 50 mW
 ...with distances of 5000 m: 4 x 100 mW
Dynamic range — >40 dB
Data In/Out — Ext. TP: Twisted Pair
 Ext. FO: 820nm MM with ST connectors
 (1300nm and SM are optional)
BER — >10⁻⁹
System latency — < 50 ns
Power required — 230 VAC, 50 W max.
 (110 VAC and 48 VDC optional)

Beam divergence — 0.5 - 5 mrad
Receiver acceptance angle — 8.5 mrad
Alignment Unit — Aluminium alloy
Head Housing — Hardened aluminium
Weight and Dimensions (with cover and Alignment Unit) — LaserLink...
 ...with distances of 150 and 400 m: 13 kg,
 645 x 275 x 235 mm
 ...with distances of 1200 m: 21 kg,
 1000 x 300 x 240 mm
 ...with distances of 2500 and 5000 m: 26.5 kg,
 1000 x 400 x 290 mm
Operating temperature — -25 to +60

Centigrade (normal Version)
 -40 to +85 Centigrade (optional version)
Storage temperature — -40 to +80
 Centigrade (normal version) -55 to +105
 Centigrade (optional Version)
Humidity — 95% non condensed
Protection rating — IP65 for Head
 Assembly and Outdoor Unit, IP 20 for
 Indoor Units

Black Box Network Services - The world's largest network services company

We are, with 25 years of experience, the world leader in network infrastructure services.

On-site — superior design and engineering, Certified installations, end-to-end service.

Most comprehensive TECHNICAL SUPPORT — our best Product! Free hotline TECH SUPPORT!

Black Box exclusives — Certification Plus. Guaranteed-for-life products and services.

On the Phone — no charge, call anytime, answer calls in less than 20 seconds, find the right product with our technical experts.

On-line — receive technical knowledge on-line, including technology overviews, BLACK BOX Explains and the Knowledge Box.

The world's best customer service — Custom design services and products, the best warranties, money-saving discount programs.

Ordering information		ITEM	CODE
LaserLink TP Serie, with Ethernet interface, direct UTP Input			
10 Mbps, max. Distance 150m	.....	LWS0150E10-TP	
100 Mbps, max. Distance 150m	.....	LWS0150E100-TP	
10 Mbps, max. Distance 400m	.....	LWS0400E10-TP	
100 Mbps, max. Distance 400m	.....	LWS0400E100-TP	
10 Mbps, max. Distance 1200m	.....	LWS1200E10-TP	
100 Mbps, max. Distance 1200m	.....	LWS1200E100-TP-1	
100 Mbps, max. Distance 1200m, 2 Transmitters	.....	LWS1200E100-TP-2	
10 Mbps, max. Distance 2500m	.....	LWS2500E10-TP	
100 Mbps, max. Distance 2500m	.....	LWS2500E100-TP	
10 Mbps, max. Distance 5000m	.....	LWS5000E10-TP	
100 Mbps, max. Distance 5000m	.....	LWS5000E100-TP	
LaserLink E10 Ethernet serie, with FO-Ethernet interface			
10 Mbps, max. Distance 150m	.....	LWS0150E10	
10 Mbps, max. Distance 400m	.....	LWS0400E10	
10 Mbps, max. Distance 1200m	.....	LWS1200E10	
10 Mbps, max. Distance 2500m	.....	LWS2500E10	
10 Mbps, max. Distance 5000m	.....	LWS5000E10	
LaserLink E100 Fast Ethernet Serie with FO-Ethernet interface			
100 Mbps, max. Distance 150m	.....	LWS0150E100	
100 Mbps, max. Distance 400m	.....	LWS0400E100	
100 Mbps, max. Distance 1200m	.....	LWS1200E100	
100 Mbps, max. Distance 2500m	.....	LWS2500E100	
100 Mbps, max. Distance 5000m	.....	LWS5000E100	
LaserLink ATM Serie FO-Ethernet interface			
155 Mbps, max. Distance 150m	.....	LWS0150ATM155	
155 Mbps, max. Distance 400m	.....	LWS0400ATM155	
155 Mbps, max. Distance 1200m	.....	LWS1200ATM155	
155 Mbps, max. Distance 2500m	.....	LWS2500ATM155	
155 Mbps, max. Distance 5000m	.....	LWS5000ATM155	
LaserLink E1 Serie FO-Ethernet interface			
2 Mbps, max. Distance 150m	.....	LWS0150E1	
2 Mbps, max. Distance 400m	.....	LWS0400E1	
2 Mbps, max. Distance 1200m	.....	LWS1200E1	
2 Mbps, max. Distance 2500m	.....	LWS2500E1	
2 Mbps, max. Distance 5000m	.....	LWS5000E1	
LaserLink E2 Serie FO-Ethernet interface			
8 Mbps, max. Distance 150m	.....	LWS0150E2	
8 Mbps, max. Distance 400m	.....	LWS0400E2	
8 Mbps, max. Distance 1200m	.....	LWS1200E2	
8 Mbps, max. Distance 2500m	.....	LWS2500E2	
8 Mbps, max. Distance 5000m	.....	LWS5000E2	
LaserLink E3 Serie FO-Ethernet interface			
34 Mbps, max. Distance 150m	.....	LWS0150E3	
34 Mbps, max. Distance 400m	.....	LWS0400E3	
34 Mbps, max. Distance 1200m	.....	LWS1200E3	
34 Mbps, max. Distance 2500m	.....	LWS2500E3	
34 Mbps, max. Distance 5000m	.....	LWS5000E3	
Wall mountable console	.....	LWS-FO-WM	
Wall mountable console for TP-version (2required per link)	.....	LWS-TP-WM	
Alarm and Monitoring Module for Indoor Unit	.....	LWSALM-MON	
Heating	.....	LWS-HEAT	