

OM100SD

100/1000 Optical + 10/100/1000 TP
to
EIA-530/A Serial Data Bridge

Applications

- Bridging two Ethernet LANs using a serial link
- Bridging using a secure satellite link or leased line



Description

The OM100SD is a self-learning bridge for bridging two Ethernet networks over a synchronous WAN connection. Connection to the Ethernet is electrical or optical, while connection to the WAN is through a DTE EIA530/A synchronous serial port.

Ethernet packets are converted to serial HDLC data which is output on the serial EIA530A port synchronously with the selected clock. At the serial data destination, a second OM100SD converts the HDLC encoded data back to Ethernet packets.

OM100SD vs. OM100SA

- The OM100SA will interwork with the OM100SD.
- The OM100SA is 100 Mbps optical; the OM100SD is 100 or 1000 Mbps optical as well as 10/100/1000BASE-T.
- The OM100SA has a RS232, V.35, and EIA530/A interface; the OM100SD has a EIA530/A interface only.
- The OM100SA transmits up to 25 Mbps; the OM100SD transmits up to 30 Mbps.
- A DTE interface (the OM100S) normally receives its Send-Timing from the attached DCE equipment, and while the OM100SA must receive this clock to function, the OM100SD includes an option to generate its own Send-Timing based on an internal Stratum 3 oscillator or an external supplied 10MHz.

Features

Optical

- SFP optics
- Singlemode, multimode, or single fiber optics
- Up to 100 km operating distance
- Received optical power displays

Serial

- Serial data rates to 30 Mbps
- EIA-530 and EIA-530A interface
- Internal or External clocks

Ethernet

- 10/100/1000 Electrical
- 100BASE-FX or 1000BASE-X Optical
- CTS off can disable optical port to signal remote end

General

- Compatible with RAD TinyBridge-100™
- Built in power supply
- Large temp. range -25°C to 65°
- 5 Year warranty



Specifications

Optical

Order Code	802.3 Specification	Laser λ Source nm	Fiber Size μ m	Output min. dBm	Sensitivity min. dBm	Range typical km
1000-SX	1000BASE-SX	850	50/125	-9	-18	0.550
			62.5/125	-9	-18	0.275
1000-LX	1000BASE-LX & 1000BASE-LX10	1310	50/125	-9	-20	1
			62.5/125	-9	-20	1
			9/125	-9	-20	10
1000-LXE ²	PROPRIETARY	1310	9/125	-3	-23	40
1000-ZXE ^{2,3}	PROPRIETARY	1550	9/125	0	-32	100
1000-BU ⁴	1000BASE-BX10	1310	9/125	-9	-20	20
1000-BD ⁴	1000BASE-BX10	1550	9/125	-9	-20	20
100-FX	100BASE-FX	1310	50/125	-23	-32.5	2
			62.5/125	-19	-32.5	2
100-LX10	100BASE-LX10	1310	9/125	-15	-25	15
100-LX10E ²	PROPRIETARY	1310	9/125	-5	-35	60
100-BU ⁴	100BASE-BX10	1310	9/125	-14	-32.5	20
100-BD ⁴	100BASE-BX10	1550	9/125	-14	-32.5	20

Ethernet

Data I/O levels	IEEE 802.3 compatible
Data Rate Electrical.....	10/100/1000
Data I/O connector	RJ45
Data Rate Optical.....	100BASE-FX or 1000BASE-X
Dip switch selectable	

Serial Interface

Data I/O Interface	DTE EIA-530 or EIA-530A
Data format.....	HDLC
Data Rate	128K up to 30M bps (any frequency)
I/O Connector	DB25P

General

Console Port	USB mini 2.0
Voltage input	100 to 240V AC 50-60 Hz
Current input max.....	1A
Power average	<10 Watts
Operating temperature	-25°C to 65°C
Humidity (RH)	10% to 95%
MTBF	> 50,000 hours
Dimensions	25 x 220 x 170 mm

- Notes:
- Specifications are subject to change without notice.
 - Proprietary optics must interface with a similar SFP.
 - Operating temperature range is limited to 0°C to 70°C for these optics.
 - These single-fiber models must be used as complimentary pairs (one BU and one BD)

Indicators

PWR	Power on
OPT. LINK	Optical Link
RJ45	Link and Duplex
CK	Ext 10MHz Clock
RC	Receive Clock
RD	Receive Data
TC	Transmit Clock
TD	Transmit Data
Power Meter	Bar graph display of received optical power

Switch Settings

100-FX	up for 100 BASE optical; down for 1000-BASE optical
FLOW CTL	up enables transmission of flow-control pause packets
RETIME	corrects data/clock phase problems
OL = CTS	up enables the optical link only when the serial data CTS line is high; this propagates a serial data failure to the remote end of the optical link for alarm purposes.
BAUD RATE	switches or the console set the baud clock to external or internal at data rates up to 30MHz.

USB Console Port

The USB console port accesses the out-of-band management to display status and set baud rates other than those available using the dip switches.

Part Numbers

PN: **OM100SD**

SFP optics are ordered separately. See the *Specifications* section for the *SFP Order Code*.

Accessories

The OM100SD may be desktop mounted in Luxcom's **MB1** mounting plate shown on the left below.

Three modems may be mounted in a **MP14** 1U 19" rack as shown on the right below.

