OPERATOR MANUAL

OSD2051

10/100Base-Tx to 100Base-Fx MEDIA CONVERTER

The OSD2051 is designed to convert between 10/100Base-Tx copper cabling and 100Base-Fx fiber via the SFP port. Operation over at least 40km of singlemode fiber is possible by use of the appropriate optical devices. The unit operates over one or two fibers depending on the SFP used. It is equipped with one SFP port, one RJ45 and power jack. For ease of network monitoring and fault isolation the OSD2051 has 4 indicators (see tables).

Specifications and Features

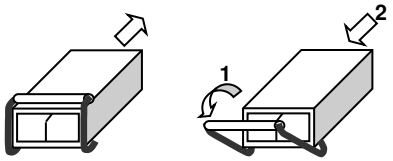
- ▲ Complies with the IEEE 802.3 standard.
- ▲ Supports network traffic of 10 or 100Mbps.
- ▲ Automatic TP setup: no need for crossover cables
- ▲ Auto-sensing of half or full duplex operation.
- ▲ Automatic set up for 10 or 100Mbps on copper side.
- ▲ A very compact design that fits in the camera housing
- ▲ Available for singlemode, multimode operation over a variety of link budgets
- ▲ Available for operation over 1 or 2 fibers
- ▲ Powered by non-critical 12VDC or 24VAC supplies
- ▲ Operates over –20 to +75°C temperature range
- ▲ Utilizes 10/100Base-Fx SFP transceivers that can be selected according to specific length or fiber requirements without changing the whole unit

Fitting SFP Connectors

Care should be taken when inserting/removing the SFP connectors as SFP modules are Electrostatic (ES) sensitive and Electrostatic Discharge (ESD) precautions should be taken when installing. Ensure that the SFP is fully engaged and latched into position.

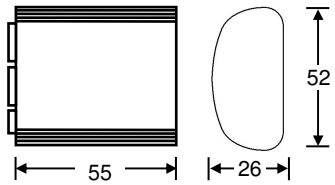
Inserting SFP – Ensure that the SFP lever is in the locked position and insert into SFP port. Gently push the SFP until it locks into place. Remove dust cap and fit fiber cable.

Removing SFP – Remove fiber connector. Pull the SFP lever down to unlock SFP from housing. Using the lever, gently pull the SFP out.

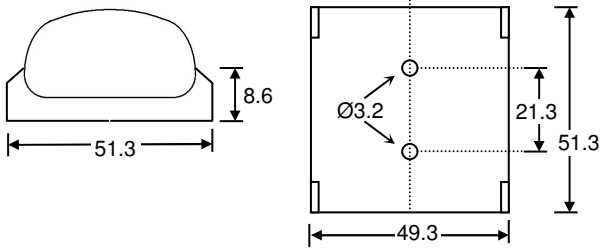


Case Dimensions and Mounting Details

Below is an outer case drawing showing the dimensions.

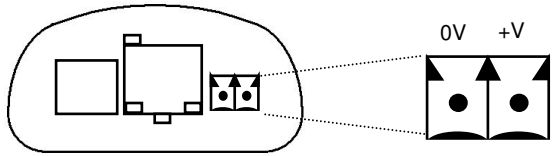


The OSD2051 can be mounted on the optional mounting base clips by simply utilizing the OSD2051 ribbed edge. Dimensions below



Power Connection

The voltage range of the OSD2051 is $8V_{DC}$ to $35V_{DC}$ or 22 to $28V_{AC}$ @ 3VA. Connect power to the connector located at the front of the case (see diagram).

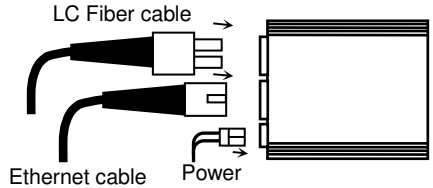


Signal Connection

Ethernet cable should be connected to the RJ45 Copper connector on the OSD2051. The appropriate SFP connector should be inserted into the SFP port.

The optical fiber cable must be terminated with the appropriate type optical connector (SC for single fiber and LC for 2 fiber). Before connection, inspect the ends of the connectors to ensure that no dust or dirt is present as it could contaminate the modem connector and result in poor performance.

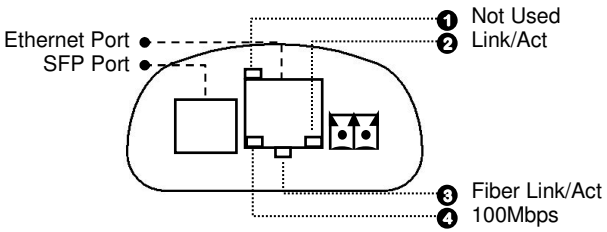
If it is necessary to clean the cable connectors use isopropyl alcohol and lint free tissue to remove contamination.



SFP Port Options

OSD Part Number	SFP Description
SFP10/100LFx	2 fiber SFP plug-in transceiver @ 1310nm
SFP10/100WLFxA	1 fiber SFP plug-in transceiver (Tx @ 1310nm, Rx @ 1550nm)
SFP10/100WLFxB	1 fiber SFP plug-in transceiver (Tx @ 1550nm, Rx @ 1310nm)

Port Allocation and LED indicators



Optical Port LED indicators

❸ Fiber Link/Act	Function
Green	Link OK
Blinking	Link Activity
Red	No optical signal received
-	-

Copper Port LED indicators

❷ Link/Act	❹ 100Mb/s (Amber)	Function
-	On	100Mb/s connection
-	Off	10Mb/s connection
On	-	Copper Link OK
Blinking	-	Copper Link Activity

Technical Specifications

Specification	Performance
Data Interface	IEEE 802.3 Ethernet
Data Rate	10/100Mbps
Operating Mode	Half or Full Duplex
Data Connector	RJ45
Optical Interface	100Base-Fx
Optical Port Connector	SFP - LC for 2-fiber, SC for 1 fiber
Transmitter Optical Power	-15 to -8dBm into singlemode fiber (see SFP datasheet for options)
Receiver Sensitivity	<-33dBm
Receiver Saturation	>-3dB
Standard SM Optical Link Budget	>18dB: >10km on multimode fiber @ 1310nm >40km on singlemode fiber @ 1310nm
Power Requirements	$+8V_{DC}$ to $+35V_{DC}$ $22V_{AC}$ to $28V_{AC}$ at 3VA
Power Connector	3.5mm 2-way terminal block
Enclosure	Anodised elliptical metal case
Dimensions (mm)	52W x 55D x 26H
Weight of Module	300g
Operating Temperature	-20 to 75°C
Relative Humidity	0 to 95% non-condensing

▲ ELECTROMAGNETIC COMPATIBILITY

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

▲ OPTICAL OUTPUT OPERATION

WARNING: **Laser Safety:** Class 1 Laser Product per IEC/EN 60825-1:20011 standard.

Class 1
The OSD2051 is a **Class 1 laser product.**
CLASS 1 LASER PRODUCT

Precautions

- ▲ All service personnel should be provided training as to the hazards of direct viewing of laser radiation and of the precautionary measures during servicing of equipment
- ▲ Areas where laser products are installed should be restricted in access to trained service personnel only and appropriate warning signs posted in the work area.
- ▲ All laser apertures should be covered by protective covers when not connected to optical fibers. Never leave outputs uncovered.
- ▲ Laser equipment should be positioned above or below eye level where possible. Apertures should be positioned away from personnel
- ▲ Protective eyewear should be worn in the vicinity of laser equipment

Warranty/Repairs

Thank you for purchasing equipment designed, manufactured and serviced by Optical Systems Design (OSD). OSD warrants that at the time of shipment, its products are free from defects in material and workmanship and conforms to specifications.

For warranty period and repair service please contact your local OSD distributor.

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