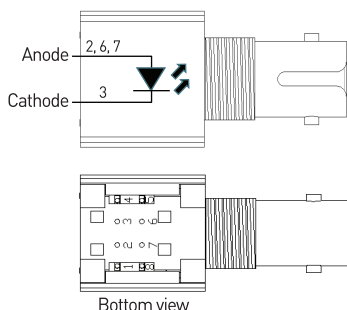


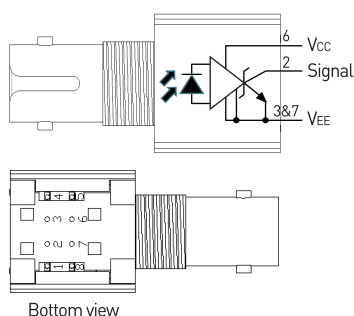
## Transmitter



- Pins 1, 4, 5 & 8 are mechanically connected together.
- Pins 2, 6 & 7 are electrically connected to the header.

Pin No.	Function
1	No connection
2	Anode
3	Cathode
4	No connection
5	No connection
6	Anode
7	Anode
8	No connection

## Receiver



- Pins 1,4,5 & 8 are mechanically connected together.
- Pins 3 & 7 are electrically connected to the header.

Pin No.	Function
1	No connection
2	Signal
3	V <sub>EE</sub>
4	No connection
5	No connection
6	V <sub>CC</sub>
7	V <sub>EE</sub>
8	No connection

## 650nm Fiber Optic Transmitter & Receiver

# OMF-12xx Transmitter

# OMF-22xx Receiver

Opto Marine's OMF-xxxx is a optical module for fiber optic communication links as best solution to malfunction caused by noise and long distance transmission in the industrial field. OMF-12xx is a transmitter built in GaAlAs LED of 650nm red light wavelength. OMF-22xx is a receiver comprised of a photodiode coupled to a transimpedance amplifier(TIA). OMF-12xx transmitter applied to OMF-22xx receivers is attainable up to 100Mbd data rate and 100meter link distance. The transmitters and receivers is housed plastic package made of high strength, heat resistant, chemically resistant, flame retardant plastic, so it is cost effective and high performance. This fiber optic pair is directly compatible with ST, SC, FC, SMA connector and it is completely specified with 1mm Plastic optical fiber.

## Features

- LED transmitter with visible red light of 650nm wavelength
- High sensitivity receiver integrated PIN diode and TIA
- Specified with 1mm POF(Plastic Optical Fiber), 200μm HCS
- Data transmission at signal rate up to 100Mbd
- Link up to 100meter distance with 1mm POF
- Industrial temperature range -40℃~85℃
- Frame retardant connector housings
- Connection port : SC, ST, FC, SMA
- Low current consumption
- RoHS compliant

## Applications

- High voltage Isolation
- Elimination of ground loops
- Telecommunications switching systems
- Factory automation and industrial control
- Intra system links : board to board, rack to rack
- Serial communication : RS232, RS485, CAN Bus, Modbus, Profibus, Sercos
- Noise immune communication in audio and video equipment

## Part Number Guide

OMF-□-2-□-□-□

Type  
1-Transmitter  
2-Receiver

Family  
2-650nm Transmitters  
and Receivers

Connector  
0-SMA  
1-ST  
2-FC  
3-SC  
4-POF

Options  
T-Threaded port

Transmitter  
2-Standard optical power  
4-High optical power  
Receiver  
6-DC~100Mbd  
8-More than 100Mbd

# 650nm Fiber Optic Transmitter & Receiver

## Absolute Maximum Ratings (T=25°C unless otherwise stated)

Parameter		Symbol	Min.	Max.	Unit	Conditions
Storage Temperature		T <sub>stg</sub>	-40	85	°C	
Operating Temperature		T <sub>op</sub>	-40	85	°C	
Soldering Temperature		T <sub>slid</sub>		260	°C	10 sec. 2mm from case
TX Reverse Input Voltage		V <sub>R</sub>		5	V	
TX Forward Input Current	DC	I <sub>Fdc</sub>		50	mA	
	Peak			150	mA	
RX Supply Voltage		V <sub>cc</sub>	3.3	5	V	
RX Output Current		I <sub>o</sub>		28	mA	
RX Signal Pin Voltage		V <sub>SIG</sub>	-0.5	V <sub>cc</sub>	V	

## Peak Output Optical Power (Measured out of 1mtr cable)

Transmitter	Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
OMF-12x2 Standard Power	1mm POF Fiber Cable NA=0.5	P <sub>T</sub>	-9.0	-7.0	-5.0	dBm	I <sub>F</sub> =20mA, T=25°C
			-11.0	-9.0	-7.0	dBm	I <sub>F</sub> =20mA, T=-40°C ~ +85°C
OMF-12x4 High Power	1mm POF Fiber Cable NA=0.5	P <sub>T</sub>	-6.0	-4.0	-2.0	dBm	I <sub>F</sub> =20mA, T=25°C
			-8.0	-6.0	-4.0	dBm	I <sub>F</sub> =20mA, T=-40°C ~ +85°C

## Electrical and Optical Characteristics (T=-40°C ~ +85°C, typical values are at 25°C, unless otherwise stated)

Transmitter (OMF-12xx)	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward Voltage	V <sub>F</sub>	1.8	2.1	2.5	V	I <sub>F</sub> =20mA
Reverse Input Voltage	V <sub>BR</sub>	-	5	-	V	I <sub>F</sub> =20mA
Peak Emission Wavelength	λ <sub>P</sub>	640	657	650	nm	
Rise and Fall Times (10% ~ 90%)	t <sub>r</sub> , t <sub>f</sub>		3/3		ns	I <sub>F</sub> =20mA

Receiver (OMF-22xx)	Symbol	Min.	Typ.	Max.	Unit	Conditions
Sensitivity	P	-21	-18	-15	dBm	
Series Resistance	R <sub>s</sub>	1.4	1.8	2.6	V	
Optical Input Overload	P <sub>OVERLOAD</sub>	1	3		dBm	
Supply Current	I <sub>cc</sub>	22	28	36	mA	no loads
Bandwidth	BW		165		MHz	-3dB Electrical
Rise and Fall Times (10% ~ 90%)	t <sub>r</sub> , t <sub>f</sub>		5/5		ns	