12F MPO OM4 Fiber Optic Loopback Module /Cable

Fiber Optic Loopback Module

MPO Loopback cable

12 Fibers

Zion Code and Description

Zion Code	Zion Description
ZCM1127HXA1	12F MPO OM4 Fiber Optic Loopback Module /Cable

The MPO loop contains the MPO back ring jumping line in the LOOPBACK, and puts both ends of the fiber into an MPO connector to achieve the light path in the same connector. The launch capacity and receiving sensitivity of the device, especially in 40/100G network communication, can locate various potential phenomena by returning signals to achieve effective testing and evaluation of a single component or interface on the fiber network.

There are many configurations of optical fiber circuit, which can accommodate 8 -core, 12 -core and 24 -core MPO connector and several fiber fiber configurations to adapt to the port in the test.8F MPO Fiber Loopback Module allows verification and testing of transceivers featuring MPO interface – 40GBASE-SR4/CSR4 QSFP+ devices. 12F MPO Fiber Loopback Module allows verification and testing of transceivers featuring MPO interface – 40GBASESR4 QSFP+ or 100GBASE-SR4 devices. 24F MPO Fiber Loopback Module allows verification and testing of transceivers featuring MPO interface – 100GBASESR10 CXP/CFP devices.

MPO Loopback modules provides a looped signal to test the transmit and receiving functions. It used widely within testing environment especially within parallel optics 40 and 100G networks. Loopbacks are built to link Transceivers (TX) and Receivers (RX) positions of MPO transceivers interfaces. MPO loopbacks can facilitate and speed up IL testing of optical networks segments by connecting them to MPO trunks/patch leads.

OMC offers a line of MPO fiber optic loopback assemblies for burn-in and testing of MPO network components and systems. These MPO Loopback Assemblies are used to effectively test transmitter capability and receiver sensitivity of network equipment, particularly for telecom and datacom requirements. They are packaged in a compact housing for the highest density available for these applications.

Connectors' Industrial Standard:

Connector	Reference	Housing Details
MPO Singlemode	IEC 61754-7	SM APC: Green connectors+black boot (Standard Loss MPO) SM APC: Yellow connectors+black boot (Super low loss MPO)
MPO Multimode	IEC 61754-7	OM1&OM2 PC: Beige connectors+black boot (Standard Loss MPO) OM3&OM4 PC: Aqua connectors+black boot (Standard&Super low loss MPO) OM3&OM4 PC: Heather Violet connectors+black boot (Standard loss MPO)

- Meets IEC Standard IEC-61754-7; IEC61755, Telcordia GR-1435-CORE, JIS C5982; TIA-604-5(FOCIS5) compliant Structured cabling per TIA-568-C
- 10G Fiber Channel Compliant
- 40G and 100G IEEE 802.3

Material's details

Bend Insensitive fiber of G657A1,G657A2/B2,G657B3,OM1,OM2, OM3, OM4, OM5 Fibers
Offering stable transmission

High quality MT ferrule,
Available for 8F,12F,24F

High Quality Senko MPO Connector meet
and Compatible with many International Standard

Optical Specifications:

Item	Parameter
Fiber Type	Multimode
Fiber Diameter	50/125um, 62.5/125um
Insertion loss	MM＜1.0dB
Return loss	MM＞25dB
Insert-pull Test	500times, IL＜0.5dB
Operation Temperature	-40℃~ +80℃

Fiber Optic Loopback Testing :

Typically, a loopback test is a test in which a signal is sent from a communication device and looped back to the device as a way to determine whether it is functioning well or as a way to troubleshoot a defective node in the network. As for fiber optic loopback testing, optical loopbacks are used to verify the operational reliability of the device. Using fiber optic loopback cable or fiber optic loopback module for data transmission, the signal emitted by the device is looped from the transmit (Tx) end of an active component back to the receive (Rx) end of the same component.

Application:

When it comes to practical application, fiber optic loopback test is often employed for checking fiber optic transceivers. Since transceiver has two ports for receiving and transmitting the light signal, it is necessary to test the ports to see whether they are still under operation. Thus, fiber optic loopback test is the most convenient way for transceiver maintenance. The testing process is by routing the laser signal from the transmitter port back to the receiver port. Then the transmitted pattern is compared with the received pattern to make sure they are identical and have no error.

- Collocated with 40G or 100G MPO/MPO interface transceivers

- Loopback Module can be used for testing the transmission capability and receiver sensitivity of fiber optic network equipment.

Naming Rules&Order Confirmation Information:

COMPANY NAME	PEODUCTS TYPE	CONNECT PIN TYPE	FIBER CORES	FIBER TYPE	JACKET TYPE	STRUCTURE	POLARITY	LOSS TANDARD
ZC- ZION COMMUNICATION	M1- MPO	1- Female	1- 8F round cable	1- G657A1	H- LSZH	1- Cable	A- Polarity 1	1- Normal Standardloss
	M2- MTP	2- Male	2- 12F round cable	2- G657A2/B2	C- PVC	2- Module	B- Polarity 2	2- Super lowloss
			3- 16F round cable	3- G657B3	R- OFNR			
			4- 24F round cable	4- OM1	P- OFNP			
			5- 32F round cable	5- OM2	U- PU			
				6- OM3	...			
				7- OM4				
				8- OM5				

ZC M1 1 2 7 H X A 1

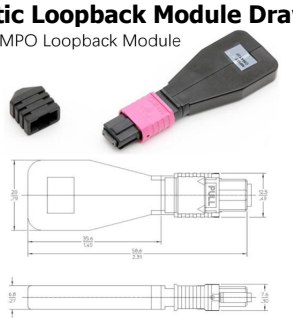
Connector	Fiber Channel

MPO Connectors

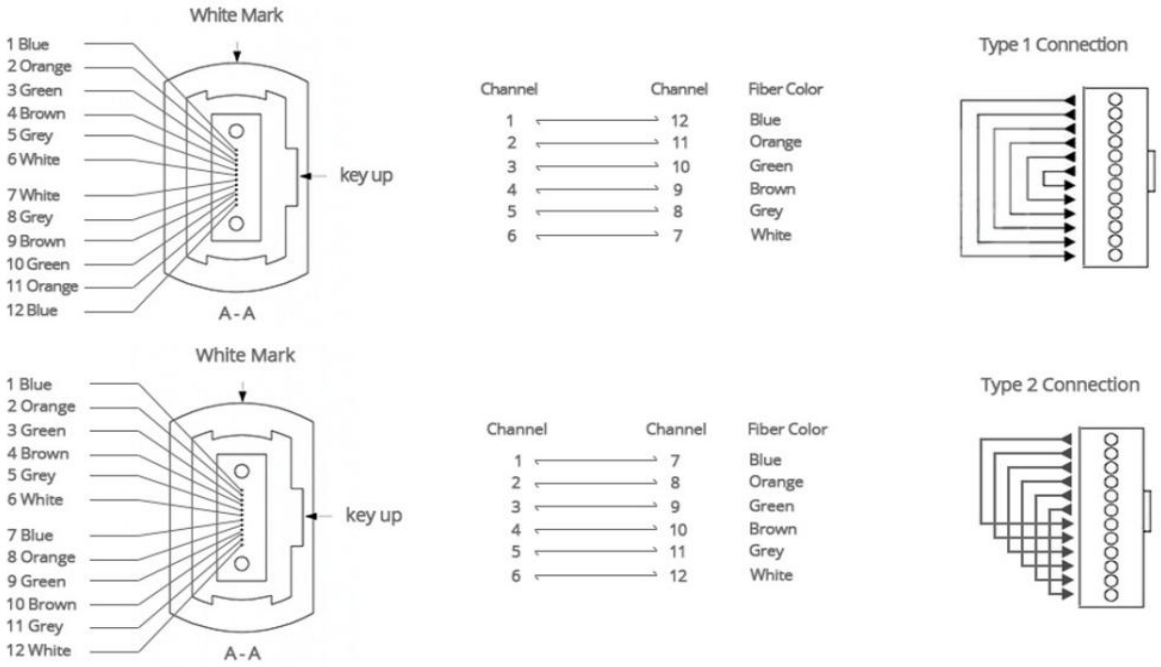
12 Fibers

Fiber Optic Loopback Module Drawing

MPO Loopback Module



Polarity (Channel Alignment)



Which to Choose for a Specific Transceiver?

Considering the common features of the transceiver and the loopback, we should think about the connector type, polish type, and cable type when selecting a loopback for the transceiver. The selection guide for some mostly used transceiver modules is summarized in the following tables.

Table 1: Loopback choices for 10G SFP+ transceivers

Model	Interface type	Cable Type	Suited Loopback
10GBASE-USR	LC Duplex (PC)	MMF	LC/UPC Duplex Multimode Fiber Loopback
10GBASE-SR	LC Duplex (UPC)	MMF	
10GBASE-LR	LC Duplex (UPC)	MMF	
10GBASE-ER	LC Duplex (UPC)	SMF	LC/UPC Duplex Single-mode Fiber Loopback
10GBASE-ZR	LC Duplex (PC)	SMF	

Table 2: Loopback choices for 40G QSFP+ transceivers

Model	Interface type	Cable Type	Suited Loopback
40GBASE-CSR4	MTP/MPO (UPC)	MMF	8/12 Fibers MTP/UPC Multimode Fiber Loopback
40GBASE-SR4	MTP/MPO (UPC)	MMF	
40GBASE-PLRL4	MTP/MPO (APC)	SMF	8/12 Fibers MTP/APC Single-mode Fiber Loopback
40GBASE-PLR4	MTP/MPO (APC)	SMF	
40GBASE-LR4	LC Duplex (PC)	SMF	LC/UPC Duplex Single-mode Fiber Loopback
40GBASE-LR4L	LC Duplex (UPC)	SMF	
40GBASE-ER4	LC Duplex (UPC)	SMF	
40GBASE-LX4	LC Duplex (UPC)	MMF/SMF	LC/UPC Duplex Multimode/Single

Table 3: Loopback choices for 100G QSFP28 transceivers

Model	Interface type	Cable Type	Suited Loopback
100GBASE-SR4	MTP/MPO (UPC)	MMF	8/12 Fibers MTP/UPC Multimode Fiber Loopback
100GBASE-PSM4	MTP/MPO (APC)	SMF	8/12 Fibers MTP/APC Single-mode Fiber Loopback
100GBASE-LR4	LC Duplex (PC)	SMF	LC/UPC Duplex Single-mode Fiber Loopback

Table 4: Loopback choices for CFP transceivers

Model	Interface type	Cable Type	Suited Loopback
40GBASE-SR4 CFP	MTP/MPO (UPC)	MMF	8/12 Fibers MTP/UPC Multimode Fiber
40GBASE-LR4 CFP	SC Duplex (UPC)	SMF	SC/UPC Duplex Single-mode Fiber Loopback
40GBASE-FR CFP	SC Duplex (UPC)	SMF	
100GBASE-LR4 CFP	SC Duplex(PC/UPC)	SMF	
100GBASE-ER4 CFP	SC Duplex(PC/UPC)	SMF	
100GBASE-SR4 CFP	MPO/MTP (UPC)	MMF	24 Fibers MTP/UPC Multimode Fiber Loopback

Conclusion

This post discusses specific fiber loopback choices for some most commonly used fiber optic transceivers. For other transceiver modules that are not mentioned in this post, we can also know how to choose a suitable loopback for it by getting details about its interface type, physical contact and cable type.

Zion Communication's Hot MPO Fiber Optic Loopback

Zion Code		Zion Description
7236013	ZCM1111HXA1	8F MPO SM Fiber Optic Loopback Module /Cable
7236014	ZCM1121HXA1	12F MPO SM Fiber Optic Loopback Module/Cable
7236015	ZCM1141HXA1	24F MPO SM Fiber Optic Loopback Module /Cable
7236016	ZCM1116HXA1	8F MPO OM3 Fiber Optic Loopback Module /Cable
7236017	ZCM1126HXA1	12F MPO OM3 Fiber Optic Loopback Module /Cable
7236018	ZCM1146HXA1	24F MPO OM3 Fiber Optic Loopback Module /Cable
7236019	ZCM1117HXA1	8F MPO OM4 Fiber Optic Loopback Module /Cable
7236020	ZCM1127HXA1	12F MPO OM4 Fiber Optic Loopback Module /Cable
7236021	ZCM1147HXA1	24F MPO OM4 Fiber Optic Loopback Module /Cable
7236022	ZCM2111HXA1	8F MTP SM Fiber Optic Loopback Module /Cable
7236023	ZCM2121HXA1	12F MTP SM Fiber Optic Loopback Module /Cable
7236024	ZCM2141HXA1	24F MTP SM Fiber Optic Loopback Module /Cable
7236025	ZCM2116HXA1	8F MTP OM3 Fiber Optic Loopback Module /Cable
7236026	ZCM2126HXA1	12F MTP OM3 Fiber Optic Loopback Module /Cable
7236027	ZCM2146HXA1	24F MTP OM3 Fiber Optic Loopback Module /Cable
7236028	ZCM2117HXA1	8F MTP OM4 Fiber Optic Loopback Module /Cable
7236029	ZCM2127HXA1	12F MTP OM4 Fiber Optic Loopback Module /Cable
7236030	ZCM2147HXA1	24F MTP OM4 Fiber Optic Loopback Module /Cable

Packaging

This easily taken and well-protected fiber optical cable package has been labelled and marked by OMC as default .Standard carton size : 34*22*15 cm; 44*34*24 cm ; 54*39*34 cm . Which carton to be used depends on goods Qty . Packing can be customized.

1,Self-seal PE Bag

2 Bubble Bag

3, Paper Carton

4,fumig-free Pallet

OEM/ODM service for you

1. Cable color, printing word, material of cable jacket, connector's color
2. OEM Label, Identify ring, cable's label， box, shipping marks
3. Different quality Level.