

# 1×N MEMS Optical Switch Module

## Features

- Compact Structure
- Fast Switching Time
- Low Insertion Loss
- High Reliability



## Application

- PON Network
- Protection
- Instrumentation
- Network Monitoring

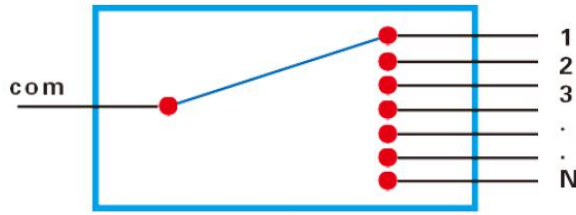
## Performance

Parameters	Unit	MFSW-1×N (N≤16)	
Operating Wavelength	nm	1260~1650 for SM, 850/1310 for MM	
Insertion Loss	dB	N≤8	≤1.0
		8<N≤16	≤1.2
		16<N≤32	≤1.5
		32<N≤64	≤1.7
		64<N≤144	≤2.2
		144<N≤256	≤2.4
WDL	dB	≤ 0.3	
TDL	dB	≤ 0.3	
PDL	dB	≤ 0.15	
Return Loss	dB	SM ≥ 45, MM ≥ 30	
Crosstalk	dB	SM ≥ 45, MM ≥ 30	
Repeatability	dB	≤ ±0.02	
Switching Time	ms	≤ 8	
Durability	times	≥ 10 billion	
Switching Mode		Non-latching	
Power Supply	V	DC 5V ± 10%	
Operating Current	mA	N≤16	≤50
		16<N≤64	≤250
		64<N≤144	≤350
		144<N≤256≤ 500	≤500
Optical Power	mW	≤ 500	
Operating Temperature	°C	-20 ~ +85	
Storage Temperature	°C	-40 ~ +85	
Operating Humidity	%	5 ~ 95	
Package Dimension	mm	P1: 31x24x11	N≤64, bare fiber
		P2: 60x24x11	N≤16, 0.9mm loose tube
		P3: 90x55x12	16<N≤64, 0.9mm loose tube
		P4: 100x100x12	64<N≤144, 0.9mm loose tube
		P5: 110x141x12	144<N≤256, 0.9mm loose tube

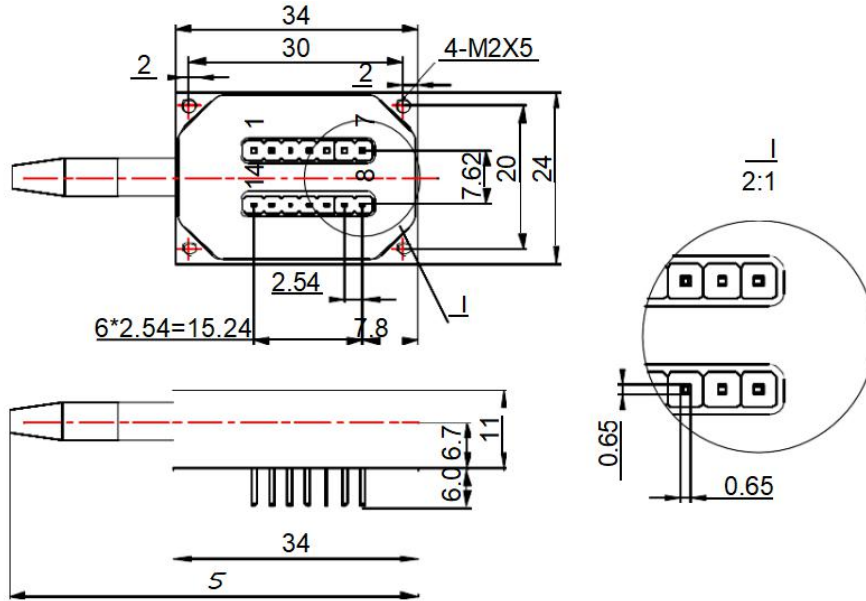
Note: 1. Within operating temperature and all SOP.

2. IL is excluding connector, and add 0.3dB IL for a pair of connectors.

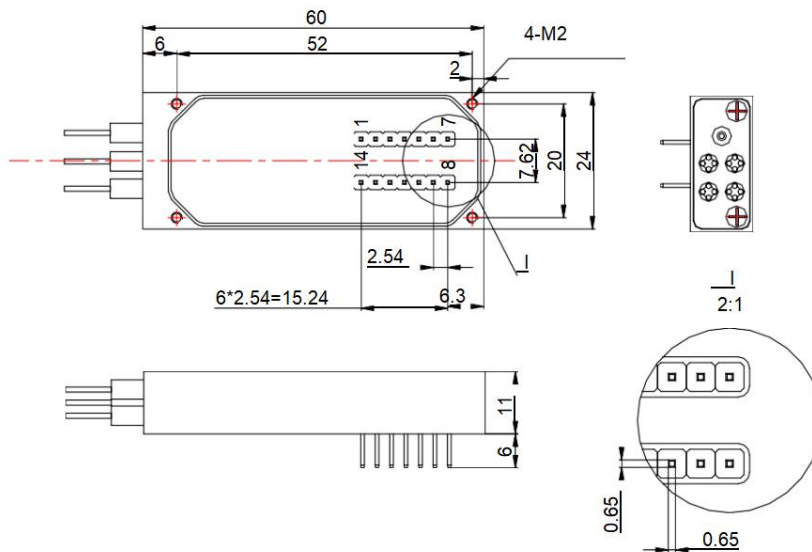
**Optical Route**



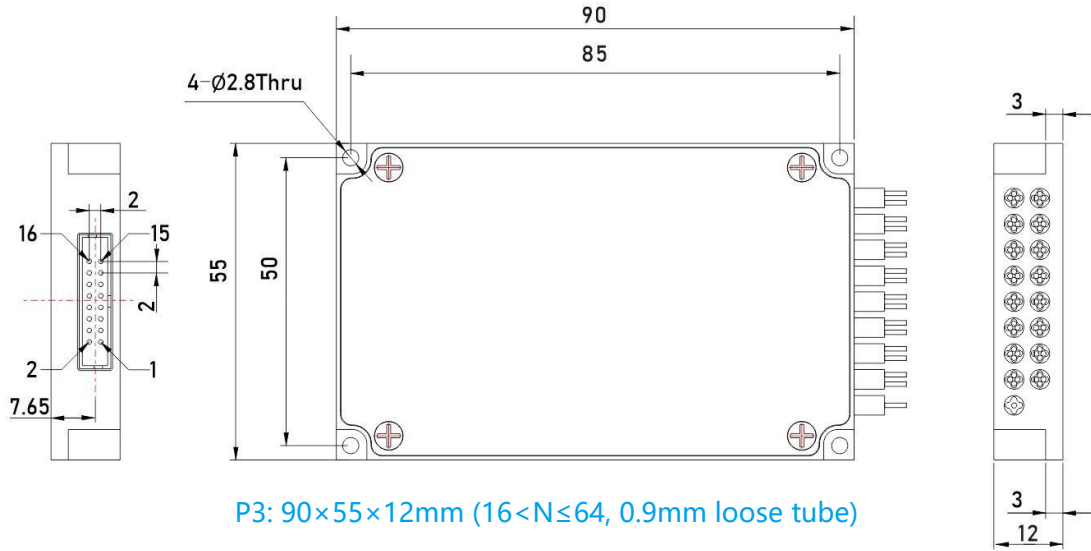
**Dimension**



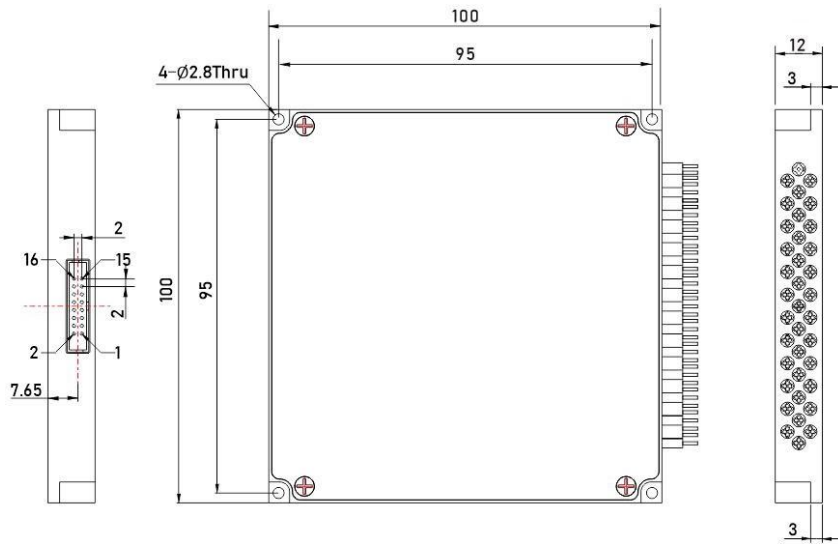
**P1: 34×24×11mm (250μm bare fiber, N≤16)**



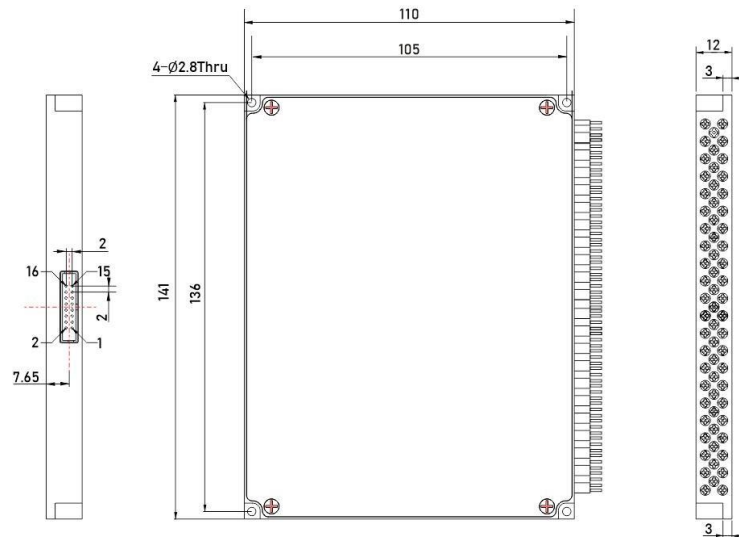
**P2: 60×24×11mm (900μm loose tube, N≤16)**



P3: 90×55×12mm (16<N≤64, 0.9mm loose tube)



P4: 100×100×12mm (64<N≤144, 0.9mm loose tube)



P5: 110×141×12mm (144<N≤256, 0.9mm loose tube)

## Pins

Pin No.		Pin Assignment	Signal Type	Description
Package: P1/P2	Package: P3/P4/P5			
1		NC		No connection
2	3	VCC	Power	Power Supply (DC 5V,1.0A)
3	15	/STROBE	Input	Falling edge execution data bit
4	6	GND	Power	GND
5	1	D0	Input	Data bit (D0) (low-order)
6	8	D1	Input	Data bit (D1)
7	11	D2	Input	Data bit (D2)
8	12	D3	Input	Data bit (D3)
9	9	TXD	Output	Data Transmit (TTL Level)
10	10	RXD	Input	Data Receive (TTL Level)
11		GND	Power	GND
12	13	/BUSY	Output	Low level means ready to reset or receiving data
13		MODE		Low level: data bit control switch High level: UART control switch
14	16	/RESET	Input	Low level reset to channel 0
	2	D5	Input	Data bit (D5)
	4	D7	Input	Data bit (D7) (high-order)
	5	D6	Input	Data bit (D6)
	7	D4	Input	Data bit (D4)
	14	/ALARM	Output	High level means running error

### Notes:

- 1.The electrical interfaces of P3, P4 and P5 modules is Molex 87833-1620. Molex 87568-1694 connector is recommended.
- 2.Only the serial port is available if the number of channels exceeds 16 when using P1 and P2.

## Ordering Information:

Type	Channel	Wavelength	Fiber Type	Fiber Diameter	Fiber Length	Connector
GZ-MEMS	01=1x1	85=850nm	5=50/125	25=250um	1=1m	00=none
	02=1x2	13=1310nm	6=62.5/125	90=900um	2=1.5m	LP=LC/UPC
	.....	14=1490nm	9=9/125	20=2.0mm	X=Others	LA=LC/APC
	16=1x16	15=1550nm	X=Others	30=3.0mm		SP=SC/UPC
	.....	1625=1625nm		X=Others		SA=SC/APC
		1650=1650nm				FP=FC/UPC
		13/15=1310/1550nm				FA=FC/APC
						MP=MPO
						X=Customized