

Features

- Mini Size
- Fast Switch Speed
- Low Insertion Loss & PDL
- Wide Operating Wavelength Range
- High Reliability & Stability



Applications

- Network Monitor System
- Remote Fiber Testing System
- Module & System Integration
- Instrumentation

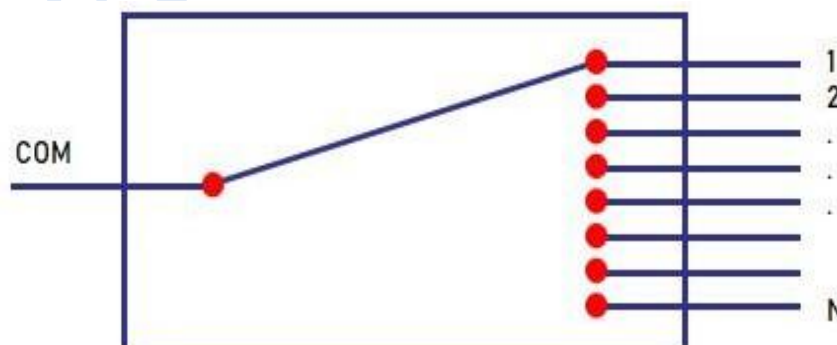


Compliance

- Telcordia GR-1221
- Telcordia GR-1073



Optical Path Diagram





Technical Parameter

Single Mode

Parameters	Unit	MEMS 1×N-SM	
Working Wavelength	nm	O/C/L/L+ band	
Testing Wavelength	nm	1310/1550/1625/1650	
Insertion Loss	dB	@CWL Single-band	@CWL Dual-band
		≤0.8 (N≤8)	≤1.0 (N≤8)
		≤1.0 (8<N≤16)	≤1.2 (8<N≤16)
		≤1.3 (16<N≤32)	≤1.5 (16<N≤32)
		≤1.5 (32<N≤64)	≤1.7 (32<N≤64)
		≤2.0 (64<N≤144)	≤2.2 (64<N≤144)
		≤2.2 (144<N≤256)	≤2.4 (144<N≤256)
WDL	dB	≤0.3 (N≤64)	
		≤0.4 (64<N≤144)	
		≤0.5 (144<N≤256)	
PDL	dB	≤0.15	
Return Loss	dB	≥45	
Crosstalk	dB	≥50	
Repeatability	dB	≤±0.05	
Switching Time	ms	≤15	
Durability	times	≥10 ⁹	
Input Optical Power	mW	≤500	
Operating Voltage	V	DC 5V±10%	
Operating Current	mA	≤50 (N≤16)	
		≤250 (16<N≤64)	
		≤350 (64<N≤144)	
		≤500 (144<N≤256)	
Operating Temp.	°C	-20 ~ +85	
Storage Temp.	°C	-40 ~ +85	
Dimension (L×W×H)	mm	M1: 34×24×11 ±0.2 (N≤64, Bare Fiber) M2: 60×24×11 ±0.2 (N≤16, Loose Tube) M3: 90×55×12 ±0.2 (16<N≤64, Loose Tube) M4: 100×100×12 ±0.2 (64<N≤144, Loose Tube) M5: 110×141×12 ±0.2 (144<N≤256, Loose Tube)	

1. Within operating temperature and all SOP.
2. WDL is measured in a ±20nm range at 23°C.
3. Excluding connector.



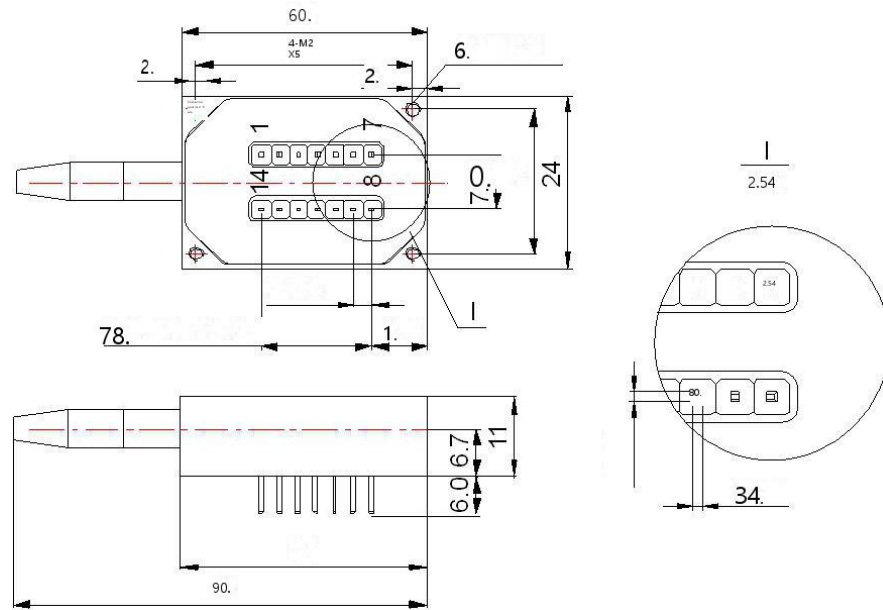
Multi-Mode

Parameters	Unit	MEMS 1×N-MM	
Working Wavelength	nm	850±30, 1310±30	
Testing Wavelength	nm	850/1310	
Insertion Loss	dB	@CWL Single-band ≤0.8 (N≤12) ≤1.0 (12<N≤16) ≤1.8 (16<N≤128)	@CWL Dual-band ≤1.0 (N≤12) ≤1.2 (12<N≤16) ≤2.0 (16<N≤128)
WDL	dB	≤0.3 (N≤16) ≤0.4 (16<N≤128)	
PDL	dB	≤0.2	
Return Loss	dB	≥30	
Crosstalk	dB	≥30	
Repeatability	dB	≤±0.05	
Switching Time	ms	≤15	
Durability	times	≥10 ⁹	
Input Optical Power	mW	≤500	
Operating Voltage	V	DC 5V±10%	
Operating Current	mA	≤50 (N≤16) ≤250 (16<N≤64) ≤350 (64<N≤128)	
Operating Temp.	°C	-20 ~ +85	
Storage Temp.	°C	-40 ~ +85	
Dimension (L×W×H)	mm	M1: 34×24×11 ±0.2 (N≤16, Bare Fiber) M2: 60×24×11 ±0.2 (N≤16, Loose Tube) M3: 90×55×12 ±0.2 (16<N≤64, Loose Tube) M4: 100×100×12 ±0.2 (64<N≤128, Loose Tube)	

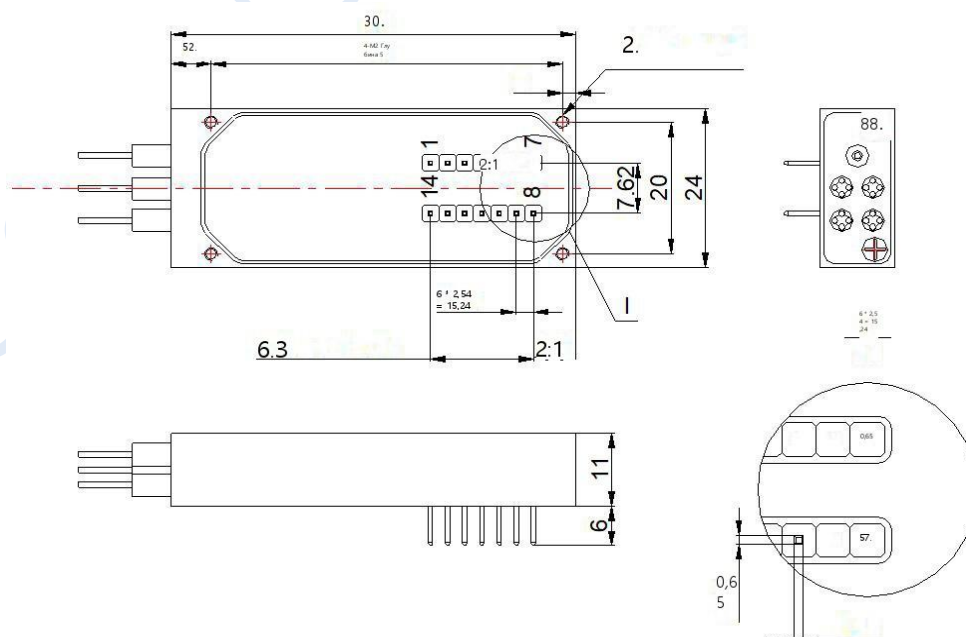
1. Within Operating temperature and all SOP.
2. Excluding Connector
3. WDL is measured in a ±20nm range at 23°C

 Dimension(mm)

M1: 34 × 24 × 11 mm

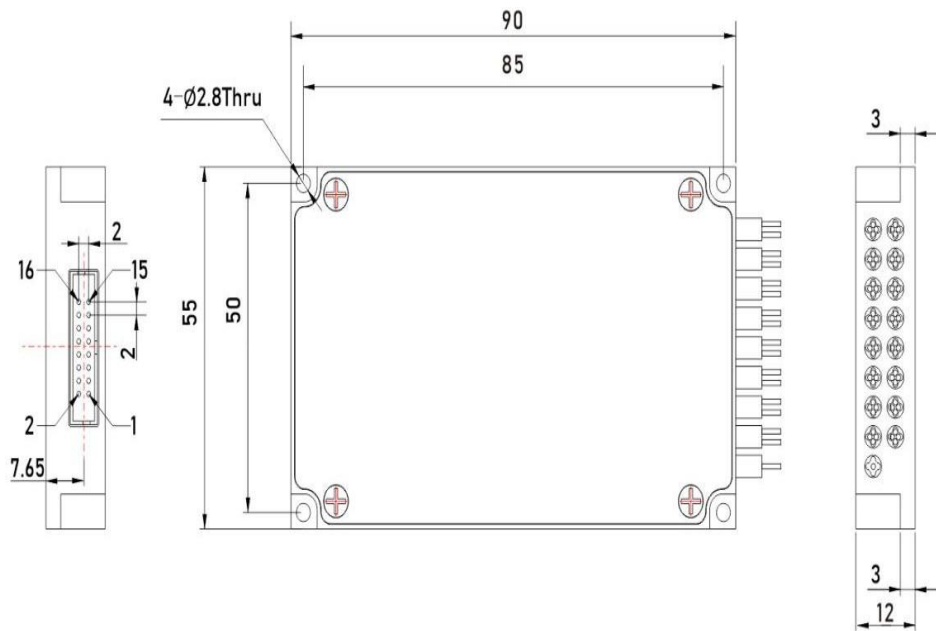


M2: 60 x 24 x 11 mm

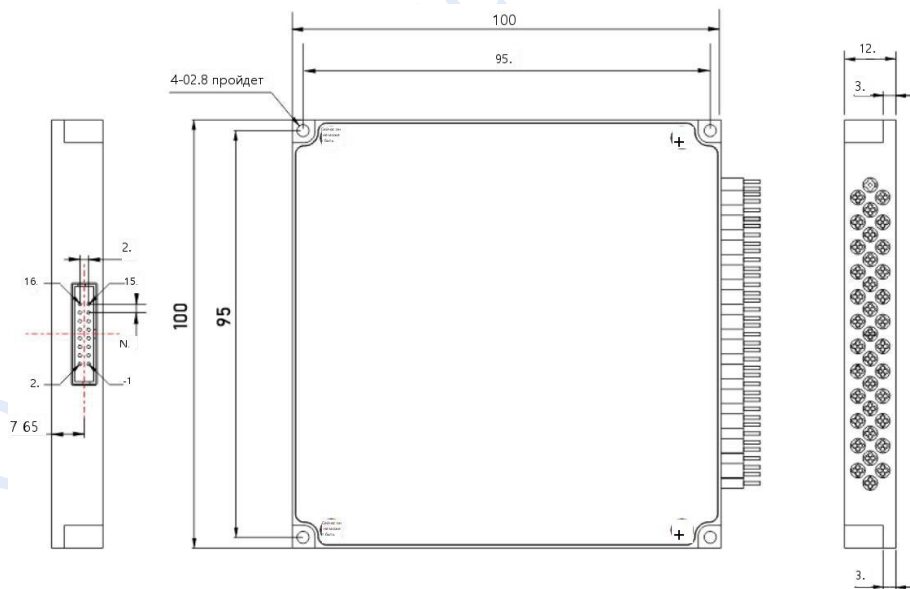




M3: 90 × 55 × 12 mm

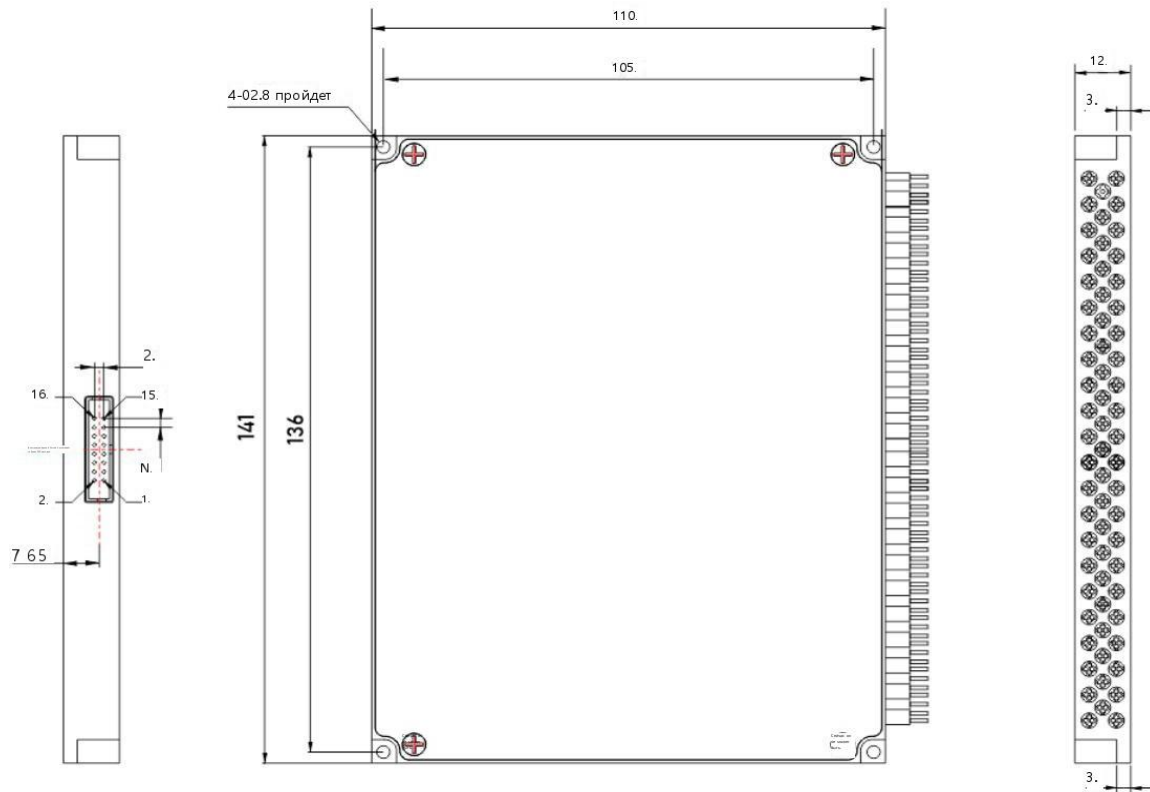


M4: 100 x100 x12 mm





M5: 110 × 141 × 12 mm



Pin Configurations

Pin No.		Pin Assignment	Signal Type	Description
M1/M2	M3/M4/M5			
5	1	D0	Input	Data bit (D0) (low-order)
	2	D5	Input	Data bit (D5)
2	3	VCC	Power	Power Supply (DC 5V,1.0A)
	4	D7	Input	Data bit (D7) (high-order)
	5	D6	Input	Data bit (D6)
4	6	GND	Power	GND
	7	D4	Input	Data bit (D4)
6	8	D1	Input	Data bit (D1)
9	9	TXD	Output	Data Transmit (LVTTTL Level)

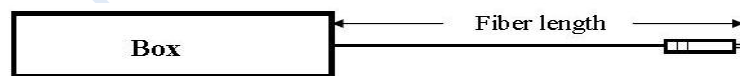


10	10	RXD	Input	Data Receive (LVTTTL Level)
7	11	D2	Input	Data bit (D2)
8	12	D3	Input	Data bit (D3)
12	13	/BUSY	Output	Low level means ready to reset or receiving data
	14	/ALARM	Output	High level means running error
3	15	/STROBE	Input	Falling edge execution data bit
14	16	/RESET	Input	Low level reset to channel 0
11		GND	Power	GND
13		MODE		Low level: data bit control switch. High level: UART control switch
1		NC		No connection

Notes:

1. The electrical interfaces of M3, M4 and M5 modules is Molex 87833-1620. Molex 87568-1694 connector is recommended.
2. when using M1 and M2, Only the serial port is available if the number of channels exceeds 16

Fiber optic length definition (including boot and connector length)





 Ordering Information: HC-MEMS-1×N-A-B-C-D-E-F-G

N	A	B	C	D	E	F	G
Channels	Mode	Wavelength	Dimension	Fiber Type	Fiber Diameter	Fiber Length	Connector
1 256	S: SingleMode M: Multi-Mode	85: 850nm 13: 1310nm 14: 1490 nm 15: 1550 nm 162: 1625 nm 165: 1650 nm 13/15: 1310/1550 nm X: other	M1: 34×24×11 M2: 60×24×11 M3: 90×55×12 M4: 100×100×12 M5: 110×141×12 X: other	5: 50/125 6: 62.5/125 9: 9/125 X: other	25: Φ0.25mm 90: Φ0.9mm X: other	05: 0.5m 10: 1.0m 15: 1.5m X: other	00: None FP: FCU/PC FA: FC/APC SP: SC/UPC SA: SC/APC LP: LC/UPC LA: LC/APC MP: MPO X: other