

# MEMS MxN Switch Matrix

MEMS MXN optical switch matrix bases on MEMS technology, It allows channel selection between M single input fiber and N output fibers.

## Features

- Compact size
- High repeatability and stability
- TTL with I2C Control Interface
- Meets GR-1073 and GR-1221 standards

## Applications

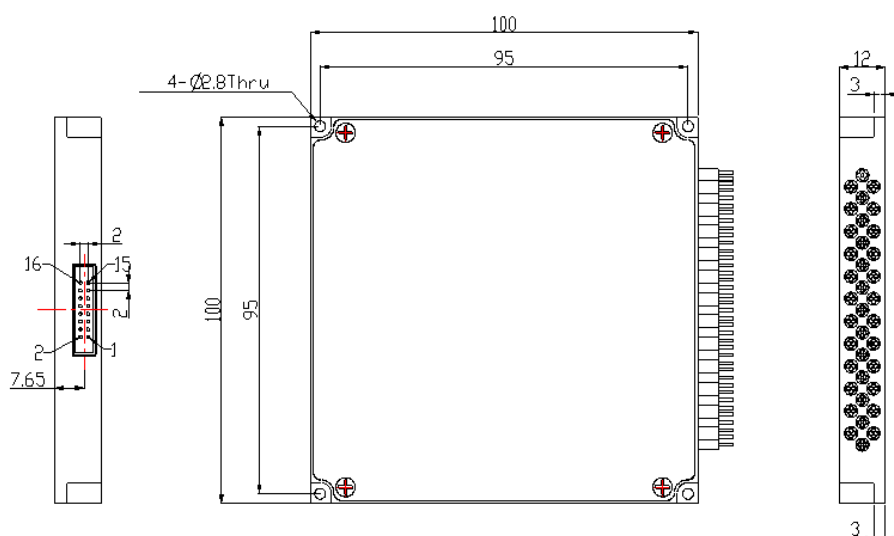
- Fiber monitoring
- Data center
- Fiber sensing

## Specifications :

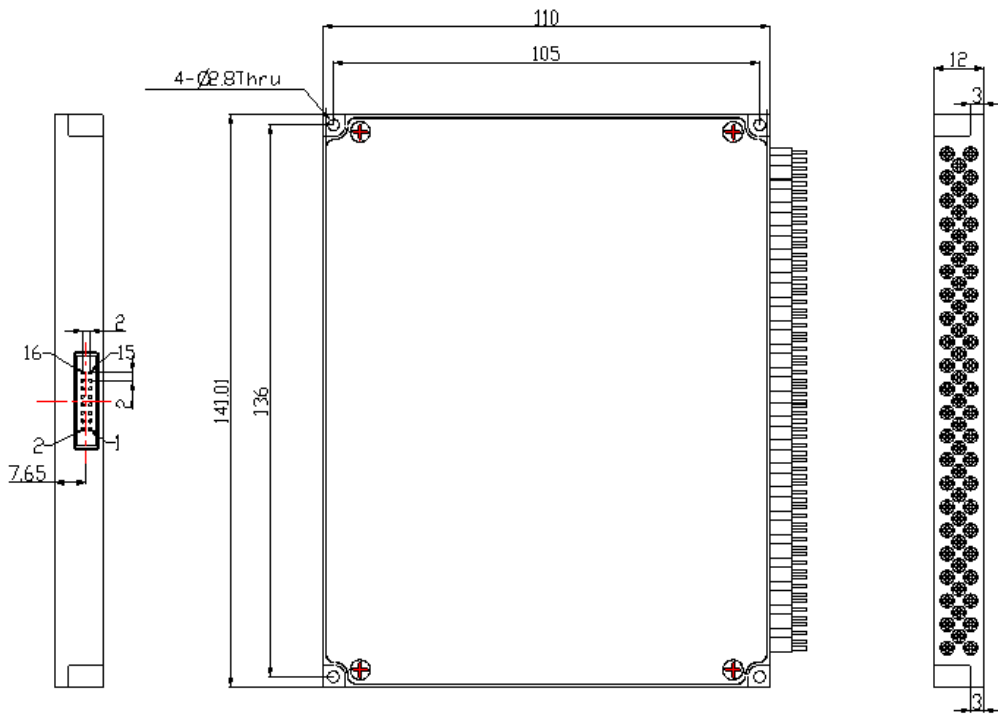
Parameters	Unit	Value						
Channel Number	CH	4x4	4x8	8x8	16x16	32x32	48x48	64 x64
Operating Wavelength	nm	1310±40 or 1550±40 or 1625±30; 850 /1310±40						
Insertion Loss(Max) <sup>1 3 4</sup>	dB	(Typ.) 1.2 , (Max.) 2.5				(Typ.) 1.5 , (Max.) 3.5		
Return Loss	dB	SM≥50;MM≥35						
Repeatability <sup>2</sup>	dB	0.05dB Max				0.1dB Max		
Crosstalk	dB	SM≥50;MM≥35						
PDL	dB	≤0.15						
WDL	dB	≤0.3@CWL±20nm,23°C						
TDL	dB	<0.4dB						
Operating Temperature	°C	-5~+70						
Storage Temperature	°C	-40~+85						
Switching Time	ms	≤10						
Operating Voltage	V	5						

**Note:**1.IL is measured at CWL, 23°C.  
 2.Repeatability is defined after 100 cycles.  
 3.Excluding connector, the insertion loss of connector is increased by 0.2dB  
 4. IL tested value above based on single CWL±20nm, it would be 0.3dB if it tested at dual CWL±20nm.

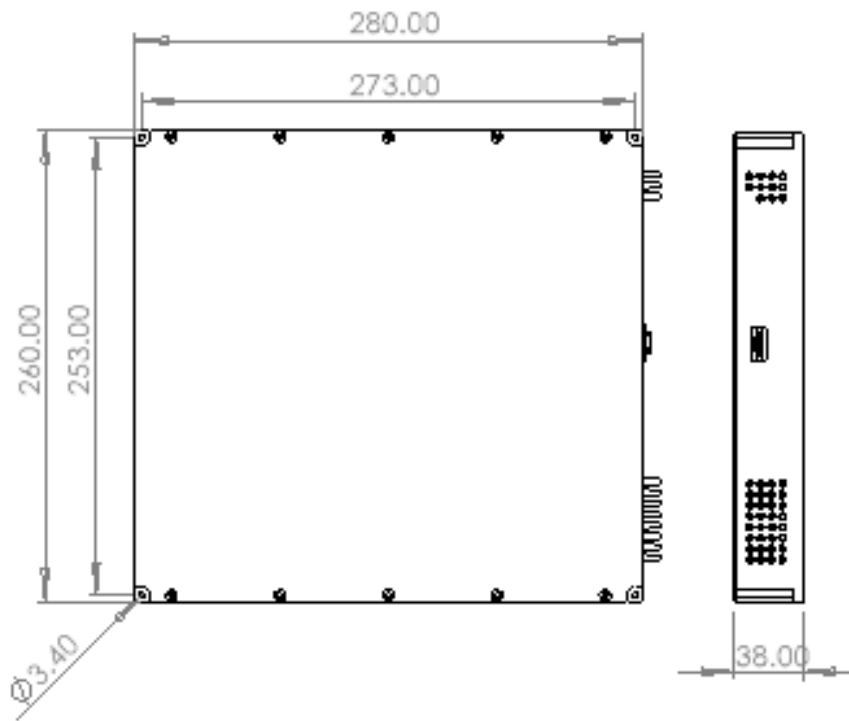
## Dimension :



M4 Type(MxN,M+N<12)



M5 Type(MXN,M+N<20)



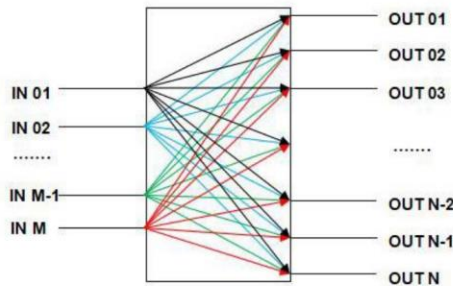
M6 Type(MXN,M+N<64)

MODULE TYPE 6 - ELECTRONIC PIN DEFINITION

PHB-2*6P			
No.			Note
1	-		
2	RS232_TX	TX	RS232
3	RS232_RX	RX	
4	-		
5	GND	-	Power DC5V/1.5A
6	GND	-	
7	VCC	+	
8	VCC	+	
9	VCC	+	

**Optical Route :**

MxN switch matrix is combined by M pieces of 1xN MEMS switch as input ports and N pieces of 1xM MEMS switch as output ports, When a specific voltage is applied to the input optical switch and the output optical switch, any input channel can be connected with any output channel. The specific optical path switching principle is shown in the figure as below,



**Order Information:** MSW-MxN-A-B-C-D-E-F-G (MSW: MEMS Optical Switch)

M X N	A	B	C	D	E	F	G
Port	Mode	Wavelength	Fiber Diameter	Fiber Length	Connector	Interface	Control mode
M: 2~256 N: 2~256	SM:9/125um M5:50/125um M6:62.5/125um M10:105/125um PM:PM Fiber	85:850nm 13: 1310nm 14: 1490nm 15: 1550nm	25:250um 90:900um	05:0.5m 10:1.0m 12:1.2m	OO:None FP: FC/PC FA: FC/APC SP: SC/PC SA: SC/APC LP: LC/PC LA: LC/APC MPO	M1:PCB M2:39*24*13.5 M3:90*55*12 M4:100*100*12 M5:110*141*12 M6:300*250*40	R2:TTL/RS232 R4:TTL/RS485 I2:TTL/I <sup>2</sup> C US:USB

Note:

1. Above specifications just show the typical performance of Module.
2. Please contact our sales to discuss your specific requirements.