

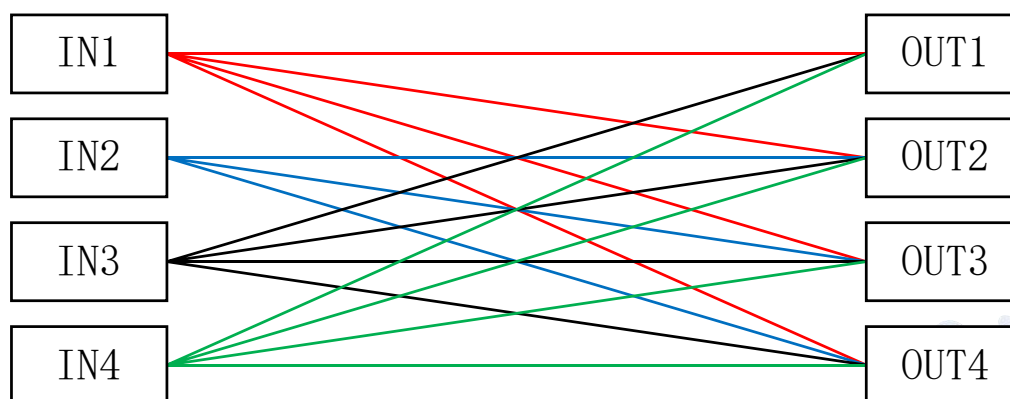


MEMS 4X4 PM Optical Switch Module Specifications

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1. Schematic diagram of the module interior



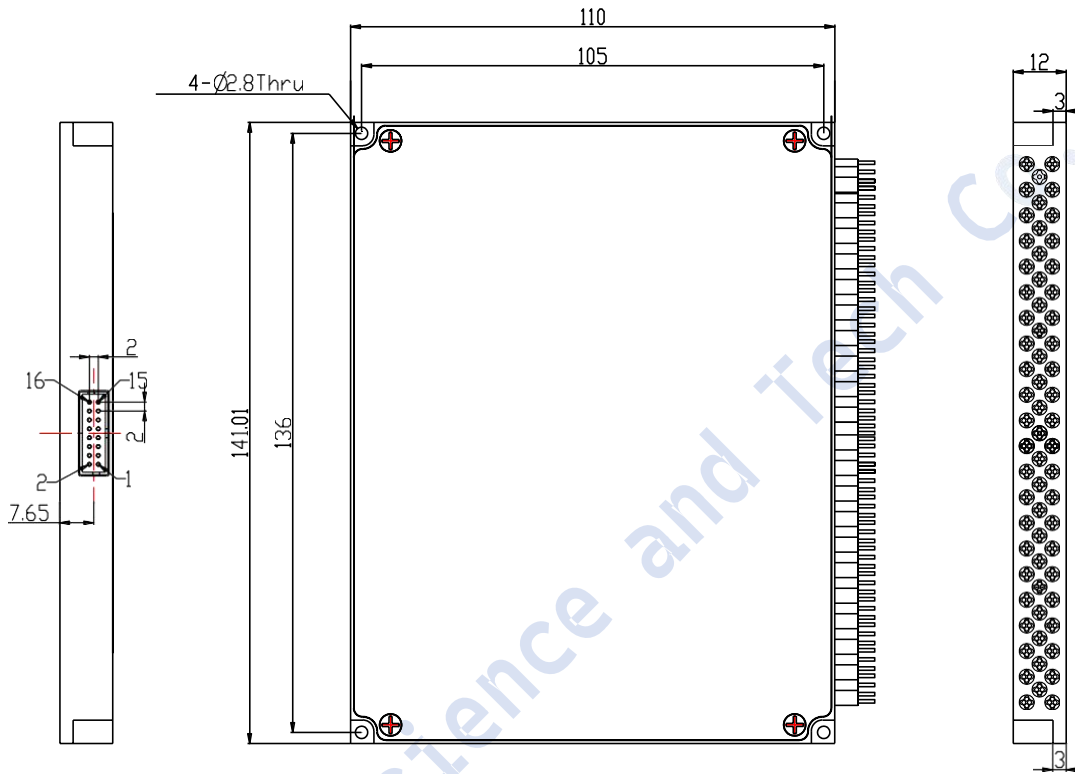
2. Performance indicators

Model	MEMS-4X4-PM1550-M5-9-09-05-FA
Fiber type	PM1550
Operating wavelength	1550±40nm
Test wavelength	1550nm
Insertion loss	≤2.0dB
Extinction ratio	>17dB
Return loss	≥45 dB
Isolation	≥50 dB
Repeatability	≤±0.1dB
Switching time	≤20ms
Number of switches	≥ 10 ⁹ times
Optical interface type	FC/APC (slow axis alignment, KEY and cat's eye in a straight line)
Fiber length	0.5m (0.9 mm casing)
Input optical power	≤500 mW
Operating voltage/current	DC5V±10% / ≤500mA
Operating temperature	-5 ~ 70 °C
Storage	-40 ~ 85 °C



temperature	
Module size	110(L) x 141(W) x 12(H) $\pm 0.2\text{mm}$

3. Diagram of module dimensions



4. Pin definition

Definition of module pins:

Pin number	Pin Definition	Direction and type of signal	Functional description
1	NC		Hanging in the air
2	NC		Hanging in the air
3	VCC	Power	Operating power supply, DC 5V, 0.5A
4	NC		Hanging in the air
5	NC		Hanging in the air
6	GND	Power	GND
7	NC		Hanging in the air

8	NC		Hanging in the air
9	TXD	Output	Serial port data sending end (RS232 level serial port)
10	RXD	Input	Serial port data receiving end (RS232 level serial port)
11	NC		Hanging in the air
12	NC		Hanging in the air
13	NC		Hanging in the air
14	NC		Hanging in the air
15	NC		Hanging in the air
16	NC		Hanging in the air

Note: 1. MOLEX 87833 -1620 is used for the electrical interface of the module, and MOLEX 87568 -1694 is recommended for the customer connector.

2. The module is equipped with MOLEX 87568 -1694 connector and BOOMELE PHB-2 * 6a connector.

3. Definition of PHB-2 * 6a pin of patch cord:



5. Description of programmed instructions

The module can receive control signals through RS232 protocol to realize automatic measurement or real-time monitoring.

(1) This module can only execute one instruction at a time. The next instruction is usually entered after the program returns the corresponding value.

(2) Please use capital letters.

(3) In actual operation, input the angle bracket "<" as the start character and the angle bracket ">" as the end character.

(4) Instruction error returns < ER >.

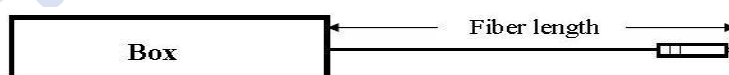
Programmed instruction set

Command	Description	Examples
<RESET>	Restart the module	Success return: < RESET _ OK >
<RESTORE>	Restore factory settings	Success return: < RESET _ OK >



<INFO_?>	Query module information	Successfully returned: <MEMS-PM1550-4X4_VER1.00_ SN01234567890_C06.08.00110> Indicates MEMS-PM1550-4X4 module, version 1.00, SN number 01234567890, product number C06.08. 00110;
<BAUD_x>	Set or query the serial port baud rate 1. X is from 1 to 9, representing baud rates 2400, 4800, and 9600, 14400, 19200, 38400, 56000, 57600, and 115200, respectively. Success return: < BAUD _ X _ OK > 2. Send < BAUD _ ? > Query the baud rate	Send: < BAUD _ 5 > Success return: < BAUD _ 5 _ OK > Set the device serial port baudrate to the 19200. Restart to take effect after the configuration is saved!
<OSW_SW_a_ b_c_d> (Values of a, B,C and d range from 00 to 04, and they cannot be the same when they are not 00. If 00 is taken, it means that the channel is not connected to any output end.)	Channel switching Send: < output channel corresponding to OSW _ SW _ In1 _ In2 _ In3 _ In4 >	Send: < OSW _ SW _ 01 02 03 04 > Return: < OSW _ SW _ 01 02 03 04 OK > Indicates that the 4x4 optical path is set to: In1→Out1、In2→Out2、 In3→Out3、In4→Out4;
<OSW_A_?>	Query the channel status Success return: < output channel corresponding to OSW _ A _ In1 _ output channel corresponding to In2 _ output channel corresponding to In3 _ output channel corresponding to In4 >	Return: < OSW _ A _ 01 02 03 04 > The current optical path is: In1→Out1、In2→Out2、 In3→Out3、In4→Out4;
<SAVE_ALL>	Save the configuration Success return: < SAVE _ ALL _ OK >	Save the configuration, such as channel status save.

6. Fiber length definition



Including Boot and connector length

7.Factory Default Configuration

Project	Factory default configuration	Remark
Serial port baud rate	115200	8 data bits, 1stop bit, no parity.
Working Channel	In1→Out1、In2→Out2 In3→Out3、In4→Out4	The optical path state at the time of configuration saving is maintained after the device is powered off and then powered on

8.Order information

HC – MEMS 4x4- PM - A-B-C-D-E-F

A	B	C	D	E
Optical fiber specification	Working wavelength	Fiber Diameter	Fiber Length (connector included)	connector
1: PM1550 2: PM1310 X: other	1310: 1310nm 1550: 1550nm X: other	90: 900um 20: 2.0mm 30: 3.0mm X: Others	05:0.5m±5cm 10:1.0m±5cm 15:1.5m±5cm X:Others	OO:None FP: FC/PC FA:FC/APC SP: SC/PC SA: SC/APC LP: LC/PC LA: LC/APC X: Others