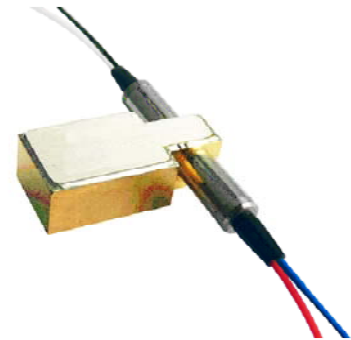


2x2 Optical Switch

Features:

- ◆ Low Insertion Loss
- ◆ Wide Wavelength Range
- ◆ Low Crosstalk
- ◆ High Stability, High Reliability
- ◆ Epoxy-free on Optical Path
- ◆ Latching and Non-latching



Applications:

- ◆ R&D in Laboratory
- ◆ System Monitoring
- ◆ OADM
- ◆ MAN (Metropolitan Area Network)

General:

HE-2x2 Optical Switch, which is famous for its high performance, low insertion loss and compact dimension: (L)28.5×(W)12.6×(H)8.7mm (**SM**) ; (L)27.0×(W)12.6×(H)8.2mm (**MM**) . It is an ideal component for OADM, OXC, system monitoring and protection. With compact package, it can be easy to integrate into a high density optical communication system.

Specifications: (2x2 SM)

| Parameters | Unit | HE-2x2-S |
|--|--------|-----------------------------|
| Wavelength Range | nm | 1260 ~ 1650 |
| Test Wavelength | nm | 1310 / 1550 |
| Insertion Loss ^{Note 1, 2} | dB | Typ.: 0.8 Max.: 1.0 |
| Return Loss ^{Note 1, 2} | dB | ≥ 50 |
| Crosstalk ^{Note 1} | dB | ≥ 55 |
| PDL | dB | ≤0.05 |
| WDL | dB | ≤0.25 |
| Repeatability | dB | ±0.02 |
| Operating Voltage | V | 3.0 or 5.0 |
| Durability | Cycles | ≥ 10 Million |
| Switching Time | ms | ≤8 |
| Optical Power | mW | ≤500 |
| Operating Temperature | °C | -5 ~ +70 |
| Storage Temperature | °C | -40 ~ +85 |
| Relative Humidity | % | 5 ~ 95 |
| Weight | g | 16 |
| Dimension | mm | (L)28.5×(W)12.6×(H)8.7 ±0.2 |
| Note: 1, Within operating temperature and SOP. 2, Excluding connectors. | | |

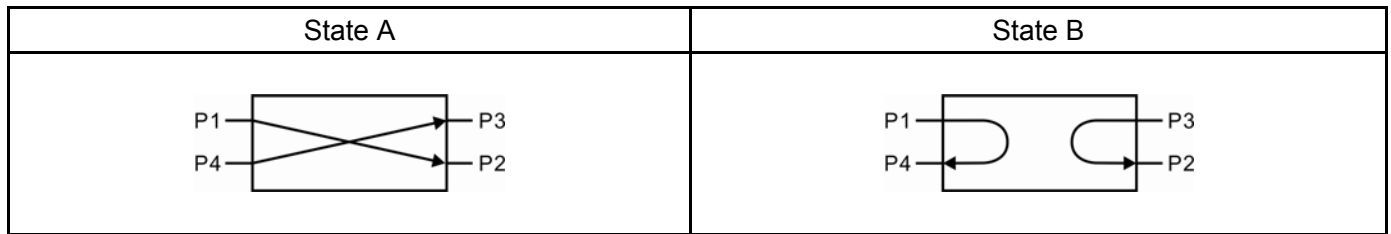
Specifications: (2x2 MM)

| Parameters | Unit | HE-2x2-M | |
|--|--------|-----------------------------|------------------------|
| Wavelength Range | nm | 850±40 / 1300±40 | 1470 ~ 1650 |
| Test Wavelength | nm | 850 / 1300 | 1550 |
| Insertion Loss ^{Note 1, 2} | dB | Typ.: 0.8 Max.: 1.2 | Typ.: 0.8 Max.: 1.0 |
| Return Loss ^{Note 1, 2} | dB | ≥ 30 | |
| Crosstalk ^{Note 1} | dB | ≥ 35 | |
| PDL | dB | ≤0.05 | |
| WDL | dB | ≤0.25 | |
| Repeatability | dB | ≤±0.02 | |
| Operating Voltage | V | 3.0 or 5.0 | |
| Durability | Cycles | ≥ 10 Million | |
| Switching Time | ms | ≤8 | |
| Optical Power | mW | ≤500 | |
| Operating Temperature | °C | -5 ~ +70 | |
| Storage Temperature | °C | -40 ~ +85 | |
| Relative Humidity | % | 5 ~ 95 | |
| Weight | g | 14 | |
| Dimension | mm | (L)27.0×(W)12.6×(H)8.2 ±0.2 | |
| Note: 1, Within operating temperature and SOP. 2, Excluding connectors. | | | |

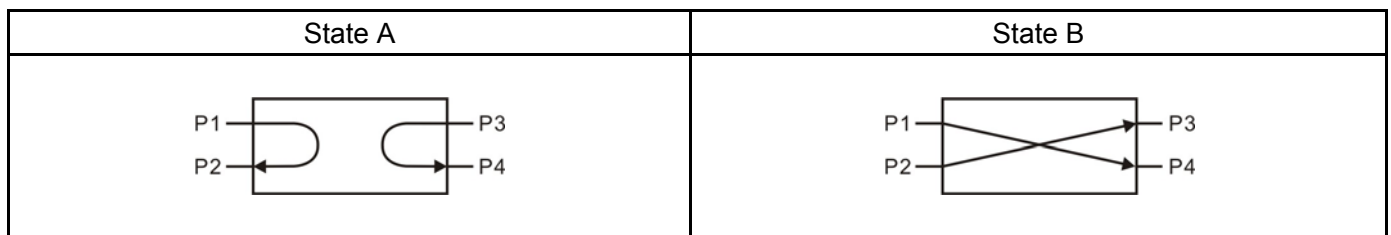
Pin Configurations:

| Type | State | Optical Route | Electric Drive | | | | Status Sensor | | | |
|--------------|-------|-----------------|----------------|-------|-------|--------|---------------|---------|---------|---------|
| | | | Pin 1 | Pin 5 | Pin 6 | Pin 10 | Pin 2-3 | Pin 3-4 | Pin 7-8 | Pin 8-9 |
| 2x2 | | | | | | | | | | |
| | | | | | | | | | | |
| Latching | A | P1-P2, P3-P4 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | B | P1-P4, P3-P2 | V+ | GND | -- | -- | Open | Close | Close | Open |
| Non-latching | A | P1-P2, P3-P4 | -- | -- | -- | -- | Close | Open | Open | Close |
| | B | P1-P4, P3-P2 | V+ | -- | -- | GND | Open | Close | Close | Open |

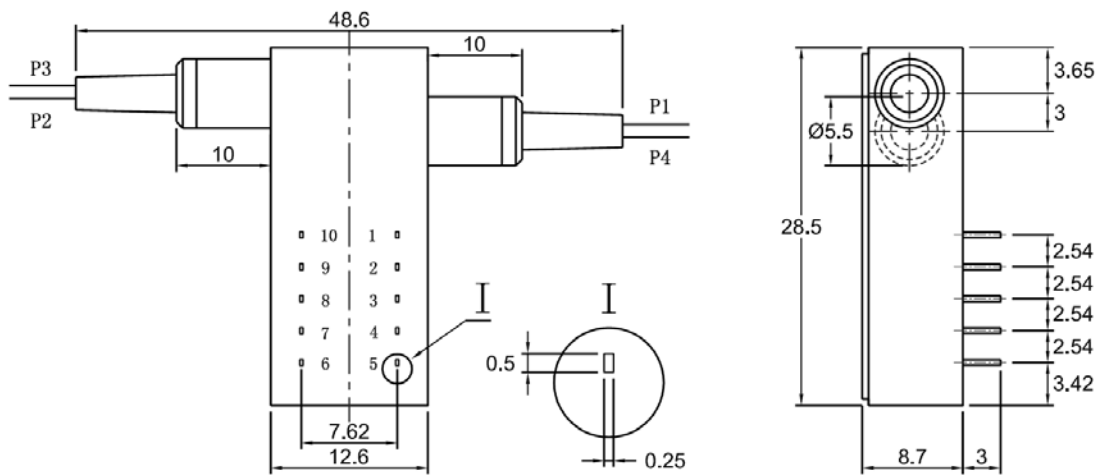
Optical Route: (2x2 SM)



Optical Route: (2x2 MM)

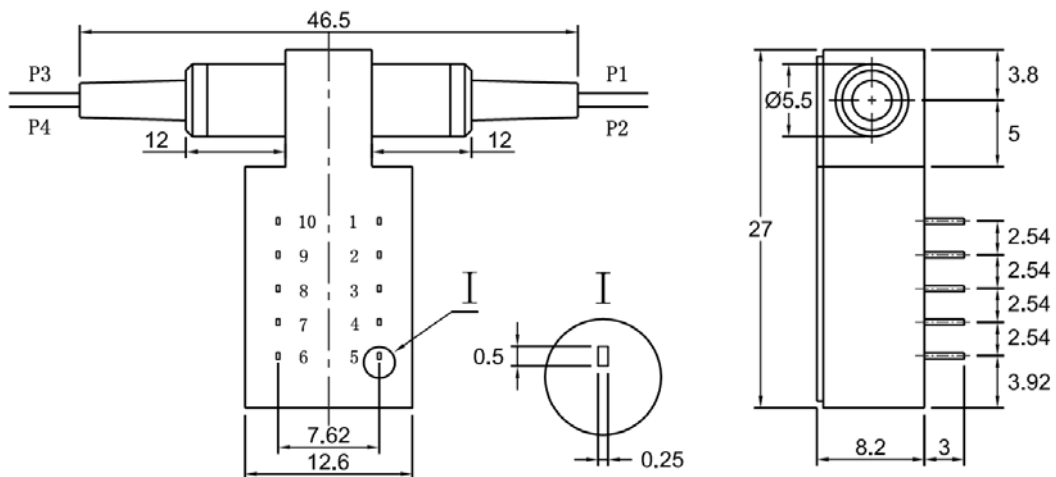


Dimension: (2x2 SM)



P1: White P2: Black P3: Red P4: Blue

Dimension: (2x2 MM)



P1: White P2: Black P3: Red P4: Blue

Electrical Specification:

| Specifications | Voltage | Current | Resistance |
|-----------------|-----------|----------|------------|
| 5V latching | 4.5~5.5 V | 36~44 mA | 125 Ω |
| 5V non-latching | 4.5~5.5 V | 26~32 mA | 175 Ω |
| 3V latching | 2.7~3.3 V | 54~66 mA | 50 Ω |
| 3V non-latching | 2.7~3.3 V | 39~47 mA | 70 Ω |

Nomenclature:

HE-2x2-A-B-C-D-E-F-G

| A | B | C | D | E | F | G |
|--|-------------------|--------------------------------|--|-----------------------------------|---|--|
| Fiber Type | Operating Voltage | Switch Type | Test Wavelength | Tube Type | Fiber Length (Include connector) | Connector |
| SM: SM, 9/125 M5:MM, 50/125 M6:MM, 62.5/125 X: Others | 3: 3V 5: 5V | L: Latching N: Non-latching | 850: 850nm 1310: 1310nm 1550: 1550nm 1310/1550:1310 /1550nm X:Others | 25:250um 90:900um 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 STP: ST/PC STA: ST/APC LP: LC/PC LA: LC/APC X: Others |