

M1x8 Magneto-Optical Switch



● Product Description

The M1x8 optical switch operates by either connecting or blocking optical signals to achieve optical path switching. This switch features a non-mechanical configuration and is activated by an electrical control signal. Additionally, the switch integrates a built-in circulator and isolator functionality. It is widely used in aerospace and military equipment.

● Product features

Solid-state, high-speed operation、 High stability and reliability、 No epoxy resin in the optical path、 Fault-safe locking mechanism

● Part Number

MP-OSW-1550-US100-18-M

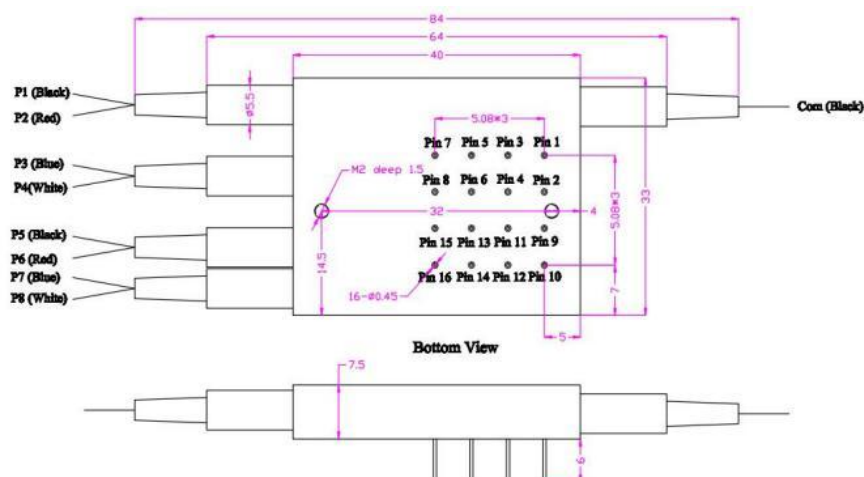
● Application area

Aerospace equipment 、 Configurable add/drop functionality 、 System monitoring、 Sensing systems

● Core parameters

Wavelength	Peak Isolation
1550nm	$\leq 2.0\text{dB}$

● Dimension Drawing



● General Parameters

Performance Specifications

Parameter	Unit	Specification
Wavelength Range	nm	1520 ~ 1580
Test Wavelength	nm	1550
Insertion Loss ^{1, 2}	dB	≤ 2.0
TDL	dB	≤ 0.30
PDL	dB	≤ 0.20
Return Loss	dB	≥ 50
Crosstalk	dB	≥ 40
Repeatability	dB	≤ ±0.01
Switching Time	us	≤ 100
Pulse Duration	us	≥ 200
Durability	Cycles	≥ 10 Billions
Switch Type	NA	Latching
Operating Current	mA	≤ 200
Maximum Optical Power	mW	≤ 500
Operating Temperature	°C	-5 ~ +70
Storage Temperature	°C	-40 ~ +85
Dimensions	mm	(L)40.0 × (W)33.0 × (H)7.5 ±0.2
Note: 1. Tested under room temperature and standard operating conditions (SOP). 2. Excludes connectors, a pair of connectors adds 0.2dB.		



Electric Drive

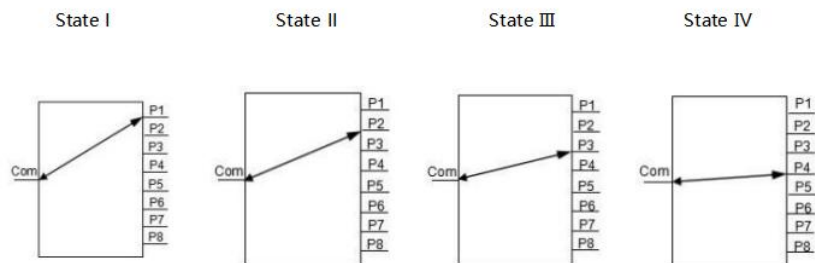
Type	State	Light path	Electric Drive															
			Pin group A		Pin group B		Pin group C		Pin group D		Pin group E		Pin group F		Pin group G		Pin group H	
			Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12	Pin 13	Pin 14	Pin 15	Pin 16
M1x8	I	Co-m-P1	V+	GN D	V+	GN D	V+	GN D	V+	GN D	GN D	V+	V+	GN D	GN D	V+	GN D	V+
	II	Co-m-P2	GN D	V+	GN D	V+	V+	GN D	V+	GN D	GN D	V+	V+	GN D	GN D	V+	GN D	V+
	III	Co-m-P3	V+	GN D	GN D	V+	GN D	V+	GN D	V+	V+	GN D	V+	GN D	GN D	V+	GN D	V+
	IV	Co-m-P4	GN D	V+	V+	GN D	GN D	V+	GN D	V+	V+	GN D	V+	GN D	GN D	V+	GN D	V+
	V	Co-m-P5	V+	GN D	GN D	V+	GN D	V+	V+	GN D	GN D	V+	GN D	V+	V+	GN D	GN D	V+
	VI	Co-m-P6	GN D	V+	V+	GN D	GN D	V+	V+	GN D	GN D	V+	GN D	V+	V+	GN D	GN D	V+
	V	Co-m-P7	V+	GN D	GN D	V+	GN D	V+	V+	GN D	GN D	V+	V+	GN D	GN D	V+	V+	GN D



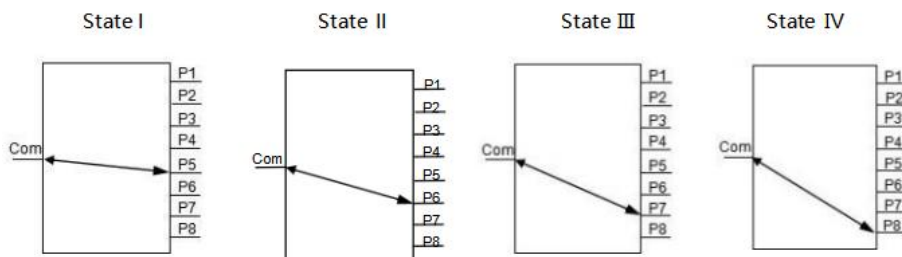
Type	State	Light path	Electric Drive															
			Pin group A		Pin group B		Pin group C		Pin group D		Pin group E		Pin group F		Pin group G		Pin group H	
			Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12	Pin 13	Pin 14	Pin 15	Pin 16
	V	Com-P8	GN D	V+	V+	GN D	GN D	V+	V+	GN D	GN D	V+	V+	GN D	GN D	V+	V+	GN D

Functional Diagram

Bidirectional States



Unidirectional States



Ordering Reference Information

Switch Type	Fiber Type	Voltage	Wavelength	Loose Tube Type	Fiber Length	Connector
B: Bidirectional	SM: SM, 9/125 X: Others	2.5: 2.5V X: Others	1550: 1550nm X: Others	250: 250um 900: 900um X: Others	05: 0.5m± 5cm 10: 1.0m± 5cm X: Others	OO: None FC: FC/PC FA: FC/APC SC: SC/PC SA: SC/APC LC: LC/PC X: Others