

1xN Mechanical Optical Switch

OPTICAL SWITCH FEATURES

- ✓ Up to 256 Ports/Channels (4, 16, 32, 64, 128 ...)
- ✓ Ultra-high Reliability
- ✓ Modularized design
- ✓ Functions of Breakdown Self-checking and Alarm Warning (TTL)

OPTICAL SWITCH APPLICATIONS

- Optical Signal Switching and Routing
- Optical Network Monitoring
- Testing of Fiber Optic Component
- Military Communications



1xN Mechanical Optical Switch Specifications

Channel Number (N)	1<N≤64		64<N≤128		
Insertion Loss (dB)	Typ: 0.5; Max:1.0		Typ: 1.2; Max:1.5		
Operating Wavelength (nm)	1260-1650 (SM) 532-1064/1310 (MM) Custom				
Testing Wavelength (nm)	1310/1490/1550/1625 (SM) 532/650/780/850/980/1310/1550/1625/1650 (MM) Custom				
Return Loss (dB)	SM (9/125) ≥ 50; MM (50/125, 62.5/125) ≥ 30				
Crosstalk (dB)	SM (9/125) ≥ 70; MM (50/125, 62.5/125) ≥ 70				
Polarization Dependent Loss (dB)	≤0.05				
Wavelength Dependent Loss (dB)	≤0.25				
Temperature Dependent Loss (dB)	≤0.25				
Repeatability (dB)	≤0.02				
Lifetime (cycles)	10 ⁷				
Switching Time (ms)	≤10 (adjacent channel)				
Optical Input Power (mW)	≤500				
Power Supply	5V				
Control Mode	TTL (or RS232) control				
Connector	FC, LC, SC, ST, MPO, etc.				
Operating Temperature (°C)	-20 ~ +70				
Storage Temperature (°C)	-40 ~ +85				
Dimension / Channel Number (mm / N)	80x40x32 (N≤12)	135x64x32 (N≤16)	135x64x37 (N≤32)	184x78x66 (N≤64)	184x156x 66 (N≤128)

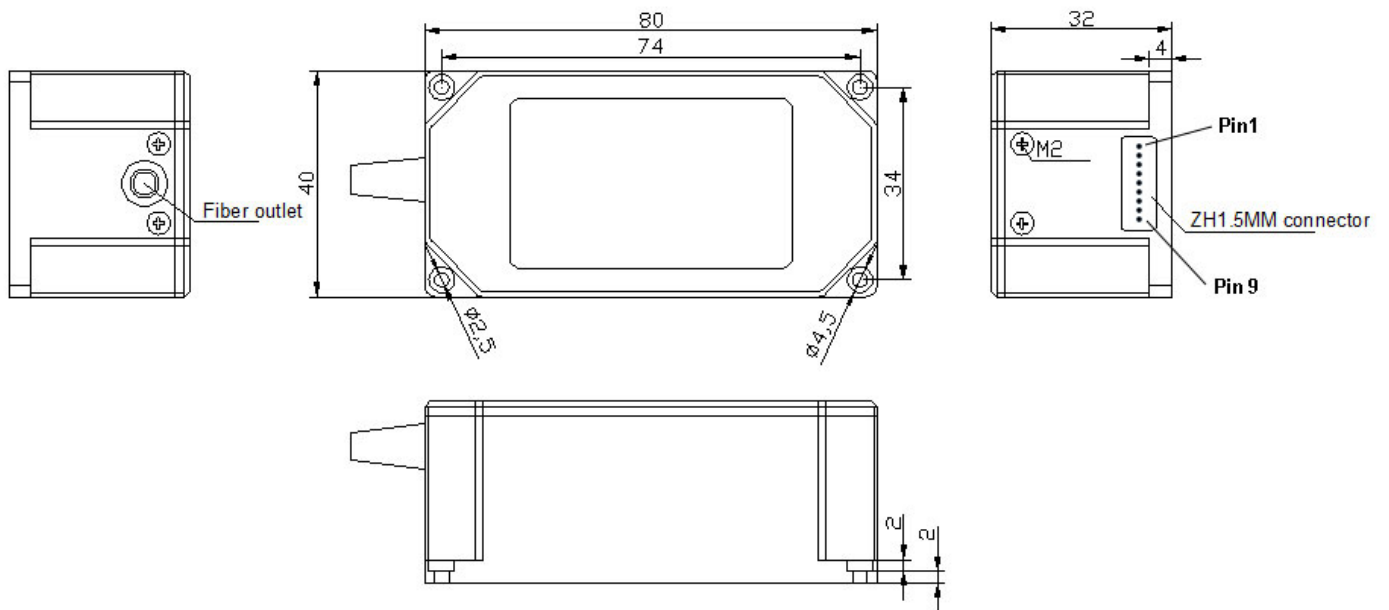


Notes:

1. Default control mode is TTL control, while RS232 controlled is also available on request.
2. We can offer a plug and play solution for programming (RS232 control) the switch directly over USB.
3. Above data are test results with connectors assembled.
4. Lfiber's mechanical optical switch is customizable and above specifications are subject to change without notice.
5. For product customization or special requirement, please contact our sales representative.

Dimension of 1xN Mechanical Optical Switch

Port/Channel Amount (N) ≤ 12

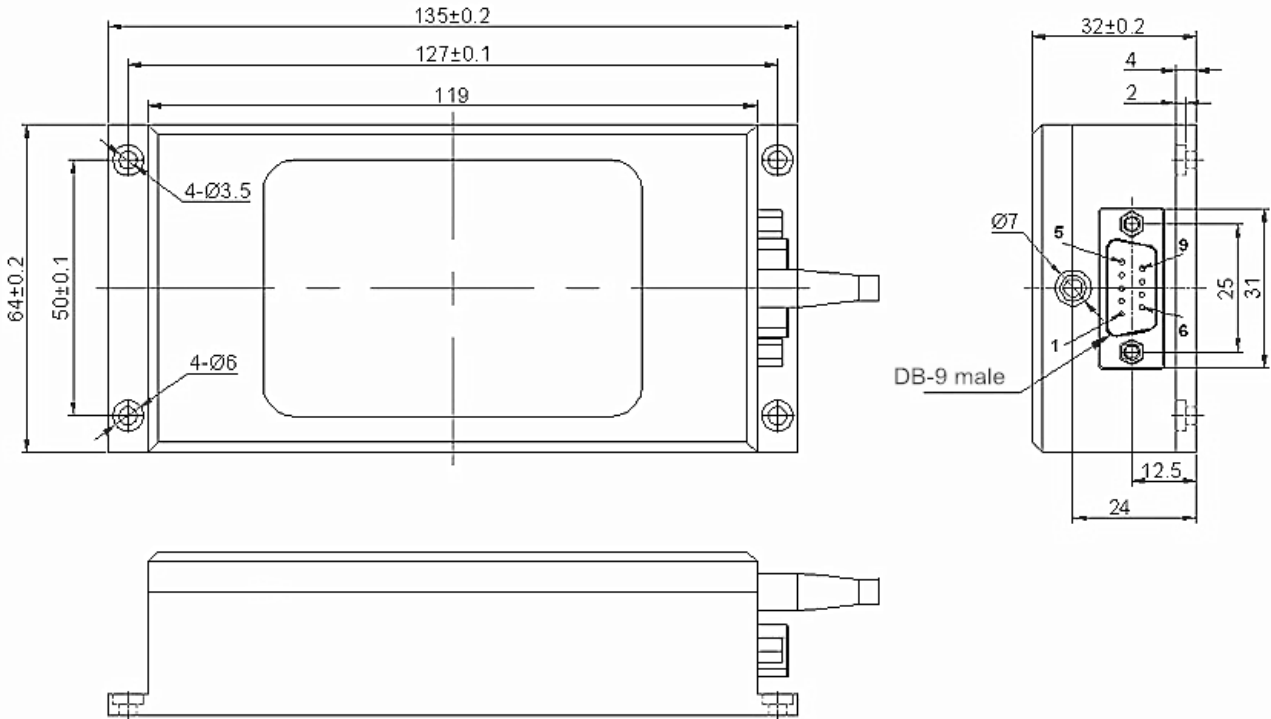


Optical Components, Fiber Optic Devices, Modules, and more.

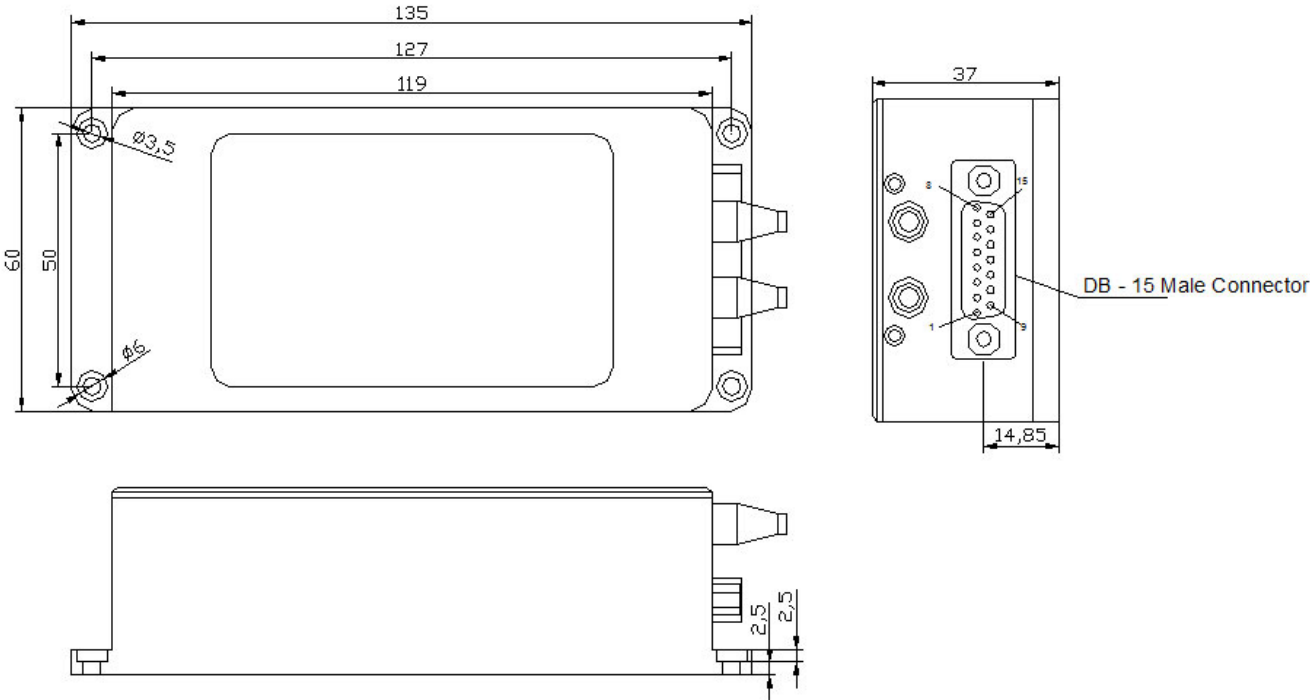
More support, visit: www.lfiber.com

Email: sales@lfiber.com

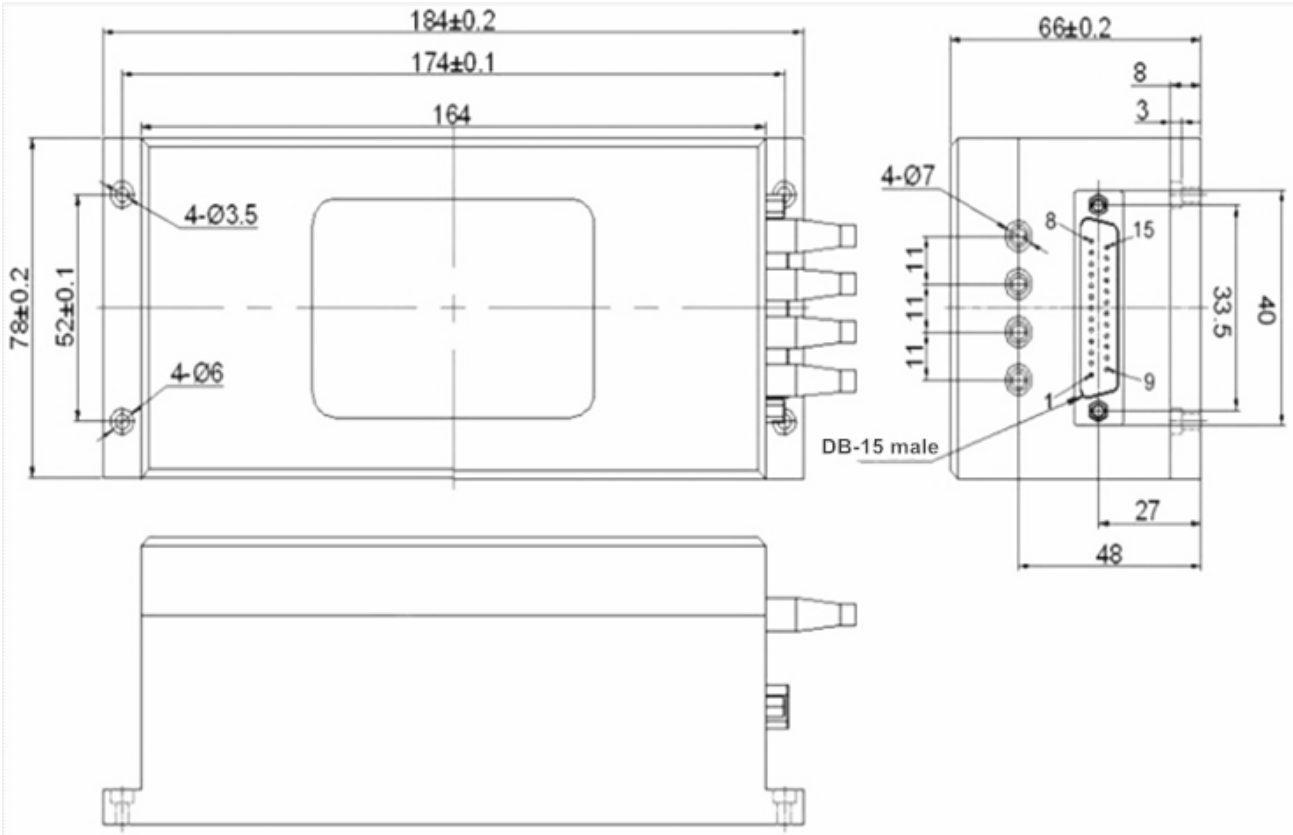
Port/Channel Amount (N) ≤ 16



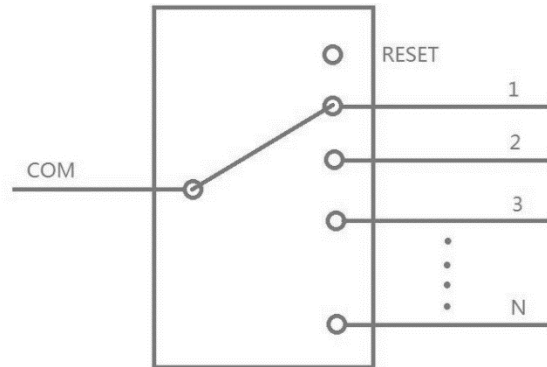
Port/Channel Amount (N) ≤ 32



Port/Channel Amount (N) ≤ 64



Optical Route of 1xN Mechanical Optical Switch



Pin Configurations of 1xN Mechanical Optical Switch

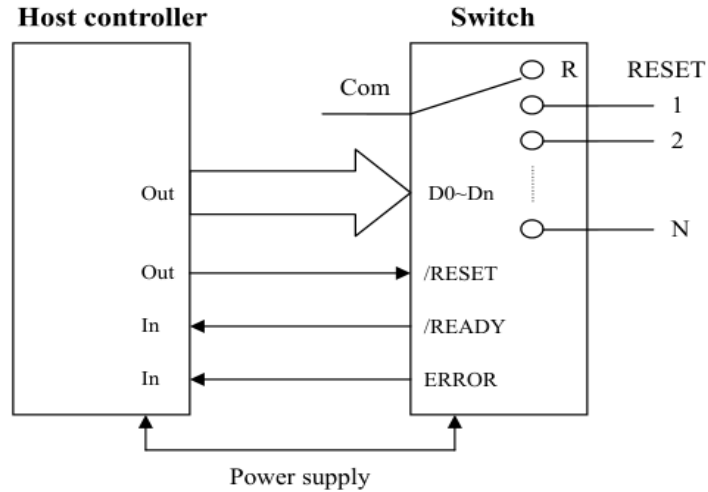
Port/Channel Amount (N) ≤ 16: ZH-1.5mm or DB-9 Male Connector

Pin No.	I / O	Signal	Description
1	Input	D0	D0-D3 represent channel selection Bit0-Bit3; D0 is low; D3 is high.
2	Input	D1	
3	Input	D2	
4	Input	D3	
5	Input	RESET	TTL, Low level reset to channel 0. High level means channel selection bits are effective.
6	Out	READY	TTL, Ready (High = not ready, Low = ready)
7	Out	ERROR	TTL, Error OR Failure , (High = error, Low = no error)
8	Power	GND	Ground
9	Power	VCC	5.0±5% VDC Power Supply (max 500mA)

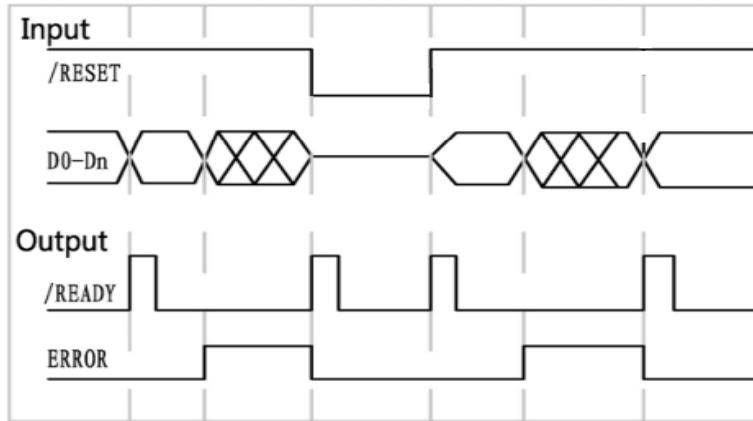
Port/Channel Amount (N) ≤ 32: DB-15 male connector

Pin No.	I / O	Signal	Description
2	Input	D0	D0-D4 is channel selection Bit0~Bit4; D0 is low; D4 is high
3	Input	D1	
4	Input	D2	
5	Input	D3	
6	Input	D4	
11	Input	RESET	TTL, Low level reset to channel 0. High level means channel selection bits are effective.
7	Out	READY	TTL, Ready (High=Not ready, Low=Ready)
8	Out	ERROR	TTL, Error OR Failure , (High=Error, Low=No error)
1,9	Power	GND	Ground
12	Power	VCC1	5.0V±5% VDC motor power (max 950mA)
15	Power	VCC2	5.0V±5% VDC Drive circuit power(50mA)
10,13,14		NC	NC

Control Chart of 1xN Mechanical Optical Switch



Timing Diagram of 1xN Mechanical Optical Switch



Channel Selection Table of 1xN Mechanical Optical Switch

Port/Channel Amount (N) ≤ 16					
Channel	D0	D1	D2	D3	RESET
COM-0	x	x	x	x	0
COM-1	0	0	0	0	1
COM-2	1	0	0	0	1
COM-3	0	1	0	0	1
...					1
COM-14	1	0	1	1	1
COM-15	0	1	1	1	1
COM-16	1	1	1	1	1

Port/Channel Amount (N) ≤32

Channel	D0	D1	D2	D3	D4	RESET
COM-0	x	x	x	x	x	0
COM-1	0	0	0	0	0	1
COM-2	1	0	0	0	0	1
COM-3	0	1	0	0	0	1
...						1
COM-30	1	0	1	1	1	1
COM-31	0	1	1	1	1	1
COM-32	1	1	1	1	1	1

Ordering Information For 1xN Mechanical Optical Switch

	Port/Channel Number	Test Wavelength	Fiber Type	Pigtail	Fiber Length	Connector
Mechanical Optical Switch	1xN (2 < N ≤ 256)	532 nm	9/125 (SM)	Φ900 μm	0.50 m	None
		650 nm	50/125 (MM)	Custom ...	1.00 m	LC/PC
		780 nm	62.5/125 (MM)		1.50 m	LC/APC
		850 nm	105/125 (MM)		Custom ...	SC/PC
		1310 nm	200/220 (MM)			SC/APC
		1550 nm	400/440 (MM)			FC/PC
		1310/1550 nm	600/630 (MM)			FC/APC
		Custom ...	1000μm (MM)			MPO Male
		Custom ...	Custom ...			MPO Female
					Custom ...	

