

High power Wide spectrum large core diameter optical switch

HC-HFSW-1 × N-A-B-C-D-E-F-G

Product overview

This product is a high-power large-core optical switch, which is a device for switching, converting and selecting an optical path, and can realize the switching of one input or output end to select one of multi-channel optical paths for output or input. This optical switch can withstand 5 W optical power, meet the wavelength range of 200-1200nm and 400-2500nm, support 105um, 200um, 400um, 600um and other optical fiber core diameters, and the optical fiber numerical aperture is 0.11 and 0.22. The optical switch is mainly used in multi-channel optical monitoring, LAN multi-light source/detector automatic switching and optical sensing multi-point dynamic monitoring system in the optical transmission system, optical fiber, optical device, network and field engineering optical cable test in the optical test system; Optical device assembly and adjustment.

Product Features

- High Power
- Low Crosstalk
- Low Insertion Loss
- Wide Wavelength Range
- High Stability and Reliability
- Parallel Interface (TTL level) Control



Scope of Application

- System monitoring
- Optical fiber sensing
- Multi-channel optical monitoring
- Laboratory research and development

Technical parameters

Model	HC-HFSW-1×N-A-B-C-D-E-F-G
Wavelength range nm	400-2500
Insertion loss dB	Typ1.0 Max:1.5
Return loss dB	≥30
Channel crosstalk dB	≥50
Polarization dependent loss dB	≤0.05

Wavelength-dependent loss dB	≤0.25
Temperature-dependent loss dB	≤0.25
Repeatability dB	≤±0.05
Operating voltage V	+5 (DC)
Service life times	≥10 ⁷
Switching time ms	≤ 20 (adjacent channel switching)
Transmitted Optical Power W	≤5
Operating temperature °C	-20~+70
Storage temperature °C	-40~+85

Note: 1. The above indicators do not include connectors;
2. The wavelength range can be customized to 200-1200nm.

Pin definition

DB 9 (TTL level):

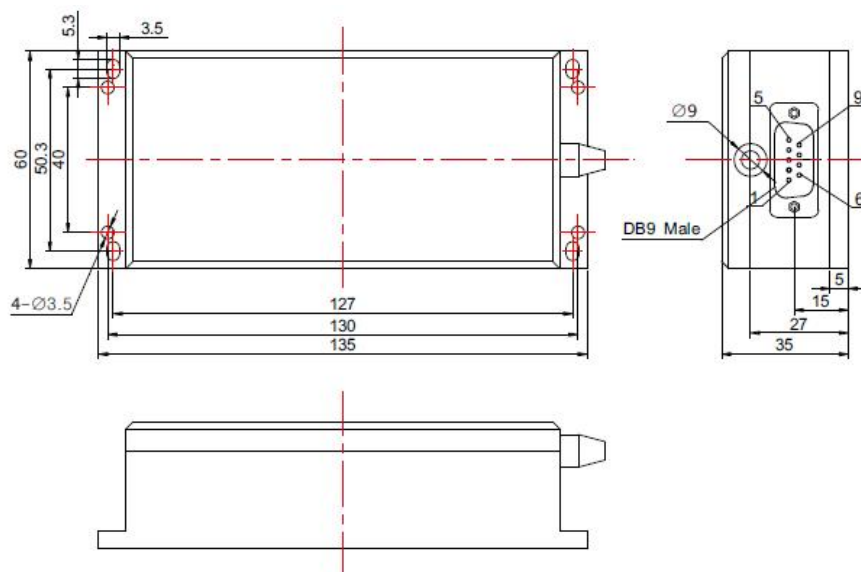
Pin number	Signal direction, type (In/Out/Power)	Pin Definition	Functional description
1	In	D0	Data bit. D3 ~ D0 are binary numbers, D3 is the high order, and D0 is the low order. Up to 16 optical switches can be controlled by 4 data bits. Where 0000 B = channel 1; 1111 B = Channel 16. When in use, the data is transmitted according to the actual channel number of the optical switch.
2	In	D1	
3	In	D2	
4	In	D3	
5	In	/Reset	Low is reset to Channel 0 and the high data bit is active.
6	Out	/Ready	The low level is ready to reset or receive data.
7	Out	Error	A high level indicates that the optical module is operating incorrectly.
8	Power	GND	Ground wire
9	Power	DC 5V	DC 5V, 1.0 A working power supply

DB15 (TTL level):

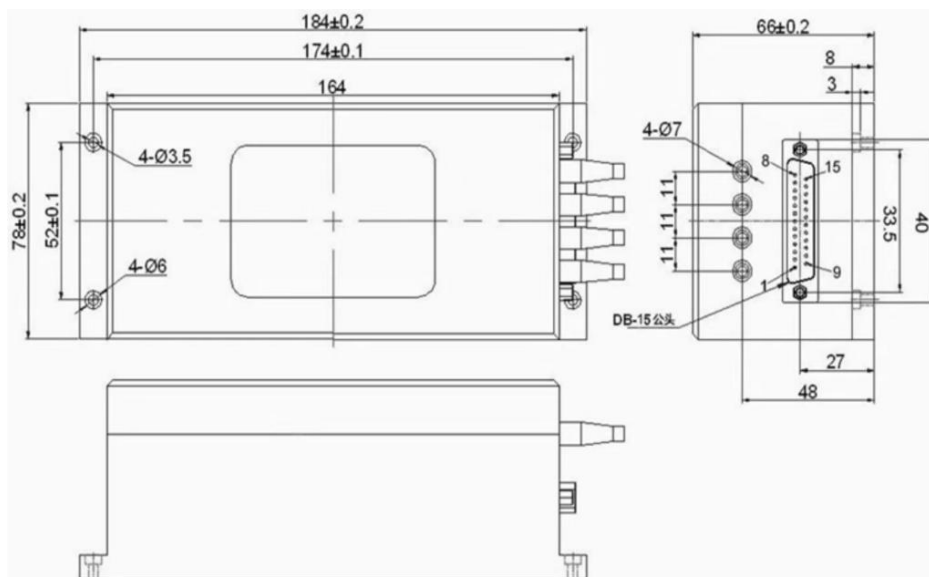
Pin number	Signal direction, type (In/Out/Power)	Pin Definition	Functional description
2	In	D0	Data bits D5 to D0 are binary numbers, D5 is the high bit, and D0 is the low bit. The 6-bit binary number can control the switching of up to 64 optical switches. Where 000000 B = channel 1; 1111 11 B = Channel 64. Data should be sent according to the actual number of optical paths of the optical switch.
3	In	D1	
4	In	D2	
5	In	D3	
6	In	D4	
10	In	D5	
11	In	/Reset	Low reset, high data bit active.
7	Out	/Ready	The low level is ready to reset or receive data.
8	Out	Error	A high level indicates that an error occurred.
15	Power	5V	Power supply for digital circuits
12	Power	5V	Motor power supply
1, 9	Power	Ground	Common Ground
13, 14	Not connected		

Dimension L × W × H (mm)

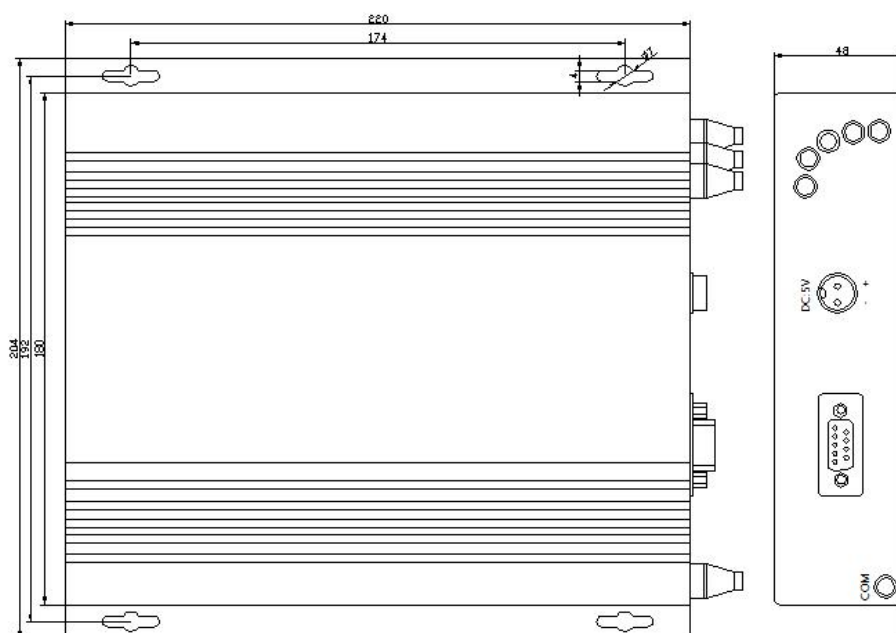
M1: 1×N (1<N≤16) :135×60×35 (105um/200um/400um)



M2: 1×N (16<N≤32) :184×78×66 (105um/200um)



M3: 1×N (1<N≤16) :220×204×48 (600um)



Ordering Information HC-HFSW-1 × N-A-B-C-D-E-F-G

N	A	B	C	D	E	F
Number of channels	Fiber specification	Operating wavelength	Numerical aperture	Fiber outer diameter	Fiber output length (including connector)	Connector
1 ~ 32	105: 105/125um 200: 200/220um 400: 400/440um 600: 600/660um 1000: 1000um X: Others	405: 405nm 532: 532nm 650: 650nm 785: 785nm 980: 980nm 1064: 1064nm X: Others	11:0.11 12:0.12 22:0.22 X: Others	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 SMA:SMA905 X: Others

G (size code)	Applicable model	Applicable core diameter	Overall dimension (mm)
M1	1×N (1<N≤16)	105um/200um/400um	135×60×35
M2	1×N (16<N≤32)	105um/200um	184×78×66
M3	1×N (1<N≤16)	600um	220×204×48
M3	1×N (1<N≤8)	1000um	220×204×48