AC Photonics

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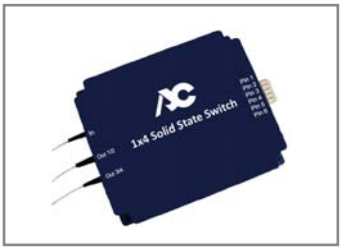
1x4 Solid-State Fiberoptic Switches



ACP's SW Series switch connects optical channels by redirecting an incoming optical signal into a selected output fiber. This is achieved using patent pending non-mechanical proprietary configurations and activated via an electrical control signal. The solid-state operation offers ultra-high reliability and fast switching speed as well as bi-directional performance. The SW fiberoptic switches are true switching solutions for optical networking applications.

Key Features

- Fast Switching Speed
- Ultra-High Reliability
- Latching
- Highly Repeatability
- Low Cost

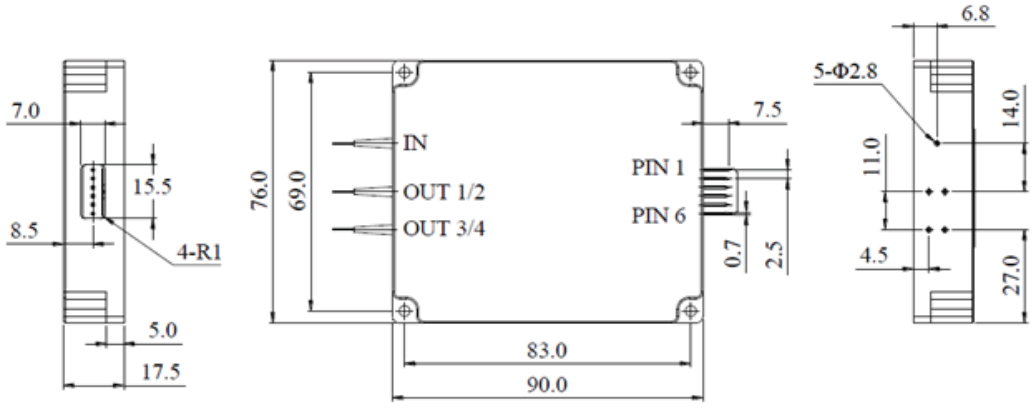
Applications

- Optical Netrwork Protection/Restoration
- Optical Signal Routing
- Configurable Optical Add/Drop
- Transmitter and Receiver Protection
- Network Test Systems
- Instrumentation

Performance Specifications

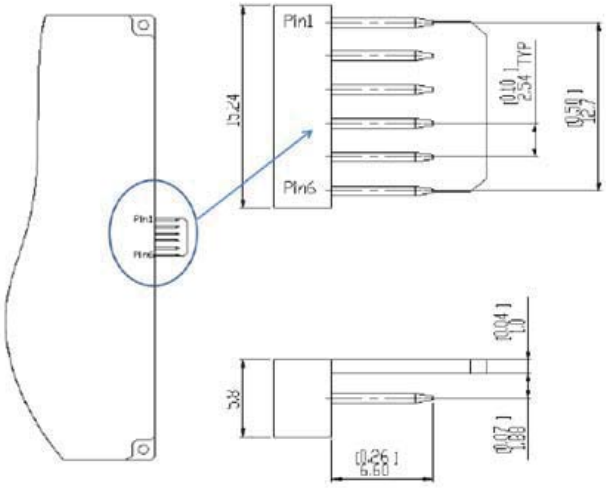
Parameter	Specifications	
	Unidirectional	Bidirectional
Operating Wavelength	1525nm to 1565nm, or custom wavelengths	
Insertion Loss	≤ 2.2dB	≤ 2.4dB
Polarization Dependent Loss	≤ 0.3dB	
Polarization Mode Dispersion	≤ 0.2ps	
Channel Cross Talk	≥ 40dB	≥ 35dB
Return Loss	≥ 40dB	≥ 30dB
Repeatability	± 0.01dB	
Switching Speed	200μs to 400μs, (50μs speed optional)	
Durability (Cycles)	> 30 billions	
Optical Power	500mW	
Switching Type	Latching	
Operating Temperature	-5 to +70°C	
Storage Temperature	-40 to +85°C	
Package Dimensions	L90mm x W76mm x H17.5mm	

Mechanical Dimensions



Electrical Connector Specifications

- Vendor: Molex (P/N: 0022057068)
- Housing: Natural nylon, UL 94V-O
- Contact: Brass, 0.64mm (.025") square
- Plating: Tin



Electrical Pin Configuration

Parameter	Specifications
Switching Speed	200 to 400μs
Switching Voltage (Vcc)	5 ± 5%V
Switching Current	< 200mA
Pulse Width (typical)	1000μs
Claim Frequency	< 800Hz

Pin Configuration

Pin#	1	2	3	4	5	6
	Vcc	GND	Ctrl 0	Ctrl 1	N/A	N/A

Pin Configuration

Unidirectional								
Ctrl 0	0	0	1	1	0	0	1	1
Ctrl 1	0	1	0	1	0	1	0	1
Optical Path	IN → OUT1	IN → OUT2	IN → OUT3	IN → OUT4	OUT 4 → IN	OUT 3 → IN	OUT 2 → IN	OUT 1 → IN

Bidirectional				
Ctrl 0	0	0	1	1
Ctrl 1	0	1	0	1
Optical Path	IN → OUT1	IN → OUT2	IN → OUT3	IN → OUT4

Ordering Information

SW	☐☐	☐☐	☐☐☐☐	☐	☐	☐	☐☐
	Direction	**Operating Wavelength**	**Port**	**Switching Speed**	**Pigtail Style**	**Fiber Length**	**In/Out Connector**
	U = Unidirectional B = Bidirectional	15 = 1550nm	0104 = 1x4	1 = 200 to 400μs	1 = Bare Fiber 2 = 900um Jacket	1 = 1.0m 2 = 2.0m	0 = None 1 = FC/APC 2 = FC/PC 3 = SC/APC 4 = SC/PC 5 = ST 6 = LC/UPC 7 = LC/APC