



# 1×N Optical Switch with driver board

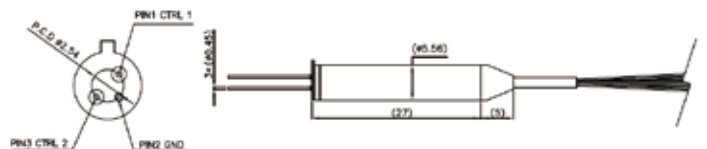
## Enabling provisions of products with high reliability

Orbray's MEMS (Micro Electro Mechanical System) Optical Switch are designed a small footprint package with providing low insertion loss, flat wavelength dependence loss (WDL), low polarization dependence loss (PDL) and performing less than 1ms/10ms switching speed. The Optical Switch has our original robust structure MEMS chip which is patented design. It never happen pull in effect and sticking the mirror during operation. The MEMS chip is hermetic sealed in the metal package by our perfect welding technology to provide high reliability.

## Features

This is the reason for delivering high reliable products which are used in optical transmission line switching/transmitter and receiver protection/network monitoring.

- Original patented MEMS structure (US 7535620)
- Low Insertion Loss
- Flat WDL
- Low PDL
- Low Cross Talk
- Excellent operating vibration and shock performance
- Compact package
- High speed Switching Times (Typ. 0.7 ms)
- Qualified to TelcordiaGR-1073 & 1221
- RoHSCompliant
- Customized flexibility (Multimode, Channel, Wavelen



## Ordering Codes

AMS	—	3	—	<input type="checkbox"/>	—	<input type="checkbox"/>	—	<input type="checkbox"/>	—	<input type="checkbox"/>
				<b>Channel</b>		<b>Operating Wavelength Range</b>		<b>Connector Type</b>		<b>Fiber Length</b>
				4 : 1×4		C : C-Band		NC : No Connector		10 : 1.0 m
				8 : 1×8		L : L-Band		FC : FC-UPC		15 : 1.5 m
				12 : 1×12		CL : CL-Band		SC : SC-UPC		XX : X.X m
				16:1×16		WL : 特殊波長		LC : LC-UPC		
								FA : FC-APC		
								SA : SC-APC		
								LA : LC-APC		

## Specifications

Parameter	Value	Notes
Switching Channel	1×2	Up to 1×16
Operating Voltage (Supply)	4.5 to 5.5 V	
Wavelength	1530 ~ 1570 nm 1570 ~ 1610 nm 1530 ~ 1610 nm	C-Band L-Band C/L-Band
Insertion Loss	0.8 dB	Typ. 0.6 dB
Repeatability	0.005 dB	Typ. 0.001 dB
Return Loss	50 dB	
Cross Talk	50 dB	
Wavelength Dependent Loss	0.3 dB	Typ. 0.2 dB
Polarization Dependent Loss	0.2 dB	Typ. 0.1 dB
Temperature Dependent Loss		Typ. 0.2 dB
Switching Time	10 ms	Typ. 5 ms
Optical Power Handling	500 mW	
Power Consumption	100 mW	
Durability	$5 \times 10^9$	
Operating Temperature	-5°C ~ +70°C	
Storage Temperature	-40°C ~ +85°C	
Fiber type	SMF-28 or Equivalent	

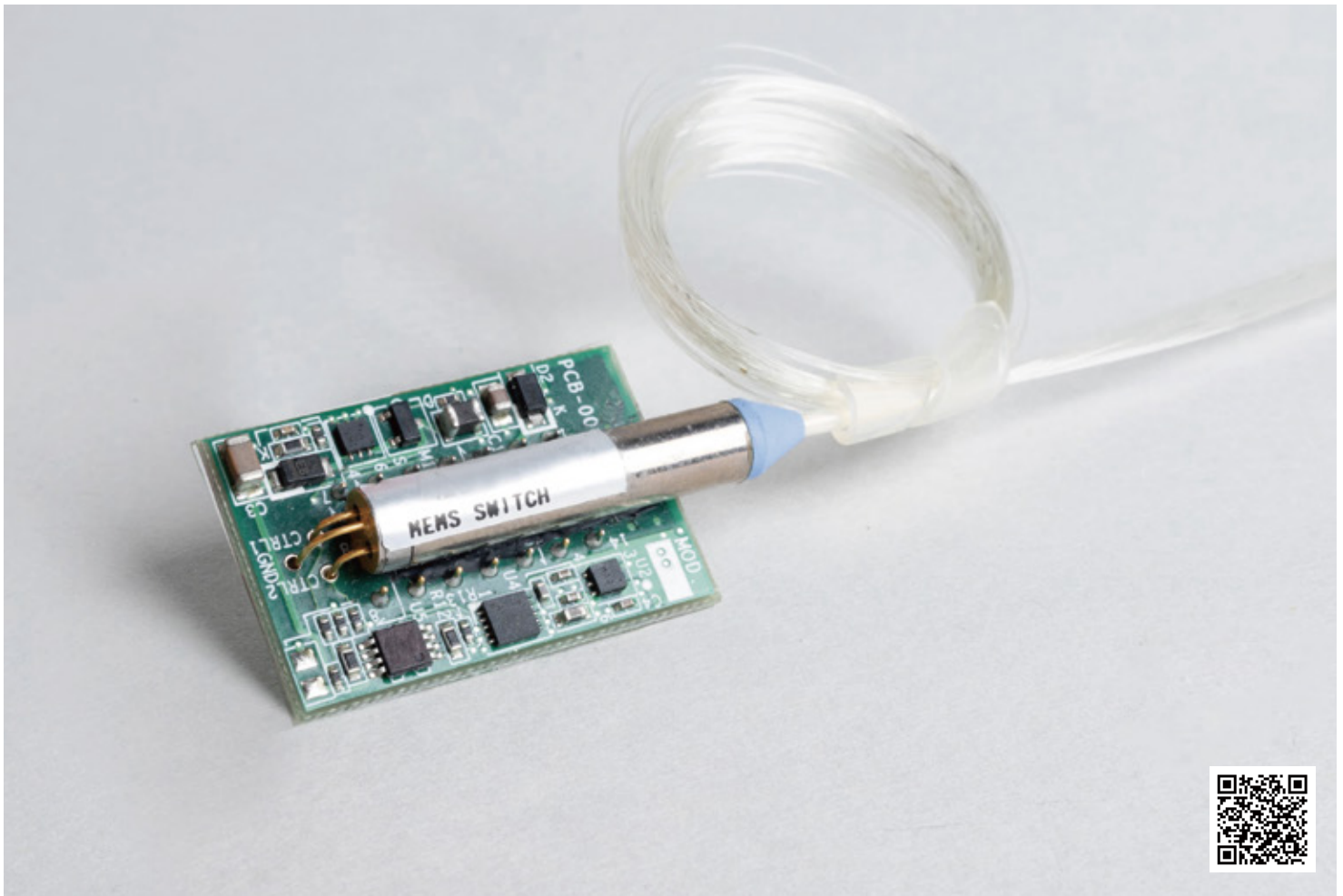
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Details of this product





# 1×N Optical Switch with driver board

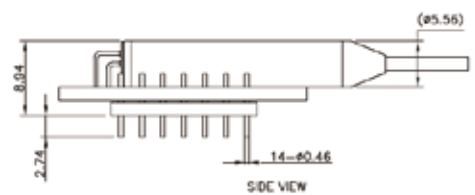
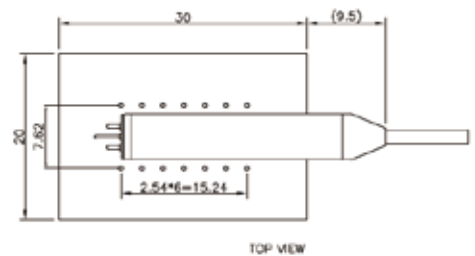
## Enabling provisions of products with high reliability

Orbray's MEMS (Micro Electro Mechanical System) Optical Switch are designed a small footprint package with providing low insertion loss, flat wavelength dependence loss (WDL), low polarization dependence loss (PDL) and performing less than 1ms/10ms switching speed. The Optical Switch has our original robust structure MEMS chip which is patented design. It never happen pull in effect and sticking the mirror during operation. The MEMS chip is hermetic sealed in the metal package by our perfect welding technology to provide high reliability.

## Features

This is the reason for delivering high reliable products which are used in optical transmission line switching/transmitter and receiver protection/network monitoring.

- Original patented MEMS structure (US 7535620)
- Low Insertion Loss
- Flat WDL
- Low PDL
- Low Cross Talk
- Excellent operating vibration and shock performance
- Compact package
- High speed Switching Times (Typ. 0.7 ms)
- Qualified to TelcordiaGR-1073 & 1221
- RoHSCompliant
- Customized flexibility (Multimode, Channel, Wavelength)



## Ordering Codes

AMS	Control Interface	Switching Channels	Operating Wavelength Range	Connector Type	Fiber Length
	1 : TTL	4 : 1×4	C : C-Band	NC : No Connector	10 : 1.0 m
	2 : I2C	8 : 1×8	L : L-Band	FC : FC-UPC	15 : 1.5 m
		12 : 1×12	CL : CL-Band	SC : SC-UPC	XX : X.X m
		16 : 1×16	WL : Custom Wavelength	LC : LC-UPC	
				FA : FC-APC	
				SA : SC-APC	
				LA : LC-APC	

## Specifications

Parameter	Value	Notes
Switching Channel	1×N	Up to 1×16
Operating Voltage (Supply)	4.5 to 5.5 V	
Wavelength	1530 ~ 1570 nm 1570 ~ 1610 nm 1530 ~ 1610 nm	C-Band L-Band C/L-Band
Insertion Loss	0.8 dB	Typ. 0.6 dB
Repeatability	0.005 dB	Typ. 0.001 dB
Return Loss	50 dB	
Cross Talk	50 dB	
Wavelength Dependent Loss	0.3 dB	Typ. 0.2 dB
Polarization Dependent Loss	0.2 dB	Typ. 0.1 dB
Temperature Dependent Loss		Typ. 0.2 dB
Switching Time	1 ms	Typ. 0.7 ms
Optical Power Handling	500 mW	
Power Consumption	200 mW	
Durability	5 × 10 <sup>9</sup>	
Operating Temperature	-5°C ~ +70°C	
Storage Temperature	-40°C ~ +85°C	
Fiber type	SMF-28 (Equivalent)	
Control Interface	TTL / I <sup>2</sup> C	

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Details of this product





# LOW VOLTAGE 1×2 Optical Switch

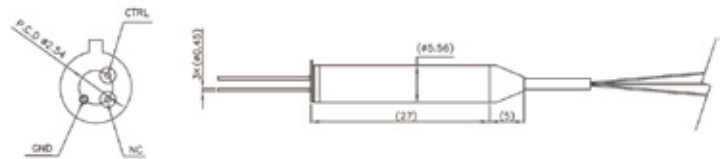
## Enabling provisions of products with high reliability

Orbray's MEMS (Micro Electro-Mechanical System) switches have achieved low insertion loss, flat wavelength-dependent loss, low polarization-dependent loss, and low crosstalk with a switching time of only 1ms within a small package.

Based on our fiber assembly techniques developed many years ago, we are proud of our high-quality MEMS chips which is a patented design for a robust structure sealed in a metal housing package with no pull-in effects by using our welding technology. This is the reason for delivering high reliable products which are used in optical transmission line switching/transmitter and receiver protection/network monitoring.

## Features

- Original patented MEMS structure (US 7535620)
- Low Operating Voltage (8 V)
- Low Insertion Loss
- Flat WDL
- Low PDL
- Low Cross Talk
- Excellent operating vibration and shock performance
- Compact package
- High speed Switching Times (Typ. 0.8 ms)
- Qualified to Telcordia GR-1073 & 1221
- RoHS Compliant
- Customized flexibility (Multimode, Wavelength)



## Ordering Codes

AMS	—	3	—	2	—	<input type="checkbox"/>	—	<input type="checkbox"/>	—	<input type="checkbox"/>
						<b>Operating Wavelength Range</b>		<b>Connector Type</b>		<b>Fiber Length</b>
						C : C-Band		NC : No Connector		10 : 1.0 m
						L : L-Band		FC : FC-UPC		15 : 1.5 m
						CL : CL-Band		SC : SC-UPC		XX : X.X m
						WL : 特殊波長		LC : LC-UPC		
								FA : FC-APC		
								SA : SC-APC		
								LA : LC-APC		

## Specifications

Parameter	Value	Notes
Switching Channel	1×2	
Operating Voltage	8 V	
Wavelength	1530 ~ 1570 nm 1570 ~ 1610 nm 1530 ~ 1610 nm	C-Band L-Band C/L-Band
Insertion Loss	1.0 dB	Typ. 0.7 dB
Repeatability	0.005 dB	Typ. 0.001 dB
Return Loss	50 dB	
Cross Talk	50 dB	
Wavelength Dependent Loss	0.3 dB	Typ. 0.2 dB
Wavelength Dependent Loss	0.2 dB	Typ. 0.1 dB
Temperature Dependent Loss		Typ. 0.2 dB
Switching Time	1 ms	Typ. 0.8 dB
Optical Power Handling	500 mW	
Power Consumption	100 mW	
Durability	3 × 10 <sup>9</sup>	
Operating Temperature	-5°C ~ +70°C	
Storage Temperature	-40°C ~ +85°C	
Fiber type	SMF-28 (Equivalent)	

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