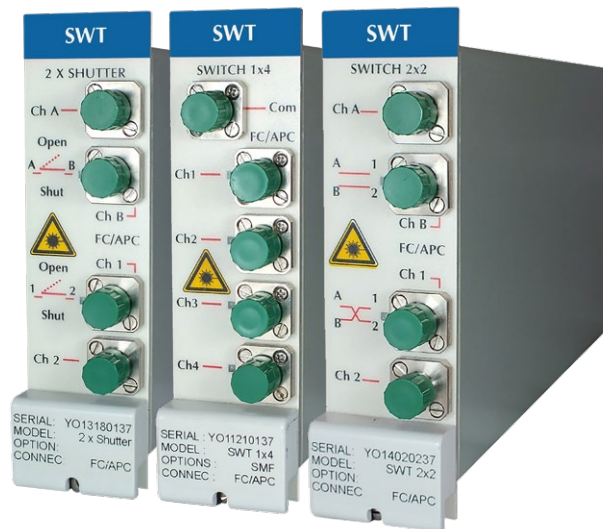# OSICS SWT

OPTICAL SWITCHES AND SHUTTERS

■ The ideal optical switches and shutters for automating test setups in lab and manufacturing environments.

KEY FEATURES

Low insertion- and polarization-dependent loss

High repeatability

High optical isolation

Low back reflection

Broad spectral range

Switch time lower than 30 ms

Single slot module

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OSICS SWT is a full suite of fiber optic switch and shutter modules based on optical prism technology. These modules are ideal for automating test setups and reducing measurement uncertainties due to optical connections in a laboratory or manufacturing environment.

• The shutter models come in a 1x1 or a 2x (1x1) configuration.

• The switch models consist of a 1x2, a 1x4 and a 2x2 configuration.

All OSICS SWT modules are bi-directional—that is, the 1x4 switch module can operate in the following configurations:

Common configuration: Allows you to direct a laser signal from the common input to either output channels

Reverse configuration: Allows you to steer one of the input channels through the common output channel

ADDITIONAL FEATURES

Sequential switching

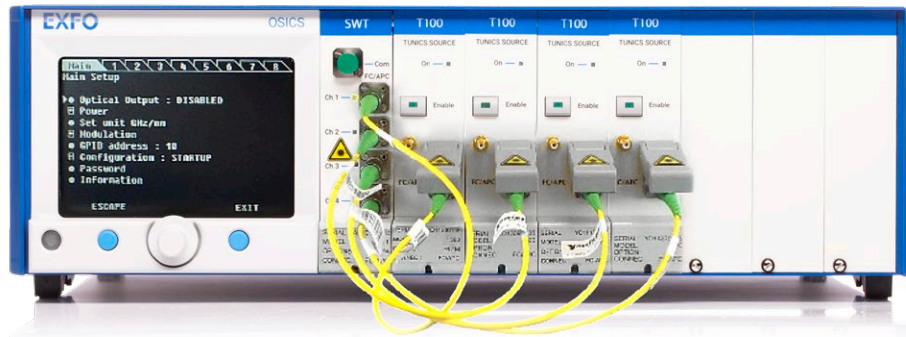This feature lets you activate each channel successively according to a preconfigured schedule.

Figure 1. SWT in a full-band laser setup

TECHNICAL SPECIFICATIONS

	OSICS SWT	
	SMF [a]	PMF
Available configurations	1x1 shutter 2x(1x1) shutter 1x2 switch 1x4 switch 2x2 switch	1x1 shutter 2x(1x1) shutter 1x2 switch 1x4 switch 2x2 switch
Spectral range (nm)	SMF: 1260−1630	PM15: 1480−1630 PM13: 1240−1510
Insertion loss (dB) [b, c]	≤ 1	≤ 1.5
Polarization-dependent loss (dB) [b, c]	< 0.1	N/A
Polarization extinction ratio (dB) [b, c]	N/A	≥ 20
Repeatability (dB) [c]	≤ 0.005	≤ 0.01
Return loss (dB) [b]	> 55	
Crosstalk (dB) [c]	≥ 55	
On/Off ratio (shutter models only)	1x1 shutter: ≥ 80 dB 2x (1x1) shutter: ≥ 65 dB	
Switching time	< 30 ms	
Connector type [d] (module front panel)	FC/APC narrow key	
Input/Output fiber type	SMF-28 fiber	PM15 or PM13
Synchronization [e] (mainframe: BNC connector)	OUT 2: 50 ms TTL pulses	
Power monitoring	No	
Dimensions (H x W x D)	128 mm x 35 mm x 230 mm (5 in x 1.4 in x 9 in)	
Weight	1 kg (2.21 lb)	
Temperature range	15 °C to 35 °C (59 °F to 95 °F)	

a. Specifications apply for wavelengths not equal to any water absorption line.

b. Typical values including connectors.

c. On the whole wavelength range.

d. For PMF, slow axis is aligned to the connector key.

e. See OSICS mainframe specifications sheet for details on OSICS common specifications and interfaces on the rear panel.

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ORDERING INFORMATION

OS-SW-XX-XX-XX-58

Number of components
1 = 1
2 = 2 ᵃ

Configuration
1-1 = 1x1 shutter
1-2 = 1x2 switch
1-4 = 1x4 switch
2-2 = 2x2 switch

Connector
58 = FC/APC

Fiber type
F = SMF28 singlemode fiber
OES-P = PM13 polarization maintaining fiber ᵇ
SCL-P = PM15 polarization maintaining fiber ᶜ

Example: OS-SW-1-1-4-F-58

a. Only available for SW type in 1-1 configuration.
b. Not available on shutter models.
c. Not available on 2x(1x1) shutter model.

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