

Large Channel Count Switch Module

SKB Series



Key Features

- Lifetime greater than 120 million cycles
- Up to 42 channels
- Queriable switch position and configuration
- Status and alarm registers
- Highly customer-configurable to assist in swapping spares or changing channel order
- Operating temperature of -35 to 75 °C for stepper-motor-based switches
- Typical IL 0.5 dB
- RL better than 55 dB
- Compact package designed to accommodate standard and custom solutions
- Printed circuit board or enclosure-mountable
- Internal switches can be factory configured to create various configurations, such as blocking MxN
- Latching version available

Applications

- Remote fiber test systems (RFTS)
- Fiber network restoration
- Fiberoptic component test and measurement
- Integrated module solution designed for integration into new products
- OEM control and monitoring applications
- Sensing applications

Safety Information

- Complies with GR-1073

The JDSU SKB series controllable optical switch is designed to connect a single optical channel to any of N channels. It is the enhanced version of our legacy SK/SP series switch modules and is the only stepper-motor based switch module available in this market with a lifetime greater than 120 million cycles. Each module can accommodate multiple 1 x N switches that can be internally interconnected to provide various types of configurations, such as blocking M x N, where M represents inputs and N represents outputs, or each module can operate as independent switches.

The switch module is available in one package size that can accommodate up to two switches with total channel count up to 50 including the input.

The operation of the switch is based on proven JDSU's expanded beam lens technology utilizing a precision stepper-motor to align optical channels. The use of collimating lenses minimizes insertion loss (IL). The design is optimized for high return loss (RL).

The switch is microprocessor controlled via a parallel interface or addressable serial interface (RS-485). It is designed for mounting on a printed circuit board or within a module for OEM control and monitoring applications.

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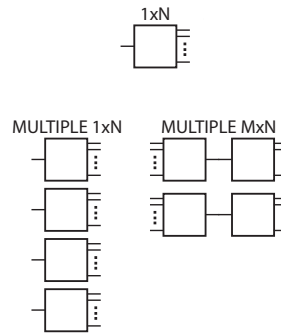
Custom configurations and integration of passive components, with the switches in one of the two package sizes, are also available for this series of switches.

Configurations

The switch module is offered in a standard chassis with standard software that can control numerous configurations, as shown:

Quick picks: 1 x N

A single switch with 1 x N configuration for N up to 42



Specialized Offering

Please contact one of our regional sales team members to discuss potential specialized solutions for more sophisticated configurations in the following categories:

MULTIPLE 1 x N

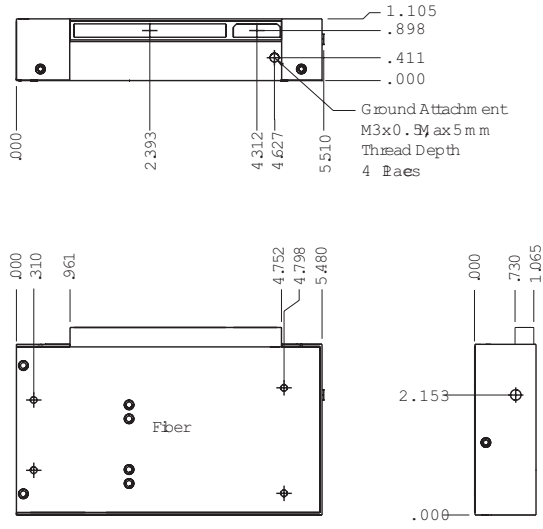
Up to four 1 x N switches with a total channel count of up to 100 (for example, four 1 x 25 optical switches or two 1 x 50 switches)

MULTIPLE M x N

Up to two M x N blocking switches for a total M + N channel count of 100

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Dimensions Diagram



Specifications

Parameter ^{1,2}	N ≤ 25 Non-Latching N ≤ 22 Latching Typical (Maximum)	26 ≤ N ≤ 50 Non-Latching 23 ≤ N ≤ 42 Latching Typical (Maximum)
Insertion loss (IL)		
Single-mode (SM)	0.5 (0.7) dB	0.8 (1.2) dB
Multimode (MM)	0.4 (0.6) dB	0.7 (1.0) dB
Return loss (RL) ³		
SM	62 (57) dB	55 (45) dB
MM	25 (20) dB	20 (20) dB
Polarization dependent loss (PDL) SM	0.02 (0.04) dB	0.04 (0.08) dB
IL stability ⁴	± 0.02 (± 0.025) dB	± 0.03 (± 0.04) dB
Change in IL during power on-offcycle (latching version)	± 0.2 (± 0.5) dB	± 0.4 (± 1.0) dB
Repeatability ⁵		
Sequential switching	± 0.005 (± 0.01) dB	± 0.01 (± 0.03) dB
Random switching	± 0.01 (± 0.05) dB	± 0.03 (± 0.08) dB
Crosstalk (maximum) SM		-80 dB
Maximum input power (optical)		300 mW continuous
Lifetime		> 120 million cycles
Switching time (first channel/each additional channel)		30/15 ms
Interface		Parallel and serial interface (RS-485)
Operating voltage		5±0.25 V DC
Power consumption		7 W maximum
Operating temperature		-35 to 75°C
Storage temperature		-40 to 85°C
Humidity		Maximum 95% RH from - 35 to 75°C non-condensing
Dimensions (W x H x D)		
Fiber version		78.2 x 27.8 x 140.0 mm/3.08 x 1.095 x 5.51 inch
Weight (configuration dependent)		0.6 kg maximum

1. All specifications referenced without connectors.
2. All optical measurements taken after temperature has been stabilized for one hour.
3. RL specifications based on 1 m pigtail length.
4. All specifications are at speed 1 setting. Repeatability can be affected by increasing speed.
5. Measured between two consecutive readings over 100 cycles.

Ordering Information

Quick Picks*

Product Code	Description
SKB11C008L+2B7F1FSU	8 output channels, SC/APC, Latching
SKB11C012L+2B7F1FSU	12 output channels, SC/APC, Latching
SKB11C016L+2B7F1FSU	16 output channels, SC/APC, Latching
SKB11C024L+2B7F1FSU	24 output channels, SC/APC, Latching
SKB11C036L+2B7F1FSU	36 output channels, SC/APC, Latching
SKB11C042L+2B7F1FSU	42 output channels, SC/APC, Latching
SKB11C008N+2B7F1FFP	8 output channels, FC/PC, Non-Latching
SKB11C012N+2B7F1FFP	12 output channels, FC/PC, Non-Latching
SKB11C016N+2B7F1FFP	16 output channels, FC/PC, Non-Latching

Product Code	Description
SKB11C024N+2B7F1FFP	24 output channels, FC/PC, Non-Latching
SKB11C032N+2B7F1FFP	32 output channels, FC/PC, Non-Latching
SKB11C040N+2B7F1FFP	40 output channels, FC/PC, Non-Latching
SKB11C008N+2B7F1FFA	8 output channels, FC/APC, Non-Latching
SKB11C012N+2B7F1FFA	12 output channels, FC/APC, Non-Latching
SKB11C016N+2B7F1FFA	16 output channels, FC/APC, Non-Latching
SKB11C024N+2B7F1FFA	24 output channels, FC/APC, Non-Latching
SKB11C032N+2B7F1FFA	32 output channels, FC/APC, Non-Latching
SKB11C040N+2B7F1FFA	40 output channels, FC/APC, Non-Latching

* Following applies to all product codes: 9/125µm Single Mode, 5V Disk drive connector, 1m 900µm Buffer pigtail. All switches are shipped with north american style power cords.

Test & Measurement Regional Sales

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