



**Market Central**<sup>®</sup>  
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October 2010  
Part Number 5100610

**Data DeadBolt<sup>®</sup>**  
**Non-latching Fiber Optic**  
**A/B Switch W/ST**



**Model 5100610**  
October 2010

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## 1. Specifications

**Connectors** - (3) duplex ST, (1) 3.5-mm power input

**Data Rates** - Transparent to optical signal rates and formats

**Switching Speed** - 5 msec typical, 10 msec maximum

**Sensitivity** - 800 to 1600 nanometers

**Optical Loss** – 2.0 dB typical @ 1300 nm per FOTP -34 method B

**Compatibility** - 62.5/125 µm multimode fiber

**Crosstalk** - -45 dB typical per FOTP-42

**Grounding** - None required

**Approvals** - UL/CSA (power supply)

**Operating Temperature** - 14 to 149°F (-10 to +65°C)

**Relative Humidity Tolerance** - 10 to 95%, noncondensing

**Mean Time Between Failures** - 100,000 hours or 1,000,000 cycles

**Power** - 120-VAC, 60-Hz wallmount power supply, 5-VDC output

**Size** - 2.5"H x 8"W x 6.3"D (6.4 x 20.3 x 16 cm)

**Weight** - 4 lb. (1.8 kg)

## 2. Introduction

This Secure Fiber Optic Switch incorporates a full-duplex optical switch mechanism controlled by a front-panel-mounted rotary A/B switch. It's used to share a common fiber optic link between two fiber optic networks or devices.

The switch utilizes a unique optical switching mechanism. When you turn the knob on the front of the switch to select a port, the switch redirects a light beam from Port C (the "common" port) to either Port A or Port B by rotating a gold-plated, spherical mirror. The only electrical signal used is the DC power that rotates this mirror.

## 3. Installation

Place the switch in a location that is relatively free from vibration and mechanical disturbances. Connect the shared network connection to Port C fiber optic connectors. Connect the primary fiber link (of the two to be switched) to Port B. Connect the secondary link to Port A

**Take care to connect inputs and outputs consistently.**

Note that the Secure Fiber Optic Switch supports separate transmit and receive paths, so you must be consistent when connecting the fiber pairs to the switch. The fiber optic connectors are Labeled "IN" and "OUT" for reference only. They do not indicate the direction of the light. Port C

IN will switch to either Port A IN or Port B IN depending on power or the switch position on the front. The OUT connections function the same. The Light will pass in either direction for the IN and OUT for flexibility.

After all Fiber Optic connectors are installed connect the power to the switch using the supplied power supply.

## 4. Operation

Operation is easy. Simply turn the knob on the front panel of the switch to route the signals.

Turning the knob to “A” will route signals from Port C to Port A. Selecting “B” routes the signals from Port C to Port B.

The switch uses an internal mirror to switch between ports. The gold-plated spherical mirror directs a light beam from Port C to Port A, or from Port C to Port B. There’s no optical-to-electrical conversion between your fiber optic links. The only electrical activity is the DC power that moves the mirror. That ensures your data’s safety.

Power is applied internally to the switch mechanism when you select “B”. If the switch loses power, or if you interrupt the power, the switch will automatically fall back to Port A.

You can leave the switch in a powered state indefinitely. It’s not necessary to disconnect power from the switch when it’s not in use.

## 5. Troubleshooting

### 5.1 Calling Your Supplier

If you determine that your Secure Fiber Optic Switch is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Market Central, Inc. at (412) 494-2800

Before you do, make a record of the history of the problem. We may be able to help you correct the problem without returning the switch. We’ll be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.
- the components involved in the problem.
- any particular applications that, when used, appears to create the problem or make it worse.

### 5.2 Shipping and Packaging

If you need to transport or ship your switch:

- Package it carefully. We recommend that you use the original container.
- If you are shipping the SecureSwitch for repair, make sure you include everything that came in the original package. Before you ship, contact Market Central, Inc. to receive a Return Materials Authorization (RMA) number.

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