



**Market Central<sup>®</sup>**

[www.mctech.com](http://www.mctech.com)

**500 Business Center Drive Pittsburgh, PA 15205 USA  
412.494.2800 CAGE 1BGJ7**

**[mctech.com](http://mctech.com)**

**Data DeadBolt<sup>®</sup>  
Latching Fiber Optic  
A/B/C/D Switch**  
with micro-mirror optical movements



**Model 5100627**

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Market Central Inc., 500 Business Center Drive, Pittsburgh, PA 15205  
Phone: (412) 494-2800, Fax: (412) 494-5550 [www.mctech.com](http://www.mctech.com) CAGE Code 1BGJ7  
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## Contents

Chapter	Page
1. Specifications	3
2. Introduction	3
3. Installation	4
4. Operation	4
5. Troubleshooting	5
5.1 Calling Your Supplier	5
5.2 Shipping and Packaging	5
Warranty Information	6

# 1. Specifications

## 1. Specifications

**Connectors** - (5 pairs) ST, (1) 3.5-mm power input **Also available with SC connectors**

**Data Rates** - Transparent to signal rates, wavelengths, & formats

**Switching Speed** - less than 1 sec typical

**Sensitivity** - 750 to 1450 nanometers

**Optical Loss** - less than 4.5 dB typical per FOTP-171 method B1

**Compatibility** - 62.5/125  $\mu\text{m}$  multimode fiber

**Crosstalk** – less than -45 dB typical per FOTP-42

**Grounding** - None required

**Approvals** - UL and CE (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** – 90-240 VA C 50/60 Hz input, 9 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

The Data DeadBolt<sup>®</sup> Latching Fiber Optic A/B/C/D Switch is a full-duplex optical switch. It is used to connect one workstation to one of two networks or remote devices. Precise optical switching controls the data beams themselves, eliminating the complexity and vulnerabilities of electronic fiber switches. It maintains optical communications even when power is lost or removed.

Data DeadBolt fiber optic switches have employed micro-mirror mechanical movements since 1986. Jewel-like miniature mirrors are bonded to precise positioning servos. These optical movements switch the data connections by controlling the reflections of the optical data beams. They have proven to be the most reliable of fiber optic switches in critical networks where they add security and reliability. There are no complex electronic circuits in the data path to be monitored or upset by rogues. All data is passes through the switch as light and there is no setup required. It is compatible with all data formats and speeds no upgrade or replacement is needed when data protocols change and speeds increase.

### **3. Installation**

Place the switch in a location relatively free from vibration and mechanical disturbances.

Connect the workstation to the COMMON. Connect one remote device to Port A and the others to Port B, Port C and Port D. Note that the switch supports separate transmit and receive paths, so you must be consistent when connecting the fiber pairs to the switch.

### **4. Operation**

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

Turning the knob to “A” will route signals from the workstation to the first remote device or network (Port A). Selecting “B”, "C" or “D” routes the signals from the workstation or the other remote device (Port B, Port C or Port D).

The switch uses an internal mirror to switch between ports. The mirror directs a light beam from the COMMON to Port A, Port B, Port C or Port D. There are no optical-to-electrical conversions between the fiber optic

connections. The mirror movements latch mechanically into the selected position and hold it without a need for continuous electrical power, though the power supply is designed for continuous operation. A second power supply is optional for redundancy.

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 A/B/C Switch with OFF Position 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. Your supplier will 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 switch for repair, make sure you include everything that came in the original package. Before you ship, contact

Market Central, Inc. to get a Return Materials Authorization (RMA) number.

**MARKET CENTRAL, INC.**

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