

# WARRANTY

All fiber optic transmission systems, products and accessories manufactured by Liteway, Inc. and its subsidiaries are fully tested prior to shipment and are warranted against defective materials and workmanship for a period of two full years from the date of the original shipment. Should a problem occur, a Return Material Authorization Number (RMA) must be obtained from Liteway Inc. at (516) 931-2800 and the item returned to Liteway, Inc. 166 Haverford Road, Hicksville, NY 11801, USA, prepaid. Liteway Inc. will then, at its option repair or replace the defective item.

Liteway, Inc. maximum liability under this warranty is limited to the cost of the defective item only. No contingent liabilities of any kind are either assumed or implied.

Any items returned to Liteway, Inc. that have been misused, abused, damaged, modified, connected or adjusted in any way contrary to the instructions furnished by Liteway, Inc. or repaired by unauthorized personnel will not be covered by this warranty. Any non-warranty repairs required will be quoted at the current rate for such services.



## Important Notices



### **CAUTION ! AVOID DIRECT EXPOSURE TO BEAM.**

All -5, -7, -8, and -9 Models use laser diodes. These solid-state laser diodes are located in the optical ports of these units. Laser diodes produce invisible radiation that may be harmful to human eyes. Never look directly into the optical port of any fiber optic unit designed to operate with single-mode optical fiber.

### **NOT FOR LIFE SUPPORT SYSTEMS**

Liteway, Inc. does not authorize or warrant any of its products or accessories for use in critical life support systems or applications of any kind.

# OPERATING INSTRUCTIONS

## Optical Bypass Switch

### Single Channel Models OS-3121

### Dual Channel Models OS-3221



The OS-3121 is a "fiber optic relay" that can be remotely controlled. The optical path through the units is purely optical; i.e. there is no optical to electrical to optical conversion. There is no electrical loss or electrical bandwidth limit on the fiber optic path. The optical path can be select via a front panel switch or via contact closure input. In event of loss of power, the unit has a failsafe mode that returns the switch in to bypass mode. Common applications for this device are optical routing, system bypass, ring network restoration, and loop-back testing.

### Technical Specifications

Switching Time	< 10 ms
Back Reflection	< -50 dB
Insertion Loss	< 1.3 dB
Cross-talk	< -50 dB
Mechanical Life	> 1 Million cycles
Electrical Connector	5 pin removable terminal block
Temperature Range	-35° to +70°C
Operating Power Requirements	11-24 VAC/DC @150 mA -48 VDC (+/-2) for OS-1202, OS-2202
Physical Size (mm) single	5.0"(127)L x 1.0" (25.4)W x 3.0"(7)D
Physical Size (mm) dual	5.0"(127)L x 2.2" (56.6)W x 3.0"(7)D

### Models, wavelength, connector

-3 = 850/1310nm Multi-mode ST/PC	-4 = 850/1310nm Multi-mode- SC/PC
-5 = 850/1310nm Single-mode SC/PC	-7 = 1310/1550nm Single-mode FC/PC

Specifications are subject to change without prior notice.

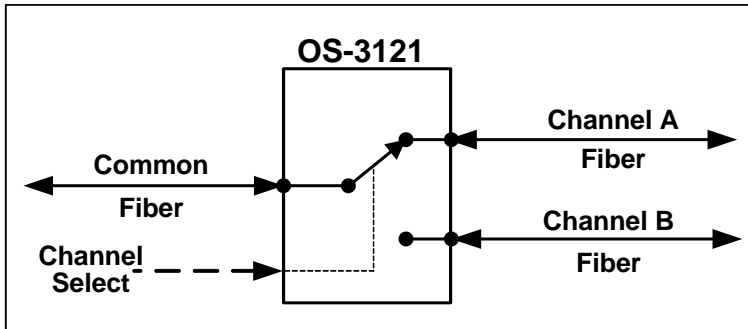


166 Haverford Road  
Hicksville, NY 11801  
USA 516-931-2800

# Installation Instructions

Common applications for this device are optical routing, system bypass, ring network restoration, and loop-back testing.

The diagram below shows the typical application of the OS-3121.



The OS-3121 switch will go in a B=C state under any of the following conditions:

- 1) There is a loss of electrical power
- 2) The front panel mode switch is put into B=C mode
- 3) The rear panel control signal is grounded

For applications where two independent optical channels need to be switched, such as dual SONET rings, the OS-3221 is two OS-3121 in a single enclosure.

## Power Signal Terminal Block Connections

Pin	Label	Function
1	Pwr+	Power + (see below for voltage)
2	Pwr-	Power – (see below for voltage)
3	Alm	Alarm* = gnd when optical switch is in a B=C state = Open when optical switch is in A=C state
4	Ctl	Control Signal ( Connect to ground to place switch in bypass state )
5	Gnd	Ground

\* The Alarm signal can be used with the ALM-1000 unit to provide an audible alarm and dry contacts for remote station monitoring.

## Power Pins Voltages

Pin	Models OS-1002 OS-2002	Models OS-1202 OS-2202
Pwr +	+11-24 Volts AC/DC	Ground
Pwr -	Ground	-48 Volts DC (+/- 2.0 Volts)

## Indicator Lights

Indicator	Lights when
Power	Proper power is present
A=C	Optical Port A is routed to optical port C.
B=C	Optical Port B is routed to optical port C.

## Front Panel A=C / B=C Mode Selector

When in B=C selection, the optical switch will always remain in the B=C state. That is this switch has priority over the rear control signal and weather power is present.

When in A=C mode, the optical switch can be controlled by the rear control signal or presence of power.