

# OPTO-TOUCH™ OTBVR81 Series

## Momentary Action 20-30V ac or dc Optical Touch Buttons



Banner OTBVR81 Series Optical Touch Buttons are **touch-activated photoelectric switches designed to replace capacitive touch switches and mechanical push buttons**. The OPTO-TOUCH's SPDT electromechanical relay is activated for as long as a finger, introduced into the "touch area" (yoke) of the switch, interrupts the OTB's infrared sensing beam.

Banner OTBs are ergonomically designed to eliminate the hand, wrist, and arm stresses associated with mechanical push buttons. They require absolutely no physical pressure to operate. LED indicators light for "power on" and "output activated".

OTBs are highly resistant to EMI, RFI, and ambient light interference, and are constructed from black polysulfone and VALOX® for reliability in industrial environments. The 30-mm threaded base provides easy mounting, and OTBs are easily retrofitted to existing machines. See page 2 for available models.

OTBVR81 Series Momentary Action Optical Touch Button (QD model shown)



### Specifications

**Supply Voltage:** 20 to 30V ac or dc (25 milliamps, maximum).

#### Output Configuration

All models SPDT electromechanical relay (one N.O. contact, one N.C. contact).

#### Output Rating

Maximum voltage is 250V ac or 30V dc. Maximum current 7 amps (resistive load), 1 HP max. Minimum load 100mA at 24V. Mechanical life of relay 50,000,000 operations (minimum). Electrical life of relay 100,000 operations (min.) at full resistive load. Transient suppression is recommended when switching inductive loads.

**Ambient Light Immunity:** 120,000 lux (direct sunlight).

**EMI/RFI Immunity:** The OPTO-TOUCH is highly resistant to both single and mixed EMI and RFI noise sources.

**Operating Temperature Range:** -20 to +50°C (-4 to +122°F).

**Indicator LEDs:** two indicator LEDs. One lights when power is "on"; the other lights when the infrared sensing beam is interrupted.

**Construction:** Black polysulfone cover and fiber-reinforced VALOX® base. Electronics fully epoxy-encapsulated. Totally sealed, non-metallic enclosure. The OTB's threaded base has M30 x 1,5 external threads and 1/2" NPSM internal threads. Base requires a 1-3/16" diameter mounting hole (fits most standard automotive-size "jumbo" legend plates and oiltight pushbutton holes). OPTO-TOUCH OTBs are rated NEMA 1, 3, 4, 4X, 12, and 13.

**Cable:** Quick-disconnect (QD) models require model MBCC-512 5-conductor cable (purchased separately). QD cables are 12 feet long. Models with attached cable (non-QD models) are supplied with 6 feet of PVC-jacketed, 22 AWG 5-conductor cable.

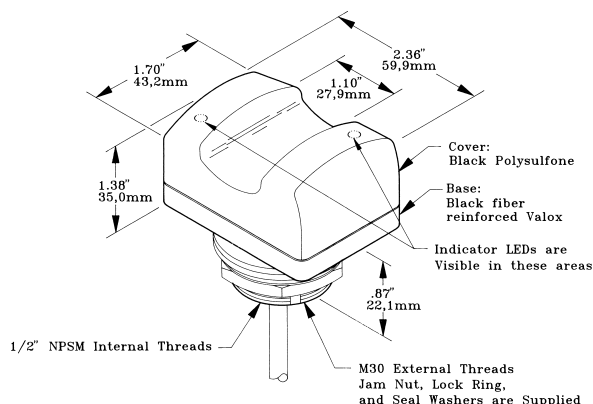
#### Environmental Considerations:

Prolonged exposure of the OPTO-TOUCH to direct outdoor sunlight will cause embrittlement of the polysulfone cover. Window glass effectively filters longer wavelength ultraviolet and provides excellent protection from sunlight. Where protection from direct sunlight is not possible, consider special-order models with Lexan® covers (see the other side of this sheet for information).

#### Cleaning Information:

OPTO-TOUCHs should be cleaned periodically using alcohol, glass cleaner, or a mild soap solution and a soft cloth. Avoid the following substances, as they will attack polysulfone to varying degrees: esters, ketones, aromatic hydrocarbons, and chlorinated hydrocarbons.

### Dimensions



**Indicator LED States:**  
LED 1 turns ON when the unit is powered up  
LED 2 follows the action of the output

Model shown has built-in, attached cable. See page 2 for QD-style base.  
Lexan® VALOX® are registered trademarks of General Electric Company.



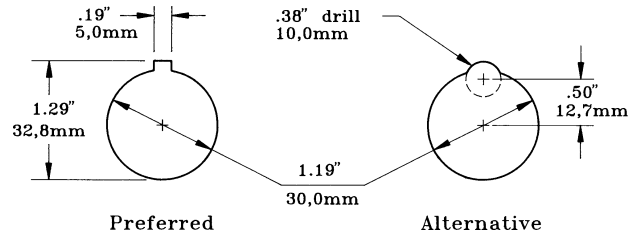
### WARNING. Banner OPTO-TOUCH™ OTB Series Optical Touch Buttons are intended as general-purpose initiators, and are not safety devices.

Like most solid-state devices, they are as equally likely to fail in the conducting ("on") state as in the non-conducting ("off") state. If OPTO-TOUCH Optical Touch Buttons are used to initiate machines or operations in which false operation of an Optical Touch Button could be dangerous, point-of-operation guarding devices or related safety controls must be installed and maintained to meet all appropriate OSHA regulations and ANSI B11 machine safety standards.

## OPTO-TOUCH OTB Mounting Hole Information

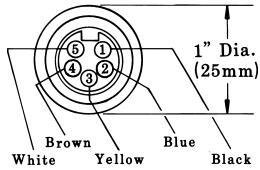
The OPTO-TOUCH has a 30 millimeter threaded base which fits directly into a standard mounting hole for an oiltight push button. A lock ring, supplied with each OPTO-TOUCH, may be used to prevent switch rotation.

The mounting hole details shown at the right are used for the OPTO-TOUCH and also for standard oiltight push buttons and their legend plates. The drawing at the far right shows how to approximate the keyway using a drill hole.

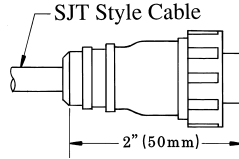


### Quick Disconnect (QD) Option (order model MBCC-512 cable)

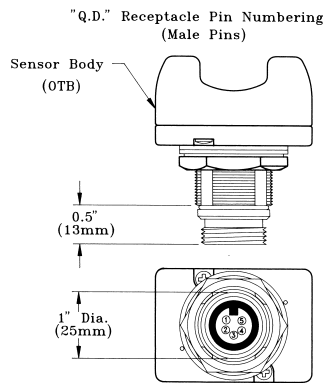
Cable connector, end view (MBCC-512 cable):



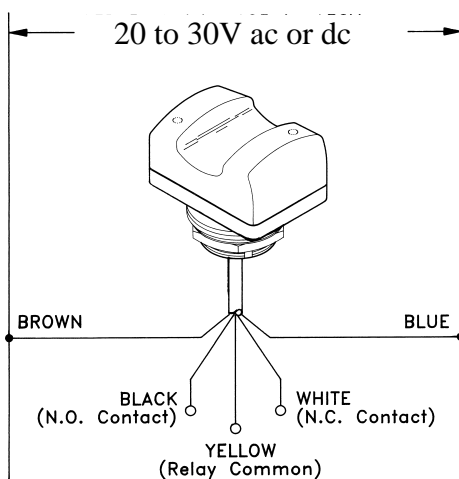
Cable connector, side view (MBCC-512 cable):



OTB base, side and end views:



### Hookup Information:



NOTE: dc power is applied without regard to polarity.

### Standard models with polysulfone cover

#### Models

OTBVR81 Standard model with polysulfone cover and 6-foot attached cable.

OTBVR81QD Standard model with polysulfone cover and QD-style base (requires MBCC-512 cable).

### Special-order models with Lexan® cover

OTBs with Lexan® cover are available by special order for use in direct sunlight. Lexan® models should be avoided for certain environments, as explained below.

#### Models

OTBVR81L Special model with Lexan® cover and 6-foot attached cable.

OTBVR81LQD Special model with Lexan® cover and QD-style base (requires MBCC-512 cable).

### Environmental Considerations for Lexan® models:

*Prolonged exposure to hot water and moist high-temperature environments (above 150°F or 66°C) should be avoided.*

*Aromatic hydrocarbons (such as xylene and toluene), halogenated hydrocarbons, and strong alkaline materials should be avoided.*

Lexan® OPTO-Touches should be cleaned periodically using a mild soap solution and a soft cloth. Avoid strong alkaline materials, as they will attack Lexan® to varying degrees.

**WARRANTY:** Banner Engineering Corporation warrants its products to be free from defects for a period of one year. Banner Engineering Corporation will repair or replace, free of charge, any product of its manufacture found to be defective at the time it is returned to the factory during the warranty period. This warranty does not cover damage or liability for the improper application of Banner products. This warranty is in lieu of any other warranty either expressed or implied.