

# OPTO-TOUCH™ OTB Series

*Momentary Action Optical Touch Buttons*



Banner 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 or solid-state output (depending upon model) is activated for as long as a finger, introduced into the "touch area" (yoke) of the switch, interrupts the OPTO-TOUCH's infrared sensing beam.

Banner Optical Touch Buttons 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".

All models are highly resistant to EMI, RFI, and ambient light interference. OTBs have either a black polysulfone (or red Lexan®) upper housing and VALOX® base. Lexan® models have the letter "L" in their model number suffix. Environmental considerations for use of the two types differ; see specifications below. The 30-mm threaded base on all models provides easy mounting, and Banner Optical Touch Buttons are easily retrofitted to existing machines. See pages 2 and 5 for model listings.

## Specifications

**Supply Voltage:** Models for 105 to 130V ac, 210 to 250V ac (50/60 Hz), 10 to 30V dc, or 20 to 30V ac/dc (at 25 mA, exclusive of load).

### Output Configuration:

**AC and ac/dc models:** All models have SPDT electromechanical relay (one N.O. contact, one N.C. contact).

### DC-only models:

OTBVN6 models have complementary NPN sinking outputs; OTBVP6 models have complementary PNP sourcing outputs.

### Output Rating:

**AC and ac/dc models:** Maximum voltage is 250V ac or 30V dc.

Maximum current is 7 amps (resistive load), 1 HP max.

Minimum load is .05 watts (dc), .05VA (ac).

Mechanical life of relay is 50,000,000 operations (minimum).

Electrical life of relay is 100,000 operations (min.) at full resistive load.

Transient suppression recommended when switching inductive loads.

**DC models:** 150 mA maximum load (each output).

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

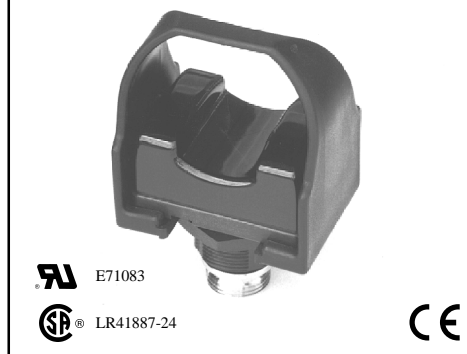
**EMI/RFI Immunity:** The OPTO-TOUCH is highly resistant to both single and mixed EMI and RFI noise sources.

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

**Indicator LEDs:** Two indicator LEDs. One lights whenever power is "on"; the other lights whenever the output relay is activated.

**Construction:** Black polysulfone (or red Lexan®) upper housing and fiber-reinforced VALOX® base. Electronics fully epoxy-encapsulated. Totally sealed, non-metallic enclosure. Threaded base has

*OTB Series Momentary Action  
Optical Touch Button (QD model shown)*



**ISO9002**  
DOCUMENTED QUALITY

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). Supplied with a field cover of polycarbonate-PET polyester. OPTO-TOUCH OTBs are rated NEMA 1, 3, 4, 4X, 12, and 13.

**Cable:** DC-only Quick-disconnect (QD) models require model MBCC-412 4-conductor mini-type cable (p/n 25226); AC and ac/dc Quick-disconnect (QD) models require MBCC-512 5-conductor cable (p/n 25496; cables are purchased separately). Mini-type QD cables are 12 feet long. Models with attached cable (non-QD models) are supplied with 6 feet of PVC-jacketed, 22 AWG 4- or 5-conductor cable.

**Environmental Considerations** (models with polysulfone housing): Prolonged exposure of the OPTO-TOUCH to direct outdoor sunlight will cause embrittlement of the polysulfone housing. Window glass effectively filters longer wavelength ultraviolet and provides excellent protection from sunlight. Contact the factory Application Engineering Department regarding outdoor applications.

**Environmental Considerations** (models with Lexan® housing): Prolonged exposure of the OPTO-TOUCH to hot water and moist high-temperature environments above 150°F (66°C) should be avoided. Aromatic hydrocarbons (such as xylene and toluene), halogenated hydrocarbons, and strong alkalis should be avoided. Clean periodically using mild soap solution and a soft cloth. Avoid strong alkaline materials.



**Read all WARNINGS carefully.**



**WARNING.** Banner OPTO-TOUCH™ OTB and OTBL 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.

# OTB Series *Momentary Action* OPTO-TOUCH

## Hookup Information and Model Listing

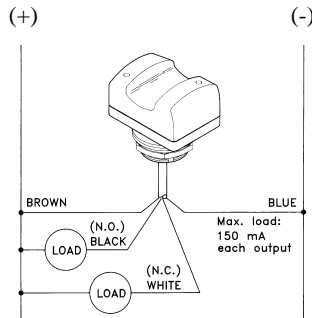
**10-30V DC models** (see page 5 for ordering information)

Add "L" to specify Lexan® upper housing (others are polysulfone); "QD" in model suffix indicates Quick Disconnect base.

### OTBVN6(L) and OTBVN6(L)QD

*complementary sinking outputs*

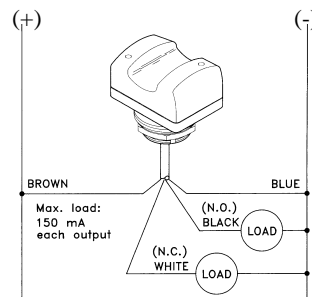
Model OTBVN6(L)QD requires MBCC-412 cable (p/n 25226, purchase separately).



### OTBVP6(L) and OTBVP6(L)QD

*complementary sourcing outputs*

Model OTBVP6(L)QD requires MBCC-412 cable (p/n 25226, purchase separately).



## Hookup Information and Model Listing

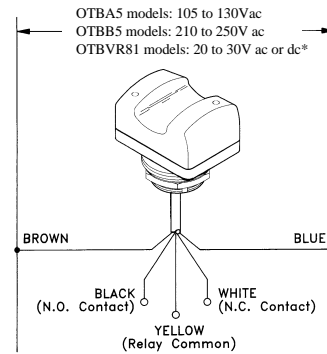
**AC and AC/DC models** (see page 5 for ordering information)

Add "L" to specify Lexan® upper housing (others are polysulfone); "QD" in model suffix indicates Quick Disconnect base.

### Models

- OTBA5(L)** 120V ac, SPDT electromechanical relay output, 6-foot attached cable
- OTBA5(L)QD** 120V ac, SPDT electromechanical relay output, QD base (use MBCC-512 cable)
- OTBB5(L)** 220/240V ac, SPDT electromechanical relay output, 6-foot attached cable
- OTBB5(L)QD** 220/240V ac, SPDT electromechanical relay output, QD base (use MBCC-512 cable)
- OTBVR81(L)** 20-30V ac or dc\*, SPDT electromechanical relay output, 6-foot attached cable
- OTBVR81(L)QD** 20-30V ac or dc\*, SPDT electromechanical relay output, QD base (use MBCC-512 cable)

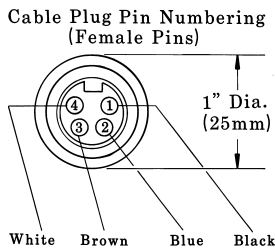
QD models require model MBCC-512 cable (p/n 25496, purchase separately).



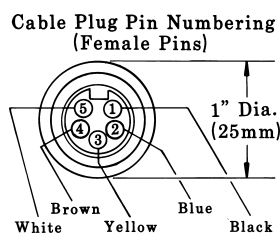
\*20-30V dc power may be applied without regard to polarity

### Quick Disconnect (QD) Option (order model MBCC-412 or MBCC-512 mini-type cable)

Cable connector end view, MBCC-412 cable (p/n 25226), for dc-only models

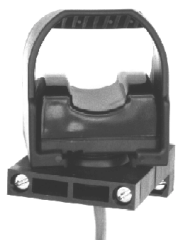
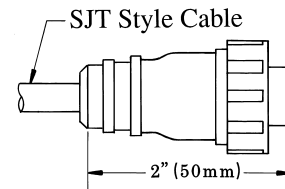


Cable connector end view, MBCC-512 cable (p/n 25496), for ac and ac/dc models



### SJT-type cable, 12 foot lengths

Cable connector, side view (MBCC-412 and MBCC-512 cable)



**The model SMB30S swivel-mount bracket (p/n 33204)** is a versatile means for mounting a Banner OPTO-TOUCH Optical Touch Button. The SMB30S lets you *ergonomically position* the OPTO-TOUCH on most machinery for maximum operator comfort and convenience.

The SMB30S mounts by its base. Its swivel ball locks snugly in place when its two clamping bolts are tightened. Bracket material is black VALOX®. Hardware is stainless steel, and mounting bolts are included.

The photo shows a model SMB30S bracket with an OPTO-TOUCH attached.