

## binay LED Illuminated Pushbutton Switches and Actuators

***Binay LED Illuminated Switches offer high reliability due to their vibration-resistant nature, apart from the long life and low power consumption characteristic of LEDs.***

The long life, low current, low power consumption (0.5W at 230V AC), and vibration-resistant properties of light emitting diodes (LEDs) make them an ideal choice for use in illuminated pushbutton switches and actuators.

As a result of our careful selection of control circuit design (ensuring that the LED is operated at 50% of its maximum forward current rating), BINAY Illuminated Pushbutton Switches can withstand input voltage variations of 50% without affecting the life of the LED.

Moreover, the correct selection of the LED for adequate axial light intensity (a minimum of 50 millicandelas at 20mA in cluster form) ensures

bright illumination for a positive indication. Uniform illumination is achieved by proper refractive design of the top lens. For legend illumination, a diffuser is inserted.

BINAY LED Illuminated Pushbutton Switches come with a free-replacement guarantee against manufacturing defects and operational failure for a period of one year from the date of purchase. The normal life of an LED, however, is 100,000 hours (11 years) calculated on a continuous burning basis, as compared to 1,000 hours for a properly manufactured filament lamp (a ratio of 100:1). As such, the question of replacement of an LED indicator does not normally arise.

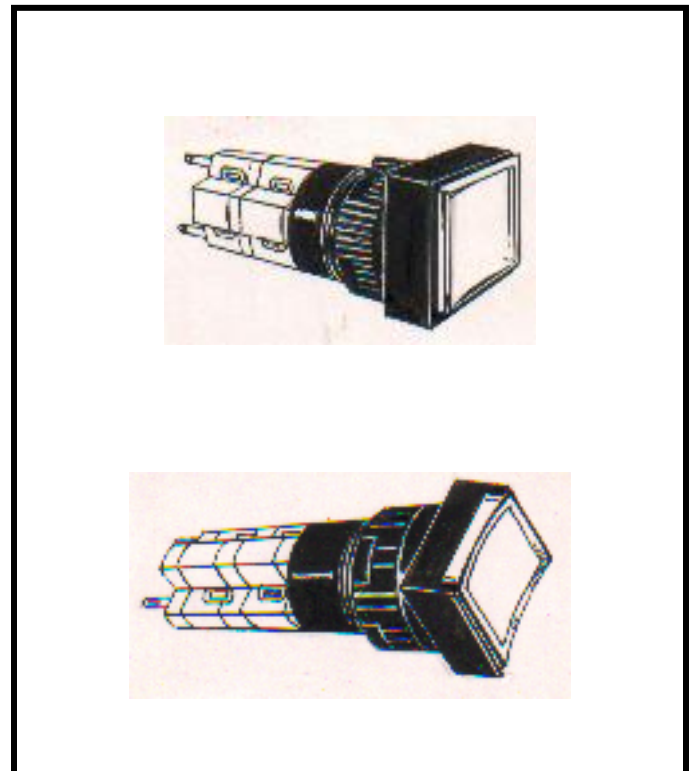
### SERIES 16-L PUSHBUTTON SWITCHES

**BINAY 16-L Non-Illuminated Pushbutton switches** are at present available in round bezels only, with 1NC + 1NO or 2NC + 2NO switching elements.

**BINAY 16-L LED Illuminated Pushbutton switches** can be provided with switching elements having a capacity of 2A and are available in 1NC + 1NO, 2NC + 2 NO, 3NC + 3NO or 4NC + 4NO types.

These push buttons have replaceable LED bulbs in mid-groove caps which are rated up to 28V AC or DC only. For operation at higher voltages, our external HVCC (High Voltage Control Circuit) Unit of the appropriate voltage should be used. (See description of HVCC Units below).

The 16-L Series is available in solderable lug terminals only.



...Continued overleaf



**binay opto electronics private ltd.**

44, Armenian Street, Calcutta 700 001, India  
Telephone: (033) 22429082, 22102039, 22103807

<http://www.binayLED.com>

Fax: +91-33-22421493 email: binay@vsnl.com, info@binayLED.com

I N V E N T I N G   N E W   T E C H N I Q U E S   O F   P R O D U C I N G   L I G H T

## SERIES 22.5 $\phi$ PUSHBUTTON ACTUATORS

These are available in two types:

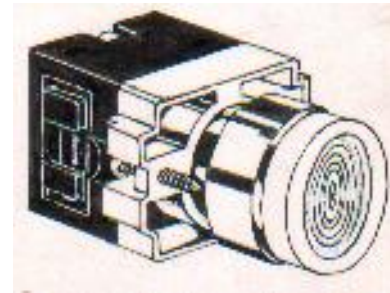
- Binay 'T' Type pushbutton actuator, which utilises standard Telemecanique type switching elements
- Binay 'S' Type pushbutton actuator, which utilises standard Siemens type switching elements

**'T' TYPE PUSHBUTTON ACTUATOR** (Available in both illuminated and non-illuminated versions): The illuminated versions have an integral actuator-cum-lamp body, and contain integral LED units in ratings up to 240V AC or DC. Switching elements (NC or NO) can be attached to one another (up to four elements on each side, for a total of 8 elements).

Note: 'T' Type Pushbutton units can also be supplied in Bicolour (Red/Green, Red/Yellow, or Green/Yellow). In this case, the common input connection will be of the flying lead type.

**'S' TYPE PUSHBUTTON ACTUATOR** (Available in both illuminated and non-illuminated versions): In the 'S' Type illuminated version, the switching elements (1NC or 1NO, or 1NC + 1NO) are clipped on to appropriate slots on the unit housing on either side of the LED Module holder (which is itself clipped on to the centre slot of the housing).

Bicolour versions are also available, with a flying lead for the common input.



**'T' Type Pushbutton Actuator**



**'S' Type Pushbutton Actuator**

## ADAPTERS FOR FITTING IN 30.5mm AND 25.5mm DIA. PANEL CUTOUTS

Chrome-plated brass Adapters are available for fitting Series 22.5 $\phi$  Pushbutton Actuators in 25.5mm or 30.5mm diameter panel cutouts. Specify cutout size when ordering.

## HIGH VOLTAGE CONTROL CIRCUIT UNIT

16-L Illuminated Pushbutton Switches, which cannot be made integrally in higher voltages or in flasher versions, can also be used at these ratings (above 60V, e.g. 110V, 220V, or 440V) or with the flasher function with the inclusion of our High Voltage Control Circuit (HVCC) Units. These are of basic dimensions 90mmX25mmX25mm (LxBxW). The Unit is fitted externally to the switch, and is provided with terminals for input (from high-voltage source) and output (to switch illumination unit). The following types of HVCC Units are available:

- RESISTIVE HVCC Unit: This is for use on AC/DC input conditions (**above 60V up to 220VDC only**)
- IMPEDANCE HVCC Unit: For use on high voltage AC input (**above 60VAC to 440VAC**)
- FLASHER HVCC Unit: This circuit causes the Module to flash at a steady rate of 2-4 Hertz (**above 45VAC or 45VDC only**).



**binay opto electronics private ltd.**

44, Armenian Street, Calcutta 700 001, India  
Telephone: (033) 22429082, 22102039, 22103807

<http://www.binayLED.com>

Fax: +91-33-22421493 email: binay@vsnl.com, info@binayLED.com

INVENTING NEW TECHNIQUES OF PRODUCING LIGHT