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# ALCOSWITCH PUSHBUTTON 22 mm EMERGENCY STOP SWITCH

ILLUMINATED AND NON-ILLUMINATED

## INTRODUCTION

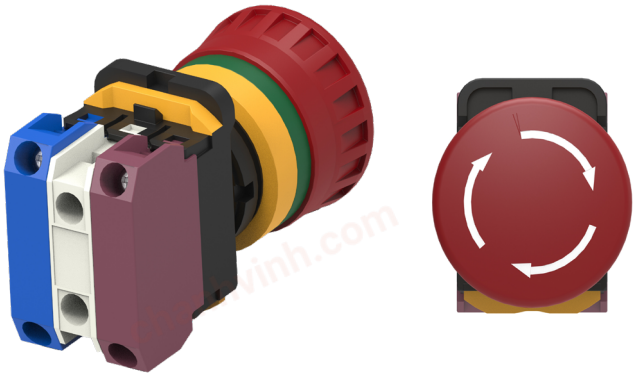
TE Connectivity (TE)'s ALCOSWITCH PBES22 series pushbutton emergency stop switch is offered in illuminated or non-illuminated styles. When mounted, the switch offers IP65 protection on the front of the panel. Easy to terminate screw terminals allow fast termination.

### FEATURES

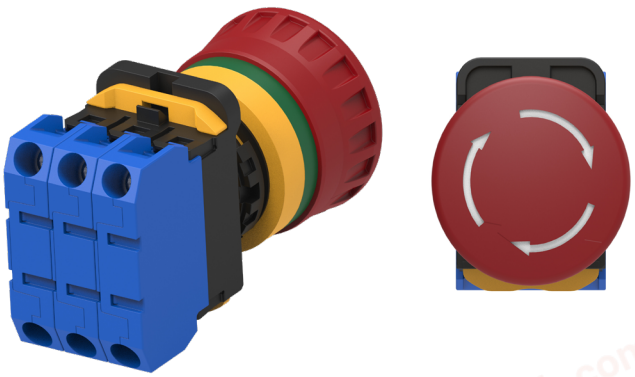
- IP65 rated front of panel
- IEC 60947-5-1 & IEC 60947-5-5
- Ø22.3 mm and Ø25.5 mm mounting hole options
- Simple and easy mounting
- Blocks and sockets with screw terminals
- Silver plating
- Illuminated and non-illuminated styles
- LED & incandescent
- High actuation force

### APPROVALS

- UL, CE, TUV & UKCA agency approval



**2416049**
**AVAILABLE WITH OR WITHOUT ILLUMINATION**



**2416050**
**AVAILABLE WITHOUT ILLUMINATION**

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# ALCOSWITCH Pushbutton 22 mm Emergency Stop Switch

Illuminated and Non-Illuminated

## PRODUCT SPECIFICATION

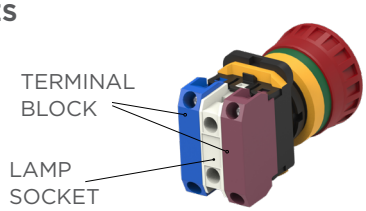
| | |
|---|---|
| Mechanical life | >100,000 Operations |
| Electrical life | >100,000 Operations |
| Motion tolerance | < 20 Operations/minute (mechanical and electrical life) |
| Degree of protection | Panel front: IP65 (IEC 60529)<br>Contact block: IP20 (IEC 60529) |
| Panel thickness | 0.8 mm to 6.0 mm (without anti-rotation ring or nameplate)<br>1.2 mm to 4.5 mm (with anti-rotation ring or nameplate) |
| Mounting ring torque | 2 N-m |
| Maximum insulation voltage | 2500 VAC @ 50/60 Hz, 10 mA, 1 minute |
| Insulation resistance | 100 MΩ @ 500 VDC, 100 mA, 1 minute |
| Storage temperature | -40 °C to +70 °C |
| Operating temperature | -25 °C to +70 °C (Without lamp)<br>-25 °C to +55 °C (With lamp) |
| Contact resistance | <= 100 mΩ, 1A, 6 to 8 VDC |
| Operating forces | Push - lock : 20 N to 30 N,<br>Pull - reset : less than 50 N,<br>Turn – reset: less than 1 N-m |
| Operating travel | Push – lock 8±2 mm,<br>Pull - reset : 4.6±1 mm<br>Turn – reset CW 20° |
| Pollution degree | 3 |
| Wire range | 16 to 14 awg, 1.5 $mm^2$ to 2.5 $mm^2$ |
| Min applicable load | 3V AC/DC, 3 mA |
| Rated impulse withstanding voltage | 2.5 kV |
| Conditional short-circuit current | 1 kA |
| Screw size for terminal and lamp socket block | M3.5 |
| Tightening torque for terminal and lamp socket block screw | 0.8 N-m |

## ELECTRICAL RATINGS

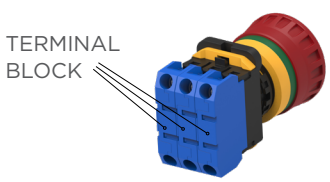
| TUV (IEC 60947-5-5) | | | | |
|---|---|---|---|---|
| Rated insulation voltage (Ui) | 600 V | | | |
| Conventional enclosed thermal current ($I_{the}$) | 10 A | | | |
| Rated operational voltage (Ue) | 24 V | 120 V | 240 V | 380 V |
| Utilization category | Rated operational current (Ie) | | | |
| AC-15 | 10 A | 6 A | 3 A | 2 A |
| AC-12 | 10 A | 10 A | 6 A | 2 A |
| DC-13 | 4 A | 4 A | 1 A | -- |
| DC-12 | 8 A | 8 A | 2 A | -- |

| UL (UL 508, CNL 508) | | | | | |
|---|---|---|---|---|---|
| Load Type | Operating Voltage | 24 V | 120 V | 240 V | 380 V |
| General Purpose | AC (50/60 Hz) | 10 A | 10 A | 6 A | 2 A |
| | DC | 8 A | 2.2 A | 1.1 A | - |
| Resistive | AC (50/60 Hz) | 10 A | 10 A | 6 A | 2 A |
| | DC | 8 A | 2.2 A | 1.1 A | - |
| Pilot Duty | A600 | | | | |

## SWITCH STYLES




2416049




2416050

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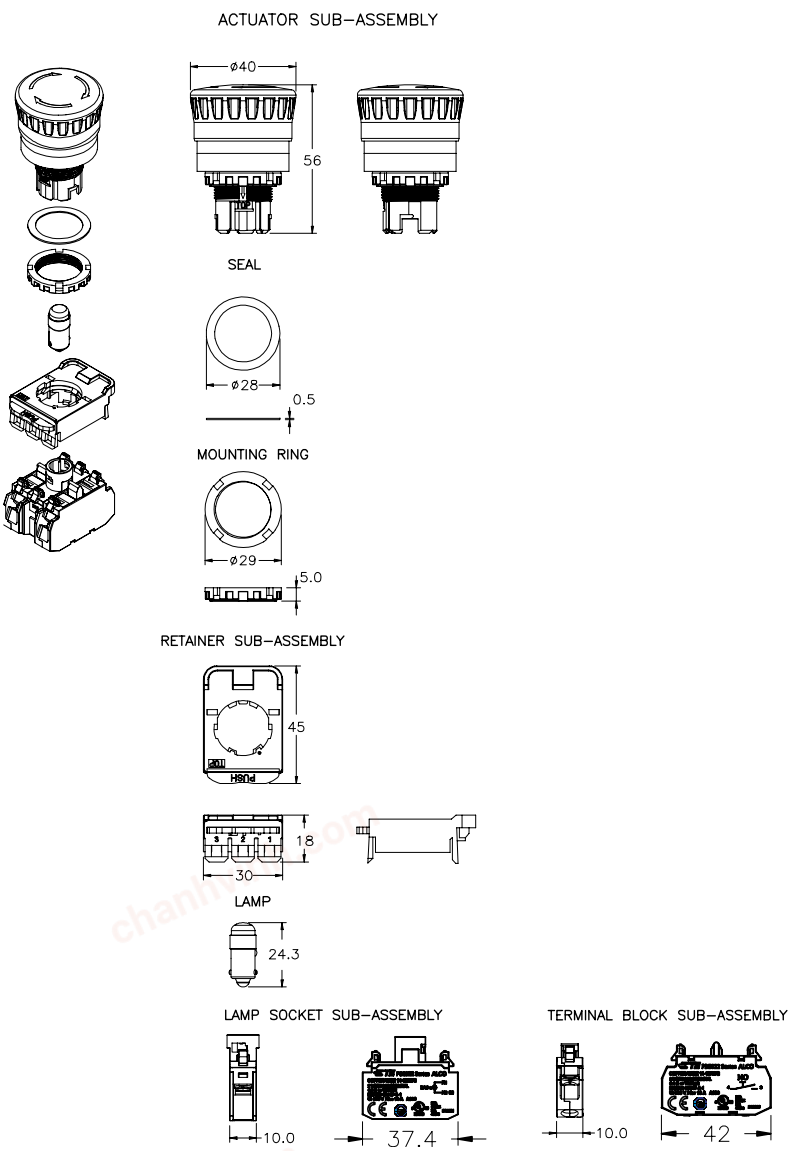
# ALCOSWITCH Pushbutton 22 mm Emergency Stop Switch

Illuminated and Non-Illuminated

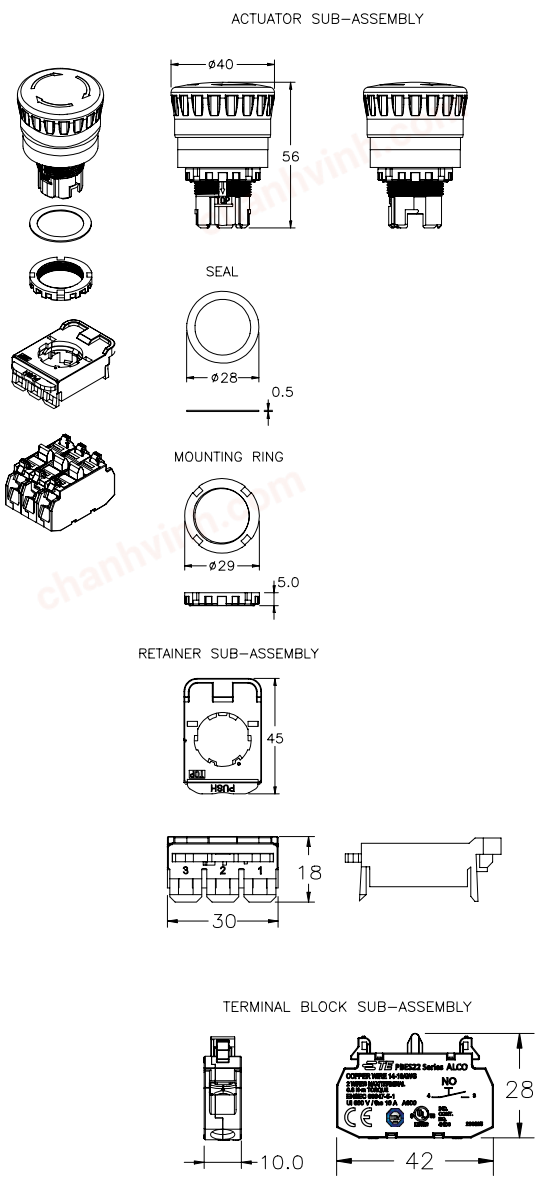
## SUB-ASSEMBLIES AND COMPONENETS IDENTIFICATION

### ACTUATOR SUB-ASSEMBLY

#### ILLUMINATED - 2416049



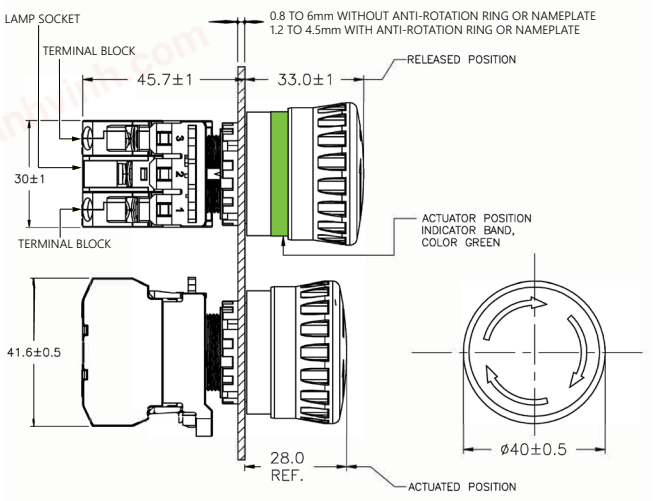

#### NON-ILLUMINATED - 2416050



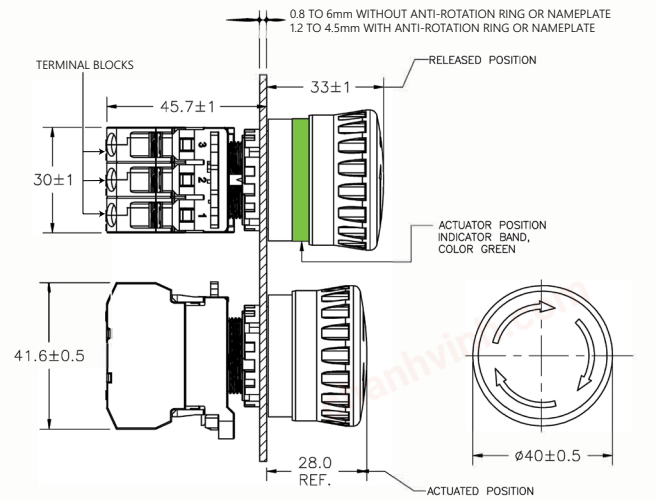
# ALCOSWITCH Pushbutton 22 mm Emergency Stop Switch

Illuminated and Non-Illuminated

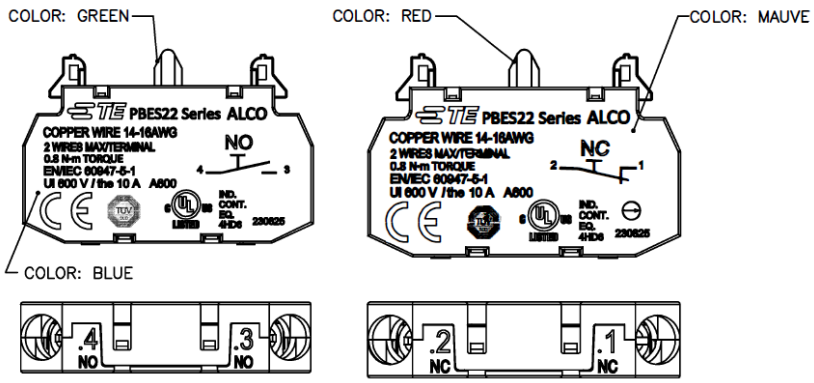
## 2416049




## 2416050



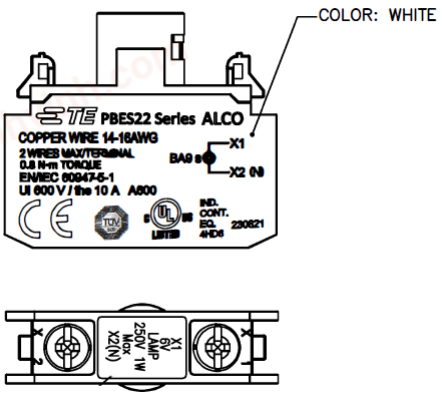

## TERMINAL BLOCKS




FUNCTION:
NO=NORMALLY OPEN

FUNCTION:
NC=NORMALLY CLOSED

## LAMP SOCKET




## ACCESSORIES




Name Plate



Anti Rotation Ring



Assembly Tool

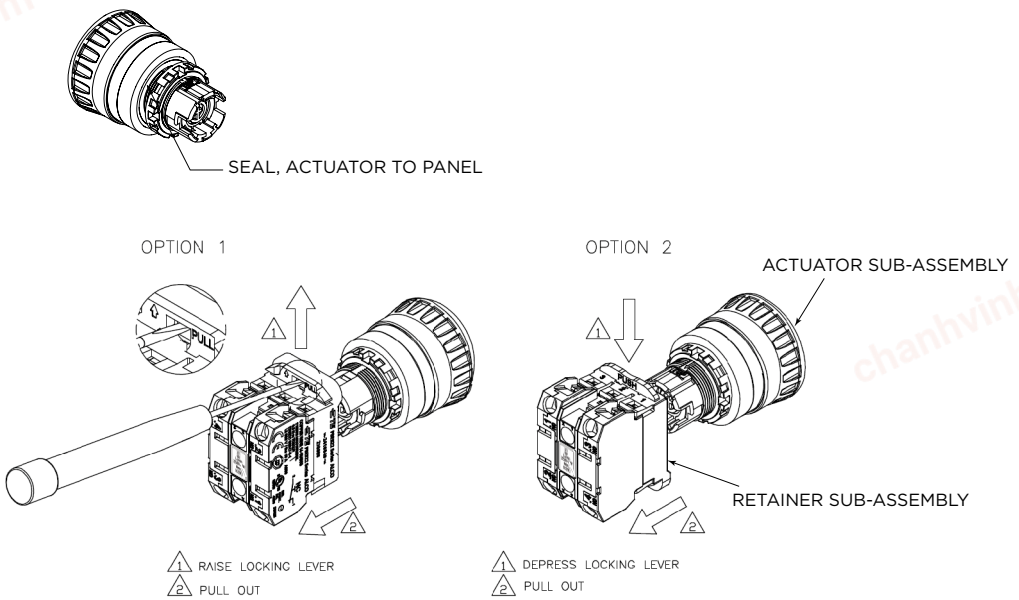
| TE Part Number | Description |
|---|---|
| 2461019-1 | Name Plate |
| 2461020-1 | Anti Rotation Ring |
| 2461021-1 | Assembly Tool |

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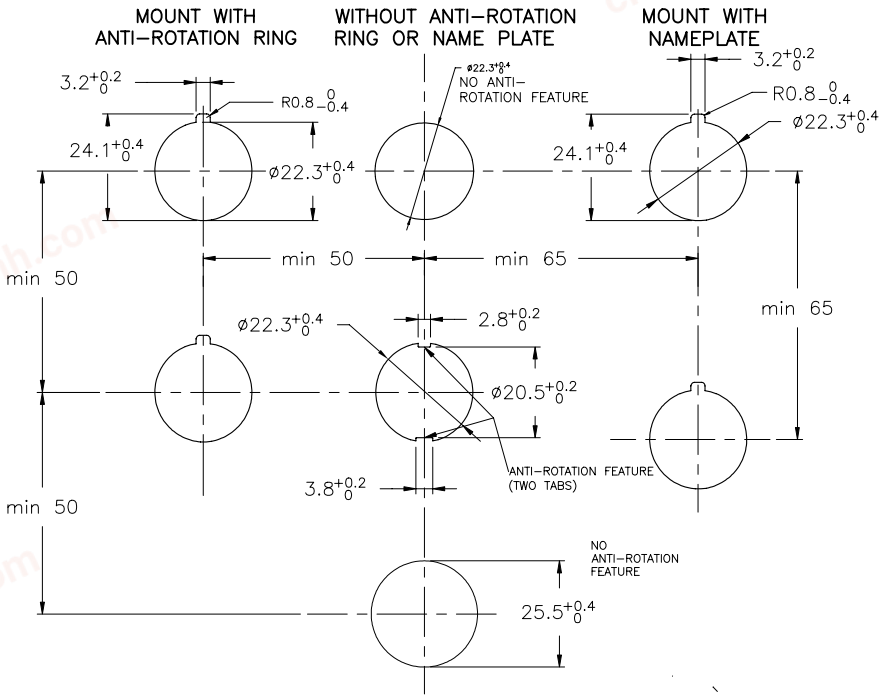
# ALCOSWITCH Pushbutton 22 mm Emergency Stop Switch

Illuminated and Non-Illuminated

## DISASSEMBLY OF THE TERMINAL BLOCKS AND LAMP SOCKET RETAINER SUB-ASSEMBLY FROM THE ACTUATOR SUB-ASSEMBLY (PRIOR TO MOUNTING PANEL)




## MOUNTING HOLE CONFIGURATIONS



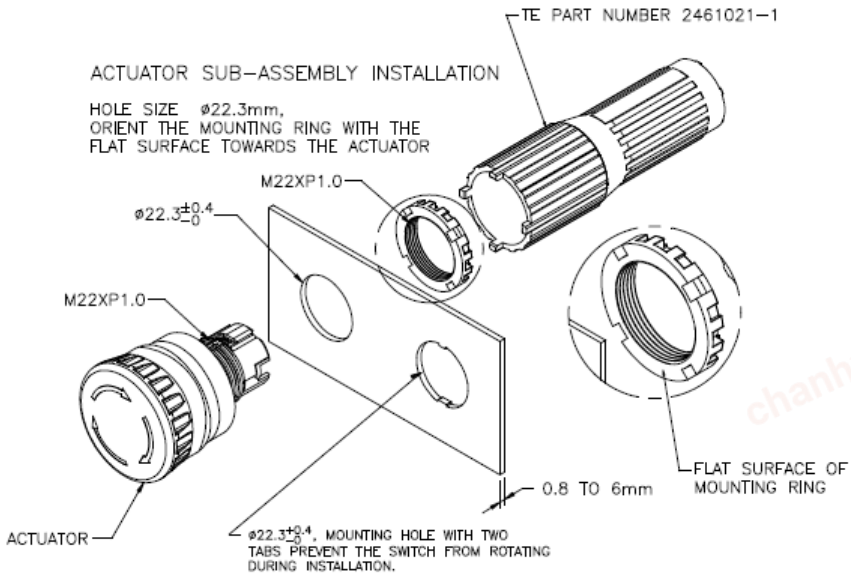

**Notes:**

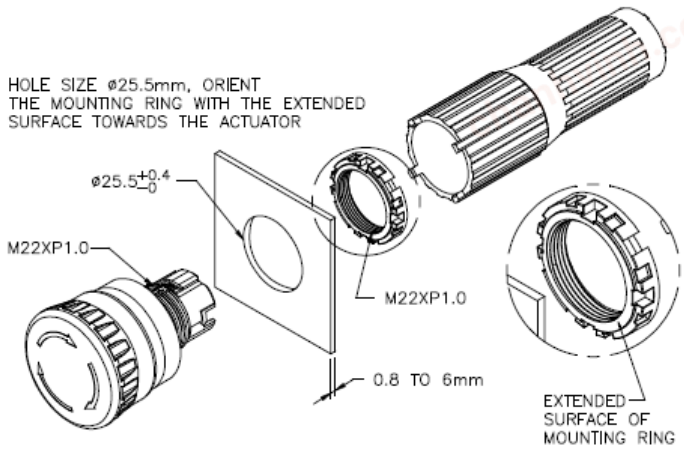
1. Dimensions in millimetres unless otherwise specified.
2. Dimensions shown for reference purposes only. Specifications subject to change.

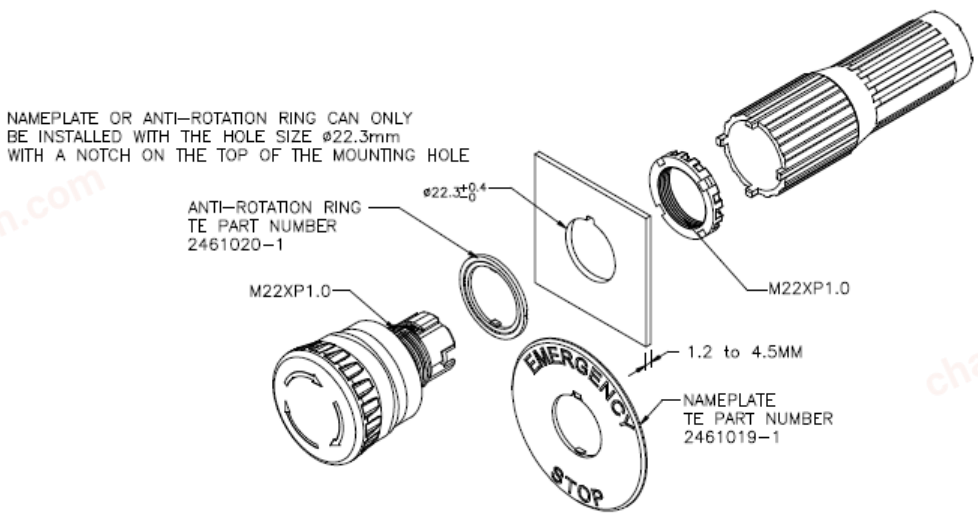
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# ALCOSWITCH Pushbutton 22 mm Emergency Stop Switch

Illuminated and Non-Illuminated




**Notes:**

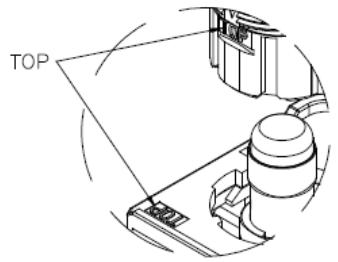
1. Dimensions in millimetres unless otherwise specified.
2. Dimensions shown for reference purposes only. Specifications subject to change.

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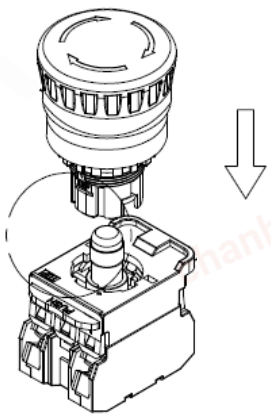
# ALCOSWITCH Pushbutton 22 mm Emergency Stop Switch

Illuminated and Non-Illuminated

ASSEMBLY OF THE TERMINAL BLOCKS
AND LAMP SOCKET RETAINER SUB–ASSEMBLY
TO THE ACTUATOR SUB–ASSEMBLY

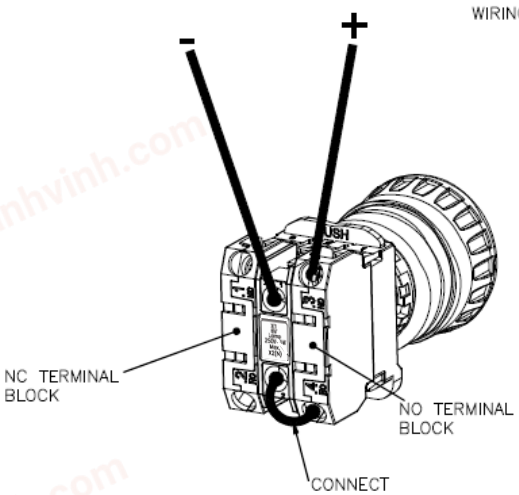



ALIGN THE "TOP" MARKINGS ON THE ACTUATOR AND THE RETAINER IN THE SAME DIRECTION AND PUSH THE ACTUATOR IN TO THE RETAINER

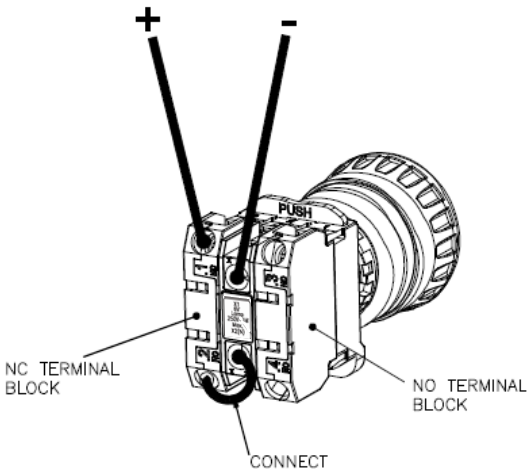


## LAMP SOCKET

WIRING GUIDE




WHEN ACTUATED, LAMP WILL TURNED ON.




WHEN ACTUATED, LAMP WILL TURNED OFF.

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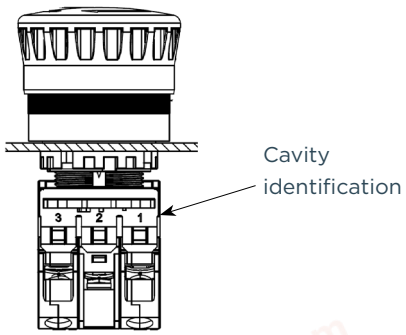
# ALCOSWITCH Pushbutton 22 mm Emergency Stop Switch

Illuminated and Non-Illuminated

## ORDERING INFORMATION

Illuminated

**TE Smart Part Number**
**PBES22 _ _ _ _**




**Model No**

| |
|---|
| PBES22 |

| | |
|---|---|
| **L** | Lamp Available |

**Switch Function**

| Retainer Cavity | | | |
|---|---|---|---|
| | **1** | **2** | **3** |
| **01** | n/a | Lamp Socket | NC |
| **02** | NC | | NC |
| **10** | NO | | n/a |
| **11** | NO | | NC |
| **20** | NO | | NO |

n/a = Cavity is not populated with a terminal block

**Button Color**

| | |
|---|---|
| **R** | Red |

**Lamp Options**

| | |
|---|---|
| **0** | No Lamp |
| **2** | 6V AC/DC 11mA LED |
| **3** | 12V AC/DC 10mA LED |
| **4** | 24V AC/DC 10mA LED |
| **5** | 6V AC/DC 6.3V 1W Incandescent |
| **6** | 12V AC/DC 18V 1W Incandescent |
| **7** | 24V AC/DC 30V 1W Incandescent |
| **H** | 110V AC/DC 1.4mA LED |
| **M3** | 230/240V AC/DC 1.2mA LED |

## PART NUMBER LIST

| TE Part Number | TE Smart Part Number |
|---|---|
| 2416049-1 | PBES22L010R |
| 2416049-2 | PBES22L012R |
| 2416049-3 | PBES22L013R |
| 2416049-4 | PBES22L014R |
| 2416049-5 | PBES22L015R |
| 2416049-6 | PBES22L016R |
| 2416049-7 | PBES22L017R |
| 2416049-8 | PBES22L01HR |
| 2416049-9 | PBES22L01M3R |
| 1-2416049-0 | PBES22L020R |
| 1-2416049-1 | PBES22L022R |
| 1-2416049-2 | PBES22L023R |
| 1-2416049-3 | PBES22L024R |
| 1-2416049-4 | PBES22L025R |
| 1-2416049-5 | PBES22L026R |
| 1-2416049-6 | PBES22L027R |
| 1-2416049-7 | PBES22L02HR |
| 1-2416049-8 | PBES22L02M3R |

| TE Part Number | TE Smart Part Number |
|---|---|
| 1-2416049-9 | PBES22L100R |
| 2-2416049-0 | PBES22L102R |
| 2-2416049-1 | PBES22L103R |
| 2-2416049-2 | PBES22L104R |
| 2-2416049-3 | PBES22L105R |
| 2-2416049-4 | PBES22L106R |
| 2-2416049-5 | PBES22L107R |
| 2-2416049-6 | PBES22L10HR |
| 2-2416049-7 | PBES22L10M3R |
| 2-2416049-8 | PBES22L110R |
| 2-2416049-9 | PBES22L112R |
| 3-2416049-0 | PBES22L113R |
| 3-2416049-1 | PBES22L114R |
| 3-2416049-2 | PBES22L115R |
| 3-2416049-3 | PBES22L116R |
| 3-2416049-4 | PBES22L117R |
| 3-2416049-5 | PBES22L11HR |
| 3-2416049-6 | PBES22L11M3R |

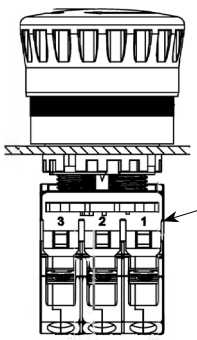
| TE Part Number | TE Smart Part Number |
|---|---|
| 3-2416049-7 | PBES22L200R |
| 3-2416049-8 | PBES22L202R |
| 3-2416049-9 | PBES22L203R |
| 4-2416049-0 | PBES22L204R |
| 4-2416049-1 | PBES22L205R |
| 4-2416049-2 | PBES22L206R |
| 4-2416049-3 | PBES22L207R |
| 4-2416049-4 | PBES22L20HR |
| 4-2416049-5 | PBES22L20M3R |

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## ORDERING INFORMATION

Non-illuminated

**TE Smart Part Number**
**PBES22 _ _ _**




**Model No**

| | |
|---|---|
| PBES22 | |

| | |
|---|---|
| **N** | No Lamp |

**Button Color**

| | |
|---|---|
| **R** | Red |

**Switch Function**

| | Retainer Cavity | | |
|---|---|---|---|
| | **1** | **2** | **3** |
| **01** | n/a | n/a | NC |
| **02** | NC | n/a | NC |
| **03** | NC | NC | NC |
| **10** | NO | n/a | n/a |
| **11** | NO | n/a | NC |
| **12** | NO | NC | NC |
| **20** | NO | n/a | NO |
| **21** | NO | NO | NC |
| **30** | NO | NO | NO |

## PART NUMBER LIST

| TE Part Number | TE Smart Part Number |
|---|---|
| 2416050-1 | PBES22N01R |
| 2416050-2 | PBES22N02R |
| 2416050-3 | PBES22N03R |
| 2416050-4 | PBES22N10R |
| 2416050-5 | PBES22N11R |
| 2416050-6 | PBES22N12R |
| 2416050-7 | PBES22N20R |
| 2416050-8 | PBES22N21R |
| 2416050-9 | PBES22N30R |

n/a = Cavity is not populated with a terminal block

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02/24 ED