

# ALCOSWITCH PUSH BUTTON SWITCH IPE SERIES, LED HOLDERS AND CONTACT BLOCKS

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## INTRODUCTION

TE Connectivity (TE)'s ALCOSWITCH push button switch IPE series offers a versatile range of high-quality switches designed to meet the diverse needs of various industries. Available in both illuminated and non-illuminated versions, these switches are equipped with flush head and extended head.

## FEATURES

- Available in illuminated/non-illuminated
- Snap mounting for compact contact blocks
- Stackable design for contact block
- Electrical life >500,000 and mechanical life >1,000,000 Cycles
- Inbuilt LVGP (Low Voltage Glow Protection)
- Passes surge test 2 kV & HV test of 1.5 kV
- IP 65 rated



## APPLICATIONS

- Industrial control panels
- Automotive and transportation
- Aerospace and defense
- Medical equipment
- Consumer electronics
- Telecommunications
- Marine applications



## APPROVALS

- RoHS directive 2002/95/E compliant
- REACH compliant and Pb free
- UL E303778



# ALCOSWITCH PUSH BUTTON SWITCH IPE SERIES

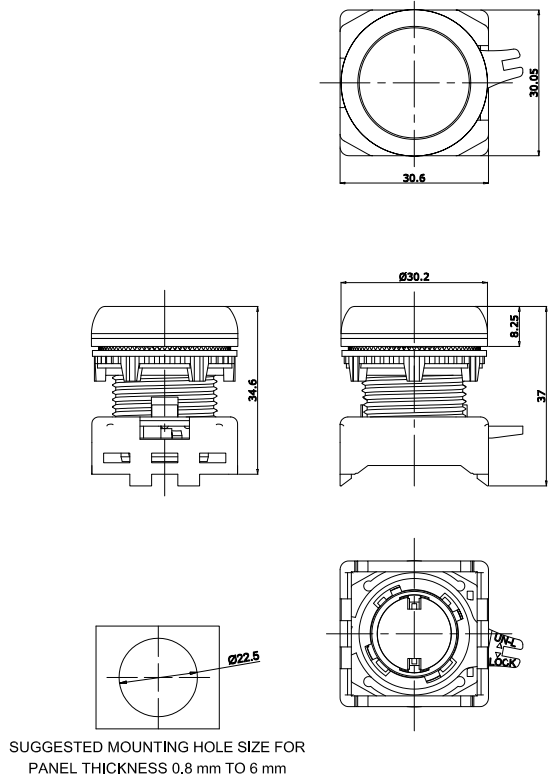
## TYPICAL PERFORMANCE CHARACTERISTICS

|                      | Flush Head<br>(Non-illuminated)                                                   | Flush Head<br>(illuminated)                                                       | Extended Head<br>(Non-illuminated)                                                  | Extended Head<br>(illuminated)                                                      |
|----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                      |  |  |  |  |
| Function type        | Push                                                                              |                                                                                   |                                                                                     |                                                                                     |
| Degree of protection | IP65                                                                              |                                                                                   |                                                                                     |                                                                                     |
| Actuating force      | 350 gmf                                                                           |                                                                                   |                                                                                     |                                                                                     |
| Contact material     | N/A                                                                               |                                                                                   |                                                                                     |                                                                                     |
| Housing material     | Polyamide/Nylon                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Collar               | ABS                                                                               |                                                                                   |                                                                                     |                                                                                     |
| Lens cap             | PC (polycarbonate)                                                                |                                                                                   |                                                                                     |                                                                                     |
| Life expectancy      | Min. 1 Million Cycles                                                             |                                                                                   |                                                                                     |                                                                                     |

| Compatible contact blocks/LED holders |                               |
|---------------------------------------|-------------------------------|
| Contact blocks/LED holders            | Ref. <a href="#">Page 5-8</a> |

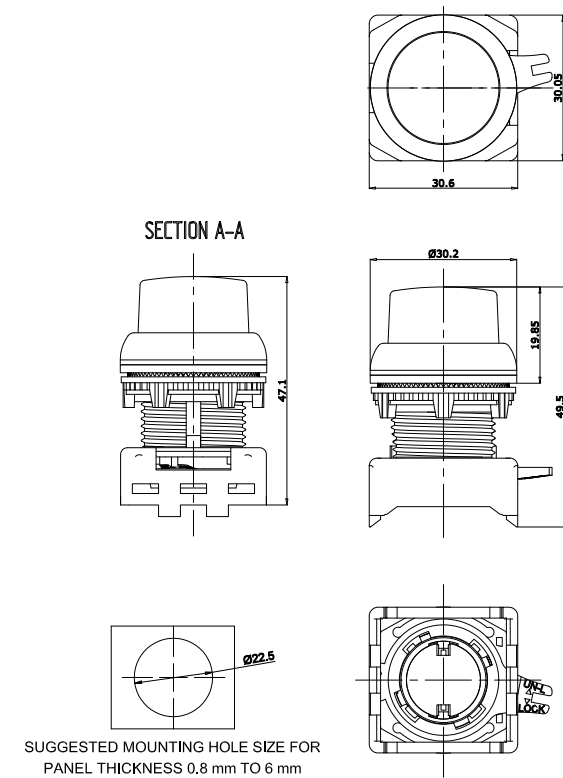
## DIMENSIONS (Unit:mm)

### Flush Head (Illuminated/ Non-illuminated)



Tolerance: ± 0.5 mm

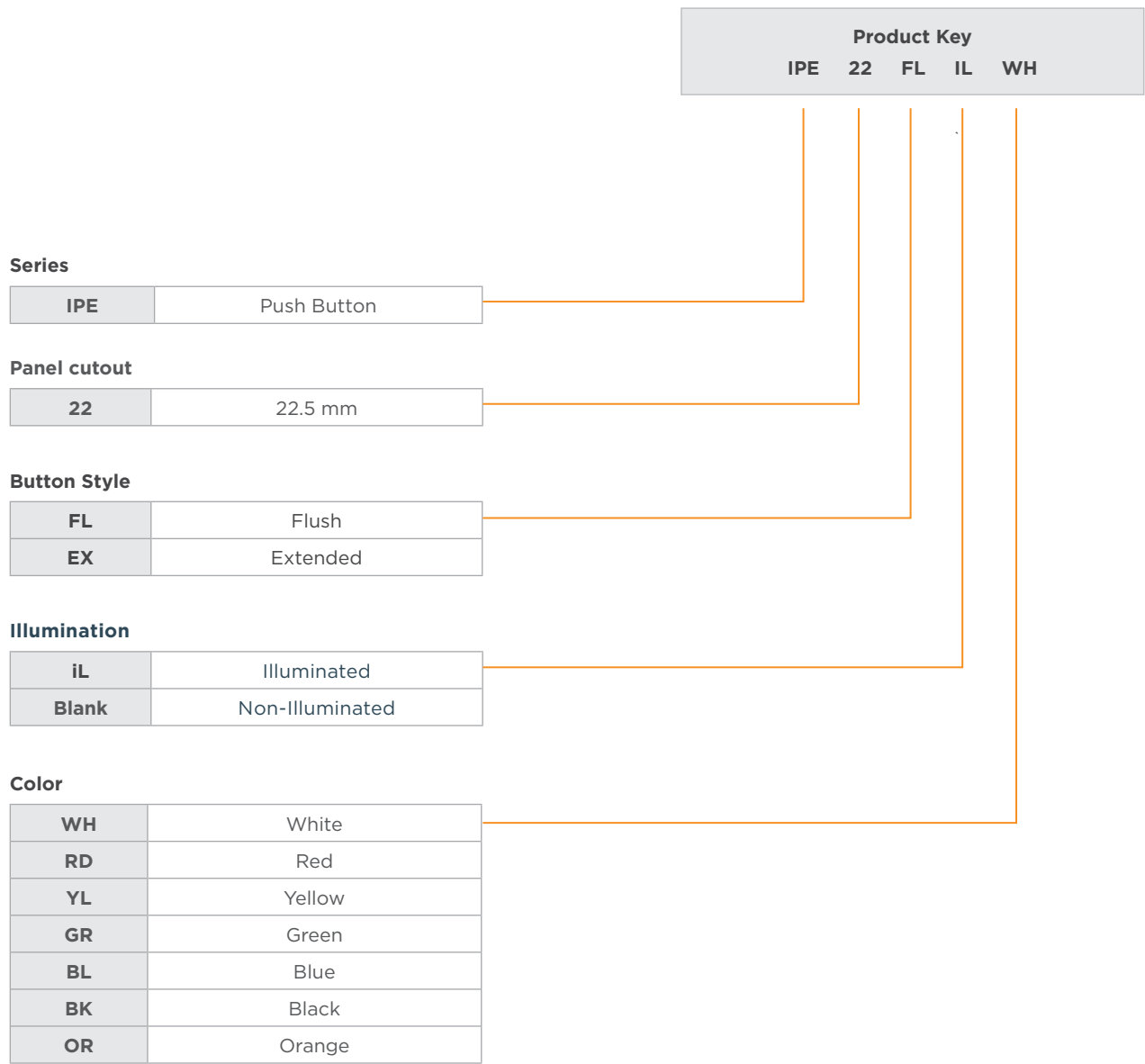
### Extended Head (Illuminated/ Non-illuminated)



Tolerance: ± 0.5 mm

# ALCOSWITCH PUSH BUTTON SWITCH IPE SERIES

## PRODUCT CODE STRUCTURE



## ALCOSWITCH PUSH BUTTON SWITCH IPE SERIES

### PRODUCT INFORMATION - FLUSH HEAD

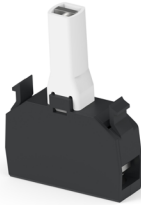
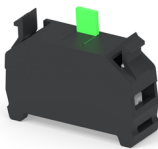
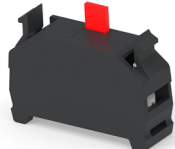
| Description                          | Illumination | Actuator Color | TE Smart Part Number | TE Part Number              |
|--------------------------------------|--------------|----------------|----------------------|-----------------------------|
| Push button flush red                | No           | Red            | IPE22FLRD            | <a href="#">2492672-1</a>   |
| Push button flush green              | No           | Green          | IPE22FLGR            | <a href="#">2492672-2</a>   |
| Push button flush yellow             | No           | Yellow         | IPE22FLYL            | <a href="#">2492672-3</a>   |
| Push button flush blue               | No           | Blue           | IPE22FLBL            | <a href="#">2492672-4</a>   |
| Push button flush black              | No           | Black          | IPE22FLBK            | <a href="#">2492672-5</a>   |
| Push button flush white              | No           | White          | IPE22FLWH            | <a href="#">2492672-6</a>   |
| Push button flush orange             | No           | Orange         | IPE22FLOR            | <a href="#">2492672-7</a>   |
| Illuminated push button flush red    | Yes          | Red            | IPE22FLILRD          | <a href="#">2492672-8</a>   |
| Illuminated push button flush green  | Yes          | Green          | IPE22FLILGR          | <a href="#">2492672-9</a>   |
| Illuminated push button flush yellow | Yes          | Yellow         | IPE22FLILYL          | <a href="#">1-2492672-0</a> |
| Illuminated push button flush blue   | Yes          | Blue           | IPE22FLILBL          | <a href="#">1-2492672-1</a> |
| Illuminated push button flush white  | Yes          | White          | IPE22FLILWH          | <a href="#">1-2492672-2</a> |
| Illuminated push button flush orange | Yes          | Orange         | IPE22FLILOR          | <a href="#">1-2492672-3</a> |

### PRODUCT INFORMATION - EXTENDED HEAD

| Description                             | Illumination | Actuator Color | TE Smart Part Number | TE Part Number              |
|-----------------------------------------|--------------|----------------|----------------------|-----------------------------|
| Push button extended red                | No           | Red            | IPE22EXRD            | <a href="#">2492673-1</a>   |
| Push button extended green              | No           | Green          | IPE22EXGR            | <a href="#">2492673-2</a>   |
| Push button extended yellow             | No           | Yellow         | IPE22EXYL            | <a href="#">2492673-3</a>   |
| Push button extended blue               | No           | Blue           | IPE22EXBL            | <a href="#">2492673-4</a>   |
| Push button extended black              | No           | Black          | IPE22EXBK            | <a href="#">2492673-5</a>   |
| Push button extended white              | No           | White          | IPE22EXWH            | <a href="#">2492673-6</a>   |
| Push button extended orange             | No           | Orange         | IPE22EXOR            | <a href="#">2492673-7</a>   |
| Illuminated push button extended red    | Yes          | Red            | IPE22EXILRD          | <a href="#">2492673-8</a>   |
| Illuminated push button extended green  | Yes          | Green          | IPE22EXILGR          | <a href="#">2492673-9</a>   |
| Illuminated push button extended yellow | Yes          | Yellow         | IPE22EXILYL          | <a href="#">1-2492673-0</a> |
| Illuminated push button extended blue   | Yes          | Blue           | IPE22EXILBL          | <a href="#">1-2492673-1</a> |
| Illuminated push button extended white  | Yes          | White          | IPE22EXILWH          | <a href="#">1-2492673-2</a> |
| Illuminated push button extended orange | Yes          | Orange         | IPE22EXILOR          | <a href="#">1-2492673-3</a> |

## ALCOSWITCH LED HOLDERS AND CONTACT BLOCKS

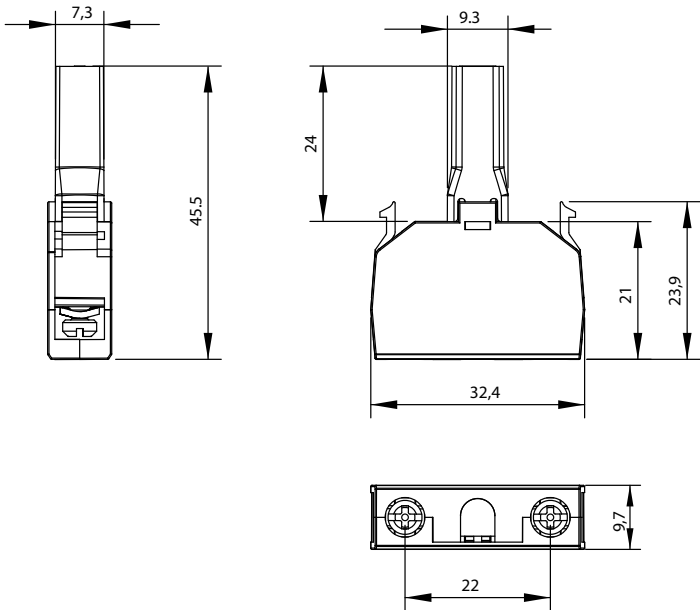
### PERFORMANCE CHARACTERISTICS

|                                         |            | LED Holder                                                                                              | Contact Block- NO                                                                          | Contact Block - NC                                                                  |
|-----------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                         |            |                        |          |  |
| Rated voltage                           |            | 12 V AC/DC, 24 V AC/DC, 240 V AC                                                                        | 230 V AC                                                                                   |                                                                                     |
| Rated current                           |            | -                                                                                                       | AC15 - 6 A, AC12 - 10 A,<br>(IEC60947-5-1)                                                 |                                                                                     |
| Operating voltage                       |            | -20% to +10% of rated voltage                                                                           | -                                                                                          |                                                                                     |
| Rated insulation voltage                |            | -                                                                                                       | 600 V AC                                                                                   |                                                                                     |
| Type of LED                             |            | Side View SMD LED's                                                                                     | -                                                                                          |                                                                                     |
| Available colors                        |            | Red / Green / Yellow /<br>Orange / Blue / White                                                         | -                                                                                          |                                                                                     |
| Life cycle                              | Electrical | LED - 100,000 burning hours                                                                             | @ Rated current 10 A, 500,000 Operations                                                   |                                                                                     |
|                                         | Mechanical | -                                                                                                       | 1,000,000 Operations                                                                       |                                                                                     |
| Operating frequency                     |            | 50 / 60 Hz                                                                                              | 50 / 60 Hz                                                                                 |                                                                                     |
| Actuating force                         |            | -                                                                                                       | 350 gmf                                                                                    |                                                                                     |
| Operating temperature                   |            | -25 °C ~ 65 °C                                                                                          | -30 °C ~ 60 °C                                                                             |                                                                                     |
| Storage temperature                     |            | -30 °C ~ 70 °C                                                                                          | -25 °C ~ 70 °C                                                                             |                                                                                     |
| Wire termination capacity               |            | 0.5mm², 1.5 - 2.5 mm²                                                                                   | -                                                                                          |                                                                                     |
| Terminal torque                         |            | 0.8 Nm                                                                                                  | -                                                                                          |                                                                                     |
| LVGP (Low Voltage<br>Glow Protection)   |            | Available                                                                                               | -                                                                                          |                                                                                     |
| Surge test                              |            | 2 KV                                                                                                    | -                                                                                          |                                                                                     |
| mV drop @ 16A                           |            | -                                                                                                       | 200 mV max. (Initial value)                                                                |                                                                                     |
| Insulation resistance                   |            | -                                                                                                       | 100 MΩ min. (@500 VDC)                                                                     |                                                                                     |
| Recommended tightening torque           |            | -                                                                                                       | 0.8 Nm                                                                                     |                                                                                     |
| Terminals                               |            | -                                                                                                       | Suitable for flexible or solid conductors from<br>1x0.5 sq.mm ~ 2x1.5 sq.mm or 1x2.5 sq.mm |                                                                                     |
| HV Test for 60 sec.                     |            | 1.5 KV                                                                                                  | 1.5 KV (all terminals shorted together and body)                                           |                                                                                     |
| Degree of protection                    |            | Above Panel : IP65, For<br>Terminals : IP20                                                             | Terminals : IP20                                                                           |                                                                                     |
| Contact material                        |            | Ag-Ni                                                                                                   |                                                                                            |                                                                                     |
| Terminal details                        |            | Terminal LH - Brass with silver plating<br>Terminal RH - Brass with silver plating<br>Screw washer type |                                                                                            |                                                                                     |
| Polymer details (base<br>material only) |            | Housing - polyamide/ nylon<br>Housing cover - polyamide/ nylon<br>Housing cap - PC (polycarbonate)      | Housing - polyamide /nylon<br>Cover - polyamide /nylon<br>Slide - polyamide                |                                                                                     |

# ALCOSWITCH LED HOLDERS AND CONTACT BLOCKS

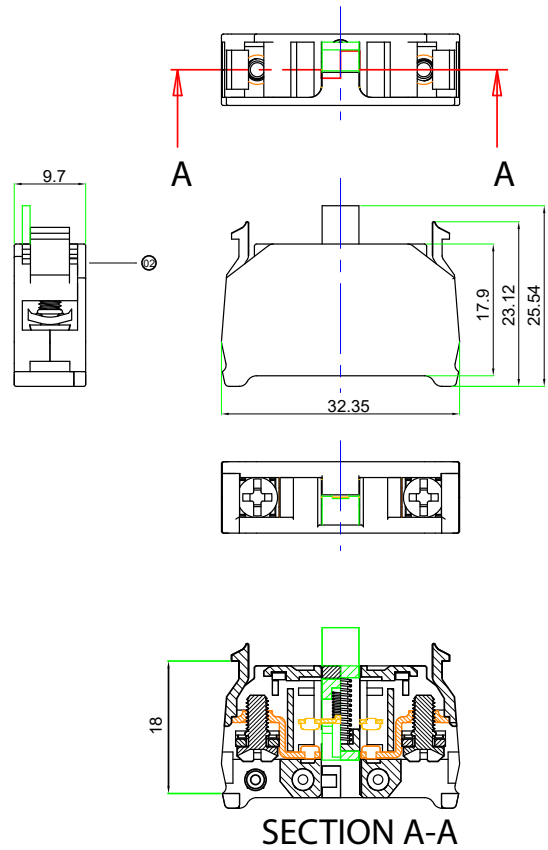
## DIMENSIONS (Unit:mm)

### LED Holder



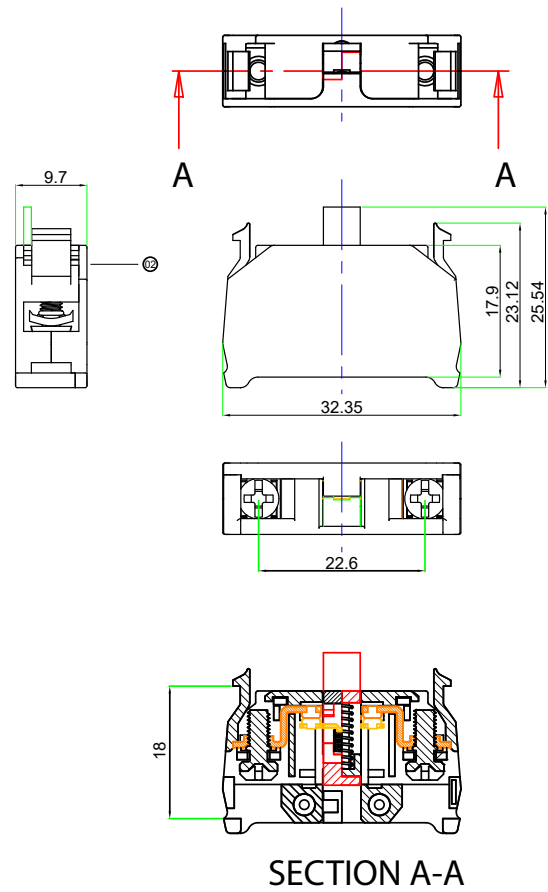
Tolerance:  $\pm 0,5$  mm

### Contact Block - NO



Tolerance:  $\pm 0,5$  mm

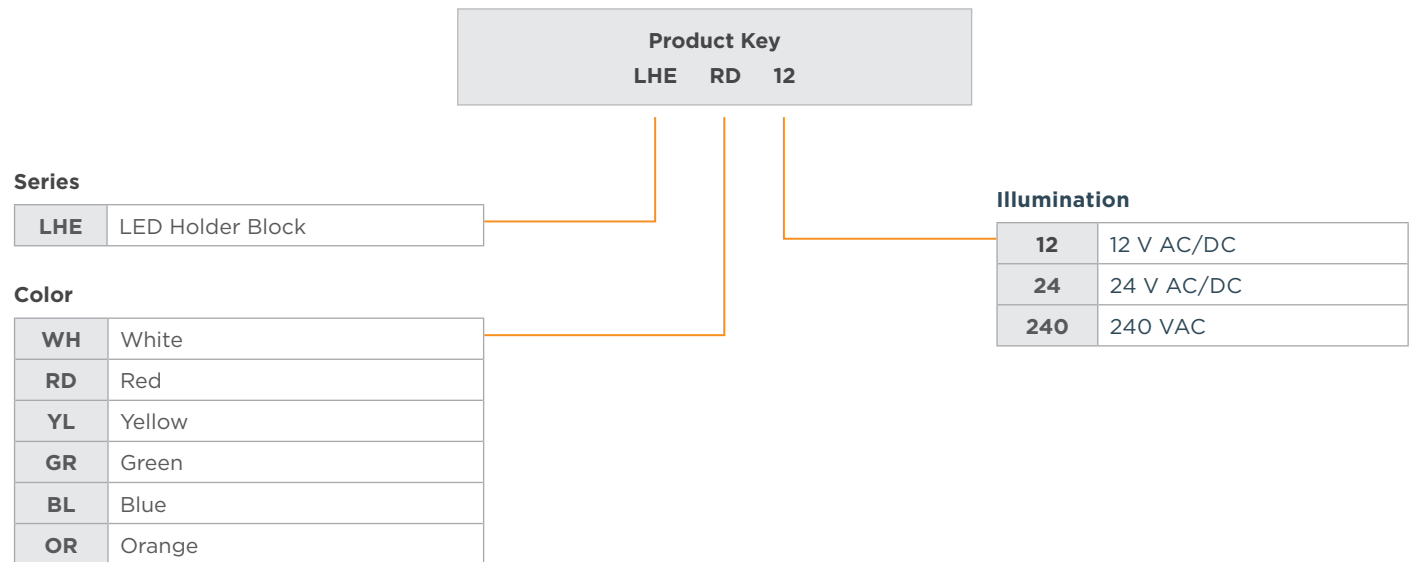
### Contact Block - NC



Tolerance:  $\pm 0,5$  mm

## ALCOSWITCH LED HOLDERS AND CONTACT BLOCKS

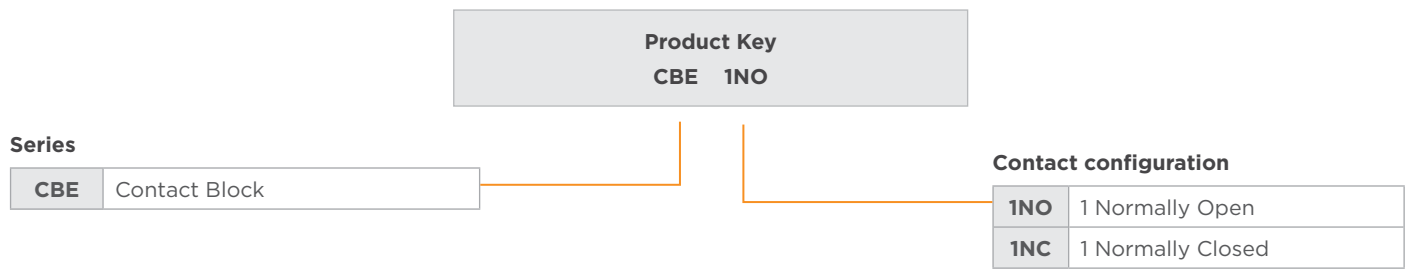
### PRODUCT CODE STRUCTURE - LED HOLDER



### PRODUCT INFORMATION - LED HOLDER

| TE Smart Part Number | Description                 | LED Color | TE Part Number              |
|----------------------|-----------------------------|-----------|-----------------------------|
| LHERD240             | LED holder red 240 VAC      | Red       | <a href="#">2492721-1</a>   |
| LHEGR240             | LED holder green 240 VAC    | Green     | <a href="#">2492721-2</a>   |
| LHEYL240             | LED holder yellow 240 VAC   | Yellow    | <a href="#">2492721-3</a>   |
| LHEBL240             | LED holder blue 240 VAC     | Blue      | <a href="#">2492721-4</a>   |
| LHEWH240             | LED holder white 240 VAC    | White     | <a href="#">2492721-5</a>   |
| LHEOR240             | LED holder orange 240 VAC   | Orange    | <a href="#">2492721-6</a>   |
| LHERD24              | LED holder red 24 VAC/DC    | Red       | <a href="#">2492721-7</a>   |
| LHEGR24              | LED holder green 24 VAC/DC  | Green     | <a href="#">2492721-8</a>   |
| LHEYL24              | LED holder yellow 24 VAC/DC | Yellow    | <a href="#">2492721-9</a>   |
| LHEBL24              | LED holder blue 24 VAC/DC   | Blue      | <a href="#">1-2492721-0</a> |
| LHEWH24              | LED holder white 24 VAC/DC  | White     | <a href="#">1-2492721-1</a> |
| LHEOR24              | LED holder orange 24 VAC/DC | Orange    | <a href="#">1-2492721-2</a> |
| LHERD12              | LED holder red 12 VAC/DC    | Red       | <a href="#">1-2492721-3</a> |
| LHEGR12              | LED holder green 12 VAC/DC  | Green     | <a href="#">1-2492721-4</a> |
| LHEYL12              | LED holder yellow 12 VAC/DC | Yellow    | <a href="#">1-2492721-5</a> |
| LHEBL12              | LED holder blue 12 VAC/DC   | Blue      | <a href="#">1-2492721-6</a> |
| LHEWH12              | LED holder white 12 VAC/DC  | White     | <a href="#">1-2492721-7</a> |
| LHEOR12              | LED holder orange 12 VAC/DC | Orange    | <a href="#">1-2492721-8</a> |

PRODUCT CODE STRUCTURE - CONTACT BLOCK



PRODUCT INFORMATION - CONTACT BLOCK

| TE Smart Part Number | Description        | TE Part Number |
|----------------------|--------------------|----------------|
| CBE1NO               | 1 NO contact block | 2492669-1      |
| CBE1NC               | 1 NC contact block | 2492669-2      |

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