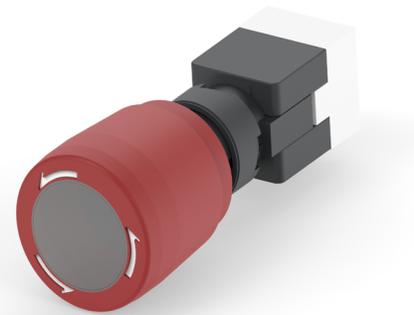


ALCOSWITCH PUSHBUTTON EMERGENCY STOP SWITCH

ILLUMINATED AND NON-ILLUMINATED

INTRODUCTION

TE Connectivity (TE)'s PBES16 Series pushbutton emergency stop switch is offered as an illuminated and non-illuminated switch with two different actuator button styles, multiple lighting options, agency approvals, and meets IEC 60947-5-1 & IEC 60947-5-5 standards. The PBES16 series comes equipped with a 20N actuation force for ruggedized applications. It helps avoiding accidental actuations and is IP65 rated to resist harsh environments.



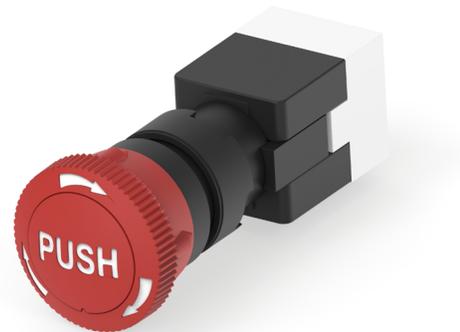
PBES16L

FEATURES

- IP65 rated
- IEC 60947-5-1 & IEC 60947-5-5
- 16mm mounting hole
- Simple easy mounting
- Solder to wire or quick connect disconnect terminals
- Gold plating
- Illuminated & non-illuminated
- LED & incandescent
- High actuation force

APPROVALS

- UL & TUV agency approval



PBES16N

ALCOSWITCH Pushbutton Emergency Stop Switch

Illuminated and Non-Illuminated

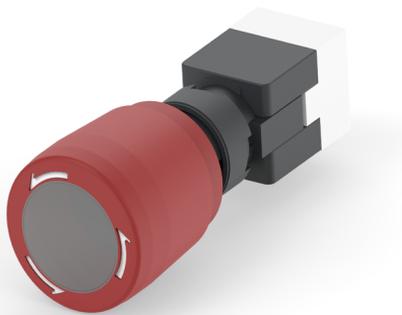
PRODUCT SPECIFICATION

Mechanical Life	>100,000 Operations	
Electrical Life	>50,000 Operations	
Motion Tolerance	< 20 Operations/Minute (Mechanical and Electrical Life)	
Degree of Protection	IP65	
Panel Thickness	0.5mm to 5mm	
Mounting Torque	1.1 N-m	
Maximum Insulation Voltage	1500VAC 60Hz, 10mA, 1 minute	
Insulation Resistance	100MΩ @500 VDC, 100mA, 1 minute	
Storage Temperature	-40 °C to +85 °C	
Operating Temperature	-25 °C to +55 °C (-25 °C to +70 °C Without Lamp)	
Contact Resistance	<= 50 mΩ (Initial)	
Operating Forces	Push - Lock 20 +0/-10N, Turn - Reset 0.06 N-m	
Operating Travel	PBES16L	Push - Lock 3.6 + 0/-0.6 mm, Turn - Reset CCW 30°
	PBES16N	Push - Lock 3.3 + 0.3 mm, Turn - Reset CW 30°
Pollution Degree	3	

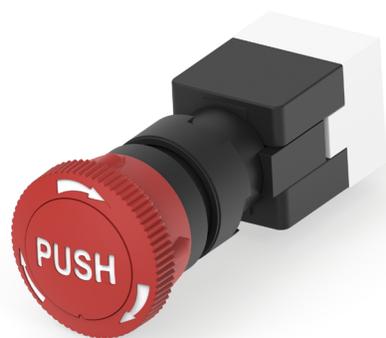
ELECTRICAL RATINGS

Rated Insulation Voltage (Ui)	300V	
Conventional Enclosed Thermal Current (Ithe)	5A	
Rated Operational Voltage (Ue)	125 V	250 V
Utilization Category	Rated Operational Current (Ie)	
AC-15	3	1.5
DC-13	0.22	0.11

SWITCH STYLES



PBES16L - ILLUMINATED
(WITH OR WITHOUT LAMP)

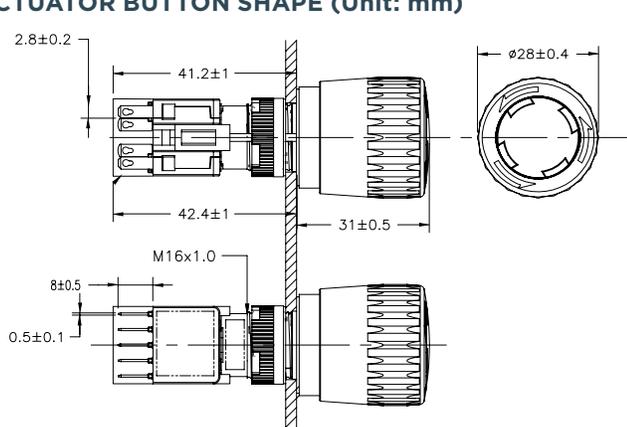


PBES16N - NON-ILLUMINATED

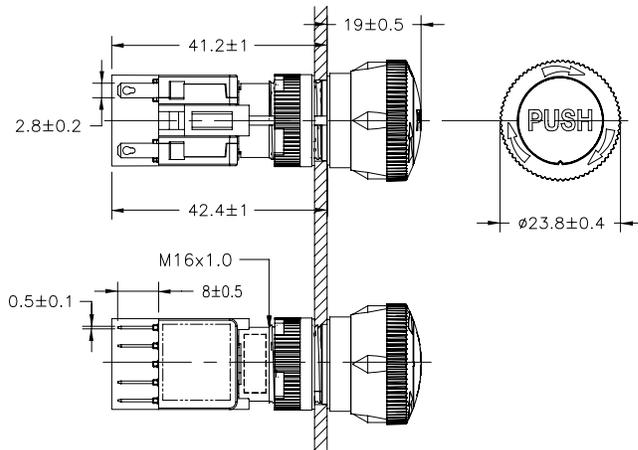
ALCOSWITCH Pushbutton Emergency Stop Switch

Illuminated and Non-Illuminated

ACTUATOR BUTTON SHAPE (Unit: mm)

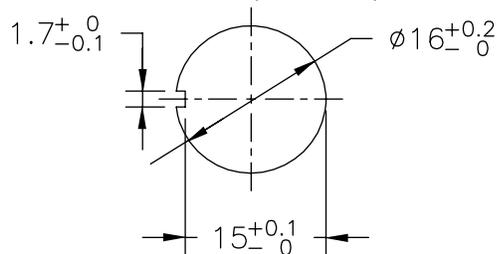


PBES16L - ILLUMINATED
(WITH OR WITHOUT LAMP)

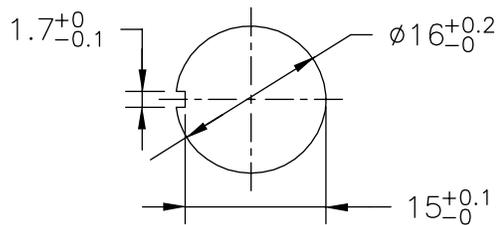


PBES16N - NON-ILLUMINATED

MOUNTING HOLE SHAPE (Unit: mm)

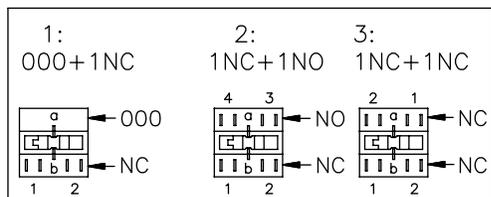


MOUNTING HOLE
PBES16L - ILLUMINATED
(WITH OR WITHOUT LAMP)

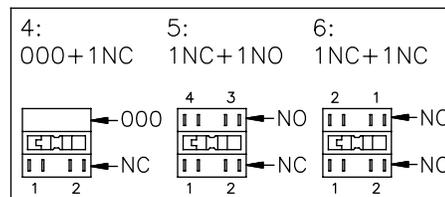


MOUNTING HOLE
PBES16N - NON-ILLUMINATED

SWITCH FUNCTIONS

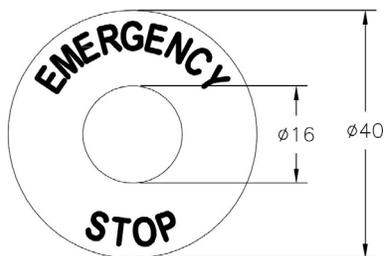


PBES16L - ILLUMINATED
(WITH OR WITHOUT LAMP)



PBES16N - NON-ILLUMINATED

IDENTIFICATION PLATE (Unit: mm)



Notes:

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

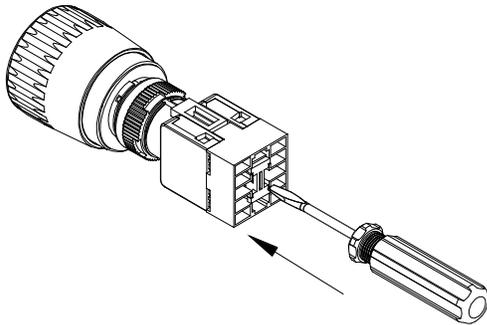
ALCOSWITCH Pushbutton Emergency Stop Switch

Illuminated and Non-Illuminated

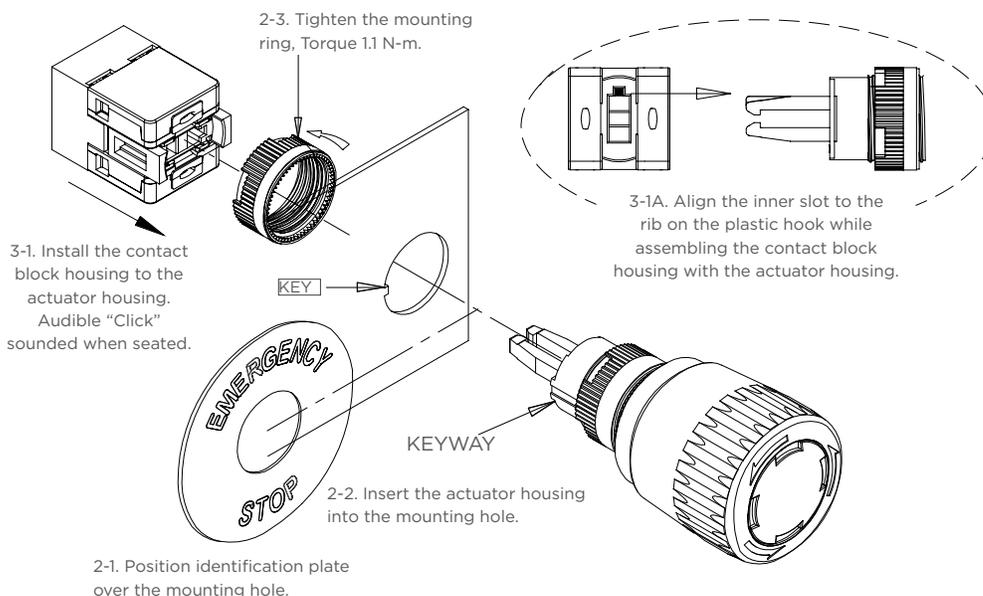
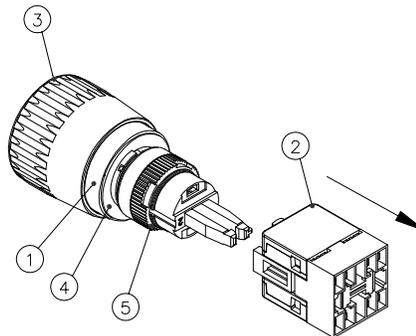
INSTALLATION PROCEDURE

PBES16L (WITH OR WITHOUT LAMP)

1-1. Depress release tab with screwdriver until contact block housing releases from actuator housing.



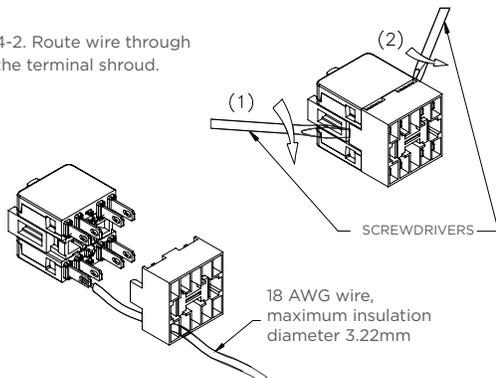
1-2. Separate contact block housing from actuator housing. Wires can be terminated to the terminals of the contact block housing.



SOLDER TERMINATIONS:

4-1. Remove terminal shroud - affix two screwdrivers about the tabs of the shroud and gently apply force so as to release shroud from the contact block housing.

4-2. Route wire through the terminal shroud.



4-3. Solder wires to terminals. Soldering temperature is 360°C for 3 seconds.

Notes:

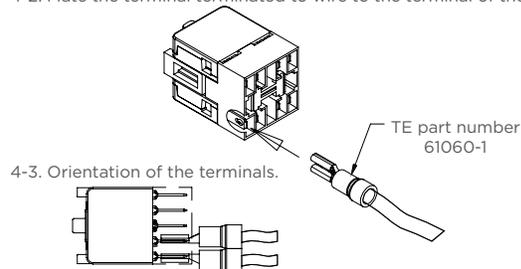
1. Dimensions in millimetres unless otherwise specified.
2. Dimensions shown for reference purposes only. Specifications subject to change.

FASTON TERMINAL TERMINATION:

Noted lamp terminals are labelled A- and B+

4-1. Crimp TE FASTON receptacle 110 series terminal part number 61060-1 to 18 AWG wire, maximum insulation diameter 2.54mm.

4-2. Mate the terminal terminated to wire to the terminal of the switch.

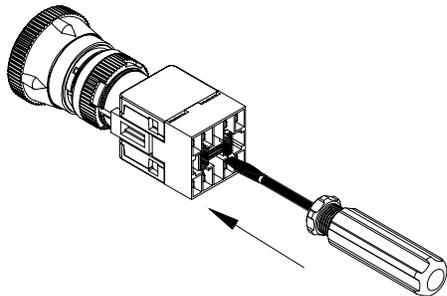


ALCOSWITCH Pushbutton Emergency Stop Switch

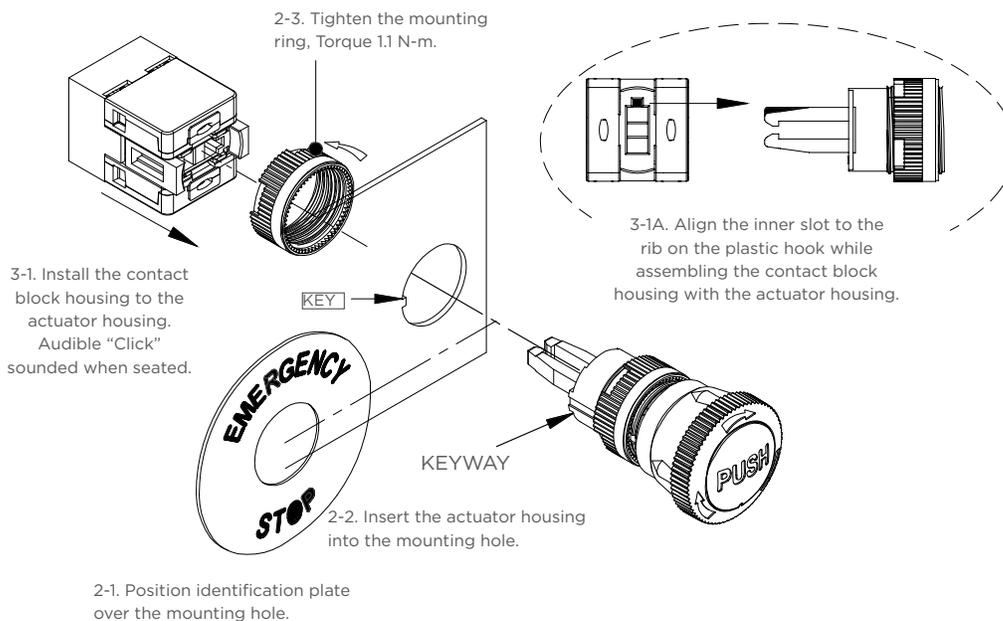
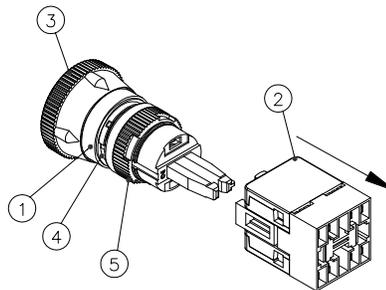
Illuminated and Non-Illuminated

PBES16N - NON-ILLUMINATED

1-1. Depress release tab with screwdriver until contact block housing releases from actuator housing.



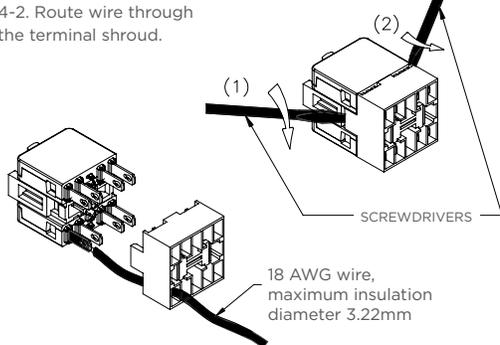
1-2. Separate contact block housing from actuator housing. Wires can be terminated to the terminals of the contact block housing.



SOLDER TERMINATIONS:

4-1. Remove terminal shroud - affix two screwdrivers about the tabs of the shroud and gently apply force so as to release shroud from the contact block housing.

4-2. Route wire through the terminal shroud.

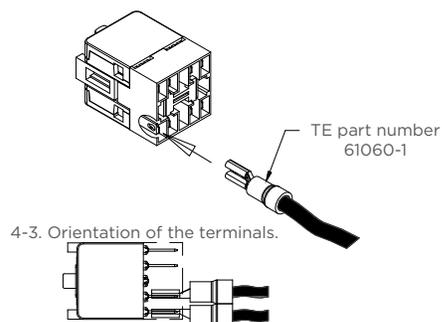


FASTON TERMINAL TERMINATION:

Noted lamp terminals are labelled A- and B+

4-1. Crimp TE FASTON receptacle 110 series terminal part number 61060-1 to 18 AWG wire, maximum insulation diameter 2.54mm.

4-2. Mate the terminal terminated to wire to the terminal of the switch.



Notes:

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

ALCOSWITCH Pushbutton Emergency Stop Switch

Illuminated and Non-Illuminated

ORDERING INFORMATION

PBES16L ILLUMINATED PUSHBUTTON EMERGENCY STOP SWITCH WITH OR WITHOUT LAMP

Part Number
PBES16L _ _ R E

Model No

PBES16L

Switch Function

1	000 + NC
2	1NC + 1NO
3	1NC + 1NC

Packaging

Blank	Standard package
E	Single Box

Actuator Color

R Not Included

Lamp Options

O	No Lamp
A	LED 6V DC 28mA
B	LED 12V DC 19mA
C	LED 24V DC 12mA
D	LED 12 to 24V AC/DC 11mA
H	INCANDESCENT 6V AC/DC 200mA
I	INCANDESCENT 14 V AC/DC 80mA
J	INCANDESCENT 28V AC/DC 40mA
K	INCANDESCENT 48V AC/DC 25mA
L	INCANDESCENT 60V AC/DC 20mA
M	INCANDESCENT 33V AC/DC 35mA

PBES16N NON-ILLUMINATED PUSHBUTTON EMERGENCY STOP SWITCH

Part Number
PBES16N _ O R E

Model No

PBES16N

Switch Function

4	000 + NC
5	1NC + 1NO
6	1NC + 1NC

Packaging

Blank	Standard package
E	Single Box

Actuator Color

R Red

Lamp Options

O No Lamp

ALCOSWITCH Pushbutton Emergency Stop Switch

Illuminated and Non-Illuminated

PART NUMBER LIST

PBES16L EMERGENCY STOP SERIES

TE Smart Part Number	Function	Lamp Type	Product Description	TE Part Number
PBES16L1NR	000 + 1NC	INCANDESCENT 6VAC/DC 40mA	PBES16 28 INCA 6V AC/DC 40mA 000 1NC	2381880-1
PBES16L1HR		INCANDESCENT 6V AC/DC 200mA	PBES16 28 INCA 6V AC/DC 200mA 000 1NC	2381880-2
PBES16L1OR		INCANDESCENT 14V AC/DC 40mA	PBES16 28 INCA 14V AC/DC 40mA 000 1NC	2381880-3
PBES16L1IR		INCANDESCENT 14 V AC/DC 80mA	PBES16 28 INCA 14 V AC/DC 80mA 000 1NC	2381880-4
PBES16L1JR		INCANDESCENT 28V AC/DC 40mA	PBES16 28 INCA 28V AC/DC 40mA 000 1NC	2381880-5
PBES16L1MR		INCANDESCENT 33V AC/DC 35mA	PBES16 28 INCA 33V AC/DC 35mA 000 1NC	2381880-6
PBES16L1KR		INCANDESCENT 48V AC/DC 25mA	PBES16 28 INCA 48V AC/DC 25mA 000 1NC	2381880-7
PBES16L1LR		INCANDESCENT 60V AC/DC 20mA	PBES16 28 INCA 60V AC/DC 20 mA 000 1NC	2381880-8
PBES16L1AR		LED 6V DC 28mA	PBES16 28 LED 6V DC 28mA 000 1NC	2381880-9
PBES16L1BR		LED 12V DC 19mA	PBES16 28 LED 12V DC 19mA 000 1NC	1-2381880-0
PBES16L1DR		LED 12 to 24V AC/DC 11mA	PBES16 28 LED 12 to 24V AC/DC/11mA 000 1NC	1-2381880-1
PBES16L1CR		LED 24V DC 12mA	PBES16 28 LED 24V DC 12 mA 000 1NC	1-2381880-2
PBES16L2NR		1NC + 1NO	INCANDESCENT 6VAC/DC 40mA	PBES16 28 INCA 6VAC/DC 40mA 1NC 1NO
PBES16L2HR	INCANDESCENT 6V AC/DC 200mA		PBES16 28 INCA 6V AC/DC 200mA 1NC 1NO	1-2381880-7
PBES16L2OR	INCANDESCENT 14V AC/DC 40mA		PBES16 28 INCA 14V AC/DC 40mA 1NC 1NO	1-2381880-8
PBES16L2IR	INCANDESCENT 14 V AC/DC 80mA		PBES16 28 INCA 14 V AC/DC 80mA 1NC 1NO	1-2381880-9
PBES16L2JR	INCANDESCENT 28V AC/DC 40mA		PBES16 28 INCA 28V AC/DC 40mA 1NC 1NO	2-2381880-0
PBES16L2MR	INCANDESCENT 33V AC/DC 35mA		PBES16 28 INCA 33V AC/DC 35mA 1NC 1NO	2-2381880-1
PBES16L2KR	INCANDESCENT 48V AC/DC 25mA		PBES16 28 INCA 48V AC/DC 25mA 1NC 1NO	2-2381880-2
PBES16L2LR	INCANDESCENT 60V AC/DC 20mA		PBES16 28 INCA 60V AC/DC 20 mA 1NC 1NO	2-2381880-3
PBES16L2AR	LED 6V DC 28mA		PBES16 28 LED 6V DC 28mA 1NC 1NO	2-2381880-4
PBES16L2BR	LED 12V DC 19mA		PBES16 28 LED 12V DC 19mA 1NC 1NO	2-2381880-5
PBES16L2DR	LED 12 to 24V AC/DC 11mA		PBES16 28 LED 12 to 24V AC/DC/11mA 1NC 1NO	2-2381880-6
PBES16L2CR	LED 24V DC 12mA		PBES16 28 LED 24V DC 12 mA 1NC 1NO	2-2381880-7
PBES16L3NR	1NC + 1NC		INCANDESCENT 6VAC/DC 40mA	PBES16 28 INCA 6VAC/DC 40mA 1NC 1NC
PBES16L3HR		INCANDESCENT 6V AC/DC 200mA	PBES16 28 INCA 6V AC/DC 200mA 1NC 1NC	3-2381880-2
PBES16L3OR		INCANDESCENT 14V AC/DC 40mA	PBES16 28 INCA 14V AC/DC 40mA 1NC 1NC	3-2381880-3
PBES16L3IR		INCANDESCENT 14 V AC/DC 80mA	PBES16 28 INCA 14 V AC/DC 80mA 1NC 1NC	3-2381880-4
PBES16L3JR		INCANDESCENT 28V AC/DC 40mA	PBES16 28 INCA 28V AC/DC 40mA 1NC 1NC	3-2381880-5
PBES16L3MR		INCANDESCENT 33V AC/DC 35mA	PBES16 28 INCA 33V AC/DC 35mA 1NC 1NC	3-2381880-6
PBES16L3KR		INCANDESCENT 48V AC/DC 25mA	PBES16 28 INCA 48V AC/DC 25mA 1NC 1NC	3-2381880-7
PBES16L3LR		INCANDESCENT 60V AC/DC 20mA	PBES16 28 INCA 60V AC/DC 20 mA 1NC 1NC	3-2381880-8
PBES16L3AR		LED 6V DC 28mA	PBES16 28 LED 6V DC 28mA 1NC 1NC	3-2381880-9
PBES16L3BR		LED 12V DC 19mA	PBES16 28 LED 12V DC 19mA 1NC 1NC	4-2381880-0
PBES16L3DR		LED 12 to 24V AC/DC 11mA	PBES16 28 LED 12 to 24V AC/DC/11mA 1NC 1NC	4-2381880-1
PBES16L3CR		LED 24V DC 12mA	PBES16 28 LED 24V DC 12 mA 1NC 1NC	4-2381880-2
PBES16L10R		000 + 1NC	NO LAMP	PBES16 28 NO LAMP 000 1NC
PBES16L20R	1NC + 1NO	NO LAMP	PBES16 28 NO LAMP 1NC 1NO	4-2381880-7
PBES16L30R	1NC + 1NC	NO LAMP	PBES16 28 NO LAMP 1NC 1NC	4-2381880-8

PBES16L EMERGENCY STOP SERIES

TE Smart Part Number	Function	Lamp Type	Product Description	TE Part Number
PBES16L1ARE	000 + 1NC	LED 6V DC 28mA	PBES16 28 LED 6V DC 28mA 000 1NC	2463582-1
PBES16L1BRE	000 + 1NC	LED 12V DC 19mA	PBES16 28 LED 12V DC 19mA 000 1NC	2463582-2
PBES16L1CRE	000 + 1NC	LED 24V DC 12mA	PBES16 28 LED 24V DC 12 mA 000 1NC	2463582-3
PBES16L2ORE	1NC + 1NO	NO LAMP	PBES16 28 NO LAMP 1NC 1NO	2463582-4
PBES16L3ORE	1NC + 1NC	NO LAMP	PBES16 28 NO LAMP 1NC 1NC	2463582-5
PBES16L1DRE	000 + 1NC	LED 12-24V AC/DC	PBES16 28 LED 12 to 24V AC/DC 11mA 000 1NC	2463582-6
PBES16L2DRE	1NC + 1NO	LED 12-24V AC/DC	PBES16 28 LED 12 to 24V AC/DC 11mA 1NC 1NO	2463582-7
PBES16L3DRE	1NC + 1NC	LED 12-24V AC/DC	PBES16 28 LED 12 to 24V AC/DC 11mA 1NC 1NC	2463582-8

PBES16N EMERGENCY STOP SERIES

TE Smart Part Number	Function	Lamp Type	Product Description	TE Part Number
PBES16N40R	000 + 1NC	NO LAMP	PBES16 23.8 RB NO LAMP 000 1NC	2381881-1
PBES16N50R	1NC + 1NO	NO LAMP	PBES16 23.8 RB NO LAMP 1NC 1NO	2381881-2
PBES16N60R	1NC + 1NC	NO LAMP	PBES16 23.8 RB NO LAMP 1NC 1NC	2381881-3
PBES16N40RE	000 + 1NC	NO LAMP	PBES16 23.8 RB NO LAMP 000 1NC	2463583-1
PBES16N50RE	1NC + 1NO	NO LAMP	PBES16 23.8 RB NO LAMP 1NC 1NO	2463583-2
PBES16N60RE	1NC + 1NC	NO LAMP	PBES16 23.8 RB NO LAMP 1NC 1NC	2463583-3

Notes:

1. Dimensions in millimetres unless otherwise specified.
2. Dimensions shown for reference purposes only. Specifications subject to change.
3. For email, phone or live chat, go to: www.te.com/help

te.com

© 2023 TE Connectivity Ltd. family of companies. All Rights Reserved.

Alcoswitch, TE Connectivity, TE connectivity (logo) and Every Connection Counts are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this document, owned or licensed by the TE Connectivity family of companies, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any changes to the information contained herein without prior notice. TE Connectivity assumes only those obligations set forth in the terms and conditions for this product and shall in no event be liable for any incidental, indirect, or consequential damages arising out of the sale, resale, use, or misapplication of the product. TE expressly disclaims any implied warranties with respect to the information contained herein, including, but not limited to, implied warranties of merchantability or fitness for a particular purpose. Dimensions, specifications and/or information contained herein are for reference purposes only and are subject to change without notice. Consult TE for the latest dimensions, specifications and/or information. Users of TE Connectivity products must make their own assessment as to whether the respective product is suitable for the respective desired application.

07/23 ED