



# TLP

## PENDANT / FIXED STATION

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Before use, read this booklet carefully to acquaint yourself with the features of the product. This booklet is an integral part of the product and therefore must be kept until the product is dismissed.



Giovenzana International B.V. reserves the right to change the features and data shown in this document at any time and without notice. This document cannot therefore be considered a contract with third parties.



TLP pendant / fixed stations are designed and manufactured according to IEC international standard and EN European regulations.



Improper installation or tampering can cause serious damage to people and property, therefore installation and maintenance must be carried out by specialized and authorized personnel.



The device is not intended for use in environments with a potentially explosive atmosphere or in the presence of corrosive substances and in salt fog.



Single-row pendant station for crane control circuits:

- Bi-directional, mechanically interlocked
- IP65 double insulation IEC / EN 60529
- Laser engraved symbols comply with EN 60204-1, FEM 9.941
- Shock proof and heat resistant
- Contact blocks with spring terminals
- Available in UL/CSA requirements
- Kit version available

# IMPORTANT INFORMATION

THE INFORMATION SHOWN ON THIS PAGE IS ESSENTIAL FOR THE CORRECT INTERPRETATION OF WHAT HAS BEEN EXPOSED IN THIS BOOKLET.

## Symbols

The following symbols are used in this booklet:



Read carefully before use.



Information note.



ATTENTION, the information highlighted by this symbol is very important.

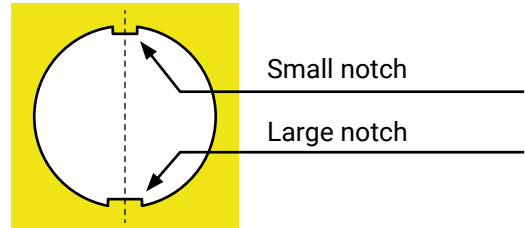


DANGER, the information highlighted by this symbol concerns environments with a potentially explosive atmosphere or the presence of corrosive substances and salt fog.



This symbol highlights the recommended tightening torques to guarantee the degree of protection of the product and to prevent it from breaking.

## Orientation and type of operators



The operators' housing holes follow the diagram shown in the figure (**vertical**).



### ATTENTION

IT IS DANGEROUS TO OPERATE THE PUSH-BUTTONS AT THE SAME TIME

## Tools required (not supplied)



Phillips screwdriver



Flathead screwdriver



Torque screwdriver with its flat and Phillips heads



Scissors

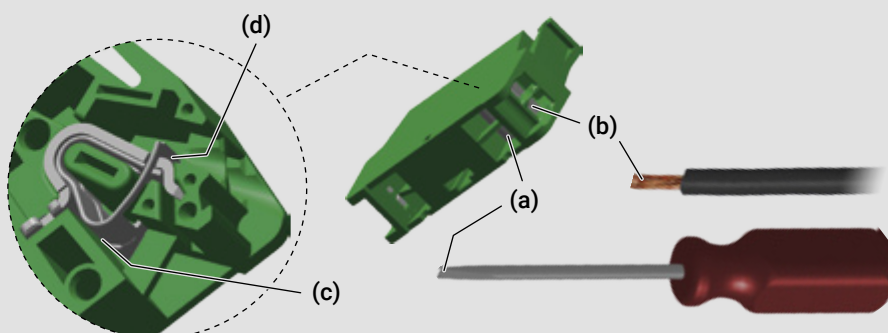


PCF key (to be purchased separately)



Wrench 33 mm

## Contact block with spring terminals



Insert the flathead screwdriver into the opening (a) and turn it half a turn. Insert the end of the cable into the opening (b) and remove the screwdriver to lock the end of the cable. In detail, the mechanical action of the screwdriver on (c) opens (d) and allows to insert the end of the cable.

# TECHNICAL CHARACTERISTICS

## Pendant station technical data

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Compliant to standards		IEC / EN60947-5-1
Material		PP
Material group		II
Pollution class		3
Temperature	operating storage	-25°C ... +70°C -30°C ... +70°C
Climate resistance	IEC68 part 2-3 IEC68 part 2-30	hot damp unsettled hot damp
Cable entry		cable gland M20
Weight		120 ... 314 g

## Versions

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- TLP1.EPP - TLP1.ESR
- TLP2
- TLP3.B - TLP3.D
- TLP4.E - TLP4.C

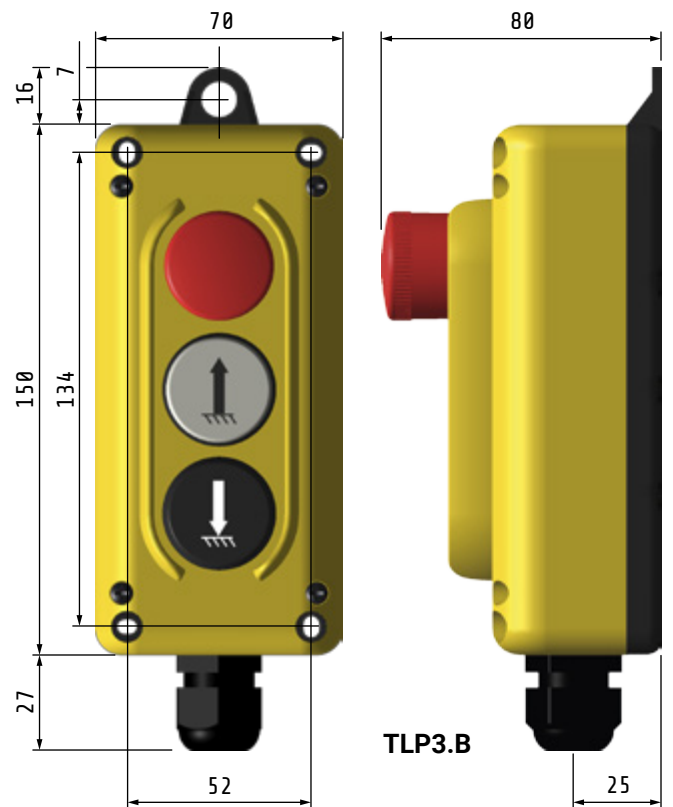
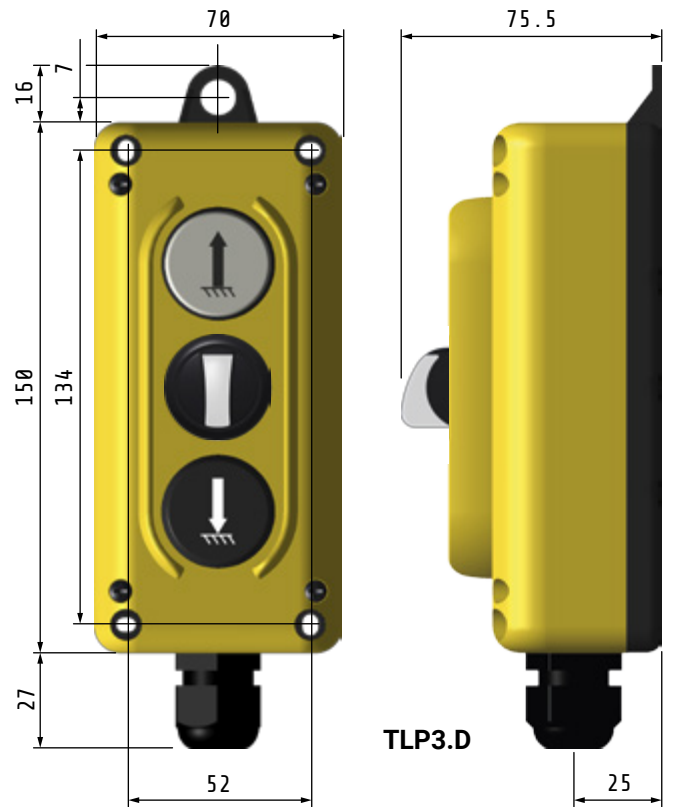
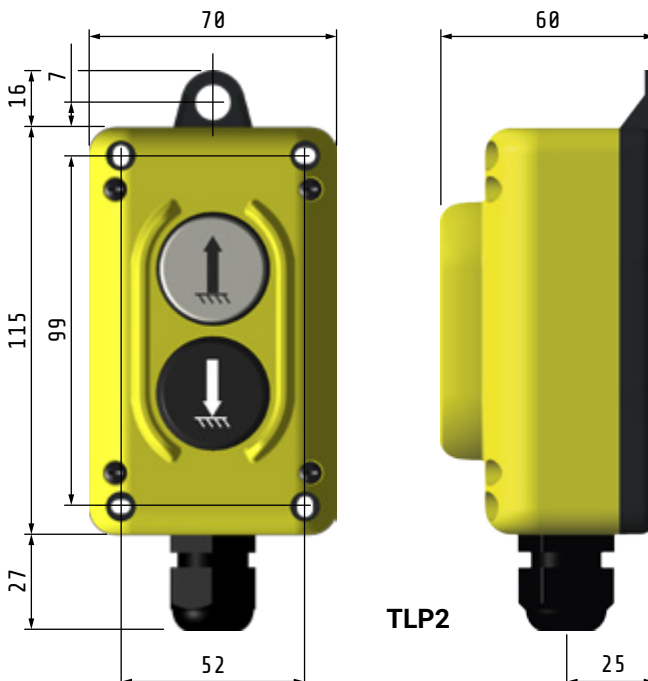
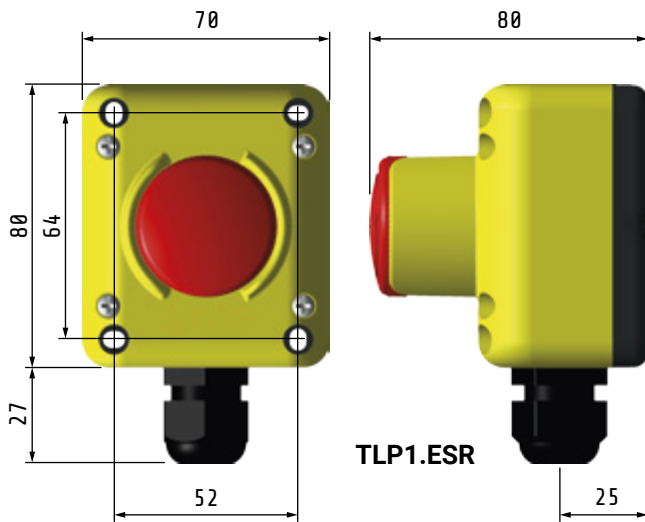
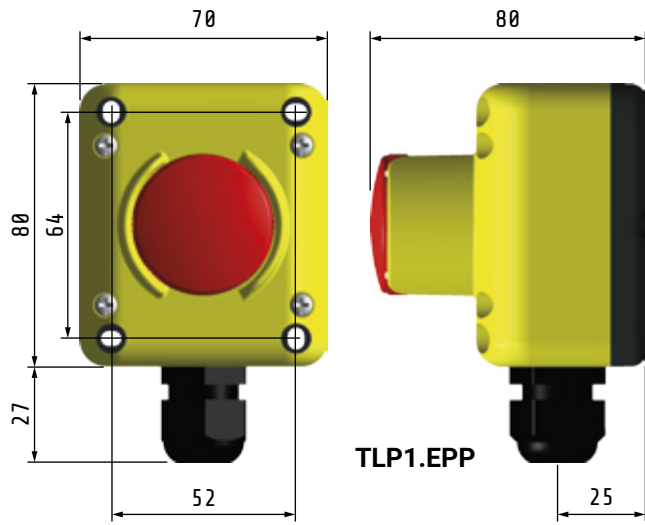
## Compliance and certifications

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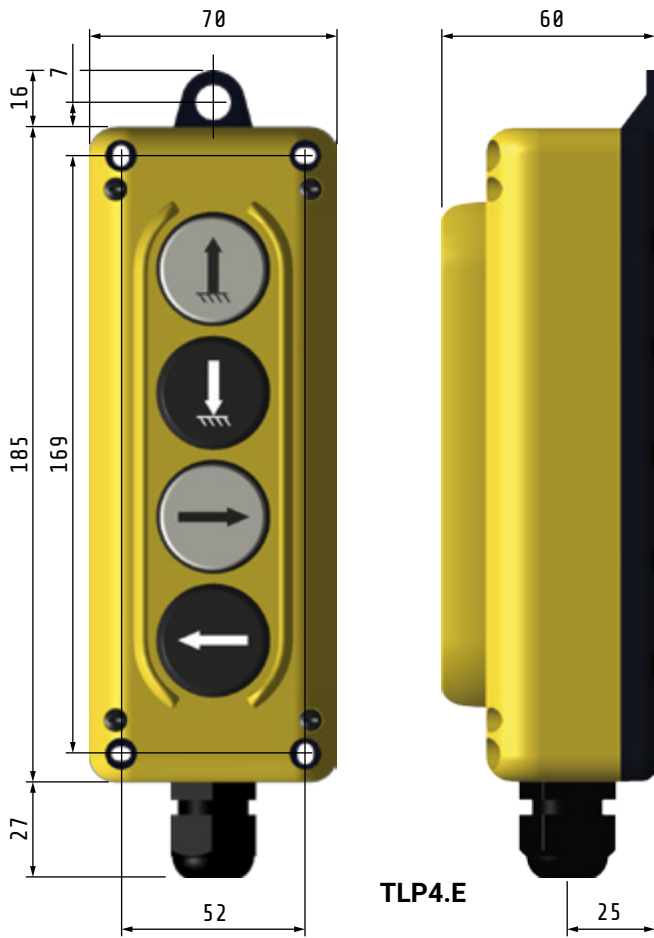
- 2014/35/UE
- 2011/65/UE RoHS
- EN 60947-1 (2007/A1 : 2011/A2 : 2014)
- EN 60947-5-1 (2004/A1 : 2009/AC : 2004/AC : 2005  
EN ISO 13850 2015)
- EN 60204-1 (2006/A1 : 2009)
- EN-ISO 13849-1 (2015)
- EN ISO 13849-2 (2012)
- EN 60529 (1991/A1 : 2000/A2 : 2013)

## Dimensions

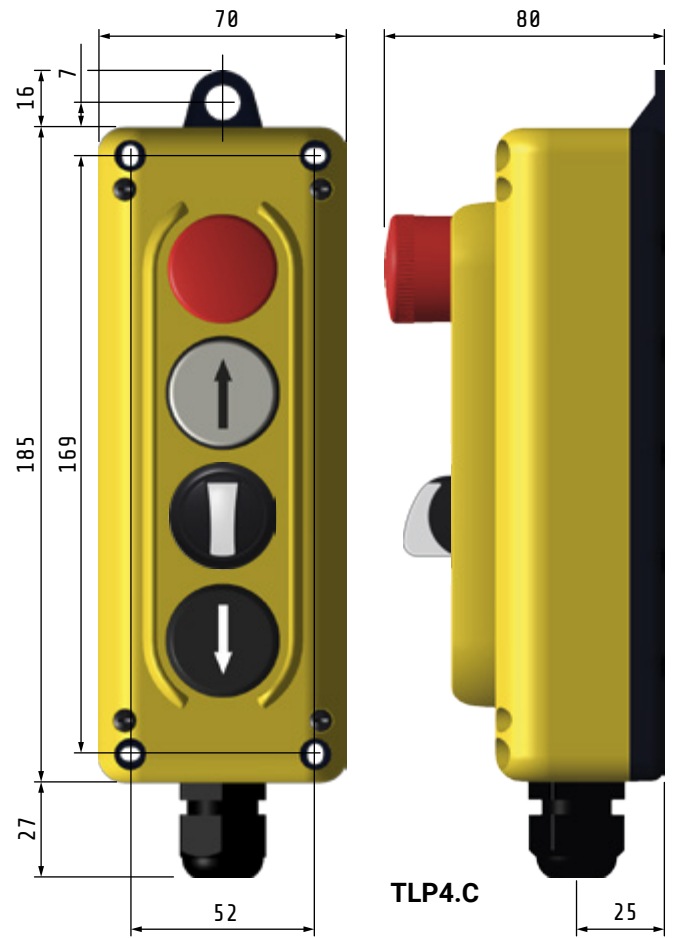
Dimensions in mm  
Drawing NOT in scale



Dimensions in mm  
Drawing NOT in scale



**TLP4.E**



**TLP4.C**

# STANDARD VERSIONS



TLP1.EPP



TLP1.ESR



TLP2



TLP3.B



TLP3.D



TLP4.E



TLP4.C

## Standard button / contact combination



PCW01 (NC)  
red



PCW10 (NO)  
green



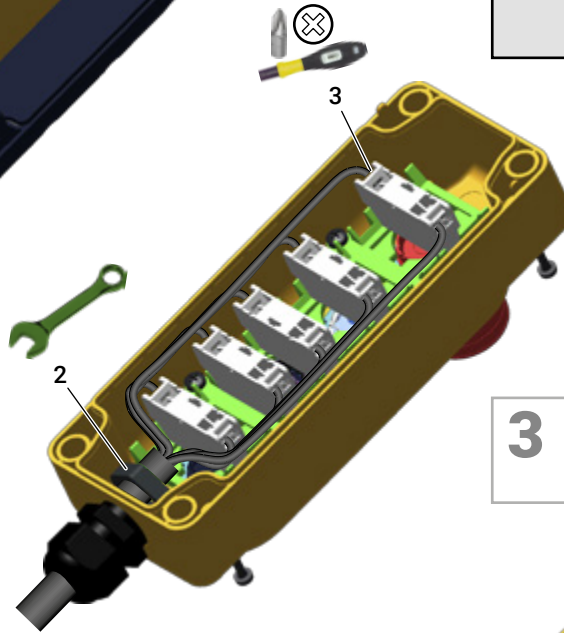
# STANDARD VERSIONS WIRING

**1** Loosen the screws (a) to remove the bottom (b) of the pendant station.



**ATTENTION**  
The illustrations show a pendant station of TLP4... series: the same operations are valid for the other pendant stations.

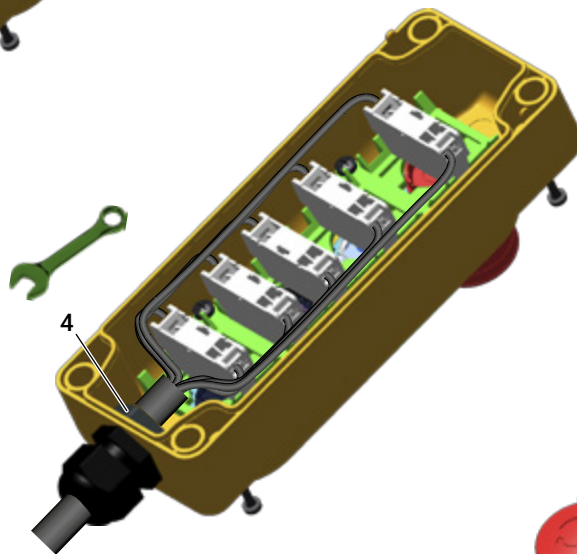
**2** Loosen the cable clamp nut with a 33 mm wrench and insert a cable suitable for the wiring to be carried out.



**ATTENTION**  
The sections that can be connected to the contact blocks are shown in the paragraph "CHARACTERISTICS OF CONTACT BLOCKS FOR STANDARD VERSIONS" on page 8.

**3** Wire the contact blocks following the procedure "Contact block with spring terminals" on page 2.

**4** Tighten the cable clamp with a 33 mm wrench.



**TIGHTENING TORQUE**  
1.2-1.4 N×m  
10.6-12.4 lb×in

**ATTENTION**  
Is shown the wiring of a push-button panel with only one contact element per key. The procedure is identical for 2 or 3 contact elements per key.

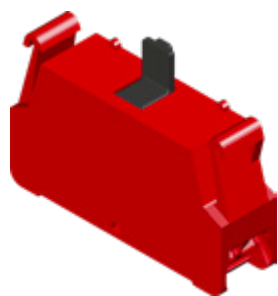
**5** Refit the bottom of the pendant station and screw it in place.

**TIGHTENING TORQUE**  
1.3-1.7 N×m  
11.5-15 lb×in



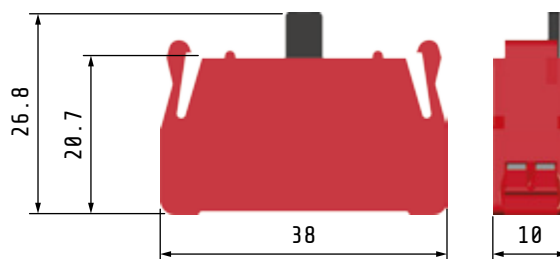
# CHARACTERISTICS OF CONTACT BLOCKS

## PCW01

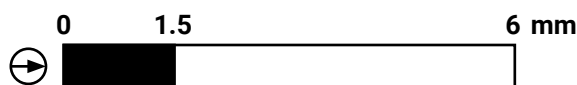


NC  
Red

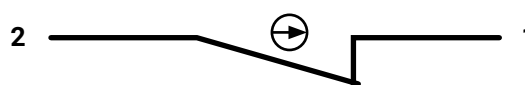
Contact block  
with spring  
terminals



### Functions



### Scheme



Rated insulation voltage	Ui	690 V *
Rated impulse withstand voltage	Uimp	4 kV *
Frequency		50/60 Hz *
Rated thermal current	Ith	16 A *
Rated operating current	Ithe	10 A

### Rated operating current

**Ie**

AC-15 alternate current	24	60	110	240	400	440	500	690	V
	16*	12	5	5*	4	4	4*	2*	A

DC-13 direct current	24	48	60	110	250	220	V
	2	2*	1*	0.4	0.4*	0.25	A

Minimum constant current	1 mA @ 5 Vdc, 1 mA @ 24 Vdc			
Conditional short circuit withstand current	1000 A *			
Fuses rating gG	10 A * - 500 V			
Contact insulation resistance	≤ 25 mΩ			
Switching mechanism	slow break double gap contacts			
Positive operation	NC contact block ⊖			
Operating force	4 N			
Electric durability AC-15	1	2	3	A
	1.5	0.5	0.25	millions of cycles
Terminal type	spring contacts			
Terminal capacity	No. 1 or 2 flexible and solid conductor 1... 2.5 mm <sup>2</sup> 12-18 AWG			

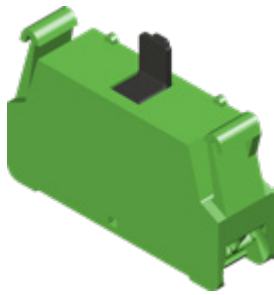
### UL508 characteristics

Rated insulation voltage	Ui	10 A - 600 V ac / 2.5 A - 125 V dc
Rated impulse withstand voltage	Uimp	A600 - Q600

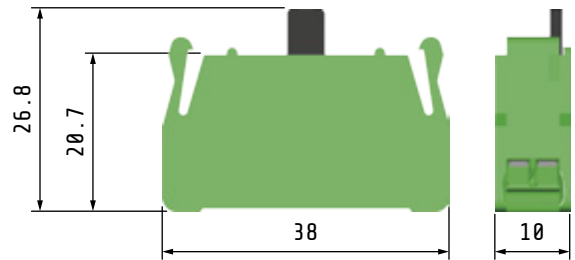
\* IMQ approved values



# PCW10



NO  
Green  
Contact block  
with spring  
terminals



## Functions



## Scheme



Rated insulation voltage	Ui	690 V *
Rated impulse withstand voltage	Uimp	4 kV *
Frequency		50/60 Hz *
Rated thermal current	Ith	16 A *
Rated operating current	Ithe	10 A

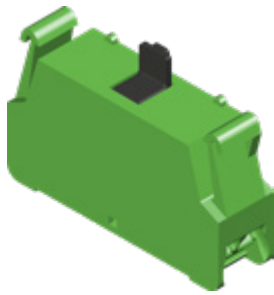
Rated operating current	Ie									
AC-15 alternate current	24	60	110	240	400	440	500	690	V	
	16*	12	5	5*	4	4	4*	2*	A	
DC-13 direct current	24	48	60	110	250	V				
	2	2*	1*	0.4	0.4*	A				
Minimum constant current	1 mA @ 5 Vdc, 1 mA @ 24 Vdc									
Conditional short circuit withstand current	1000 A *									
Fuses rating gG	10 A * - 500 V									
Contact insulation resistance	≤ 25 mΩ									
Switching mechanism	slow break double gap contacts									
Operating force	4 N									
Electric durability AC-15	1	2	3	A						
	1.5	0.5	0.25	millions of cycles						
Terminal type	spring contacts									
Terminal capacity	No. 1 or 2 flexible and solid conductor 1... 2.5 mm <sup>2</sup>									

## UL508 characteristics

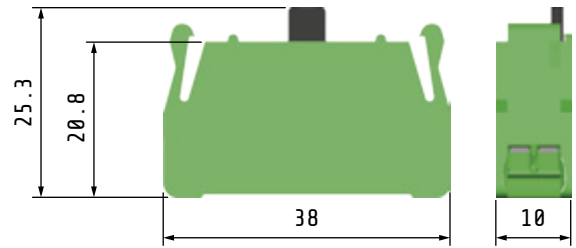
Rated insulation voltage	Ui	10 A - 600 V ac / 2.5 A - 125 V dc
Rated impulse withstand voltage	Uimp	A600 - Q600

\* IMQ approved values

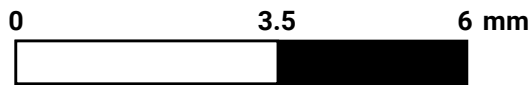
# PCW02



NO  
Green  
Contact block  
with spring  
terminals

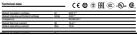


## Functions



## Scheme

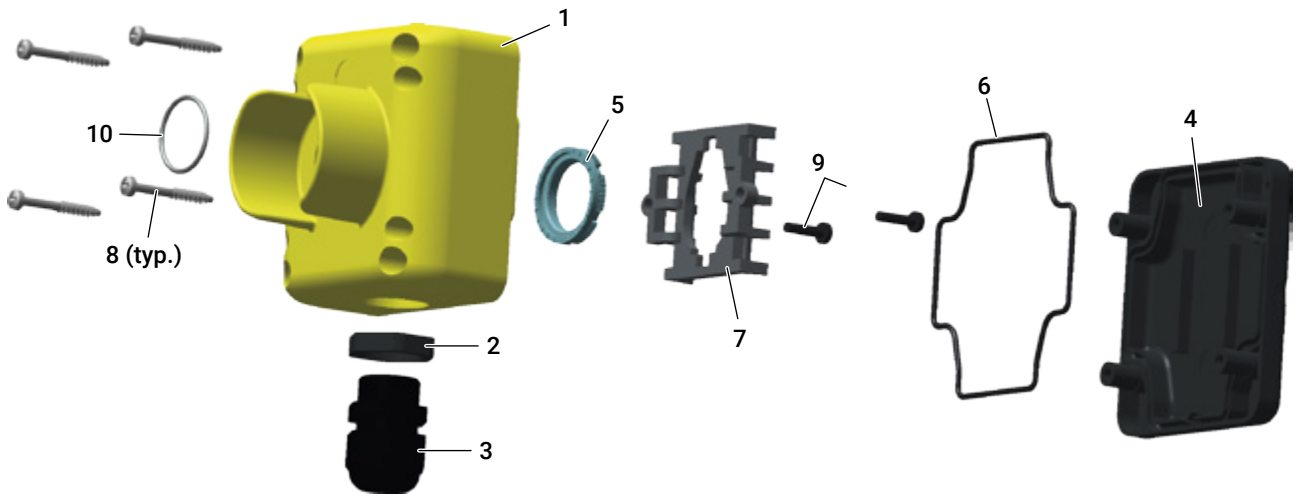


Rated insulation voltage	Ui	690 V *								
Rated impulse withstand voltage	Uimp	4 kV *								
Frequency		50/60 Hz *								
Rated thermal current	Ith	16 A *								
Rated operating current	Ithe	10 A								
<b>Rated operating current</b>		<b>Ie</b>								
AC-15 alternate current		24	60	110	240	400	440	500	690	V
		16*	12	5	5*	4	4	4*	2*	A
DC-13 direct current		24	48	60	110	250	V			
		2	2*	1*	0.4	0.4*	A			
Conditional short circuit withstand current		1000 A *								
Fuses rating gG		10 A * - 500 V								
Contact insulation resistance		≤ 25 mΩ								
Switching mechanism		snap break								
Operating force		4 N								
Electric durability AC-15		1	2	3	A					
		1.5	0.5	0.25	millions of cycles					
Terminal type		vite M3.5								
Terminal capacity		No. 1 or 2 flexible and solid conductor 1... 2.5 mm <sup>2</sup>								
<b>UL508 characteristics</b>										
Rated insulation voltage	Ui	10 A - 600 V ac / 2.5 A - 125 V dc								
Rated impulse withstand voltage	Uimp	A600 - Q600								

\* IMQ approved values

# CUSTOM KIT

## TLP2K



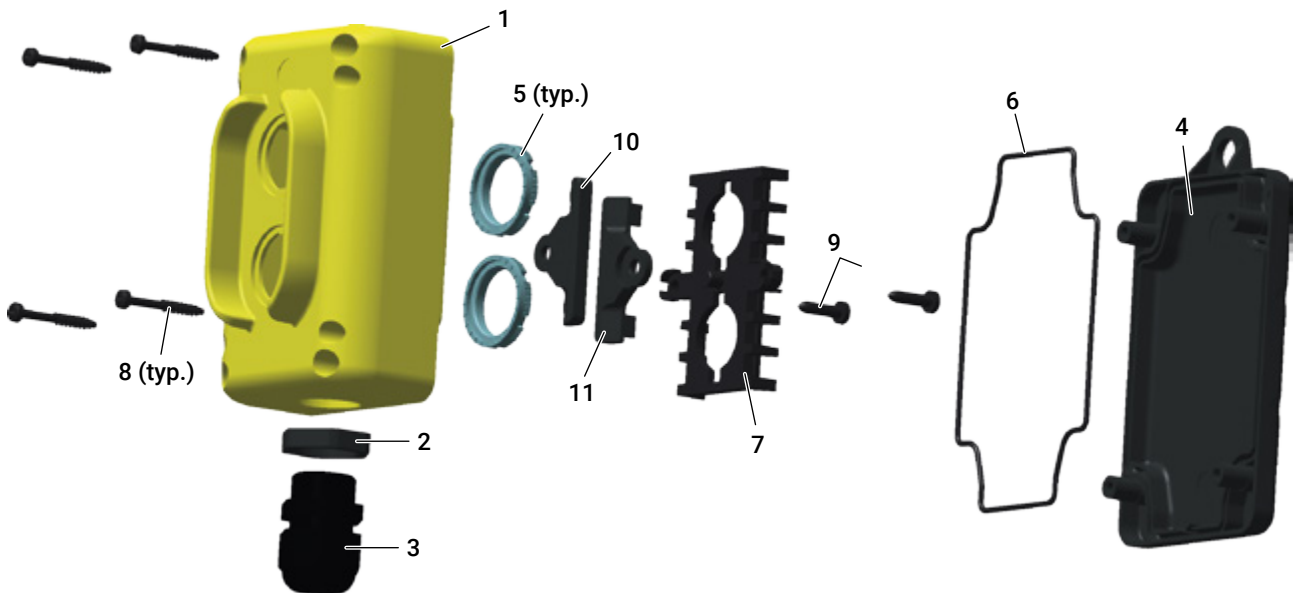
1	Pendant station cover	1x
2	Nut M20x1.5	1x
3	Cable clamp	1x
4	Pendant station base	1x
5	Threaded ring nut M22x1	1x
6	Gasket	1x
7	4 spring contact blocks support	1x

8	Self-tapping screw 4x30 partial thread	4x
9	Self-tapping screw 3.5x9.5	2x
10	O-ring	1x

Components excluded that must be ordered separately:

- Operators
- Contact blocks

## TLP3K



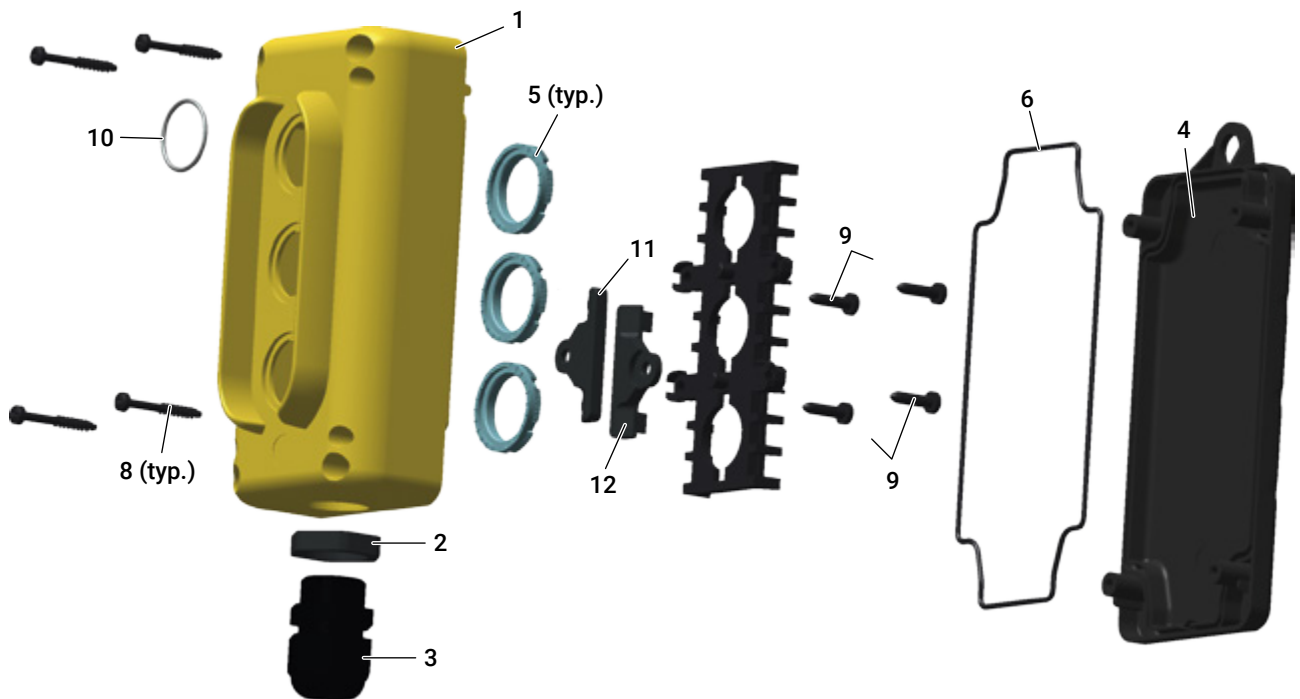
1	Pendant station cover	1x
2	Nut M20x1.5	1x
3	Cable clamp	1x
4	Pendant station base	1x
5	Threaded ring nut M22x1	2x
6	Gasket	1x
7	Coupling plate with 2 holes	1x

8	Self-tapping screw 4x30 partial thread	4x
9	Self-tapping screw 3.5x9.5	2x
10	Bottom mechanical interlock 16 A	1x
11	Top mechanical interlock 16 A	1x

Components excluded that must be ordered separately:

- Operators
- Contact blocks

## TLP3K

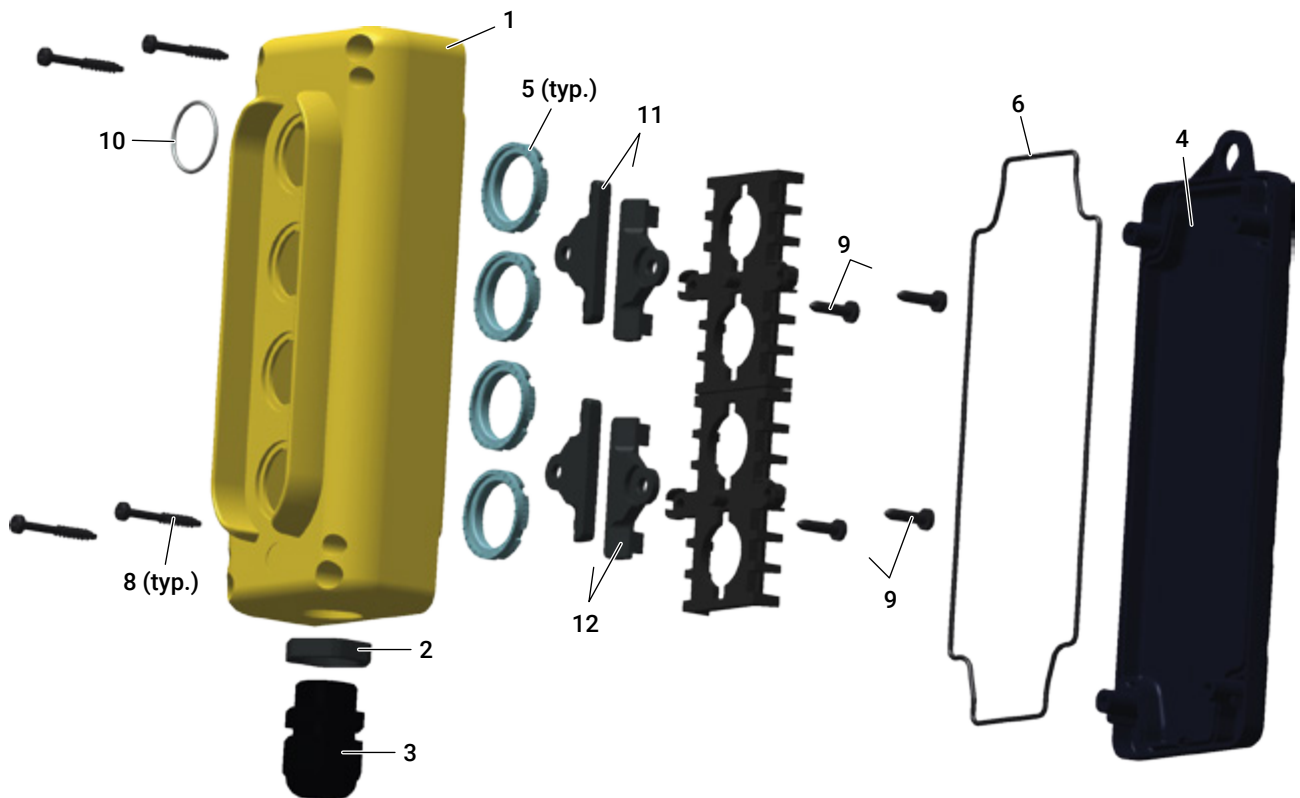


1	Pendant station cover	1×
2	Nut M20×1.5	1×
3	Cable clamp	1×
4	Pendant station base	1×
5	Threaded ring nut M22×1	3×
6	Gasket	1×
7	Coupling plate with 3 holes	1×
8	Self-tapping screw 4×30 partial thread	4×
9	Self-tapping screw 3.5×9.5	4×
10	O-ring	1×
11	Bottom mechanical interlock 16 A	1×
12	Top mechanical interlock 16 A	1×

Components excluded that must be ordered separately:

- Operators
- Contact blocks

## TLP4K



1	Pendant station cover	1×
2	Nut M20×1.5	1×
3	Cable clamp	1×
4	Pendant station base	1×
5	Threaded ring nut M22×1	4×
6	Gasket	1×
7	Coupling plate with 2 holes	2×
8	Self-tapping screw 4×30 partial thread	4×
9	Self-tapping screw 3.5×9.5	4×
10	O-ring	1×
11	Bottom mechanical interlock 16 A	2×
12	Top mechanical interlock 16 A	2×

Components excluded that must be ordered separately:

- Operators
- Contact blocks

# OPERATORS FOR CUSTOM KIT

## Operators without wording (code PL...)

Pair with the contact block with the matching label

**A**



PL005019



PL005004



PL005020



PL005005



PL005031



PL005016



PL005027



PL005012



PL005028



PL005013



PL005032



PL005017



PL005023



PL005008



PL005024



PL005009



PL005033



PL005018



PL005033



PL005018



PL005001



PL005002



PL005003

Symbols according to FEM 9.941. Customized engraving available on minimum quantity request.



## Neutral operators (code PL...)

Pair with the contact block with the matching label

**A**



PL005034 (blue)



PL005035 (white)



PL005036 (black)



PL005037 (red)



PL005038 (green)



PL005039 (yellow)

## Gems

Pair with the contact block with the matching label

**B**



PL008001 (red)



PL008002 (green)



PL008003 (yellow)



PL008004 (blue)



PL008005 (white)

## Mushrooms and selectors

Pair with the contact block with the matching label

**A**

Emergency mushroom Ø40 momentary



PL013003

Emergency mushroom Ø40 key unlock



PPFN1C4NX

Emergency mushroom Ø30 rotation unlock



PL013001 with vision

Emergency mushroom Ø30 rotation unlock



PL013002 standard

Handle selector



PL007001 0-1 / 90°  
PL007002 1-0-2 / 45°  
PL007003 1>0<2 / 45°

Handle selector with removable key in "0"



PL006001 0-1 / 90°  
PL006002 1-0-2 / 45°  
PL006004 1>0<2 / 45°

## Other components

**/**

Hole plug



PL015001

Fixing key



PCF

# CONTACT BLOCK FOR CUSTOM KIT

## Contact blocks

Pair with the operator  
with the matching label

**A**



NC  
PCW01



NO  
PCW10

## Lights

Pair with the operator  
with the matching label

**B**



PCW5L12 (AC/DC 12 V)  
PCW5L24 (AC/DC 24 V)  
PCW5L48 (AC/DC 48 V)  
PCW5L110 (AC/DC 110 V)  
PCW5L220 (AC 220 V)



PCWAD

# CUSTOM PENDANT STATION ASSEMBLY

## Cable clamp

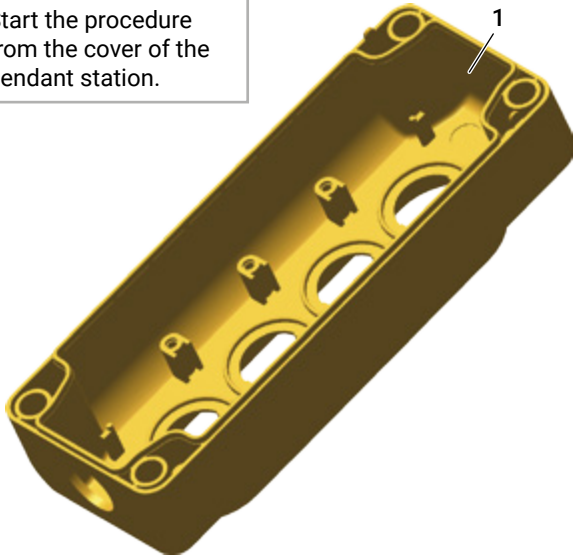


### ATTENTION

The illustrations show a pendant station of TLP4... series: the same operations are valid for the other pendant stations.

**1**

Start the procedure from the cover of the pendant station.

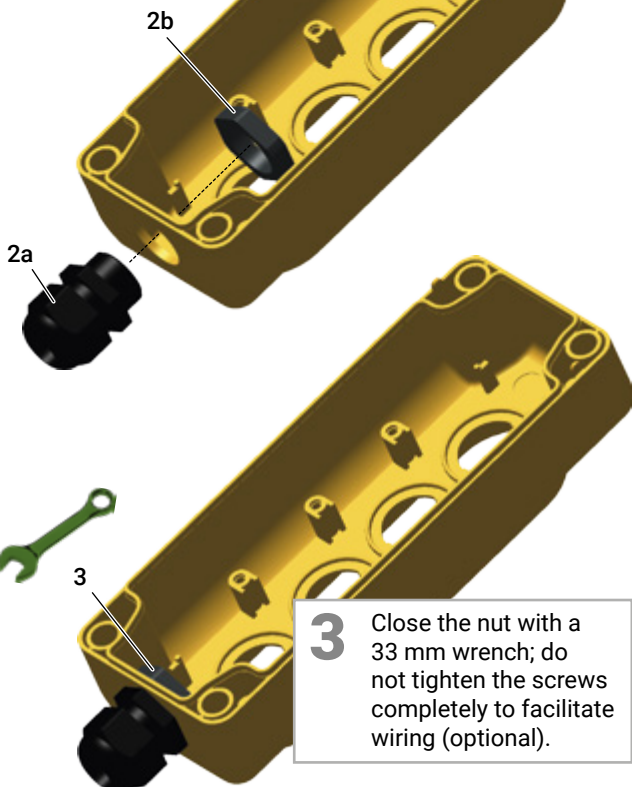


### ATTENTION

Place carefully the cable clamp to ensure the seal of the pendant station.

**2**

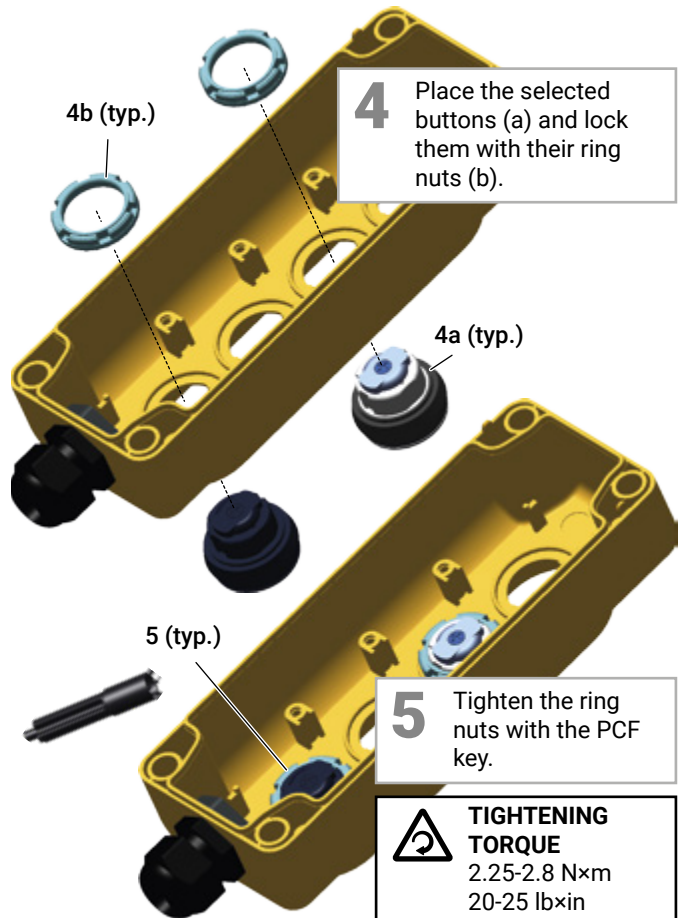
Assemble the cable clamp (a) with the fixing nut (b).



**3**

Close the nut with a 33 mm wrench; do not tighten the screws completely to facilitate wiring (optional).

## Operators



**4**

Place the selected buttons (a) and lock them with their ring nuts (b).

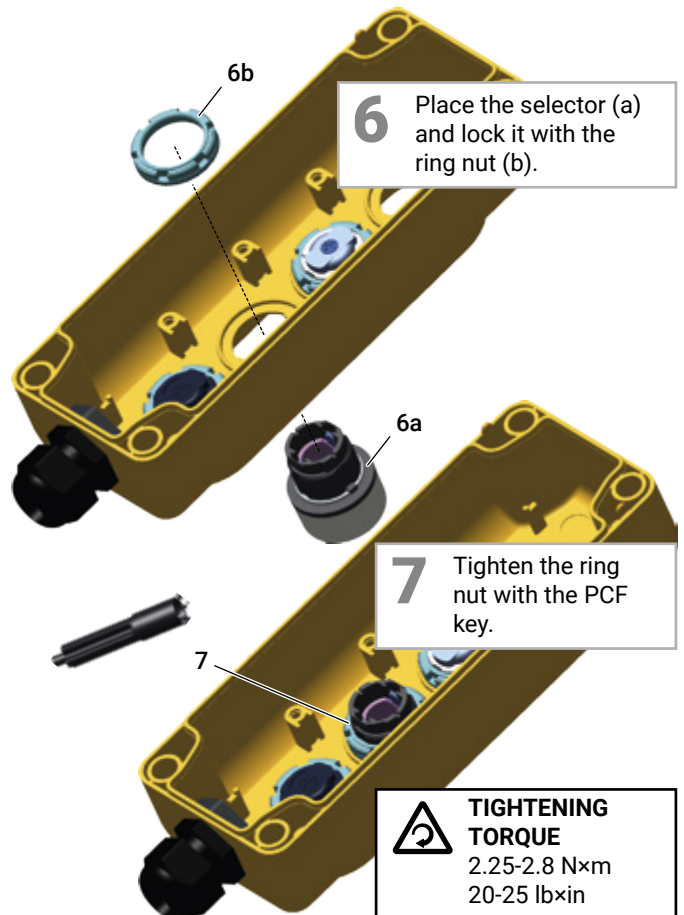
**5**

Tighten the ring nuts with the PCF key.



### TIGHTENING TORQUE

2.25-2.8 N×m  
20-25 lb×in



**6**

Place the selector (a) and lock it with the ring nut (b).

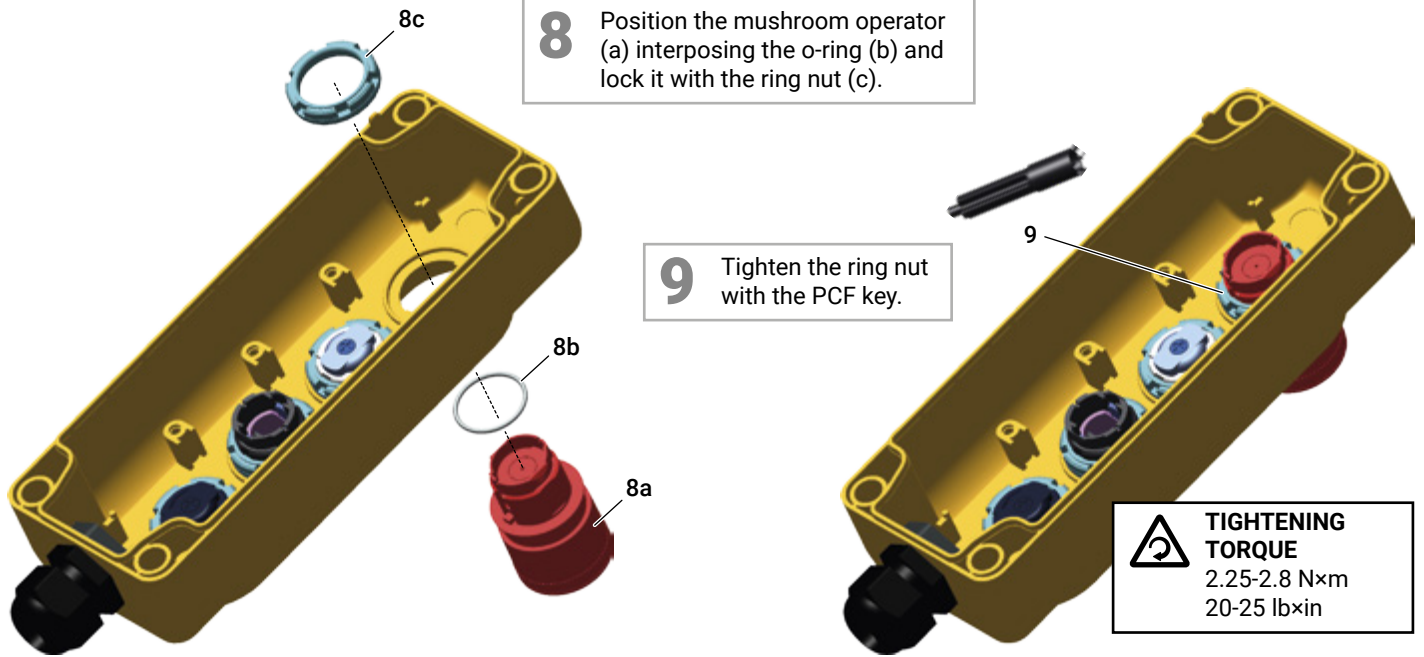
**7**

Tighten the ring nut with the PCF key.

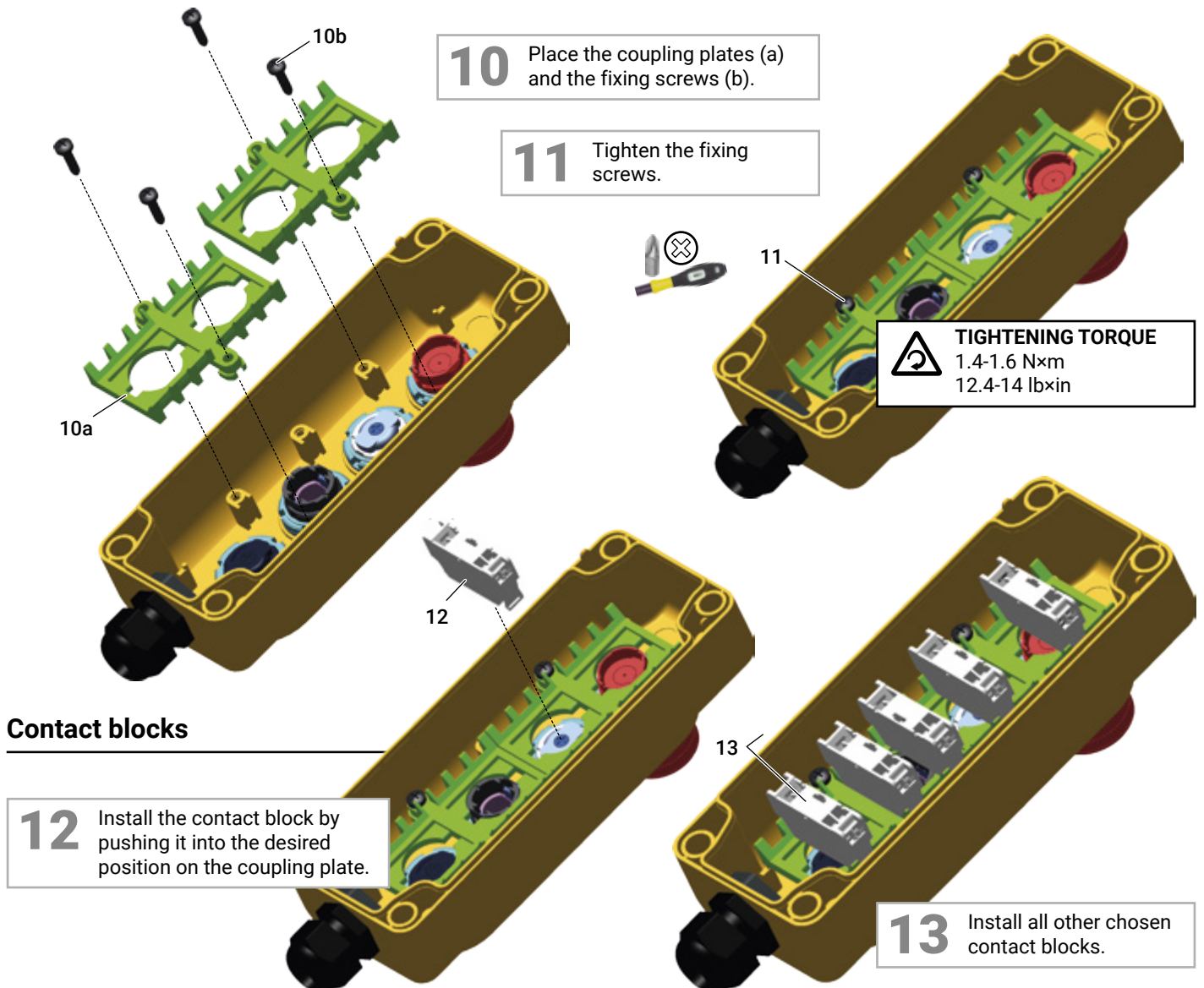


### TIGHTENING TORQUE

2.25-2.8 N×m  
20-25 lb×in



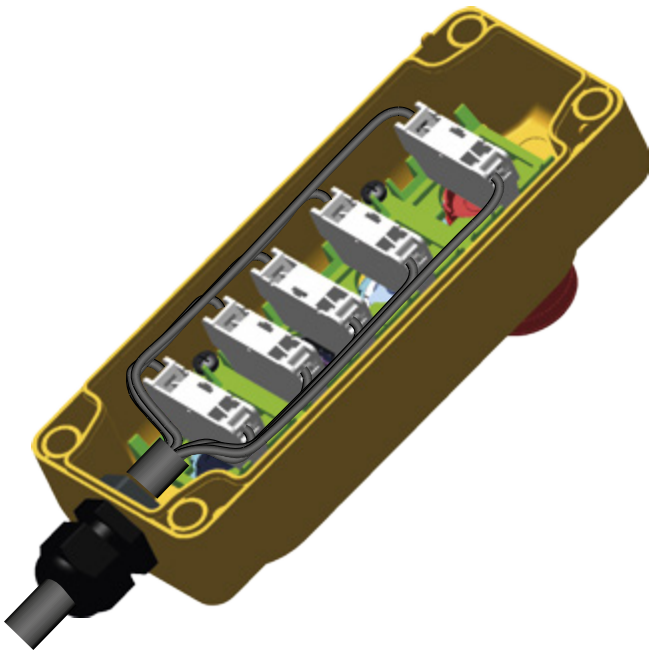
## Coupling plates



## Contact blocks



## Wiring



### ATTENTION

Wiring is optional and can be carried out later.



### ATTENTION

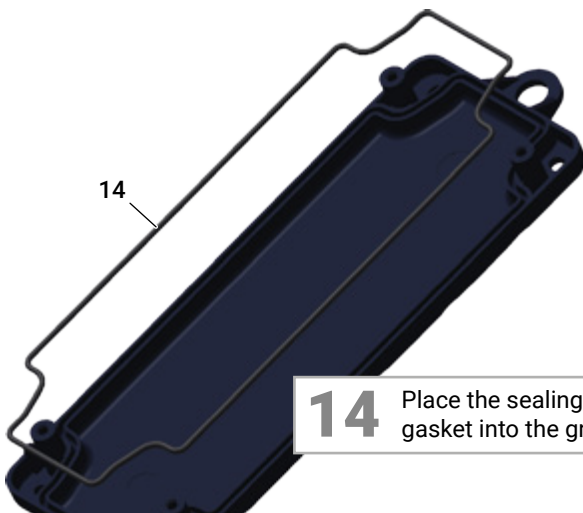
Wire as shown in the paragraph "STANDARD VERSIONS WIRING" on page 7



### ATTENTION

The sections that can be connected to the contact blocks are shown in the paragraph "CHARACTERISTICS OF CONTACT BLOCKS FOR STANDARD VERSIONS" on page 8 e nel paragrafo "CHARACTERISTICS OF ADDITIONAL CONTACT BLOCKS" on page 20

## Pendant station base



14

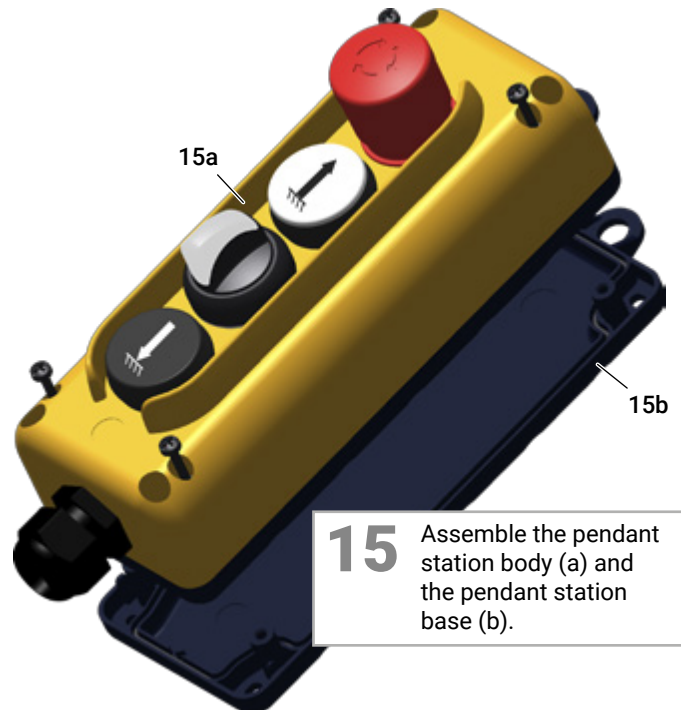
Place the sealing gasket into the groove.



### ATTENTION

Carefully position the sealing gasket to ensure tightness.

## Close the pendant station



15

Assemble the pendant station body (a) and the pendant station base (b).

16

Tighten the fixing screws of the base of the pendant station.

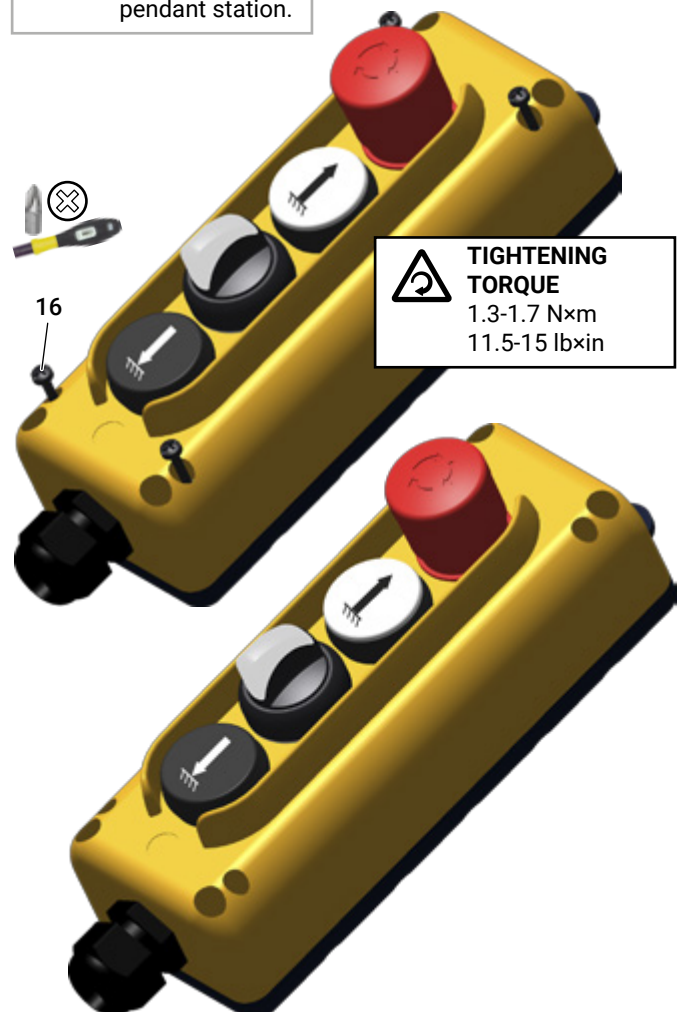


16



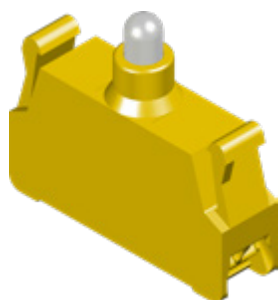
### TIGHTENING TORQUE

1.3-1.7 Nxm  
11.5-15 lbxin



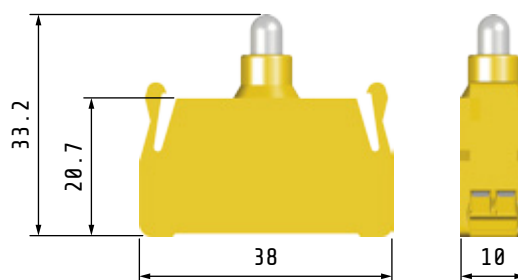
# CHARACTERISTICS OF ADDITIONAL CONTACT BLOCKS

## PCW5L...



Yellow

Contact block with spring terminals



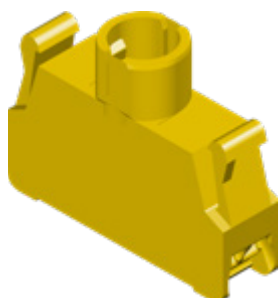
Scheme



Power supply

PCW5L12	AC/DC 12 V
PCW5L24	AC/DC 24 V
PCW5L48	AC/DC 48 V
PCW5L110	AC/DC 110 V
PCW5L220	AC 220 V

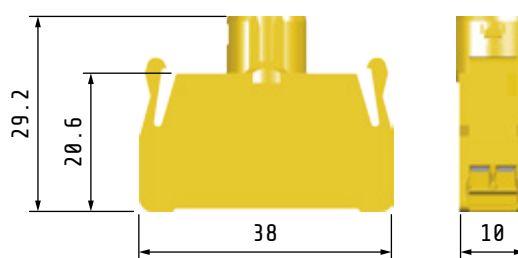
## PCWAD



Yellow

Contact block with spring terminals

Light bulb non included



Scheme



Connection		BA9s
Power supply	max	400 V
Absorbed power	max	2.4 W