ALPHA

Pendant control station

Features

Alpha is available with 2 to 13 buttons arranged on a double row to allow for pairing of opposite functions and reducing overall dimensions.

The space available for the conductors is dimensioned for a 48 x 1.5 mm^2 or 30 x 2.5 mm^2 cable. All switches have terminals facing the cable clamp of the pendant station and screws on the opposite side to facilitate wiring. All electric connections use screw-type terminals.

The emergency stop mushroom pushbutton complies with the EN 418 standard and it is equipped with positive opening NC switches.

Materials

Materials and components are wear resistant and protect the equipment against water and dust. Alpha can be customised with labels and colours according to the customer's requirements.

The Alpha pendant control station is a control device for all industrial machinery. It operates as an auxiliary controller of electrical motors through a power interface, such as a contactor or PLC. Designed for heavy duty, Alpha is aimed specifically for the industrial market.

Design

Alpha has an innovative design, where all graphic elements are linked to specific technical functions. Size and shape, resulting from a thorough analysis of the ergonomic features of the product, combined with the research of a graphic style suitable for a modern industrial environment, make Alpha easy to operate. Alpha has been designed to facilitate wiring and maintenance, thus reducing time for the first installation and saving on costs.

The pendant station has an angle of inclination which allows the best view of all control elements, allowing the operator to work in a natural and non-tiring position. It is ideal for all environmental and working conditions due to the extremely reduced overall dimensions and the antislip lines on the enclosure.

| Industrial lifting | Construction lifting | Industrial automation | Stage technology |

Standards - Markings - homologations

- Conformity to Community Directives:
  2006/95/CE: Low Voltage Directive
  2006/42/CE: Machinery Directive
- Conformity to Standards:
  EN 60204-1 Safety of machinery - Electrical equipment of machines
  EN 60947-1 Low-voltage switchgear and controlgear

EN 60947-5-1 Low-voltage switchgear and controlgear - Control circuit devices and switching elements - Electromechanical control circuit devices

EN 60529 Degrees of protection provided by enclosures

EN 418 Safety of machinery - Emergency stop equipment, functional aspects

- Markings and homologations: $C \epsilon$

General technical specifications

- Storage ambient temperature: -40°C/+70°C
- Operational ambient temperature: -25°C/+70°C
- Protection degree: IP 65
- Insulation category: Class II

- Cable entry: rubber cable sleeve (Ø 14÷26 mm)
- Operating positions: any position
- Markings and homologations: $C \epsilon$

Technical specifications of the microswitches

- Utilisation category: AC 15
- Rated operational current: 3 A
- Rated operational voltage: 250 V
- Rated thermal current: 10 A
- Rated insulation voltage: 500 V~
- Mechanical life: 0.5×10^6 operations
- Terminal referencing: according to EN 50013
- Connections: screw-type terminals
- Wires: 1x2.5 mm^2, 2x1.5 mm^2
  (UL - (c)UL: use 60°C or 75°C copper (CU) conductor and wire 16-18 AWG)
- Tightening torque: 0.6 Nm
- Markings and homologations: $C \epsilon$ $_c$(U)$_{us}$

The single switches PRSL1000PI and PRSL1001PI have 1 NO or 1 NC contact with 2 connecting terminals.

The double switch PRSL1002PI (1 speed) has:
- 1 NO contact with 1 connecting terminal for each opposite function
- 1 single terminal for both functions
- electrical interlock.

The double switch PRSL1003PI (2 speeds) has:
- 1 NO contact with 1 connecting terminal for the first speed for each opposite function
- 1 NO contact with 1 connecting terminal for the second speed for both functions
- 1 single terminal for both functions
- electrical interlock.

All NC contacts are of the positive opening operation type.
The switches have the following reference for internal wiring.

PRSL1000PI   PRSL1001PI   PRSL1002PI   PRSL1003PI
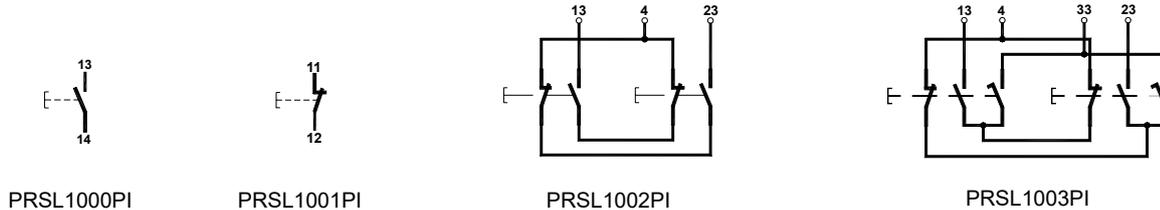
Overall dimensions (mm)

No. of buttons	Length (mm)
	A
4 - 5	220
8 - 9	320
12 -13	382

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Components

Switches

Ref	Drawing	Description	Scheme	Code
17		Lamp holder	-	PRSL1004PI
19		NO switch	13 / 14	PRSL1000PI
19		NC switch	11 / 12	PRSL1001PI
25		1NO+1NO+common 1 speed double switch	13 4 23	PRSL1002PI
25		1NO+1NO+1NO+common 2 speed double switch	13 4 33 23	PRSL1003PI
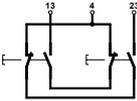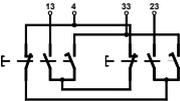
Actuators

Ref	Drawing	Description	Code
05+06+29		Single pushbutton	PRTS000001
09+32+29		Blanking plug	PRSL1023PI
26		Holding plate for rubber	PRSL8737PI
27+28		Double pushbutton	PRTD000001

Pilot lights

Ref	Drawing	Description	Code
08+32+29		Red pilot light	PRSL1012PI
08+32+29		Yellow pilot light	PRSL1013PI
08+32+29		Green pilot light	PRSL1014PI

Mushroom pushbuttons

Ref	Drawing	Description	Code
33+32+29		Emergency stop mushroom pushbutton	PRSL1009PI

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REF	DRAWING	DESCRIPTION	CODE
07+32+29		Spring return selector switch 0/1	PRSL1015PI
		Maintained positions selector switch 0/1	PRSL1016PI
		Spring return selector switch 1/0/2	PRSL1026PI
		Maintained positions selector switch 1/0/2	PRSL1027PI
13+32+29		Maintained positions key selector switch 0/1	PRSL1017PI
		Spring return key selector switch 0/1	PRSL1024PI

Accessories

REF	DRAWING	DESCRIPTION	CODE
01		Cable sleeve	PRSL0145PE
02		Cable cover	PRSL5603PI
04		Hook	PRGA0020PE
10		Label	ET38xxxxxx Codes on request
11		Cover 2/4 actuators	PRSL5607PI
		Cover 3/5 actuators	PRSL5611PI
		Cover 6/8 actuators	PRSL5608PI
		Cover 7/9 actuators	PRSL5612PI
		Cover 10/12 actuators	PRSL5609PI
		Cover 11/13 actuators	PRSL5613PI
15		Lower hook	PRGA0051PE
16		Holding plate for 3+3 switches	PRSL8736PI
18		Holding plate for 2+2 switches	PRSL8735PI
23+22+21+20		Enclosure 2/3/4/5 actuators	PRSL5066PI
		Enclosure 6/7/8/9 actuators	PRSL5067PI
		Enclosure 10/11/12/13 actuators	PRSL5068PI
30		Holding plate for 3 switches	PRSL8739PI
31+20		Cable clamp	PRSL1020PI
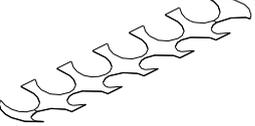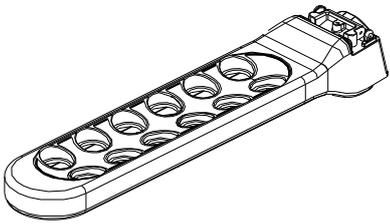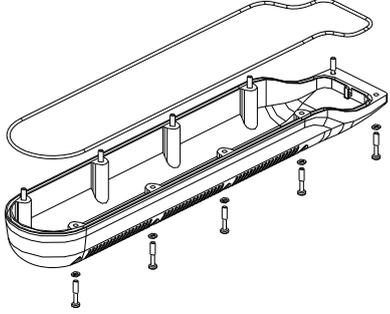
ALPHA - PENDANT CONTROL STATION

Overall dimensions (mm)
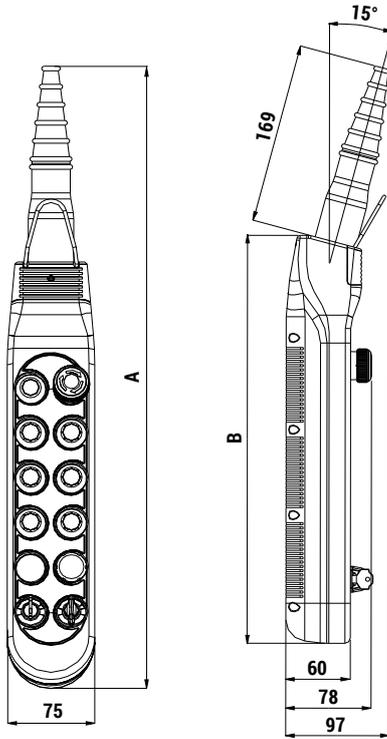
No. of buttons	Length (mm)
	A
4 - 5	220
8 - 9	320
12 -13	382

Standard pendant control station

2-3 actuators

PF38020002

Cable sleeve	
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1003PI	Switch PRSL1003PI
Blanking plug	Blanking plug

PF38020005

Cable sleeve	
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1002PI	Switch PRSL1002PI
Blanking plug	Blanking plug

PF38030001

Cable sleeve	
Mushroom pushbutton Switch PRSL1001PI	
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1002PI	Switch PRSL1002PI
Blanking plug	Blanking plug

PF38030002

Cable sleeve	
Mushroom pushbutton Switch PRSL1001PI	
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1003PI	Switch PRSL1003PI
Blanking plug	Blanking plug

4-5 actuators

PF38040002

Cable sleeve	
Pushbutton (GREEN) ⊕	Mushroom pushbutton
Switch PRSL1000PI	Switch PRSL1001PI
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1002PI	Switch PRSL1002PI

PF38040003

Cable sleeve	
Pushbutton (GREEN) ⊕	Mushroom pushbutton
Switch PRSL1000PI	Switch PRSL1001PI
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1003PI	Switch PRSL1003PI

PF38040004

Cable sleeve	
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1002PI	Switch PRSL1002PI
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1002PI	Switch PRSL1002PI

PF38040006

Cable sleeve	
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1003PI	Switch PRSL1003PI
Pushbutton ⊕	Pushbutton ⊕
Switch PRSL1002PI	Switch PRSL1002PI

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PF38040012

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1003PI	Pushbutton ⬆ Switch PRSL1003PI

PF38040016

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1002PI	Pushbutton ⬆ Switch PRSL1002PI

PF38050003

Cable sleeve	
Mushroom pushbutton Switch PRSL1001PI	
Pushbutton ⬇ Switch PRSL1002PI	Pushbutton ⬆ Switch PRSL1002PI
Pushbutton ⬅ Switch PRSL1002PI	Pushbutton ➡ Switch PRSL1002PI

PF38050004

Cable sleeve	
Mushroom pushbutton Switch PRSL1001PI	
Pushbutton ⬇ Switch PRSL1003PI	Pushbutton ⬆ Switch PRSL1003PI
Pushbutton ⬅ Switch PRSL1002PI	Pushbutton ➡ Switch PRSL1002PI

PF38050005

Cable sleeve	
Mushroom pushbutton Switch PRSL1001PI	
Pushbutton ⬇ Switch PRSL1003PI	Pushbutton ⬆ Switch PRSL1003PI
Pushbutton ⬅⬅ Switch PRSL1003PI	Pushbutton ➡➡ Switch PRSL1003PI

▬▬ 6 ACTUATORS

PF38060001

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1002PI	Pushbutton ⬆ Switch PRSL1002PI
Pushbutton ⬅ Switch PRSL1002PI	Pushbutton ➡ Switch PRSL1002PI
Blanking plug	Blanking plug

PF38060002

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1003PI	Pushbutton ⬆ Switch PRSL1003PI
Pushbutton ⬅⬅ Switch PRSL1003PI	Pushbutton ➡➡ Switch PRSL1003PI
Blanking plug	Blanking plug

▬▬ 8 ACTUATORS

PF38080001

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1002PI	Pushbutton ⬆ Switch PRSL1002PI
Pushbutton ↙ Switch PRSL1002PI	Pushbutton ↗ Switch PRSL1002PI
Pushbutton ⬅ Switch PRSL1002PI	Pushbutton ➡ Switch PRSL1002PI

PF38080006

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1003PI	Pushbutton ⬆ Switch PRSL1003PI
Pushbutton ↙ Switch PRSL1002PI	Pushbutton ↗ Switch PRSL1002PI
Pushbutton ⬅ Switch PRSL1002PI	Pushbutton ➡ Switch PRSL1002PI

PF38080007

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1002PI	Pushbutton ⬆ Switch PRSL1002PI
Pushbutton ↙ Switch PRSL1003PI	Pushbutton ↗ Switch PRSL1003PI
Pushbutton ⬅ Switch PRSL1002PI	Pushbutton ➡ Switch PRSL1002PI

PF38080008

Cable sleeve	
Pushbutton ⬇ GREEN 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton ⬇ Switch PRSL1003PI	Pushbutton ⬆ Switch PRSL1003PI
Pushbutton ↙ Switch PRSL1003PI	Pushbutton ↗ Switch PRSL1003PI
Pushbutton ⬅ Switch PRSL1002PI	Pushbutton ➡ Switch PRSL1002PI

ALPHA - PENDANT CONTROL STATION

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PF38100001

Cable sleeve	
Pushbutton (GREEN) 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Blanking plug	Blanking plug

PF38100002

Pushbutton (YELLOW) Switch PRSL1000PI	Pushbutton Switch PRSL1000PI
Pushbutton (GREEN) Switch PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Blanking plug	Blanking plug
Cable sleeve	

PF38120001

Cable sleeve	
Pushbutton (GREEN) 2 switches PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI

PF38120002

Pushbutton (YELLOW) Switch PRSL1000PI	Pushbutton Switch PRSL1000PI
Pushbutton (GREEN) Switch PRSL1000PI	Mushroom pushbutton Switch PRSL1001PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Pushbutton Switch PRSL1002PI	Pushbutton Switch PRSL1002PI
Cable sleeve	

Request form for Alpha non standard pendant stations

Control elements

1. PRTS000001 Single pushbutton
2. PRTD000001 Double pushbutton
3. PRSL1023PI Blanking plug
4. PRSL1009PI Emergency stop mushroom pushbutton
5. PRSL1012PI Red pilot light
6. PRSL1013PI Yellow pilot light
7. PRSL1014PI Green pilot light
8. PRSL1015PI Spring return selector switch 0/1
9. PRSL1016PI Maintained positions selector switch 0/1
10. PRSL1026PI Spring return selector switch 1/0/2
11. PRSL1027PI Maintained positions selector switch 1/0/2
12. PRSL1017PI Spring return key selector switch 0/1
13. PRSL1024PI Maintained positions key selector switch 0/1

Label symbols

GREEN
20 [symbol] 27 [symbol] 34 [symbol]

GREEN
21 [symbol] 28 [symbol] 35 [symbol]

YELLOW
22 [symbol] 29 [symbol] 36 [symbol]

RED
23 [symbol] 30 [symbol] 37 [symbol]

NERO
24 [symbol] 31 [symbol] 38 [symbol]

25 [symbol] 32 [symbol]

26 [symbol] 33 [symbol]
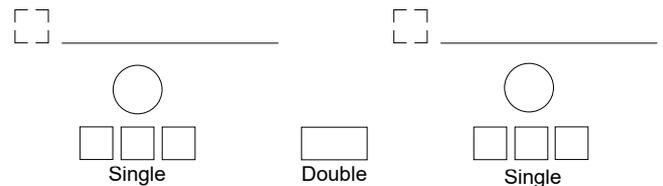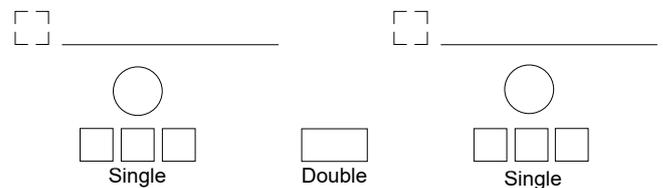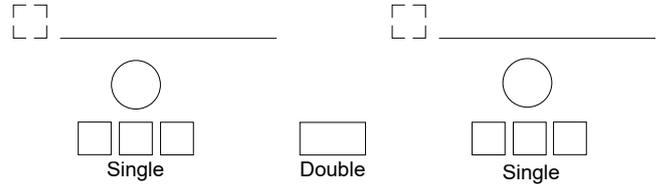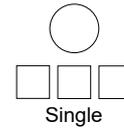
Single switches

A	PRSL1000PI	1 NO
B	PRSL1001PI	1 NC
C	PRSL1004PI	Lamp holder

Double switches

D	PRSL1002PI	1 speed
E	PRSL1003PI	2 speed

Instruction

- Fill in the pendant station scheme for the number of control elements required.
- Write the number corresponding to the control element required in the circle.
- Enter in the round box the number corresponding to the control element required.
- Enter in the dashed box the number corresponding to the symbol required on the label. Next to the number, mark the direction of the arrow and the customized lettering, if required.
- Enter in the box the letter corresponding to the single or double switches required.
- Mark the appropriate box to show where the cable sleeve and the hook must be assembled (top or bottom).
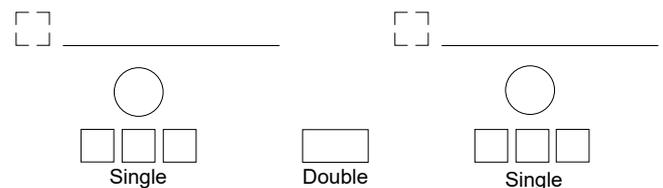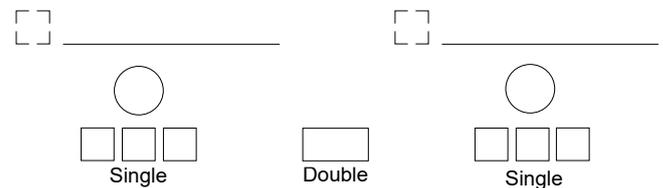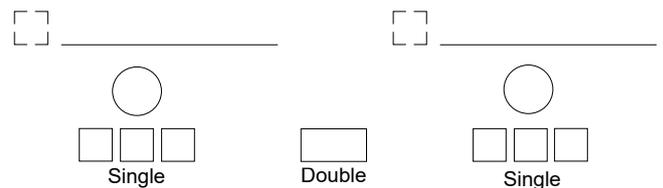
Remarks

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Hook

Cable sleeve

Single

Single — Double — Single

Single — Double — Single

Single — Double — Single

Single — Double — Single

Single — Double — Single

Single — Double — Single

Hook

Cable sleeve

ALPHA - Pendant control station

Alpha Pendant Control Station is an electromechanical device for low voltage control circuits (EN 60947-1, EN 60947-5-1) to be used as electrical equipment on machines (EN 60204-1) in compliance with the fundamental requirements of the Low Voltage Directive 2006/95/CE and of the Machine Directive 2006/42/CE.

The pendant station is designed for industrial use and also for use under particularly severe climatic conditions (operational temperature from –25°C to +70°C, suitable for use in tropical environment).

The equipment is not suitable for use in environments with potentially explosive atmosphere, corrosive agents or a high percentage of sodium chloride (saline fog). Oils, acids or solvents may damage the equipment; avoid using them for cleaning.

The switches (17, 19, 25)* are designed for auxiliary control of contactors or electromagnetic loads (utilisation category AC-15 according to EN 60947-5-1). Do not connect more than one phase to each switch (17, 19, 25). Do not oil or grease the control elements (06, 07, 13, 28, 33) or the switches (17, 19, 25).

The installation of the pendant station shall be carried out by expert and trained personnel. Wiring shall be properly done according to the current instructions.

Prior to the installation and the maintenance of the pendant station, the main power of the machinery shall be turned off.

Steps for the proper installation of the pendant station
- remove the screws on the enclosure (22) to open the pendant station
- cut the variable section rubber cable sleeve (01) and insert the cable tight enough to guarantee protection against water and/or dust.
- fix the cable to the cable sleeve (01) using a cable tie (not supplied).
- strip the cable to a length suitable for wiring the switches (17, 19, 25)
- tape the stripped part of the cable
- fix the cable inside the pendant station using the cable clamp (31)
- connect all the switches (17, 19, 25) according to the contact scheme printed on the switches (tighten the wires into the terminals with a torque equal to 0.6 Nm; insertability of wires into the switch terminals equal to $2 \times 1.5 mm^2 – 1 \times 2.5 mm^2$)
- close the pendant station checking the proper positioning of the rubber (23) in the enclosure (22)

Periodic maintenance steps
- check the proper tightening of the screws (20) of the enclosure (11, 22)
- check the proper tightening of the switch (17, 19, 25) terminal screws
- check the wiring conditions (in particular where wires clamp into the switches)
- check the conditions of the rubber (23) fit into the enclosure (22), of the rubber of the control elements (06, 27) and of the cable sleeve (01)
- check that the plastic enclosure (11, 22) of the pendant station is not broken

In case any component of the pendant station is modified, the validity of the markings and the guarantee on the equipment are annulled. Should any component need replacement, use original spare parts only.

TER declines all responsibility for damages caused by the improper use or installation of the equipment.

*Please refere to the detailed drawing in the catalogue

Remarks

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