



NPA-CP

PENDANT CONTROL STATION

FOR DIRECT CONTROL

The NPA-CP pendant station is used for the direct control of all industrial machinery. Designed for heavy duty, NPA-CP is aimed specifically for the industrial market.

FEATURES

The NPA-CP series is fitted with round disks mounted on rubber pushbuttons to guarantee protection against dust which may cause the pushbuttons to stick when the equipment is used under particular environmental conditions. Discs comprise of a moulded two-colour arrangement offering a combination of clear reading of symbols and text with maximum wear resistance.

By turning the cable sleeve on the central part axis, the pendant station is kept at an angle of inclination of 20°

which allows the best view of all control elements, allowing the operator to work in a natural and non-tiring position.

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

OPTIONS

One or two speed switches are available.

The pendant station is available with different labels and colours.

MATERIALS

Materials and components are wear resistant and protect the equipment against water and dust.



INDUSTRIAL
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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 60947-3 Low-voltage switchgear and controlgear - Switches, disconnectors, switch-disconnectors and fuse-combination units
- EN 60529 Degrees of protection provided by enclosures
- EN 418 Safety of machinery - Emergency stop equipment, functional aspects

- Markings and homologations: **CE**

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:
 - 2÷6 buttons: rubber cable sleeve (Ø 10÷18 mm)
 - 8 buttons: rubber cable sleeve (Ø 17÷26 mm)

- Operating positions: any position

- Markings and homologations: **CE EAC**

TECHNICAL SPECIFICATIONS OF THE SWITCHES

- Utilisation category: AC 3 - AC 4 (AC 23B for PRSL508PI)
brake operating contact: 100 V~, 0,7 A, L/R=100 ms
- Rated operational current: 10 A
- Rated operational voltage: 400 V~
- Rated operational power: 2.2 kW
- Rated thermal current: 20 A
- Rated insulation voltage: 660 V~
- Mechanical life: 1x10⁶ operations
- Terminal referencing: according to EN 50013
- Connections: screw-type terminals with self-lifting pads
- Wires: 1x2.5 mm², 2x1.5 mm²
- Tightening torque: 0.8 Nm
- Markings and homologations: **CE**

PRSL0458PI is a one-speed two-pole switch.

PRSL0459PI is a one-speed two-pole switch with brake contact.

PRSL0460PI is a two-speed two-pole switch.

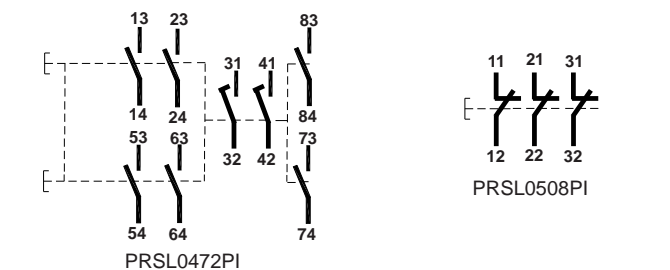
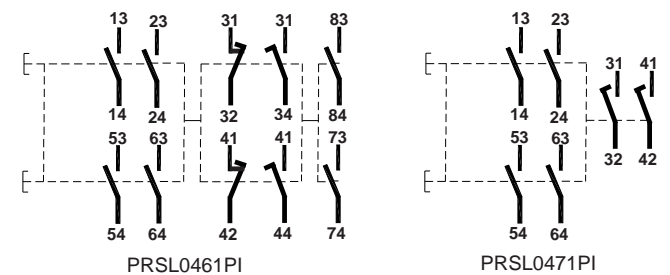
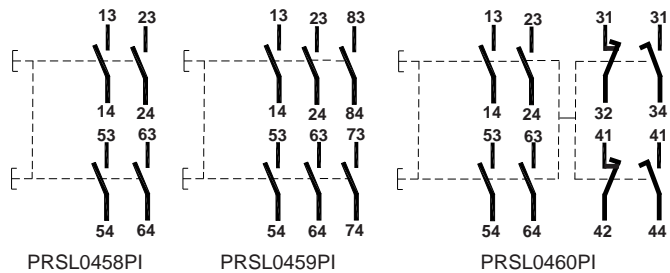
PRSL0461PI is a two-speed two-pole switch with brake contact.

PRSL0471PI is a one-speed three-pole switch.

PRSL0472PI is a one-speed three-pole switch with brake contact.

PRSL0508PI is a one-speed switch.

The switches have the following reference for internal wiring.



OVERALL DIMENSIONS



N° of buttons	Overall dimensions (mm)		
	A	B	C
2	292	76	70
3	333	76	70
4	372	76	70
6	459	76	70
8	605	83	70

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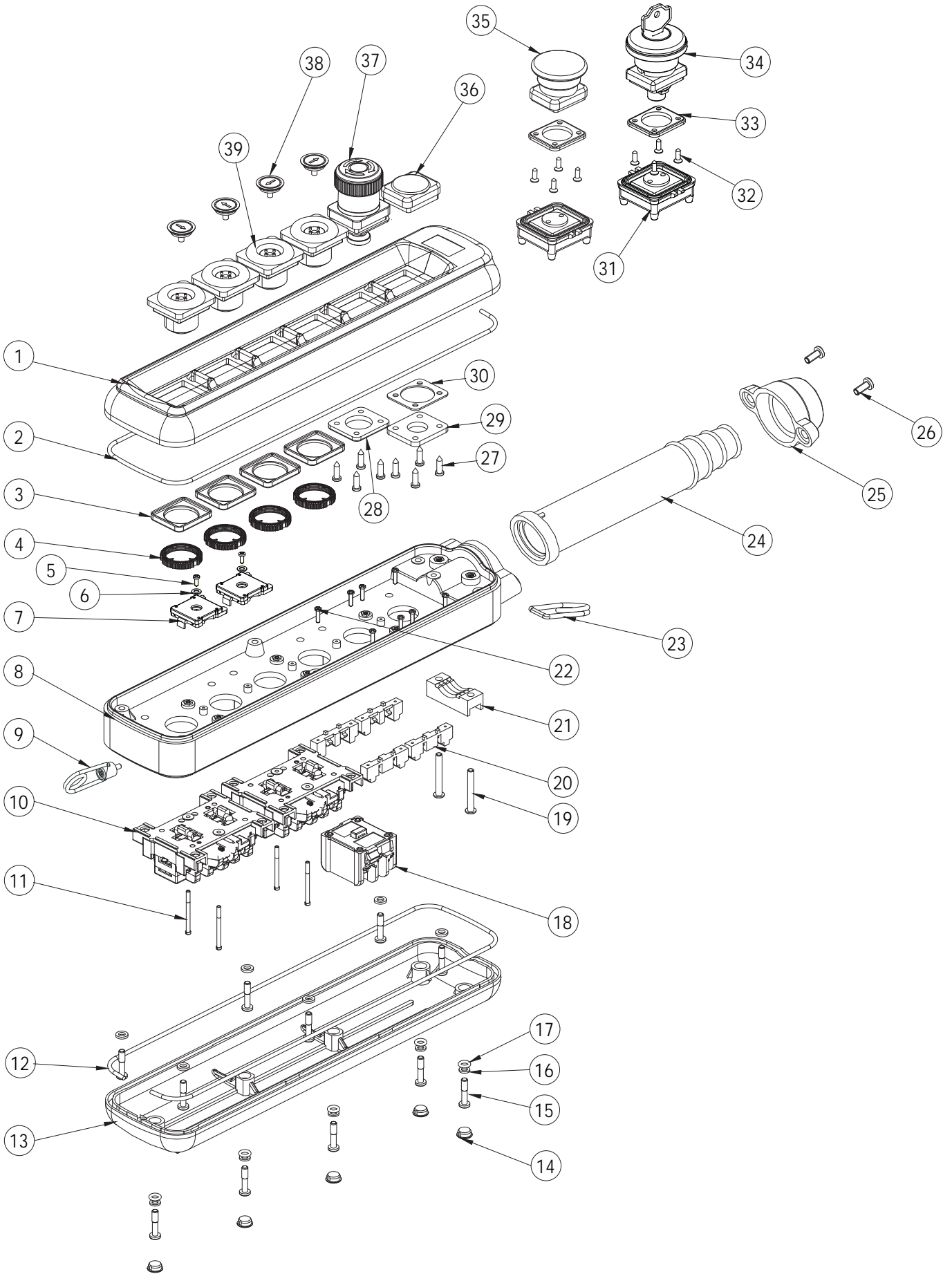
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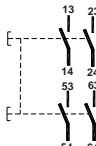
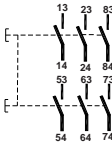
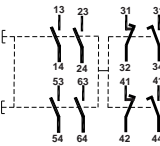
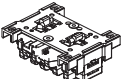
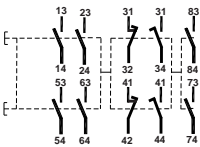
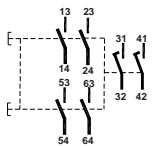
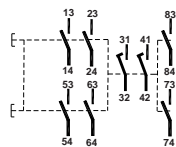

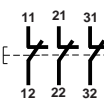
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COMPONENTS

SWITCHES

REF	DRAWING	DESCRIPTION	SCHEME	CODE
		One-speed two-pole switch		PRSL0458PI
		One-speed two-pole switch with brake contact		PRSL0459PI
		Two-speed two-pole switch		PRSL0460PI
10		Two-speed two-pole switch with brake contact		PRSL0461PI
		One-speed three-pole switch		PRSL0471PI
		One-speed three-pole switch with brake contact		PRSL0472PI
18		One-speed switch 3NC for mushroom pushbutton		PRSL0508PI

ACTUATORS

REF	DRAWING	DESCRIPTION	CODE
36+30+29+27		Blanking plug	PRSL0517PI
38		Disk for pushbutton	PRTAxxxXPI See standard disks
39+3+4		Dust-tight pushbutton	PRSL0550PI

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MUSHROOM PUSHBUTTONS

REF	DRAWING	DESCRIPTION	CODE
34+33+32+31		Key mushroom pushbutton	PRSL0520PI
35+33+32+31		Impulse mushroom pushbutton	PRSL0512PI
37+28+27		Emergency stop mushroom pushbutton	PRSL0600PI

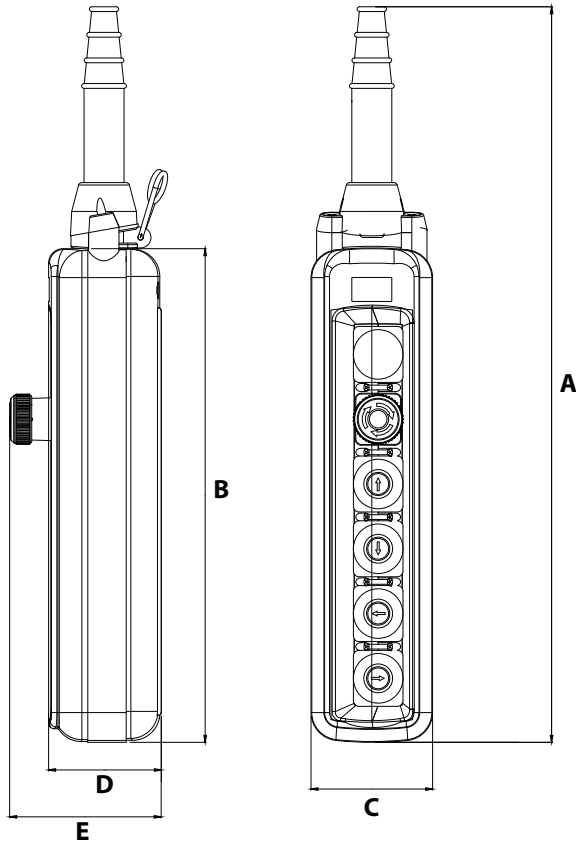
ACCESSORIES

REF	DRAWING	DESCRIPTION	CODE
7+6+5		Mechanical interlock	PRSL7817PI
9		Wire fixing	PRTO6626PE
23		Hook	PRGA0001PE
24		Cable sleeve for 2-6 button units	PRGO0100PE
		Cable sleeve for 8 button units	PRGO0105PE

STANDARD DISKS

RED										
	PRTA002XPI	PRTA005XPI	PRTA006XPI	PRTA007XPI	PRTA008XPI	PRTA011XPI	PRTA012XPI	PRTA015XPI	PRTA016XPI	PRTA018XPI
						YELLOW	WHITE	BLACK		
	PRTA019XPI	PRTA022XPI	PRTA023XPI	PRTA026XPI	PRTA027XPI	PRTA097XPI	PRTA098XPI	PRTA099XPI		

OVERALL DIMENSIONS (MM)



No. of buttons	Overall dimensions (mm)				
	A	B	C	D	E
2	292	140	76	70	99
3	333	181	76	70	99
4	372	222	76	70	99
6	459	307	76	70	99
8	605	393	83	70	99

STANDARD PENDANT STATIONS

NO. ACTUATORS	BLANKING PLUG	EMERGENCY STOP MUSHROOM	SWITCHES			CODE
			PRSL0458PI	PRSL0471PI	PRSL0460PI	
			1 SPEED TWO-POLES	1 SPEED THREE-POLES	2 SPEEDS TWO-POLES	
		x				PF30030001
3		x				PF30030003
		x				PF30030004
	x	x				PF30060002
6	x	x				PF30060004
	x	x				PF30060019
	x	x				PF30080010
8	x	x				PF30080011
	x	x				PF30080022

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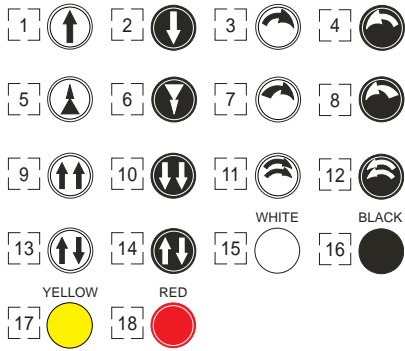


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Control elements



- 19] PRSL0517PI Blanking plug
- 20] PRSL0600PI Emergency stop mushroom pushbutton
- 21] PRSL0512PI Impulse mushroom pushbutton
- 22] PRSL0520PI Key mushroom pushbutton

Mushroom pushbuttons are fitted with PRSL0508PI switches (1 speed 3NC)

Instructions

- Fill in the **pendant station** scheme for the number of control elements required (2, 3, 4, 6, or 8 actuators).
- Write the number corresponding to the **blanking plug, mushroom pushbutton** or **symbol** required (broken line box). Mark the direction of the arrow into the corresponding circle.
- Write the letter corresponding to the **switches** required for the pushbuttons.
- Mark the rectangular box between the pushbuttons when the **mechanical interlock (MI)** is required.
- Mark the appropriate box to show where the **cable sleeve** and the **hook** must be assembled (top or bottom).

Remarks

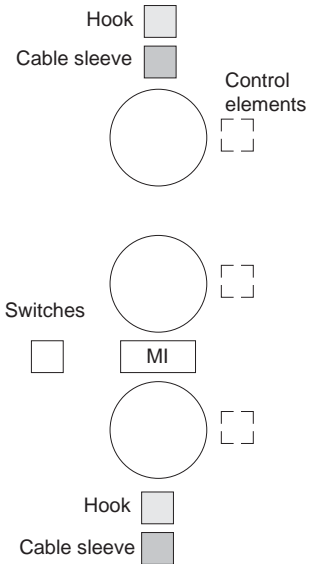
1 speed switches

- A] PRSL0458PI two-pole switch
- B] PRSL0459PI two-pole switch with brake contact
- C] PRSL0471PI three-pole switch
- D] PRSL0472PI three-pole switch with brake contact

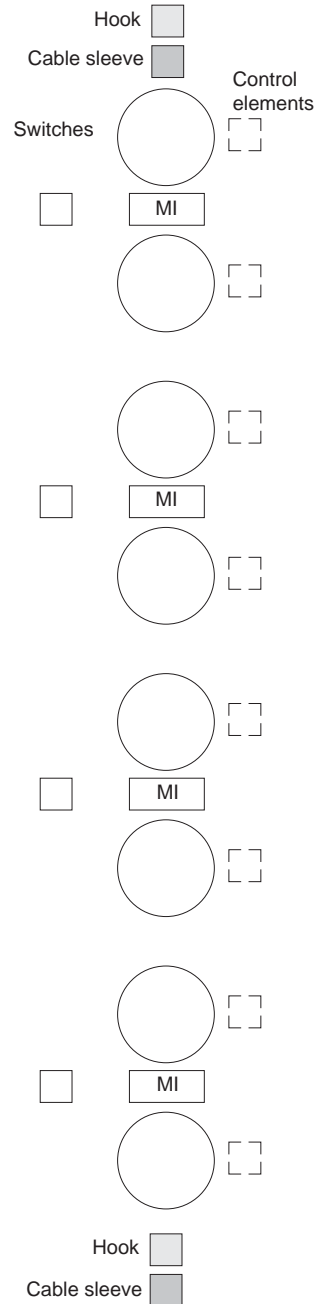
2 speed switches

- E] PRSL0460PI two-pole switch
- F] PRSL0461PI two-pole switch with brake contact

3 actuators



2-4-6-8 actuators



USE AND MAINTENANCE INSTRUCTIONS

The NPA-CP Pendant Control Station is an electromechanical device for low voltage control circuits (EN 60947-3) 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 $+70^{\circ}\text{C}$, 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.

The switches (10)* are designed for direct control of contactors or electromagnetic loads. Do not connect more than one phase to each switch (10, 18). Do not oil or grease the control elements (34, 35, 37, 39) or the switches 10, 18).

The installation of the pendant station shall be carried out by an 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 (15) on the lower cover (13) to open the pendant station
- cut the variable section rubber cable sleeve (24) and insert the cable tight enough to guarantee protection against water and/or dust
- fix the cable to the cable sleeve (24) using a cable tie (not supplied).
- strip the cable to a length suitable for wiring the switches (20, 28)
- tape the stripped part of the cable
- fix the cable inside the pendant station using the cable clamp (21)
- connect all the switches (10, 18) according to the contact scheme printed on the switches (tighten the terminal screws with a torque of 0.8 Nm; insertability of wires into the terminals $1 \times 2,5 \text{ mm}^2$ - $2 \times 1,5 \text{ mm}^2$)
- close the pendant station checking the proper positioning of the rubber (12) in the cover (1) and of the "O" rings (17)
- put the rubber caps for the screws (14) into the holes in the lower cover (13)

Periodic maintenance steps

- check the proper tightening of the screws (15) of the enclosure (1, 8, 13)
- check the proper tightening of the switch (10, 18) terminal screws
- check all wiring (in particular where wires clamp into the switches)
- check the conditions of the rubber (12) fit into the lower cover (13), of the rubber of the control elements (39) and of the cable sleeve (24)
- check that the plastic enclosure (1, 8, 13) 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 refer to the detailed drawing in the catalogue

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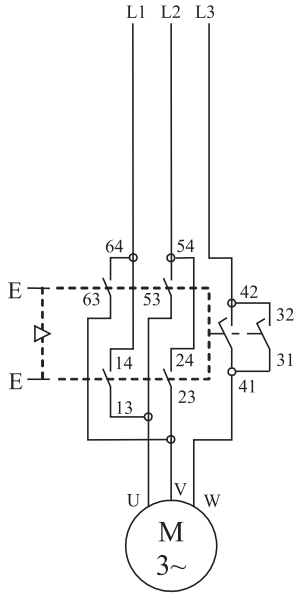
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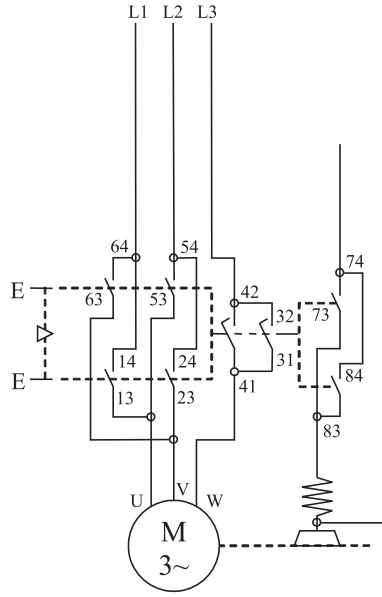
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Direct control circuits for 1 speed three-phase reversing motors

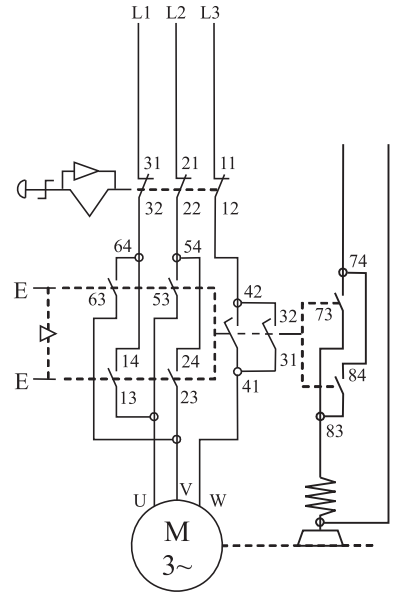
Circuits for 1 speed motors



Circuits for brake wiring

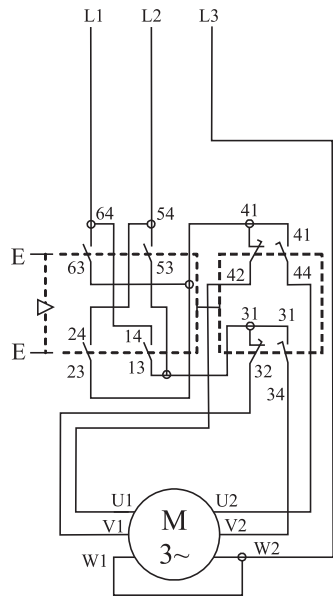


Circuits for brake and mushroom pushbutton wiring

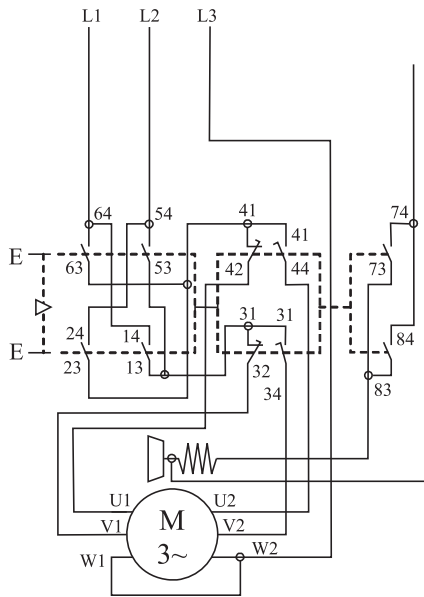


Direct control circuits for 2 speed three-phase reversing motors

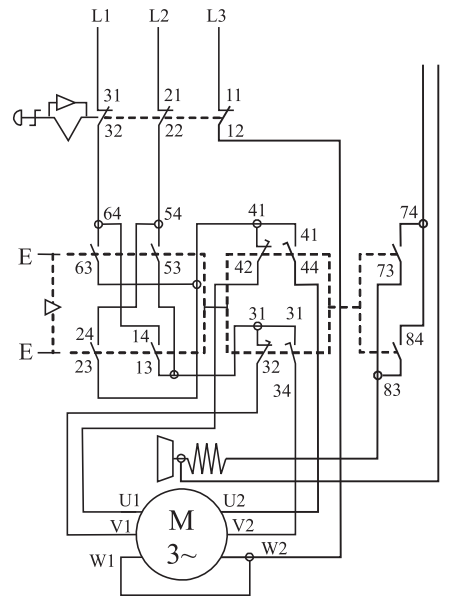
Circuits for 2 speed motors



Circuits for brake wiring

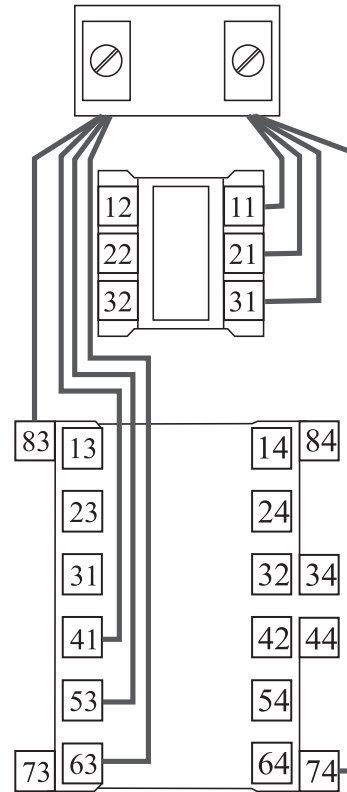
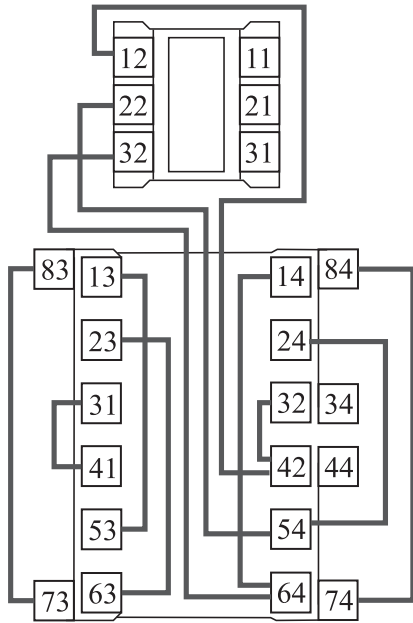


Circuits for brake and mushroom pushbutton wiring

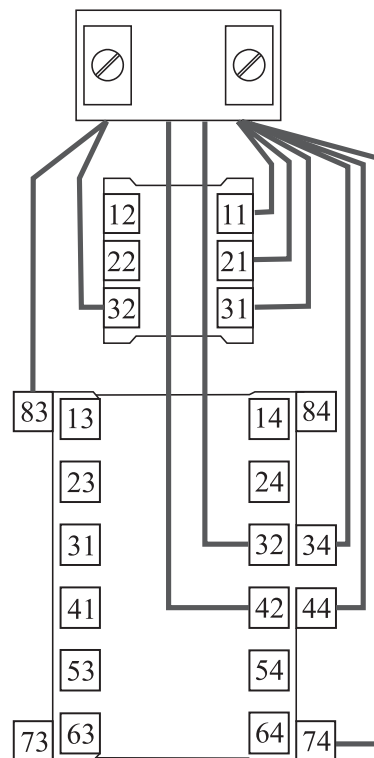
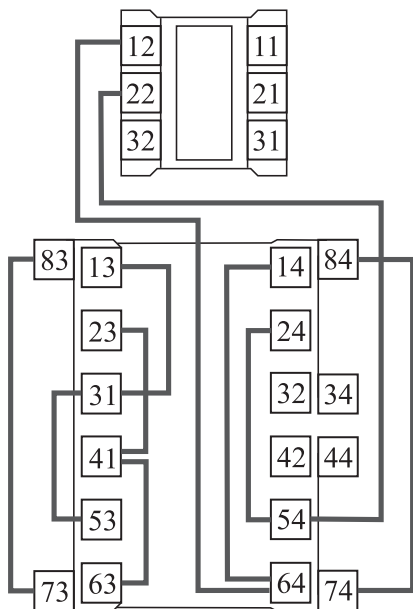


Examples of internal and output wiring of switches for mushroom pushbutton and for three-phase motors with brake

Wiring for mushroom pushbutton and for 1 speed three-phase motors



Wiring for mushroom pushbutton and for 2 speed three-phase motors



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