



Small-sized, compact and handy joystick for control of industrial machines.
Juliet is a user-friendly, ergonomic product, suitable for daily use in an industrial environment.

FEATURES

- Designed to facilitate maintenance, reducing down time and costs: the switches are assembled on pull-out or fixed terminal boards.
- Light and handy: weight 250 grams.
- Positive opening NC contacts for safety functions.
- Mechanical life of switches: 5 million operations.
- IP protection degree: Juliet is classified IP00 or IP65, if housed in a specific enclosure.
- Extreme temperature resistance: -25°C to +70°C.

OPTIONS

- Available with up to 5 speeds for each direction.
- Stepped or linear operation.
- Cross or 360° movement.
- Available with terminal boards or potentiometers.

CERTIFICATIONS

- CE marking and EAC certification.


CERTIFICATIONS

Conformity to Community Directives	2014/35/UE Low Voltage Directive
	2006/42/CE Machinery Directive
Conformity to CE 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
Marcature e omologazioni	CE EAC

GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -40°C/+70°C
	Operational -25°C/+70°C
IP protection degree	IP 00 (IP 65 max. when assembled in specific enclosure)
Operating positions	Any position
Weight	250 g

TECHNICAL SPECIFICATIONS OF THE MICROSWITCHES

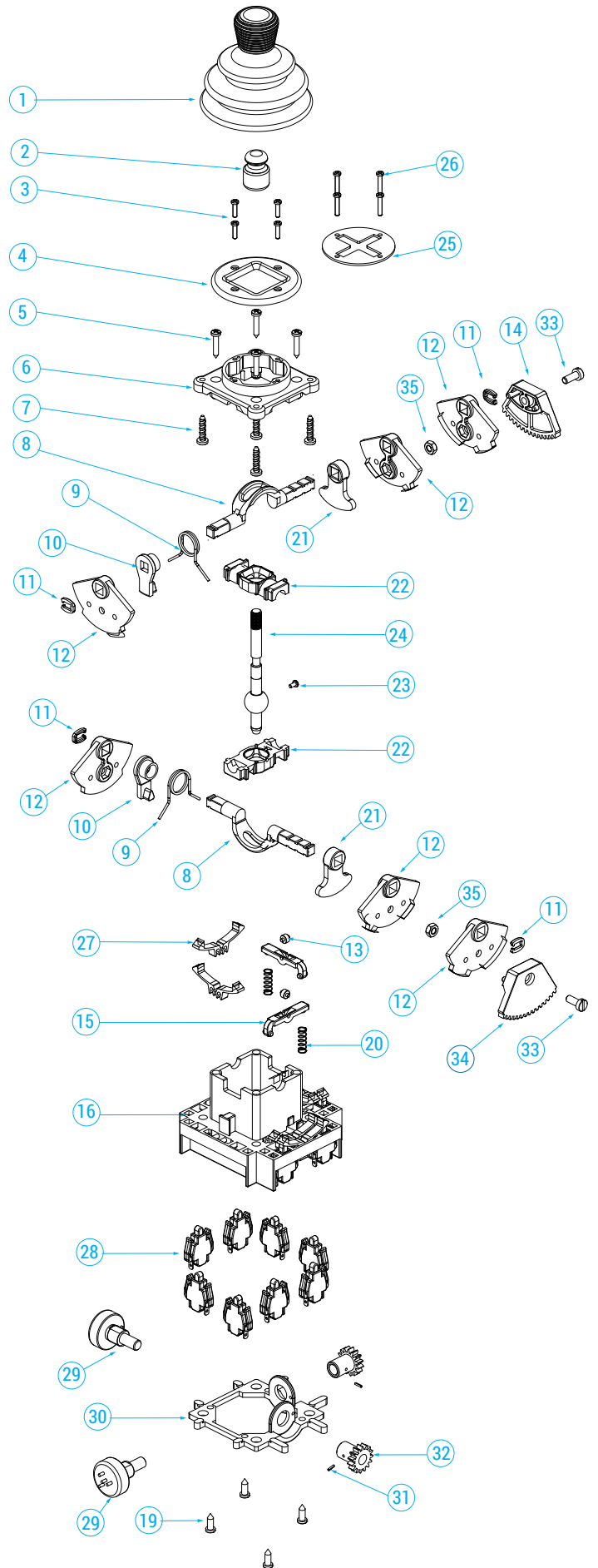
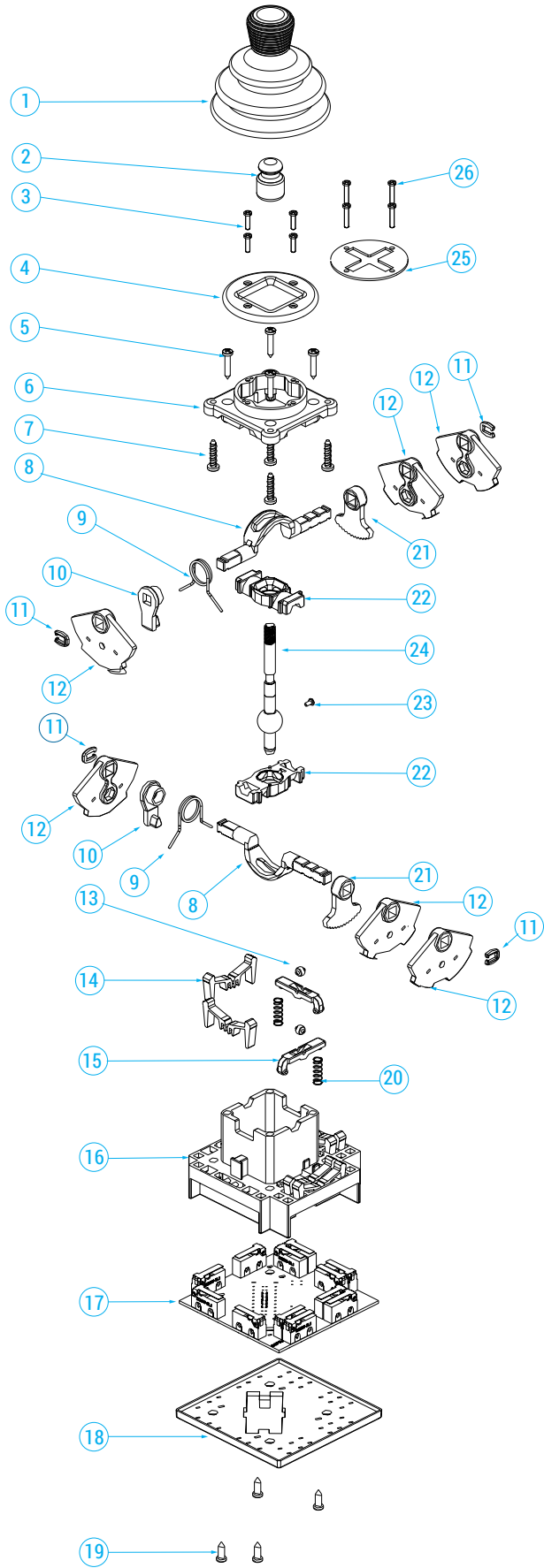
Code	PRVV0804PE
Utilisation category	AC 15
Rated operational current	2 A
Rated operational voltage	48 Vac
Rated thermal current	8 A
Rated insulation voltage	60 Vac
Mechanical life	5x10 ⁶ operations
Connections	Screw-type terminal
Wires	0.14 mm ² - 1.5 mm ²
Tightening torque	0.22 Nm - 0.25 Nm
Microswitch type	Single break
Contacts	1NO+1NC change-over contacts (All NC contacts are of the positive opening operation type \ominus)
Scheme	
Markings and homologations	CE

TECHNICAL SPECIFICATIONS OF THE POTENTIOMETERS

Code	PRVV9021PE	PRVV9026PE
Ohmic value	5 k Ω	10 k Ω
Connections	4 turrets	
Independent linearity (over AEA -3°)	$\leq \pm 1\%$	
Life time	5x10 ⁶ movements	
Operational ambient temperature	-55 °C/+125 °C	
Mechanical angle	360° continuous	
Actual Electrical Angle (AEA)	340° $\pm 5^\circ$	
Ohmic value tolerance	Max $\pm 2\%$ at 20°C	
Dissipation	0.3 W	


EXPLODED DRAWING

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STANDARD JOYSTICKS

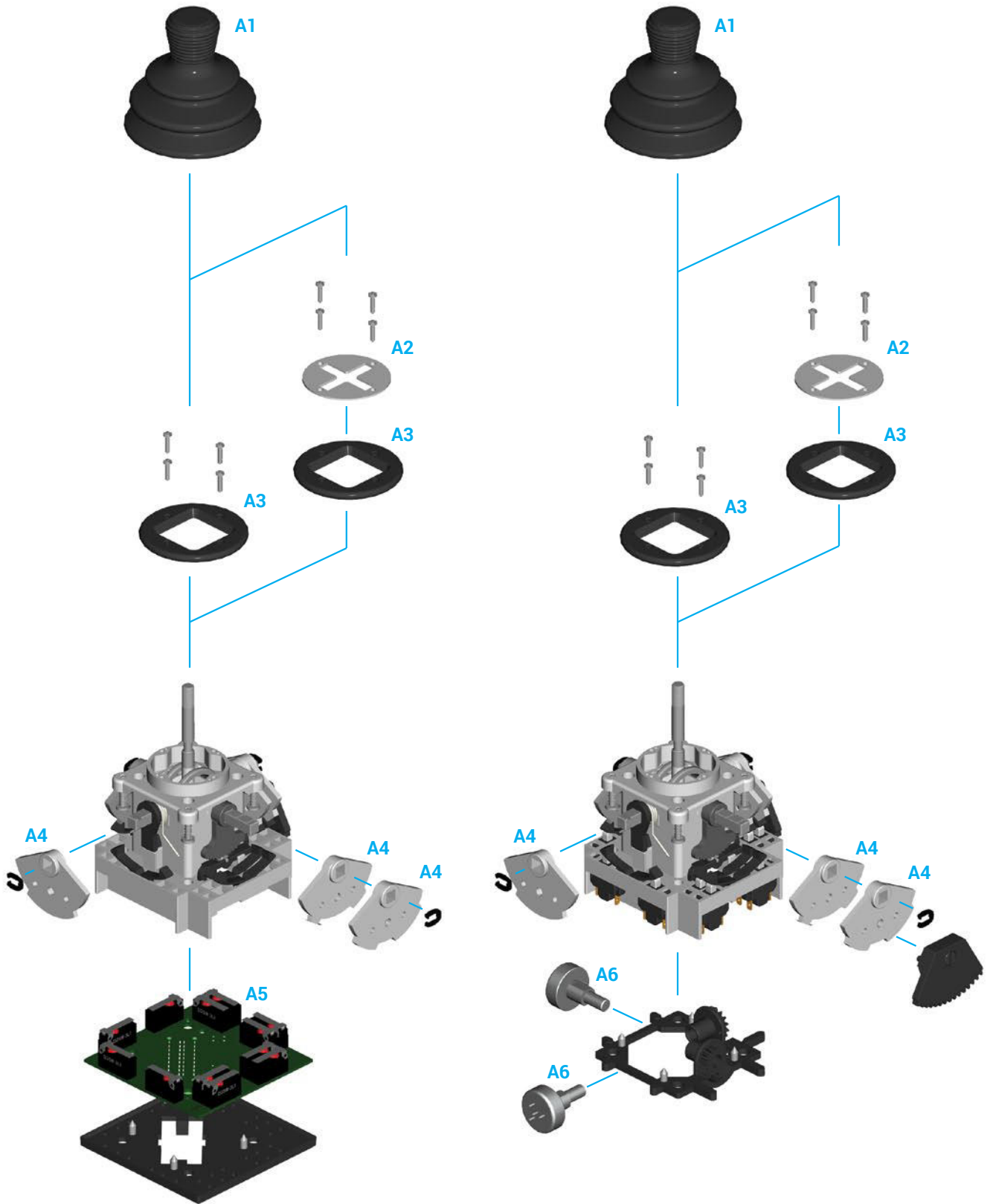
Juliet standard joysticks feature spring return stepped movement and are equipped with 1NO+1NC change over microswitches

PRVV0804PE  and fixed terminal board.

Positions	Direction of movement		Code
	360°	Cross	
1-0		X	PF340210000004
1-1	X		PF340211000001
1-2	X		PF340212000001
1-3		X	PF340213000001
2-0		X	PF340220000004
2-2	X		PF340222000001
2-3	X		PF340223000001
3-0		X	PF340230000004
3-3	X		PF340233000001
3-3		X	PF340233000004
4-0		X	PF340240000004
1-5	X		PF340215000001
3-5	X		PF340235000001
5-5	X		PF340255000001
5-5		X	PF340255000004

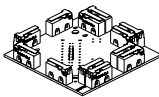
ASSEMBLY DRAWING

3



COMPONENTS



Switch boards

Ref.	Drawing	Description	Code
A5		12 switch board with pull-out terminal board - 5 positions	93546
		12 switch board with fixed terminal board - 5 positions	93547
		8 switch board with pull-out terminal board - 3 positions	93557
		8 switch board with fixed terminal board - 3 positions	93558
		12 switch board with pull-out terminal board disjoint commons - 5 positions	93575
		8 switch board with pull-out terminal board disjoint commons - 3 positions	93576

Potentiometers

Ref.	Drawing	Description	Code
A6		Potentiometer 5 kΩ	PRVV9021PE
		Potentiometer 10 kΩ	PRVV9026PE

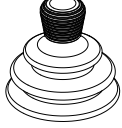
Plates and lever guides

Ref.	Drawing	Description	Code
A2		Plate for cross movement	PRTR0160PE
		Lever guide 3-0	PRSL9824PI
		Lever guide 5-4	PRSL9825PI
		Lever guide 3-3	PRSL9826PI
		Lever guide 5-2	PRSL9828PI
		Lever guide 5-5	PRSL9830PI
		Lever guide 5-0	PRSL9834PI
		Lever guide 4-0	PRSL9835PI
		Lever guide 1-3	PRSL9838PI
		Lever guide 1-5	PRSL9839PI
A3		Lever guide 3-2	PRSL9841PI
		Lever guide 3-5	PRSL9842PI
		Lever guide 2-4	PRSL9843PI
		Lever guide 4-1	PRSL9844PI
		Lever guide 3-4	PRSL9845PI
		Lever guide 4-4	PRSL9849PI
		Lever guide 1-1	PRSL9871PI
		Lever guide 1-0	PRSL9872PI
		Lever guide 1-2	PRSL9873PI
		Lever guide 2-2	PRSL9876PI
Lever guide 2-0	PRSL9880PI		

Cams

Ref.	Drawing	Description	Code
A4		Cam 1 st step	PRSL7300PI
		Cam 2 nd -3 rd steps	PRSL7301PI
		Cam 4 th -5 th steps	PRSL7302PI

Accessories

Ref.	Drawing	Description	Code
A1		Bellows	PRSL0173PI

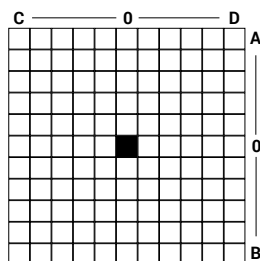
JULIET - REQUEST FORM FOR NON STANDARD JOYSTICK

Movement

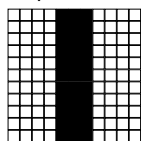
- Stepped
- Stepless

Lever guide

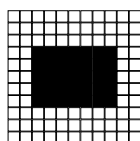
Number of steps in each direction



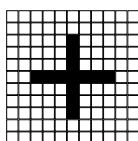
Examples



5 steps direction A-B
1 step direction C-D
360° movement



2 steps direction A-B
3 steps direction C-D
360° movement

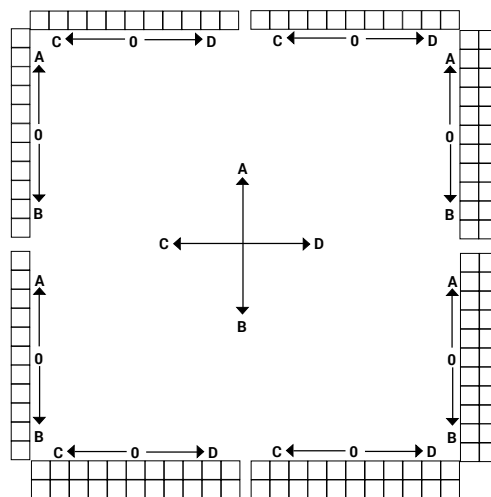


3 steps direction A-B
3 steps direction C-D
Cross movement

Joystick with terminal board

Terminal board

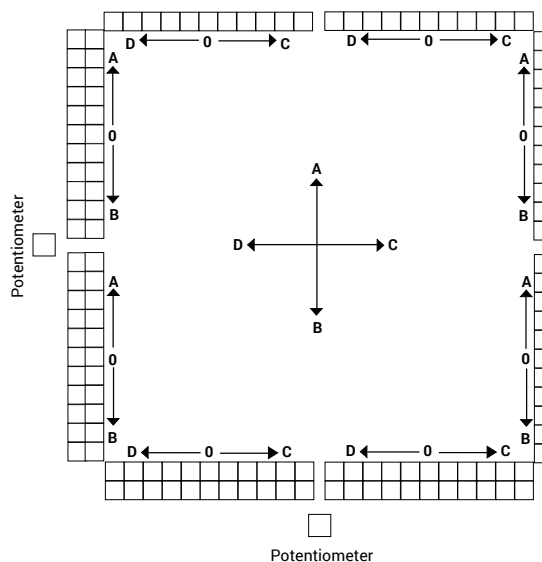
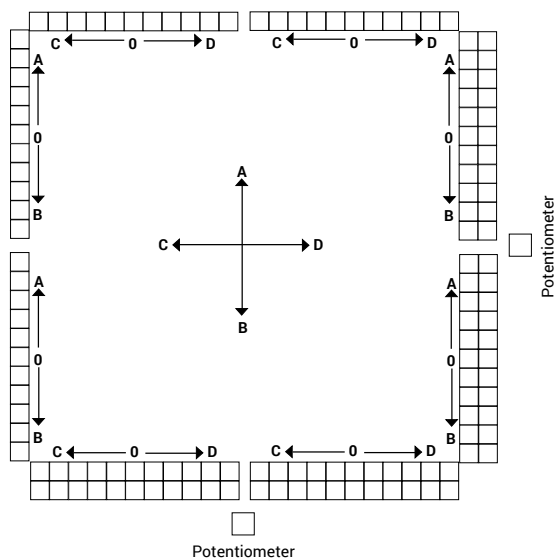
- Pull-out
- Pull-out with disjoint commons
- Fixed



Joystick with potentiometers

PotentiometerS

- 1 5 kΩ
- 2 10 kΩ
- 3 Pre-set only



Instructions

- Tick the box corresponding to the type of movement required.
- Choose the type of lever guide required blackening the boxes corresponding to the number of steps of the lever in each direction.
- In case a terminal board is requested, tick the corresponding box to choose the type of board.
- In case of potentiometers, write the number corresponding to the potentiometer.
- Fill in the contact scheme blackening the boxes corresponding to the positions where the cams close the contacts (each bar of 11 boxes corresponds to a switch; the central box corresponds to the zero position of the joystick). In the example, the contact is closed in positions 1-2-3 to the left and 3-4 to the right.



USE AND MAINTENANCE INSTRUCTIONS

The Juliet joystick is an electromechanical device for use for low voltage control circuits (EN 60947-1, EN 60947-5-1) for use as electric equipment on machines (EN 60204-1) in compliance with the fundamental requirements of the Low Voltage Directive 2014/35/UE and of the Machine Directive 2006/42/CE.

The Juliet joystick is designed for use in industrial environments with even very severe climatic conditions (working temperatures from -25 °C to +70 °C and is suitable for use in tropical environments). The equipment is not suitable for use in environments with a potentially explosive atmosphere, in the presence of corrosive agents or high percentage of sodium chloride (saline mist). Contact with oil, acids and solvents may damage the equipment; avoid using them for cleaning.

The terminal board (17)* is designed for the auxiliary control of contacts or electromagnetic charges in general (class of use AC-15 in accordance with EN 60947-5-1). Do not oil or grease the control elements (12) or the board (17). With regard to the conditions for installation, use and evaluation of the essential requisite for safety and the protection of health, the joystick must be installed so as to ensure adequate protection of the equipment in general, and the active parts in particular (protection against electrocution and against the penetration of solid bodies and liquids).

Installation of the Juliet joystick should be done by competent, trained personnel. The electric wiring must be done in a workmanlike manner in compliance with the regulations in force.

Before performing installation and maintenance of the Juliet joystick, disconnect the machine from the power mains.

Operations for correct installation of the joystick

- Remove the bellows (1) from the lever guide (4) on the joystick.
- Unscrew the bellows (1) from the rod (24).
- Remove the lever guide (4) from the joystick by unscrewing the four screws (3-26).
- Insert the joystick in the hole on the support (the support has a thickness of 3 mm with a hole Ø 40 mm).

- Fasten the lever guide (4) with the four screws (3-26) (take care to assemble it in the proper direction relative to the joystick movement).
- Fasten the bellows (1) on the rod (24) of the joystick and reposition the bellows correctly (1) (take care to joint the threads of the lever and knob correctly without forcing, and screw the knob to the limit of the threading).
- Assemble the bellows (1) on the joystick positioning them under the lever guide (4) (take care to position the bellows correctly under the drive lever to ensure an even compression surface between the bellows and the support).
- Turn the joystick in the desired direction and fasten with the four screws (7) on the support (the screws must be fastened evenly to ensure correct pressure and seal between bellows and support).
- Strip the multi-pole cable for a length sufficient for electrical connection with connector on the board (17).
- Tape the initial stripped part of the cable.
- Fasten the multi-pole cable so as to prevent the possibility of external traction on the connections.
- Proceed to wire the connectors to their terminals as shown in the wiring diagram.

Operations of routine maintenance

- Check the correct tightening of the screws (7) fastening the joystick to the support.
- Check the conditions of the wires.
- Check the conditions of the bellows (1) on the joystick.

Any change to parts of the joystick will invalidate the rating plate data and identification of the device, and render the warranty null and void. In case of replacement of any part, use only original replacements.

TER is not liable for damages caused by improper use of the device and installation which is not made correctly.

* Please refer to the exploded drawing in the catalogue.

