



Electric “on-off” Joystick Series JEO

03.JEO - 0909

Remote controls & control electronics 03.01

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Description:

Fluidea’s dual axis electric joystick series JEO is designed to control via cable “on-off” type solenoid operated functions, typically directional control valves and selector valves used in hydraulics and pneumatic systems and it is especially suitable for those applications where multiple services, working either in sequence or simultaneously, require a compact and ergonomic remote control system, usually mounted on the arm-rest of the seat.

The joystick can be fitted with up to 8 micro-switches rated to 16 A resistive (10 A inductive) placed in couple and in sequence inside the bottom body at the cardinal points and operated by the swinging movement of the control lever in both North/South & East/West axis.

Combined diagonal lever movements allow to control up to 4 functions contemporaneously in addition to those that are selected by the push-button switches fitted on the control grip (up to 14 pcs of the round design options type A or B that are rated at 5 A resistive and 3 A inductive).



Single and dual axis proportional Hall effect mini-joysticks can also be mounted on the ergonomic control grip for those applications where it is required to control variable speed functions in addition to the “on-off” ones.

Developed with particular attention to safety and ergonomics the JEO joystick has a unique kinematic mechanism that allows the operator to control with one hand multiple services in intuitive mode with low effort movements; the smooth cam ramps profile allows him to feel precisely the opening/closing positions of the micro-switches which can therefore be activated just at the time needed.

As the operator is mainly focused on the system’s functions without being distracted to finding out every time the push- buttons switches spread on the control panel as it happens on traditional machines the result is a consistent reduction of the working cycle time and the optimization of the safety level for the operator himself and the working area.

Extremely compact and light the JEO electric joystick is at the same time also robust and reliable: the accurate choice of materials and components, the surface treatments against oxidation and wearing of all metal parts and the sealing of the body, ensure an optimal performance and protection of the product in any working condition.

A wide range of optional accessories is available including dedicated control panels for tractors, portable chest packs, dedicated electronic cards, customized cable kits fitted with fully sealed connectors for mobile applications in order to match any need for the various applications with short delivery time and limited cost.

Typical applications of the JEO series “on-off” electric joystick include various type of agricultural machines like tractors, grass-cutters, fruit harvesting vehicles, equipment and vehicles for grapes and olives harvesting as well as forestry, material handling and construction machinery, fishing boats and many industrial applications.



Technical data:

Joystick:

- Mechanical life:	> 10 ⁶ cycles
- Max. lever stroke:	20° movements on X-Y axis 26° combined diagonal movements
- Contact stroke 1st micro:	$\alpha_1 = 8^\circ$
- Contact stroke 2nd micro:	$\alpha_2 = 18^\circ$
- Bottom housing material:	Anticorodal
- Plunger's material:	Stainless steel AISI 420
- Plunger's guide material:	Brass
- Micro-switch bracket material:	Aluminium alloy
- Protection boot material:	Neoprene
- Protection class:	IP 64
- Ambient temperature range:	From - 20 up to + 85 °C

Micro-switches:

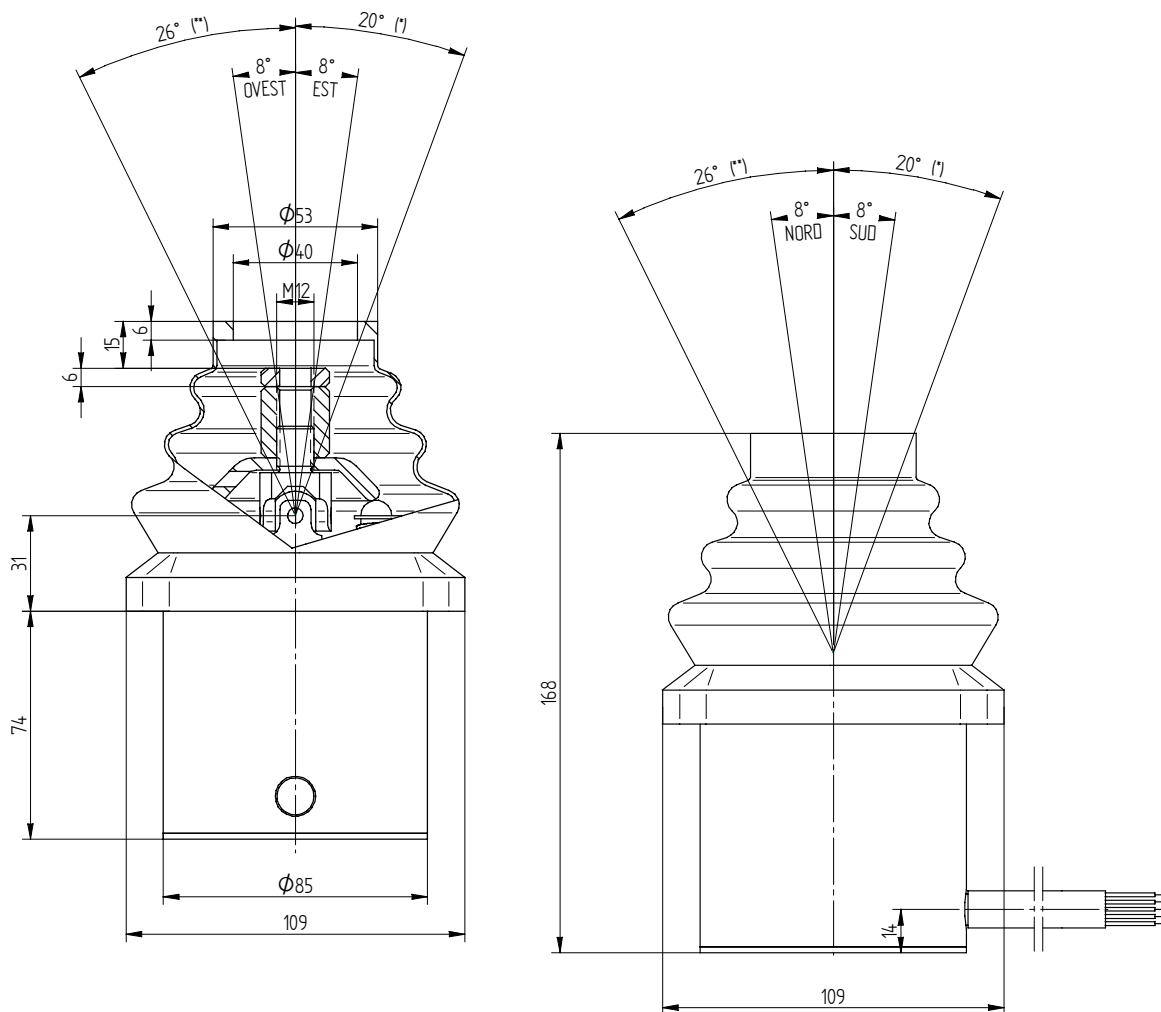
- Max. electric load:	10 A inductive, 16 A resistive
- Max. supply voltage:	250 VAC
- Electrical life:	100.000 cycles @ max.load
- Mechanical life:	> 10 ⁶ cycles
- Protection class:	IP 54
- Working temperature range:	from - 55° up to + 85°C
- Working stroke:	2,4 mm max.
- Control force:	3,00 N max.
- Release force:	0,75 N min.
- Contacts' material:	Cadmium plated silver alloy
- Body material:	Thermoplastic
- Approvals:	CE, CSA, UL, VDE

Conductor wires:

- Wires material:	Tinned copper strands
- External isolating protection:	PVC
- Cable's protection plait tube:	Polyester fiber
- Wire' section:	0,50 mm ²
- Conductors laying up:	Conforming to VDE 0295 - Class 6
- Approvals:	UL - CSA - HAR
- Standard wires' length:	500 mm (other dimensions on request)

Dimensional data:

Standard dual axis Joystick fitted with protection boot, no handle

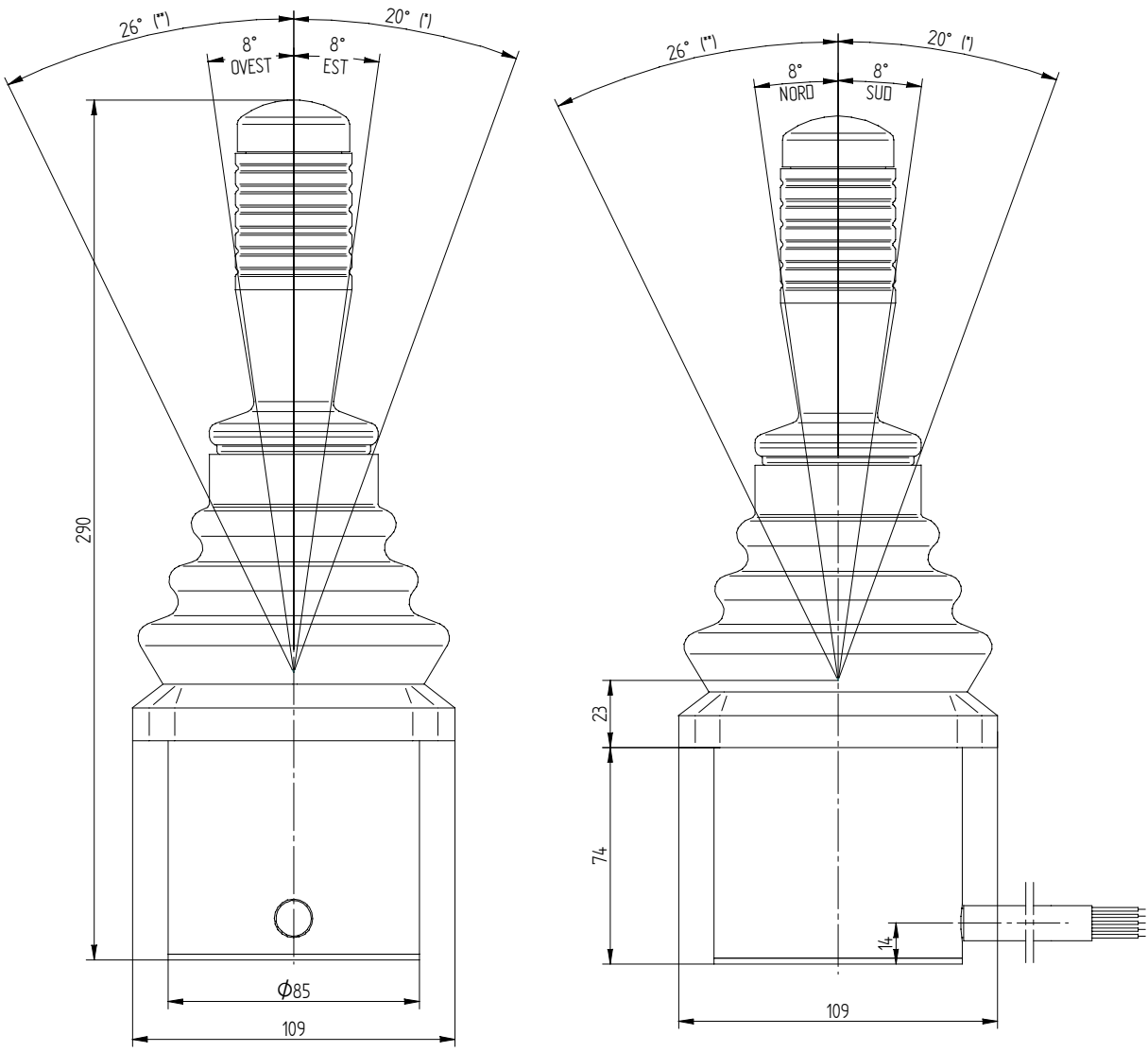


(*) Maximum for single movements on X - Y axis

(**) Maximum for combined diagonal movements

Dimensional data:

Dual axis Joystick fitted with protection boot & cylindrical handle without buttons



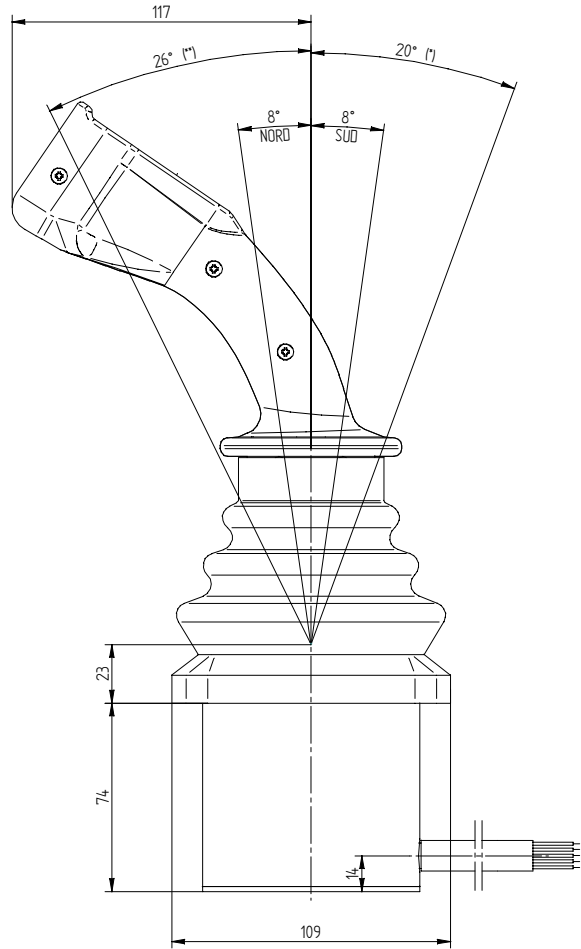
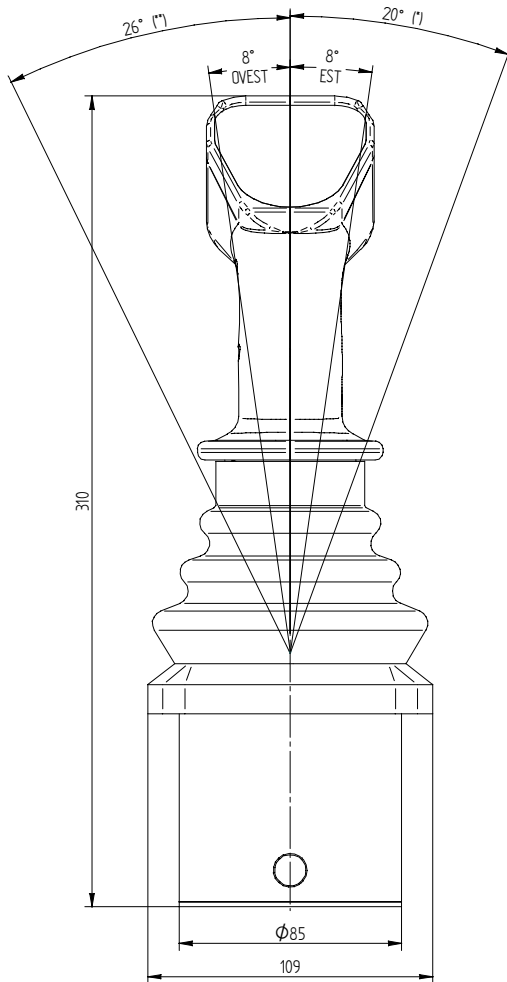
(*) Maximum for single movements on X - Y axis

(**) Maximum for combined diagonal movements



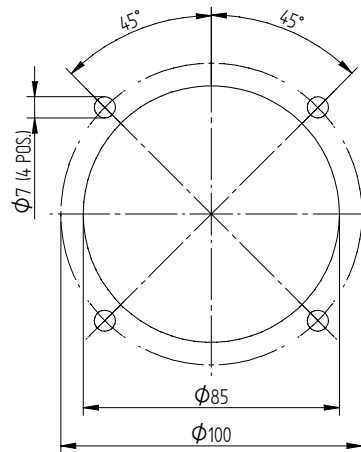
Dimensional data:

Dual axis Joystick fitted with protection boot & ergonomic grip without buttons



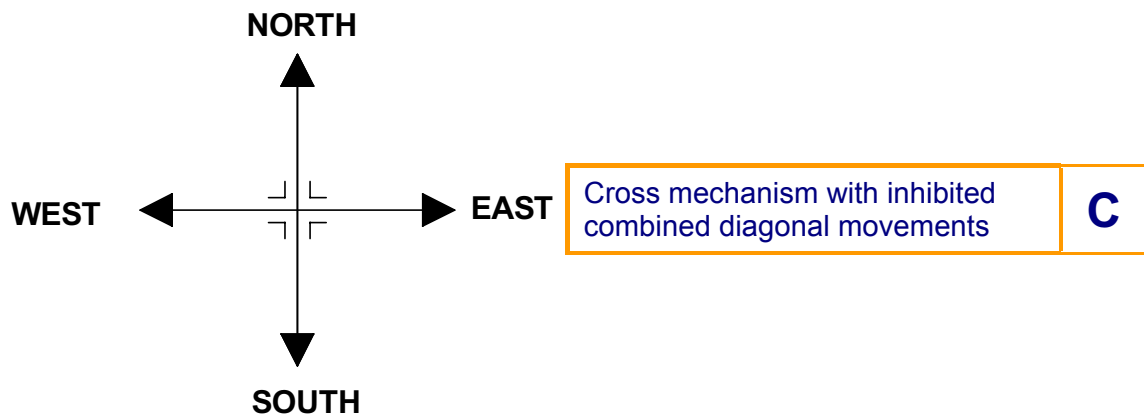
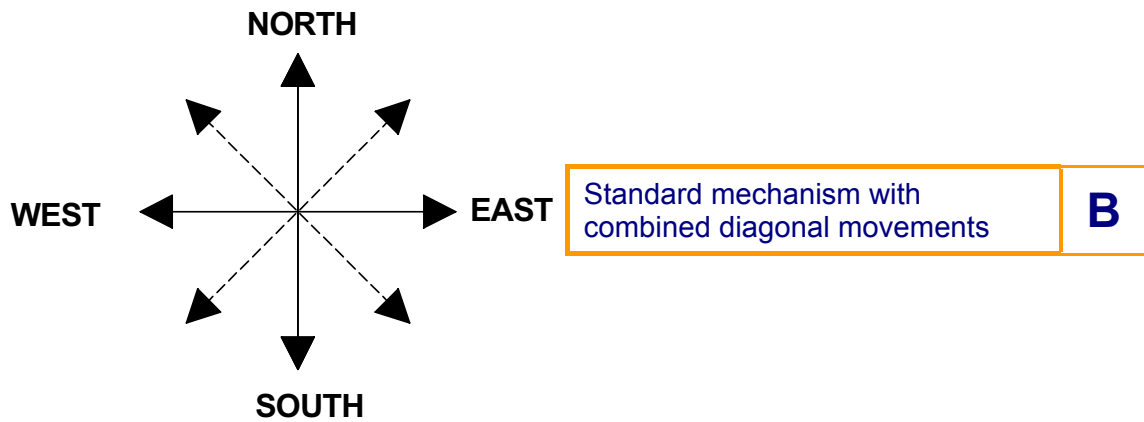
(*) Maximum for single movements on X - Y axis

(**) Maximum for combined diagonal movements

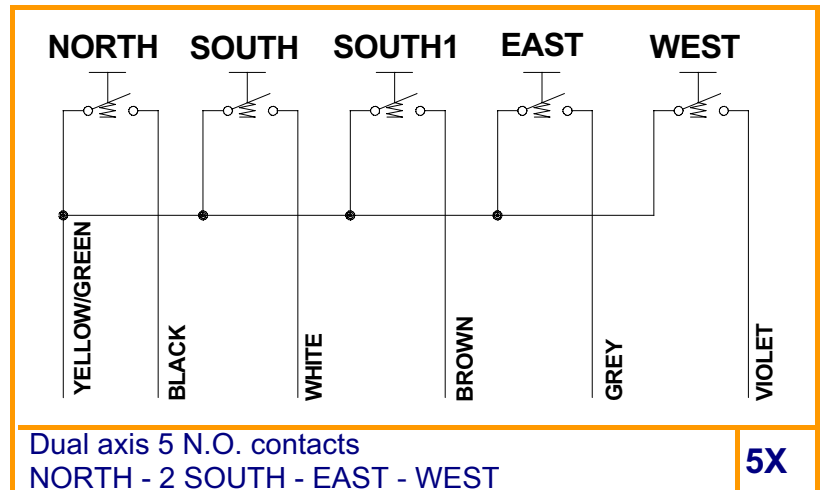
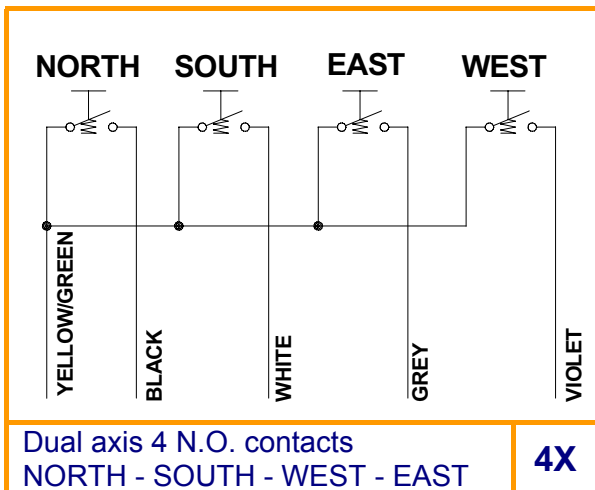
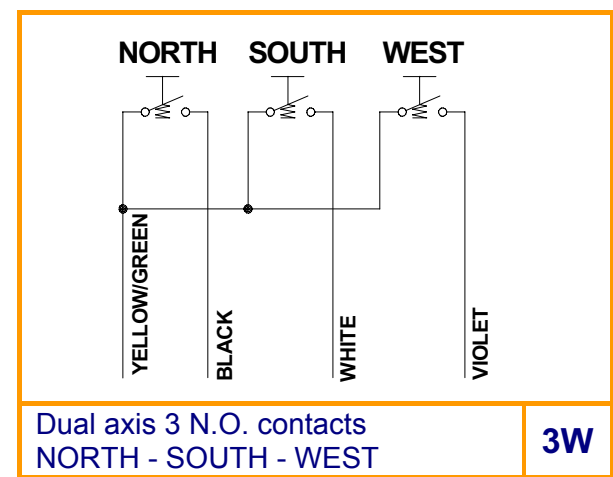
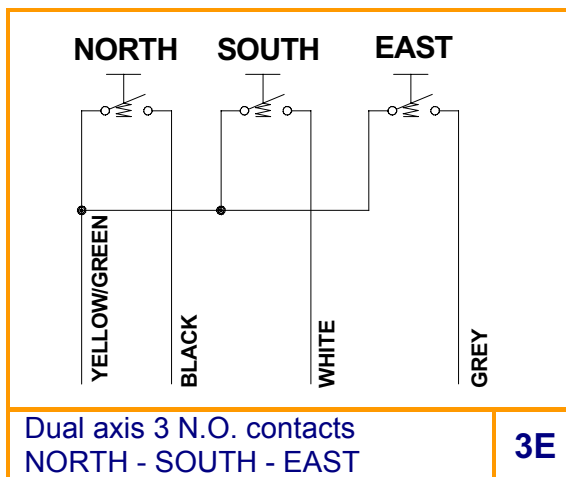
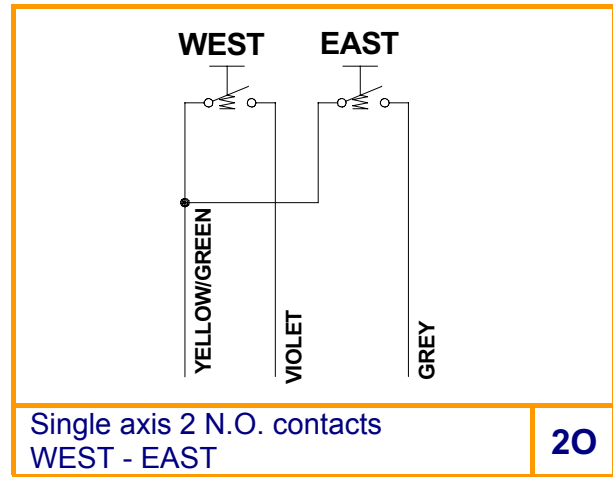
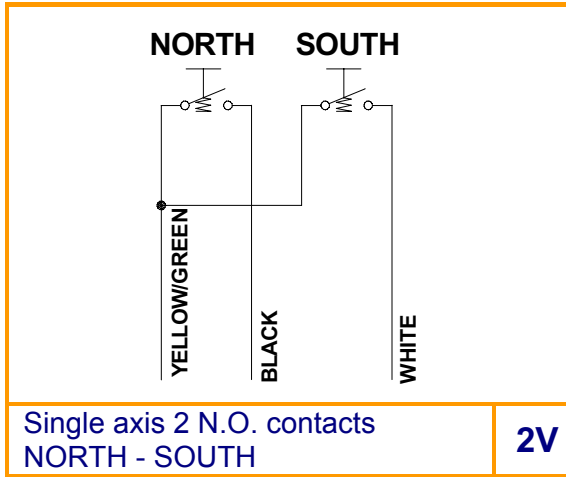


Mounting panel cut

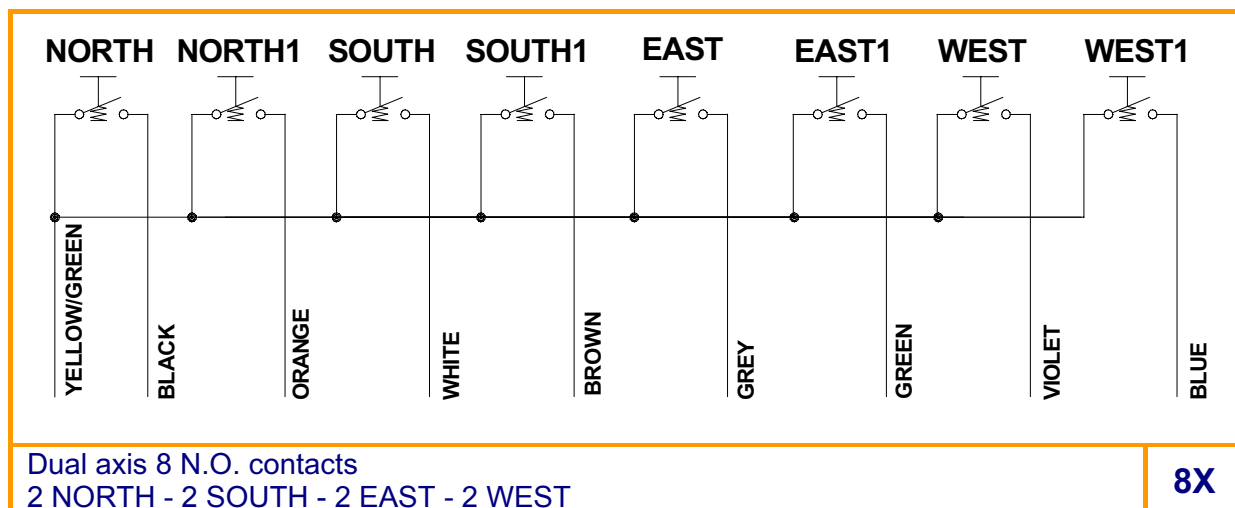
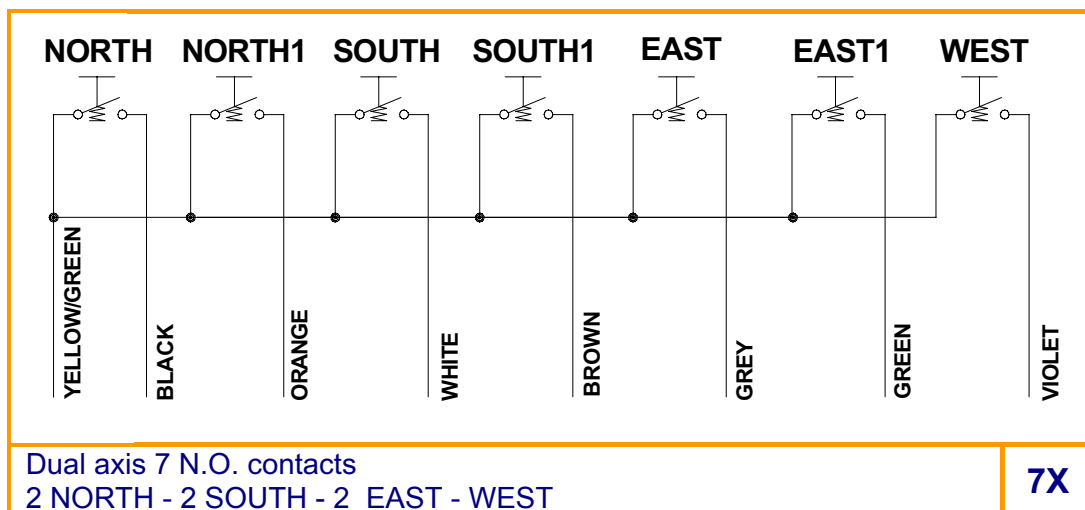
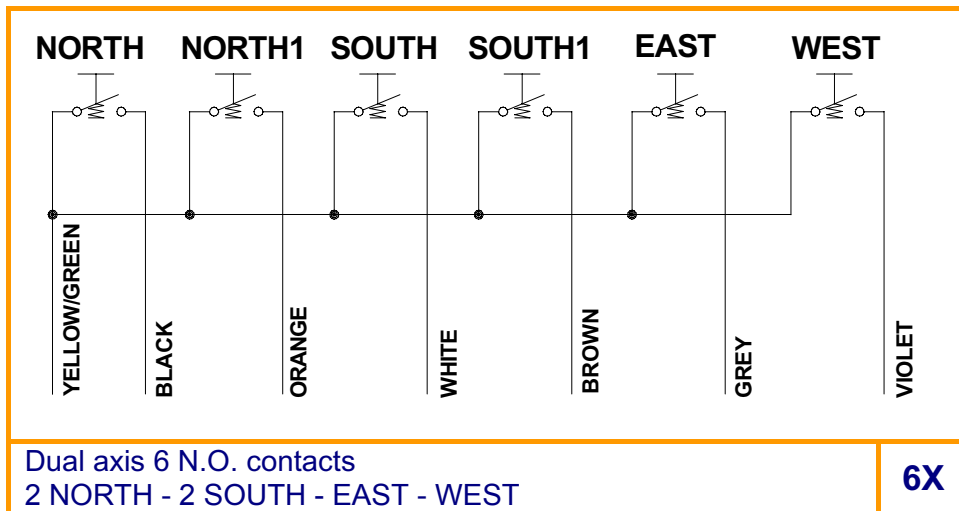
Kinematic mechanism configuration:



Electric circuit configuration:



Electric circuit configuration:



Protection boots:

Without protection boot

Z

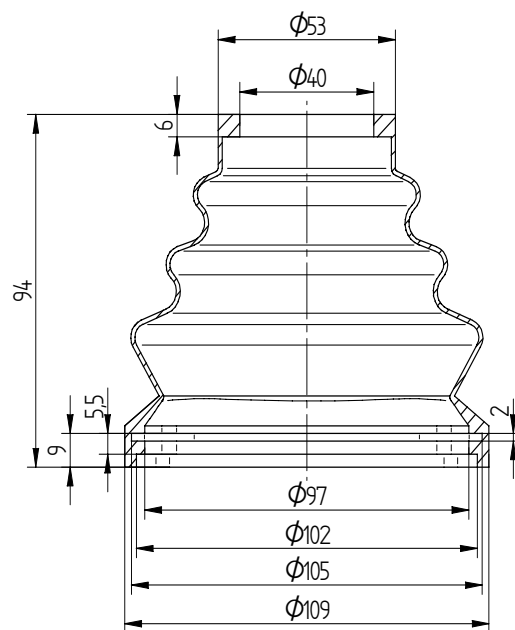
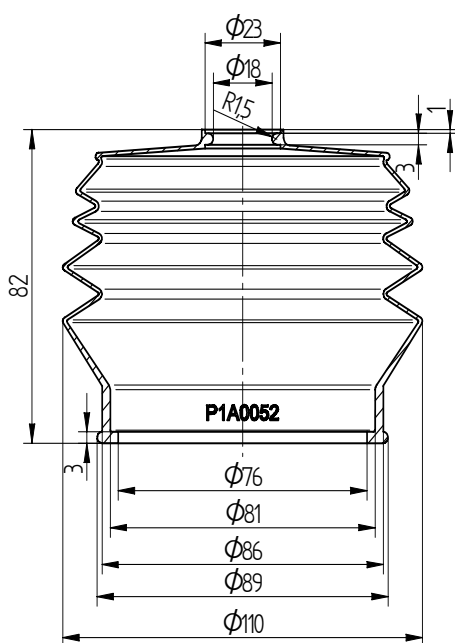


With round protection boot

R

With square protection boot

Q



Ordering key:

JEO1	B	4X	A	IEA0001	Q
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Protection boot (Page 11):

- Z = without protection boot
- Q = with square protection boot
- R = with round protection boot

Grip (See grips' catalogues):

- IEA0001 = grip identification code, assigned by Fluidea (for options available see the technical catalogues of the grips)
- Z = without grip

Control lever centring system:

- A = spring returned to neutral position
- F = with friction detent in any position (available for options 2V & 2O only)

Electric circuit configuration (Pages 9-10):

- 00 = without micro-switches (configuration X)
- 2V = single axis 2 N.O. contacts (N-S)
- 2O = single axis 2 N.O. contacts (W-E)
- 3E = dual axis 3 N.O. contacts (N-S + E)
- 3W = dual axis 3 N.O. contacts (N-S + W)
- 4X = dual axis 4 N.O. contacts (N-S + E-W)
- 5X = dual axis 5 N.O. contacts (1 N - 2 S + E-W)
- 6X = dual axis 6 N.O. contacts (2 N 2 S + E-W)
- 7X = dual axis 7 N.O. contacts (2 N 2 S + 2 E + 1 W)
- 8X = dual axis 8 N.O. contacts (2 N 2 S + 2 E + 2 W)

Kinematic mechanism configuration (Page 8):

- B = Standard mechanism with combined diagonal movements
- C = Cross mechanism with inhibited combined diagonal movements
- V = NORTH-SOUTH movement only
- O = EAST-WEST movement only
- X = Kinematic mechanism locked (fixed grip)

JEO1 = design series

Fluidea



*excellence in hydraulic
& electronic systems
with competence*

& innovative ideas

The range

- Hydraulics pumps & motors
- Directional control valves
- Remote controls & electronics equipment
- Filters & contamination control
- Heat exchangers & cooling systems
- Fluid monitoring instruments
- Mechanical couplings & accessories
- Design and supply of hydraulic components and customized systems