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Description

The purpose of the dual axis electric joysticks JEO to control by cable, devices which require an on-off signal like directional control valves, unloading valves, selector valves and many other kind of actuatorsl.

This remote electric control system is particularly suitable for those applications where there are numerous users operating in sequence or simultaneously, which require a compact, robust, reliable and ergonomic control to ensure the operator can manage multiple uses, in a simple way and intuitive, with minimal effort, and where possible, with one hand only. In addition to simplifying and speeding up the work cycle, the safety of the environment and of the operator is optimized, as its attention is concentrated on the operational functions of the machine, without the need to look away in search of the controls, as often happens when the levers and buttons are located on one or more panels variously located in the control cabin.

JEO electric joysticks have been developed for the use of machines operating in the most severe environmental conditions. Particular attention was paid to the choice of components to ensure maximum durability, reliability and availability of the same. The careful choice of materials, the antioxidant and wear-resistant surface treatments of all the metal parts and the waterproofing of the body ensure optimal protection in any condition of use.

The control of the internal microswitches is made with a cam kinematic mechanism for a gentle and gradual control so that the operator can "feel" the closed and open positions of the electrical contacts in order to activate and deactivate them only at the point due.



A wide range of accessories can be supplied with JEO joystick, including ergonomic handle IE2, cylindrical handles IC1&IC2, knob handles type IP1, that can be assembled with on-off pushbuttons, diverters, proportional Hall effect rollers with optional integrated PWM regulator, safety pushbuttons, signalling led and dual axis on-off or proportional mini-joystick.

The capacity of designing and supplying customized wiring, that can also include control panels, pushbutton panels and poaches with shoulder strap, can match any Customer's requirement in short time and at relatively competitive cost.

Applications



Typical application of “on-off” joystick series JEO are agricultural machines, as tractors, moving grass cutters, pick-up machines, viticulture and olive-culture machines, and also forest machines, snow groomers, material handling machines, construction machines, road maintenance machines, fishing boats and industrial plants.



Technical features

Joystick:

- Mechanical life:	> 5x10 ⁶ cycles
- Maximum angle deflection:	20° movements on X-Y axis 26° combined movements
- First microswitch operating angle:	$\alpha_1 = 8^\circ$
- Second microswitch operating angle:	$\alpha_2 = 18^\circ$
- Body material:	Aluminium alloy 6060
- Plunger materials:	Stainless steel AISI 420
- Plunger guide material:	Bronze
- Microswitch brackets material:	Aluminium alloy 6060
- Rubber boot material:	Neoprene
- Protection degree:	IP 64
- Ambient temperature:	-20 ÷ + 85 °C

Microswitches:

- Maximum current:	10 A inductive - 16 A resistive
- Maximum voltage:	250 VAC
- Electrical life:	100.000 cycles @ max current
- Mechanical life:	1.000.000 cycles
- Protection degree:	IP 54
- Ambient temperature:	from -55 to + 85°C
- Operating stroke:	2,4 mm max
- Operating force:	3,00 N max
- Release force:	0,75 N min
- Terminal material:	Cadmium silver alloy
- Body material:	Thermoplastic
- Approvals:	CE, CSA, UL, VDE

Wires:

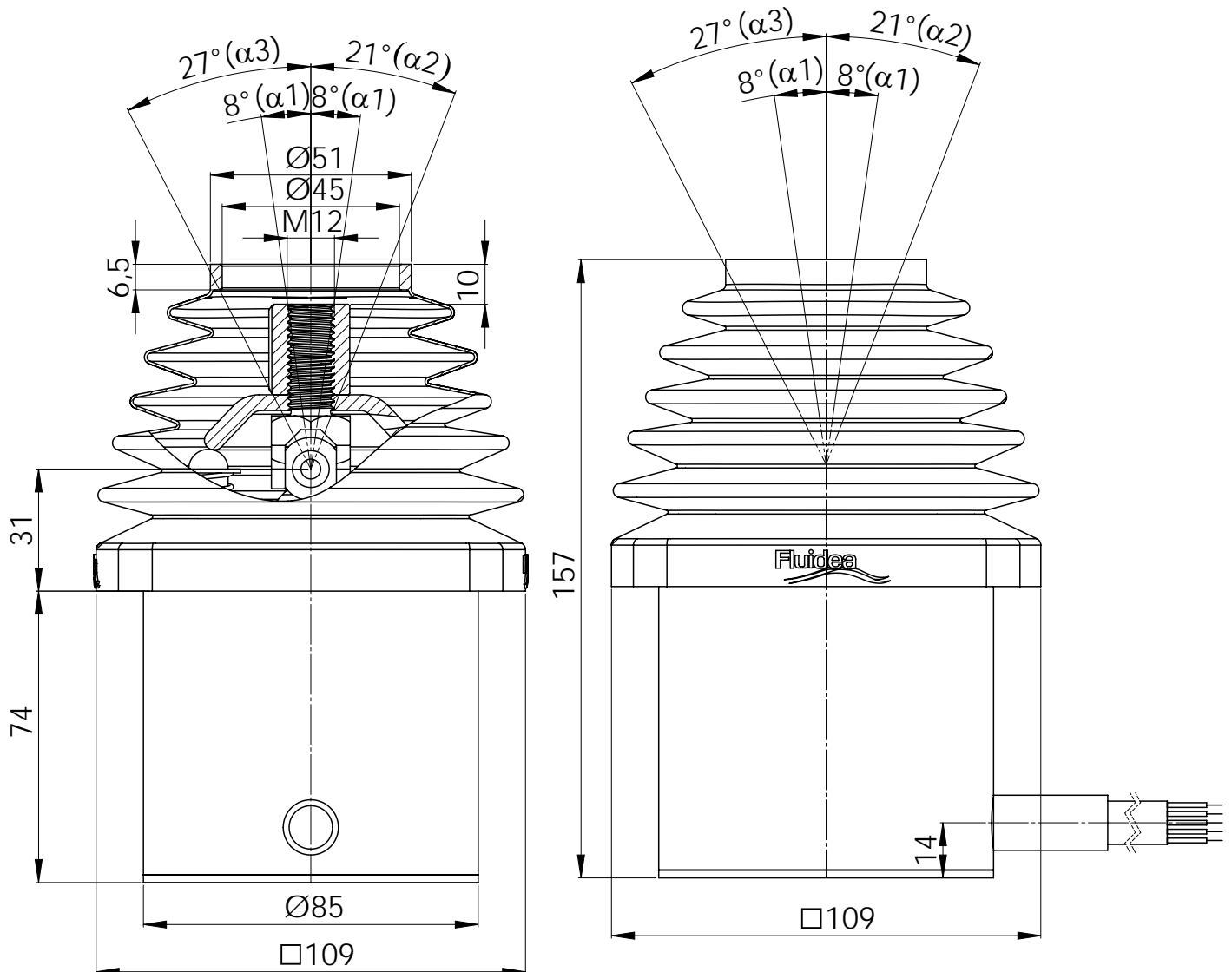
- Terminal material:	Tinned copper strands
- External insulation material:	Silicon or PVC
- Wire sleeve material:	Black polyester fibre
- Wire section:	0,50 mm ²
- Rope making wires:	Class 6 VDE 0295
- Approvals:	UL - CSA - HAR
- Standard length:	500 mm (other length on request)

The data and the technical features in this catalogue are not binding. The manufacturer reserves the right to carry out modifications, by its unquestionable judgement and without prior notice, in order to improve its products. The manufacturer is not responsible for damage to people or properties caused by an improper use of the product.

DUAL AXIS ON-OFF ELECTRIC JOYSTICK JEO

Overall dimensions

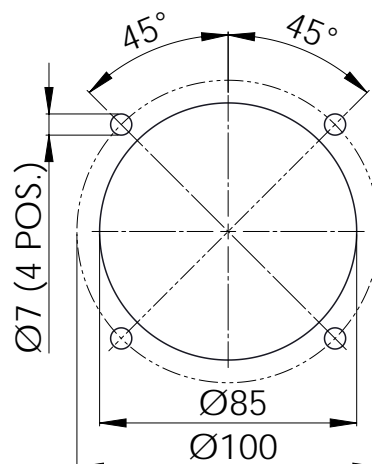
Standard dual axis joystick without handle, with rubber boot type Q



(α_1) Standard deflection angle for microswitch activation

(α_2) Maximum for X - Y movements

(α_3) Maximum for combined movements

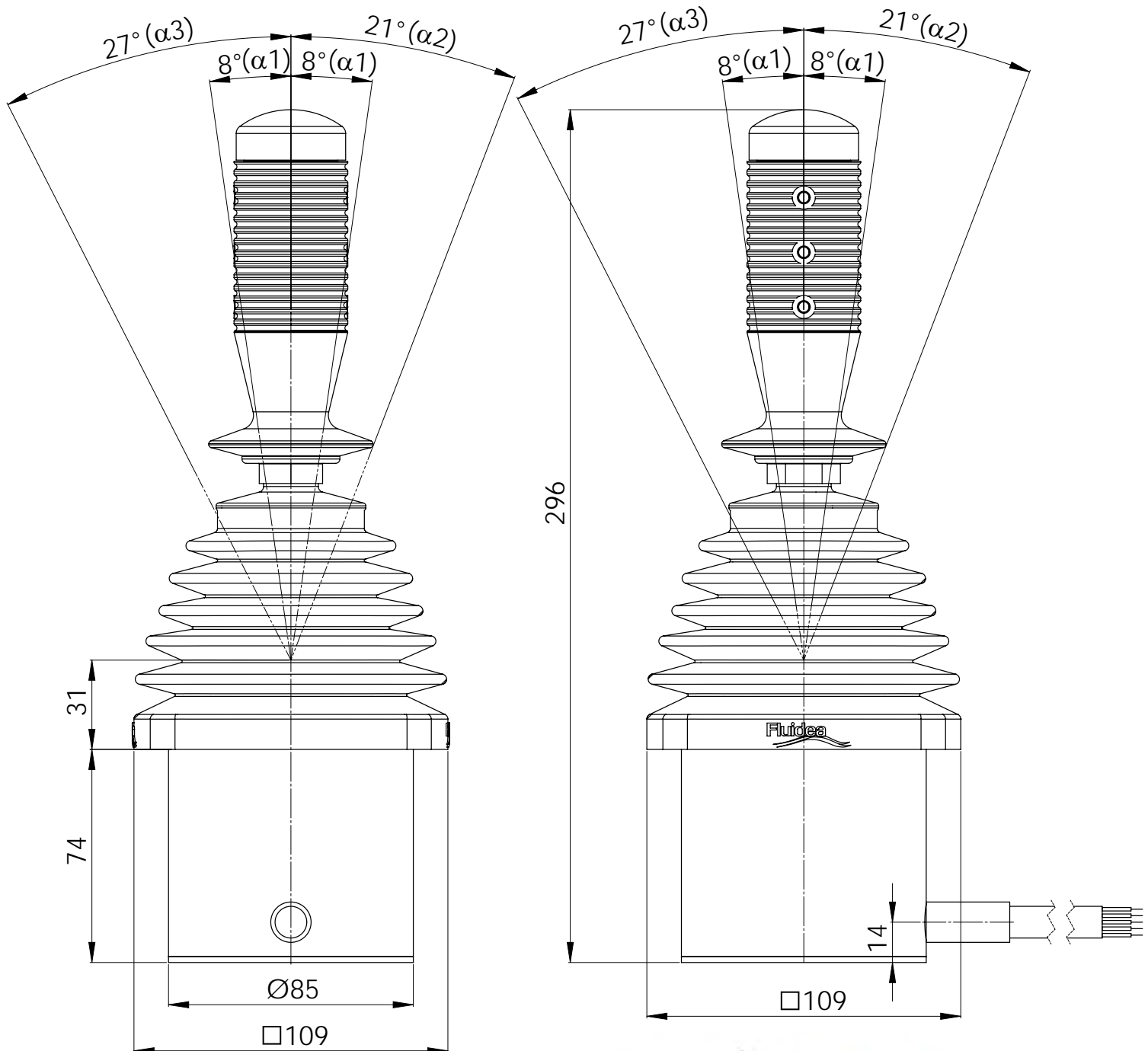


Mounting holes
Valid for all configurations

DUAL AXIS ON-OFF ELECTRIC JOYSTICK JEO

Overall dimensions

Dual axis joystick with straight handle without pushbuttons and rubber boot type Q



(α_1) Standard deflection angle for microswitch activation

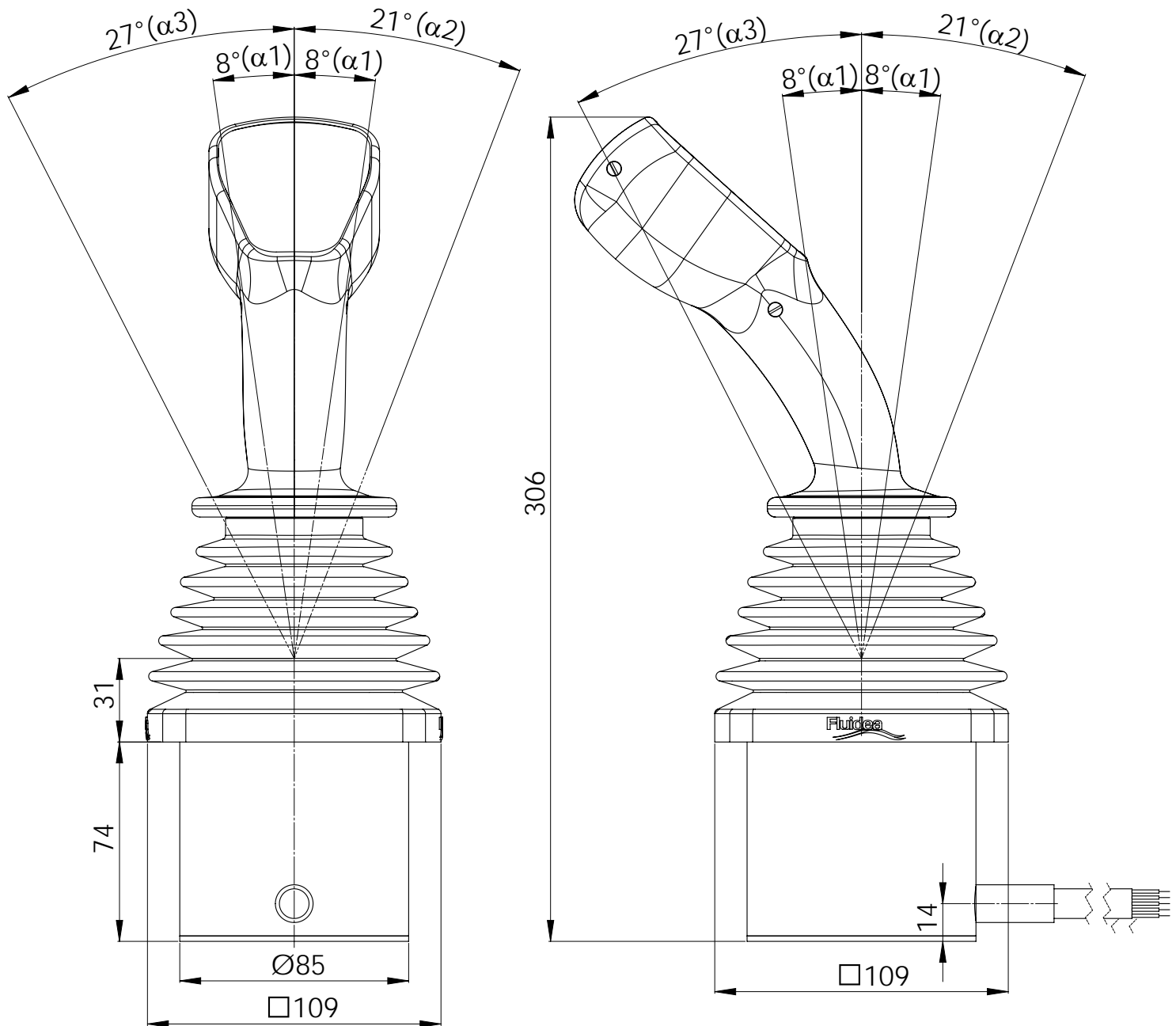
(α_2) Maximum for X - Y movements

(α_3) Maximum for combined movements



Overall dimensions

Dual axis joystick with straight handle without pushbuttons and rubber boot type Q



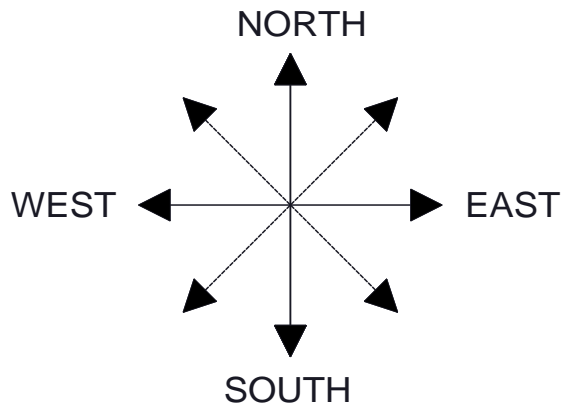
(α_1) Standard deflection angle for microswitch activation

(α_2) Maximum for X - Y movements

(α_3) Maximum for combined movements

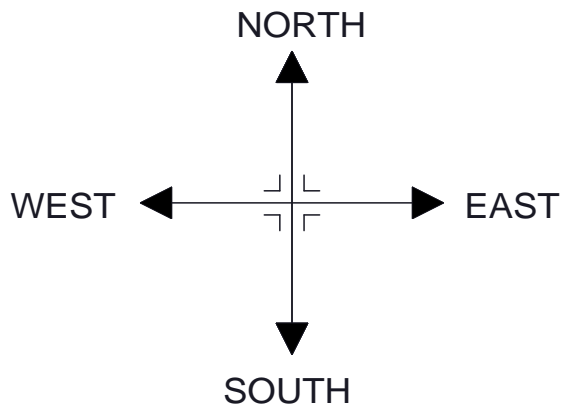


Control device configuration



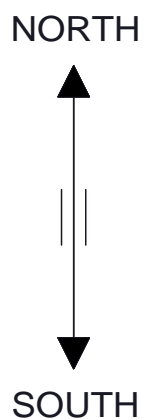
Standard control with combined movements available

B



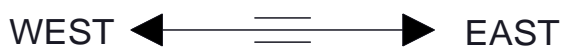
Cross control with combined movements inhibited

C



NORTH-SOUTH control with EAST-WEST movements inhibited

V

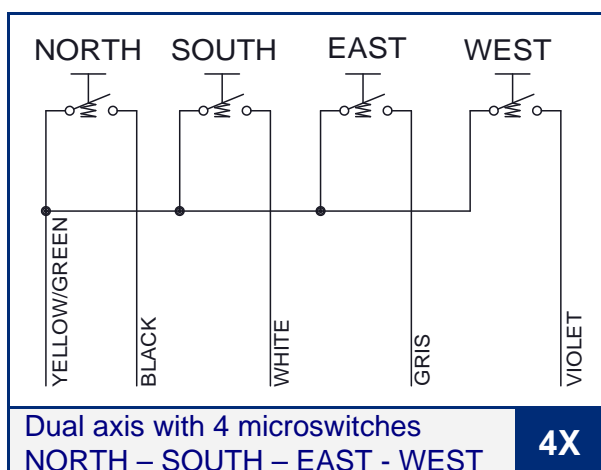
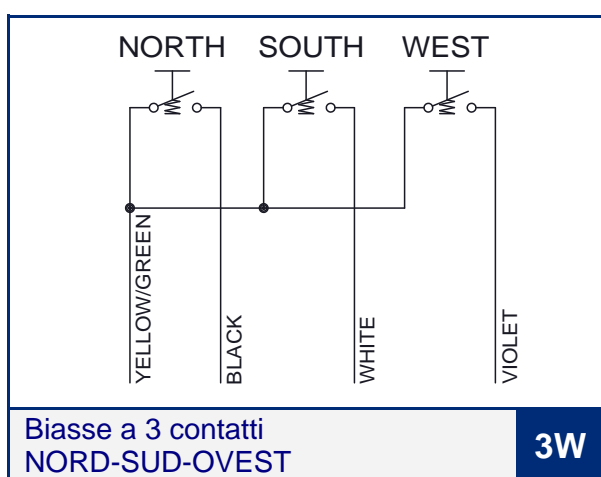
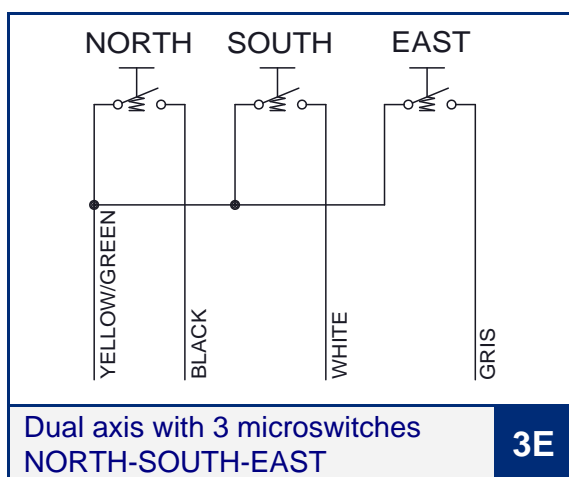
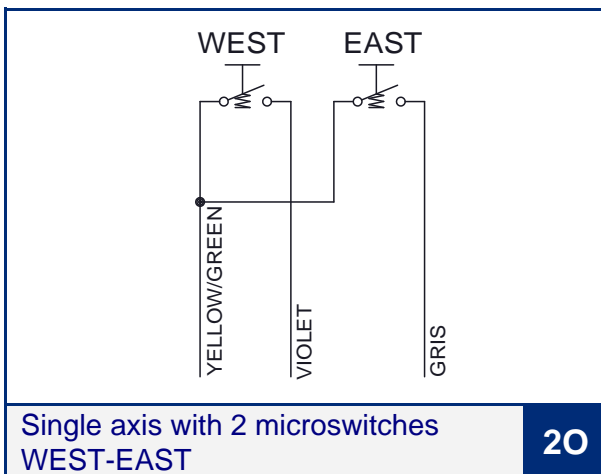
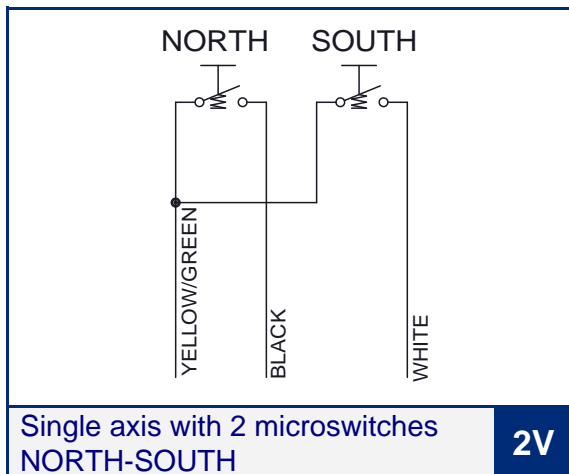


EAST-WEST control with NORTH-SOUTH movements inhibited

O

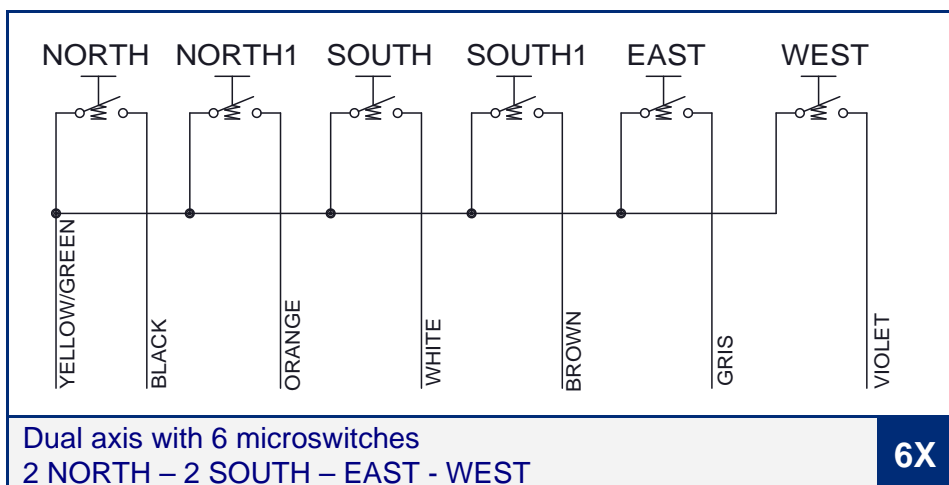
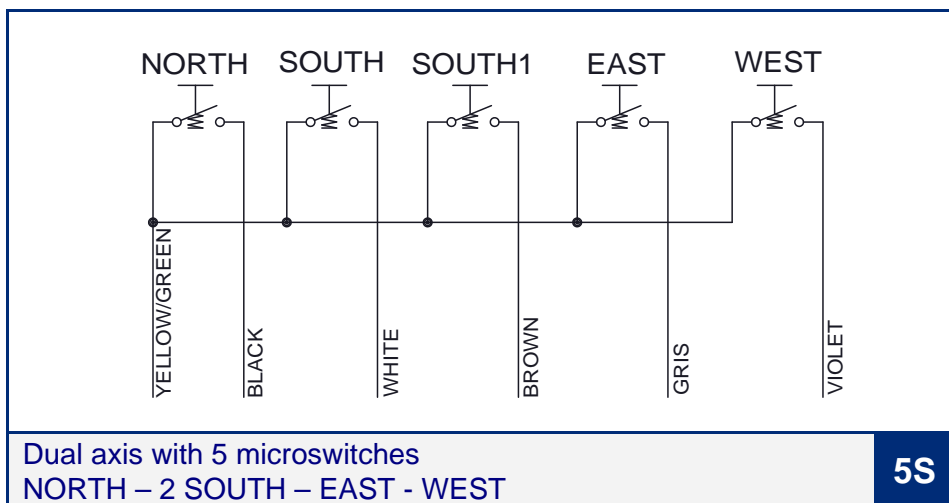
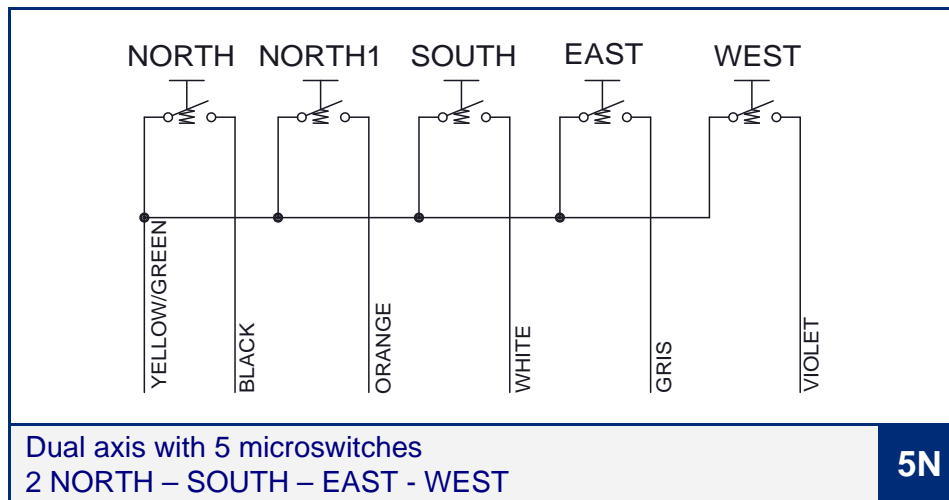
DUAL AXIS ON-OFF ELECTRIC JOYSTICK JEO

Electric diagram configuration



DUAL AXIS ON-OFF ELECTRIC JOYSTICK JEO

Electric diagram configuration



Control handles:

For a detailed configuration of the handle, please refer to the technical catalogue of the required model

Without handle

Z

Standard straight handle

IC1



Multifunctional straight handle

IC2



Multifunctional ergonomic

IE2



Rubber boot

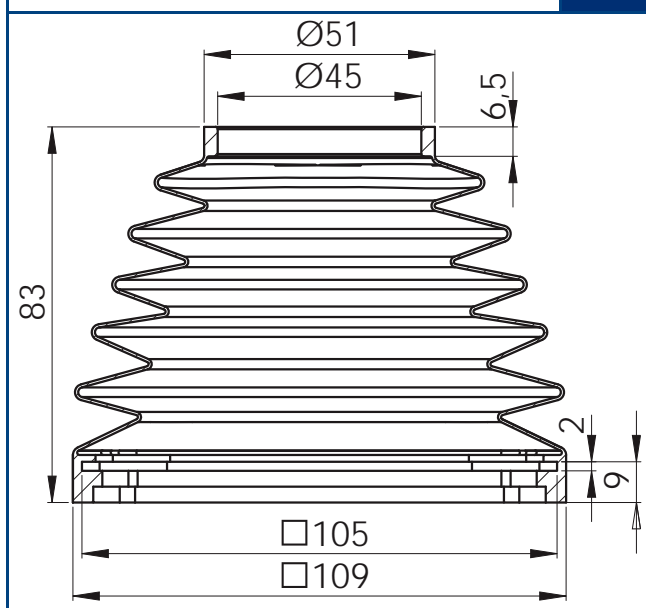
Without rubber boot

Z



With square rubber boot

Q



Ordering key

JEO	1	B	4X	IE20001	Q
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Rubber boot (page 12):

- without rubber boot = **Z**
- with square rubber boot = **Q**

Handle (page 11):

- **IE20001** = handle part number, assigned by Fluidea
(for the available options refer to technical catalogue of the handle)
- **Z** = without handle

Electric diagram configuration (pages 9-10):

- **00** = without microswitches (X configuration)
- **2V** = single axis with 2 microswitches (north - south)
- **4V** = single axis with 4 microswitches (2 north - 2 south)
- **4O** = single axis with 4 microswitches (2 east - 2 west)
- **2O** = single axis with 2 microswitches (east - west)
- **3E** = dual axis with 3 microswitches (north - south + east)
- **3W** = dual axis with 3 microswitches (north - south + west)
- **4X** = dual axis with 4 microswitches (north - south + east - west)
- **5N** = dual axis with 5 microswitches (2 north - south + east - west)
- **5S** = dual axis with 5 microswitches (north - 2 south + east - west)
- **6X** = dual axis with 6 microswitches (2 north - 2 south + east - west)

Control device configuration (page 8):

- **B** = standard control with combined movements available
- **C** = cross control with combined movements inhibited
- **V** = NORTH-SOUTH control with EAST-WEST movements inhibited
- **O** = EAST-WEST control with NORTH-SOUTH movements inhibited

Model:

- **1** = standard

Basic model:

- **JEO** = electric joystick "On-Off"



THE COMPREHENSIVE RANGE OF MANUFACTURED AND MARKETING COMPONENTS INCLUDES:

- Hydraulic gear and axial piston pumps & motors
- Directional control valves & selector valves
- Proportional EH pressure reducing valves & manifold blocks
- Hydraulic, pneumatic and electric on-off & proportional joysticks
- Control electronics
- Radio controls, push buttons stations, dashboards and armrests
- Multifunction ergonomic, cylindrical & palm grips
- Hydraulic filters & contamination control system
- Heat exchangers and cooling system
- Fluid monitoring & diagnostic instrument
- Bell housings, driving flanges & elastic coupling