

# ROMEO

## JOYSTICK

### PRODUCT DESCRIPTION





Romeo is a joystick designed to control complex machine tools used in heavy duty and aggressive environments. Materials, technical solutions and size and shape of critical components ensure mechanical strength and life, and special attention is paid to design, ergonomics, sensitivity and accuracy of operation. Structural components are made of die-cast nickel-plated zama to ensure maximum resistance, while parts subject to wear are made of techno-polymer. Three different versions of Romeo are available: with free movement, with "dead man" safety device

(with mechanical interlock and NO/NC contact), or with electrical interlock. Not all versions are available on any handle of Romeo. The movement of the rod in both directions can be customized by means of the standard lever guides or of special guides made on request. Romeo is a small size joystick available with up to 6 speeds, with or without potentiometer or encoder; it is also available with integrated analogical actuator, and with current, voltage, PWM or CANopen outputs.

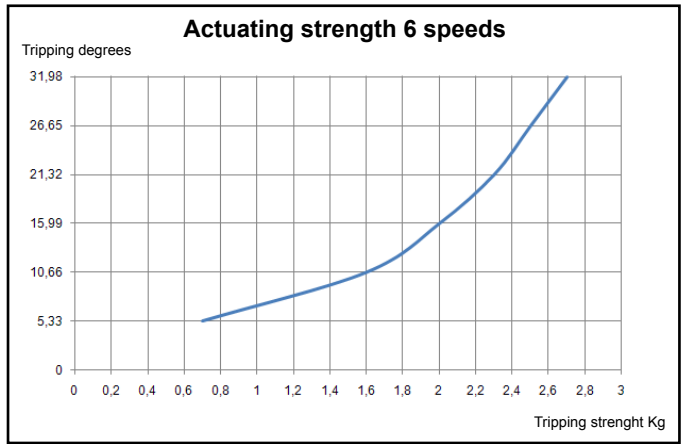
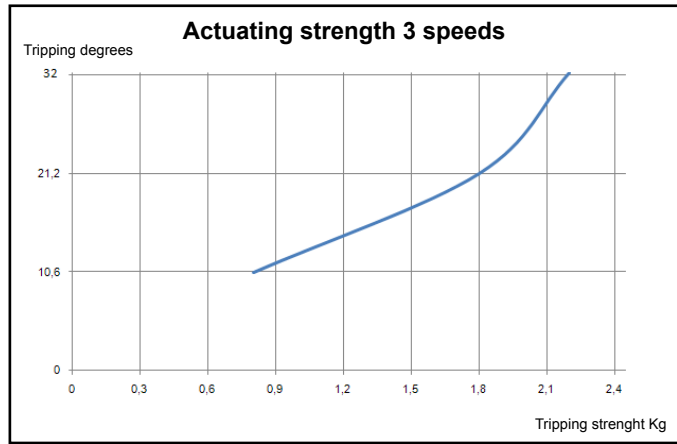
### GENERAL TECHNICAL SPECIFICATIONS

- Conformity to Community Directives: 2006/95/CE 2006/42/CE
- Conformity to Standards: EN 60204-1 EN 60947-1 EN60947-5-1 EN61000-6-2 EN61000-6-3
- Storage ambient temperature: -40°C/+70°C
- Operational ambient temperature: -25°C/+70°C
- Protection degree: IP 00 (IP 65 max. when assembled in specific enclosure)
- Insulation category: Class I
- Operating positions: any position
- Markings and homologations: CE

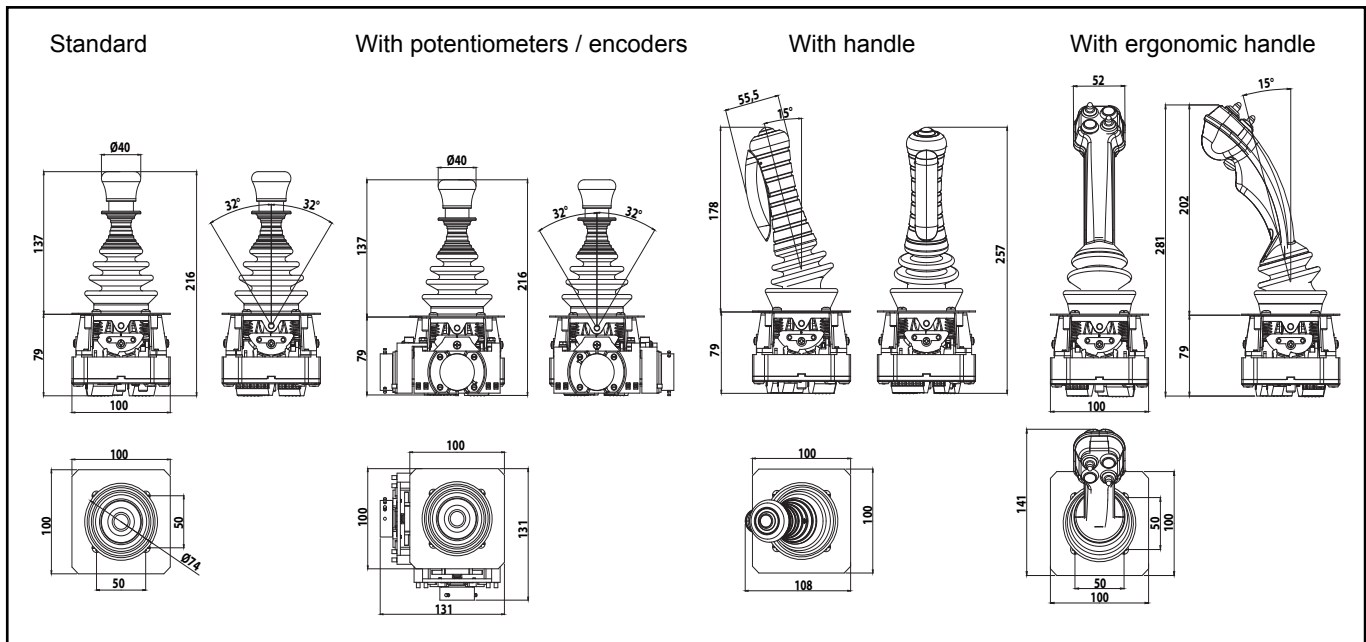
### TECHNICAL SPECIFICATIONS OF THE OUTPUTS

- Microswitches:
  - Utilisation category: AC 15
  - Rated operational current: 2 A
  - Rated operational voltage: 48 V~
  - Rated thermal current: 8 A
  - Rated insulation voltage: 60 V~
  - Mechanical life: 0.5x10<sup>6</sup> operations
  - Connections: terminal board
  - Wires: 0,2 mm<sup>2</sup> - 2,5 mm<sup>2</sup>
  - Tightening torque: 0,5 Nm - 0,6 Nm
  - Markings and homologations: CE    
- Proportional:
  - 0 ÷ 10V
  - 4 ÷ 20mA
  - PWM
  - CANopen
  - RS232 (settings)

## ACTUATING STRENGTH

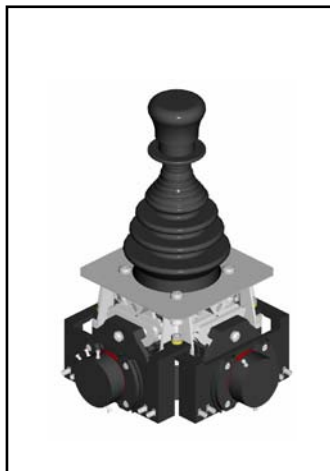


## OVERALL DIMENSIONS

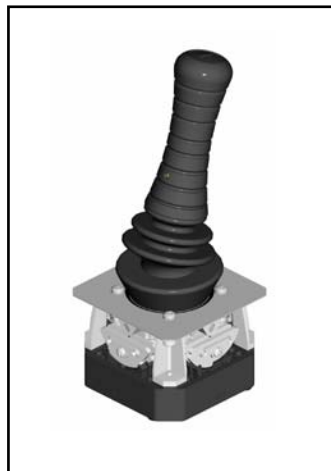


## POSSIBLE ASSEMBLIES

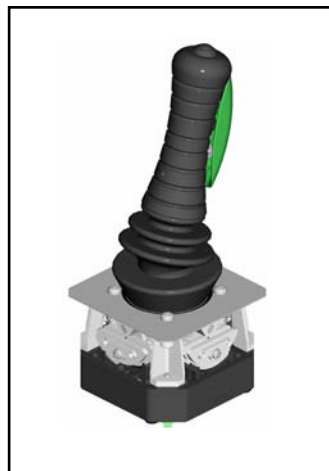
**With standard knob and potentiometers**



**With handle**



**With handle with NO contact and pushbutton**



**With ergonomic handle**



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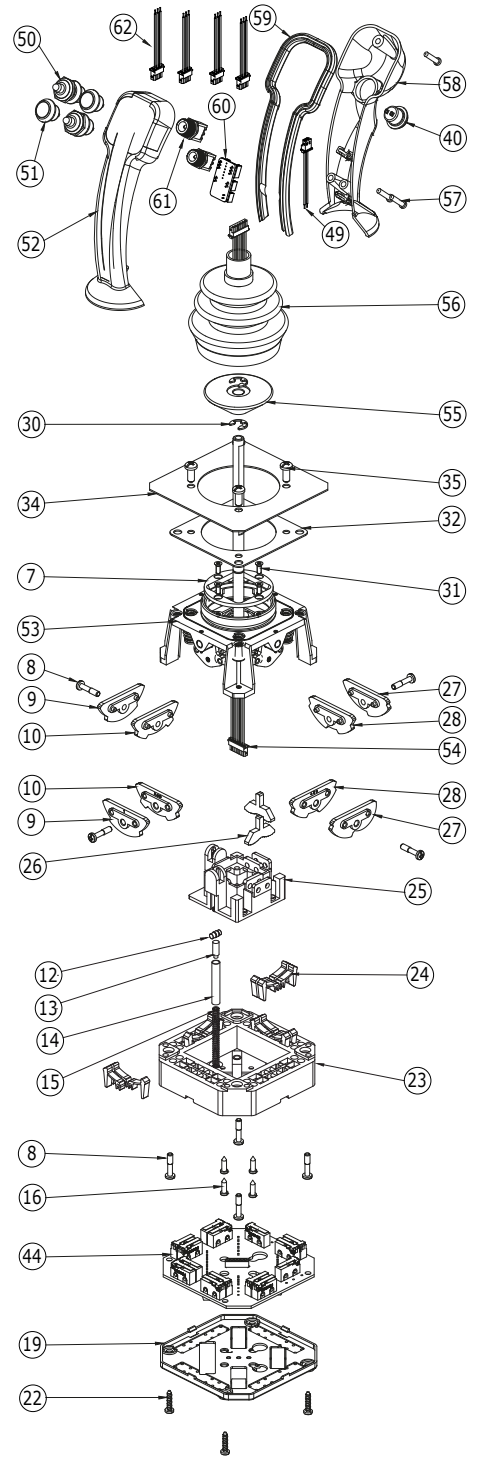
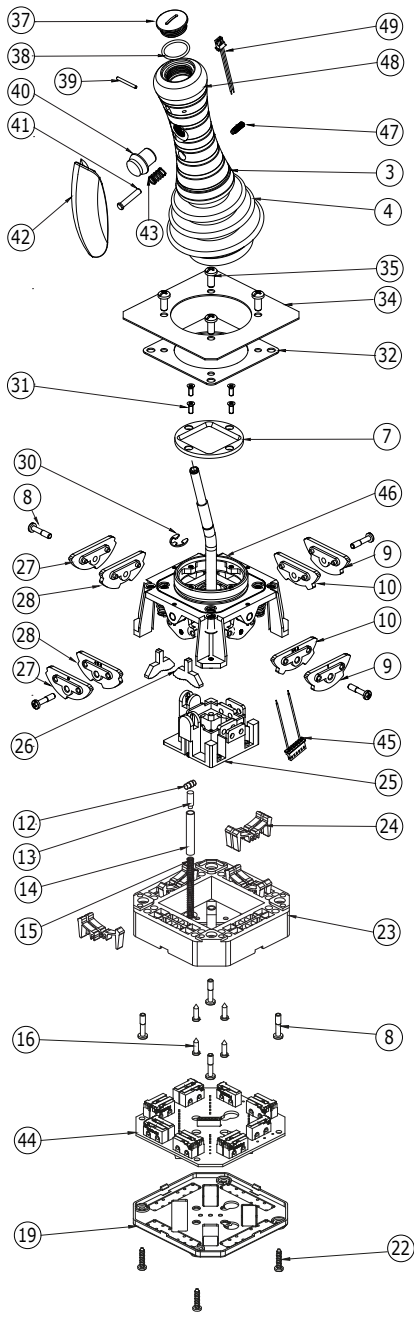
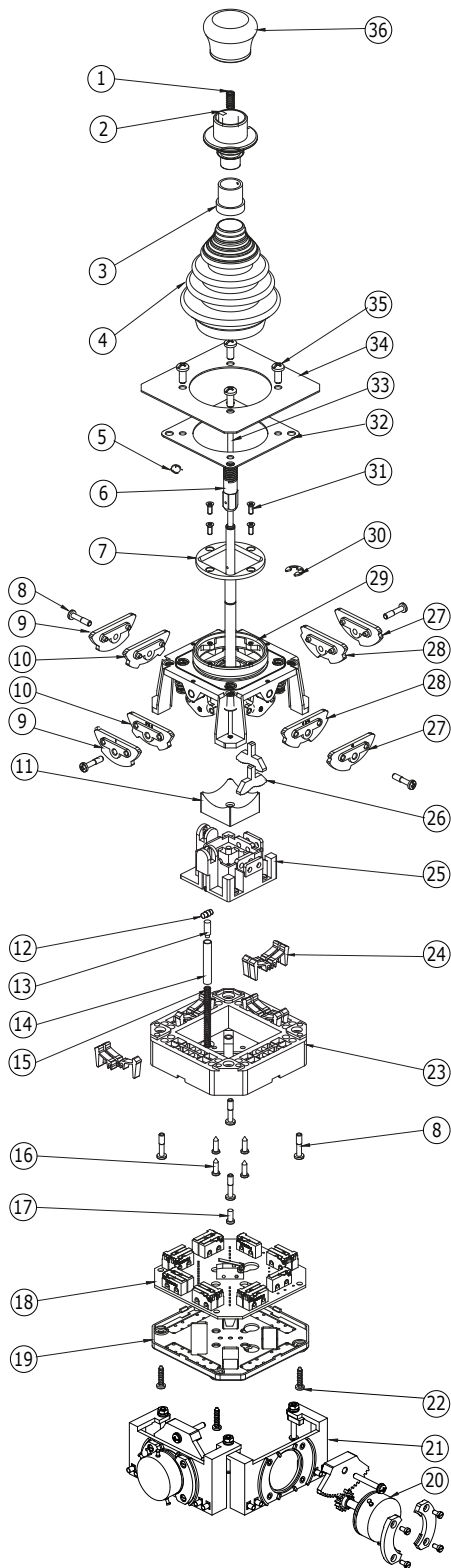
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# COMPONENTS

Reference	Code	Description	Reference	Code	Description
1	PRMO2123PE	Spring	30	PRRN1093PE	Ring UNI7431-7
2	PRSL7588PI	Mechanical interlock actuator	31	PRVI0068PE	Screw M3x8 ISO7046
3	PRSL7589PI	Actuator guide	32	PRGU1071PE	Gasket
4	PRGU6050PE	Bellows	33	PRTO0613PE	Mechanical interlock rod
5	PRRN1055PE	Elastic ring	34	PRTA0150PE	Blank label
6	PRTO0605PE	Handle bush guide	35	PRVI1020PE	Screw M5x30 ISO7045
7	PRGC6611PE PRGC6622PE PRGC6633PE PRGC6644PE PRGC6655PE PRGC6666PE PRGL1100PE PRGL1111PE PRGL4400PE PRGL4411PE PRGL4422PE PRGL4433PE PRGL4444PE PRGL5500PE PRGL5511PE PRGL5522PE PRGL5533PE PRGL5544PE PRGL5555PE PRGL6600PE PRGL6611PE PRGL6622PE PRGL6633PE PRGL6644PE PRGL6655PE PRGL6666PE	Cross lever guide 6/1 Cross lever guide 6/2-3/1 Cross lever guide 6/3 Cross lever guide 6/4-3/2 Cross lever guide 6/5 Cross lever guide 3/3-6/6 Lever guide 1/0 Lever guide 1/1 Lever guide 2/0-4/0 Lever guide 4/1 Lever guide 4/2-2/1 Lever guide 4/3 Lever guide 4/4-2/2 Lever guide 5/0 Lever guide 5/1 Lever guide 5/2 Lever guide 5/3 Lever guide 5/4 Lever guide 5/5 Lever guide 6/0-3/0 Lever guide 6/1 Lever guide 6/2-3/1 Lever guide 6/3 Lever guide 6/4-3/2 Lever guide 6/5 Lever guide 3/3-6/6	36	PRSL9680PI	Rod guide
8	PRVI0201PE	Screw M4x18 ISO7045	37	PRSL7716PI	Knob
9	CKR60006	Cam 1 <sup>st</sup> position - 6/3 speeds	38	PRPS0070PE	Threaded plug M20
10	CKR60008	Cam 2 <sup>nd</sup> -3 <sup>rd</sup> position - 6 speeds	39	PRGU0039PE	O-Ring
11	PRSL7726PI	Spheric unit	40	PRTO1071PE	Pin Ø2x21
12	PRTO1006PE	Roller	41	PRTO7020PE	Handle
13	PRSL7845PI	Pusher	42	PRSL1603PI	2 conductor cable
14	PRTU6001PE	Spring guide tube	43	VI100012	Screw M4x12 UNI5927
15	PRMO2200PE	Roller spring - 3 speed joystick	44	PRSL4556PI	2 conductor cable
16	PRVI0051PE	Screw 3.5x12 UNI9707-Z-TZ	45	93623	6 speed board
17	PRTO0606PE	Electrical interlock actuating pin	46	PRVV0044PE	Electrical interlock set
18	93620 93621	6 speed board 3 speed board	47	PRMO1041PE	Spring for button
19	PRSL9036PI	Board protection plate	48	PRRN0044PE	Washer 4.3x9x0.8 UNI6592
20	PRVV9035PE PRVV9020PE PRVV9025PE	Potentiometer Megatron 2.2 kΩ Potentiometer Megatron 4.7 kΩ Potentiometer Megatron 10 kΩ	49	PRTO6135PE	Pin
21	PRBA8510PI	Potentiometer support	50	PRVV5080PE	Switch
22	PRVI0097PE	Screw 4x16 UNI9707-Z-TZ	51	PRRN8010PE	Washer 12x18x1
23	PRSL6055PI	Base	52	PRTO7015PE	Reducing plug
24	PRSL7590PI	Switch operating lever	53	PRVV5019PE PRVV5020PE	Green pushbutton NO Black pushbutton NO
25	PRSL4550PI	Spheric unit support	54	PRSL7595PI	Trigger button
26	PRTO8010PE	6 position sector	55	PRVV0825PE	Sealing boot for switches
27	CKR60009	Cam 6 <sup>th</sup> position - 6 speeds	56	PRSL5681PI	Ergonomic handle cover
28	CKR60007	Cam 4 <sup>th</sup> -5 <sup>th</sup> position - 6 speeds	57	PRVV0042PE	Electrical interlock set
29	PRVV0041PE	Mechanical interlock set	58	PRSL4555PI	6 conductor cable
			59	PRSL9037PI	Ergonomic handle bellows support
			60	PRGU6040PE	Bellows
			61	VI200003	Screw 3.5x16 UNI9707-Z-TZ
			62	PRSL5094PI	Ergonomic handle enclosure
			63	PRGU0070PE	Ergonomic handle rubber
			64	PRVV0830PE PRVV0831PE PRVV0832PE PRVV0833PE PRVV0834PE PRVV0840PE PRVV0842PE	2 fixed position selector ON-ON wired 3 fixed position selector ON-OFF-ON wired 2 position spring return selector ON-MOM wired 3 position selector MOM-OFF-MOM wired 3 position selector ON-OFF-MOM wired 2 fixed position selector ON-OFF wired 2 position selector MOM-OFF wired
			65	93624	Ergonomic handle board
			66	PRTO1070PE	Fixing fork for ergonomic handle
			67	PRSL1602PI	3 conductor cable

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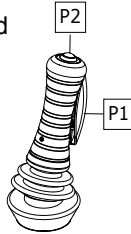
# REQUEST FORM FOR JOYSTICKS

## Grip type

- Knob (IP 65 assembled in specific enclosure)  
 Function  
 Free movement  
 Mechanical interlock + NC/NO contact



- Handle (IP 44 assembled in specific enclosure)  
 Function  
 Free movement  
 Electrical interlock (P1 button NO)

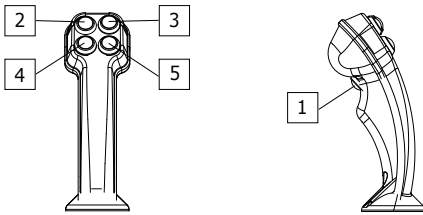


- Electrical interlock (P1 button NO) + P2 button NO  
 Colour of P2 button  
 black  green

- Ergonomic handle (IP 43 assembled in specific enclosure)



## Actuators for ergonomic handle



## Actuator type\* and label letterings

- Pos. 1  Y  N Green button NO 1 cont.+1 comm.\*\*  
 Type Lettering  
 2  \_\_\_\_\_  
 3  \_\_\_\_\_  
 4  \_\_\_\_\_  
 5  \_\_\_\_\_

## Actuators for positions 2-3-4-5

- A Black button NO 1contact+1common  
 B Green button NO 1contact+1common  
 C 2 pos. selector ON-OFF 1cont.+1comm.  
 D 2 pos. selector MOM-OFF 1cont.+1comm.  
 E 2 fixed pos. selector ON-ON 2cont.+1comm.  
 F 3 fixed pos. sel. ON-OFF-ON 2 cont.+1 comm.  
 G 2 pos. SR selector ON-MOM 2cont.+1comm.  
 H 3 pos. sel. MOM-OFF-MOM 2cont.+1comm.  
 I 3 pos. sel. ON-OFF-MOM 2cont.+1comm.

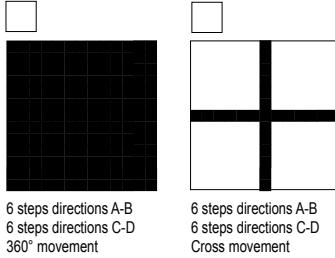
\* Maximum 6 contacts available.  
 Ex.: 5 button A type  
 5 selector C type  
 3 buttons A type + 1 selector G type  
 \*\* In case of use of the electrical interlock function, connect it to actuator 1

## Movement

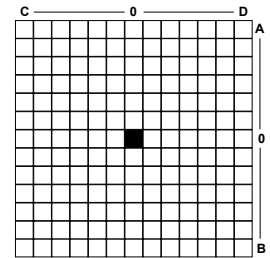
- Notching - spring return  
 Notching - maintained positions  
 Linear - spring return

## Lever guide

### Standard lever guide



### Customized lever guide



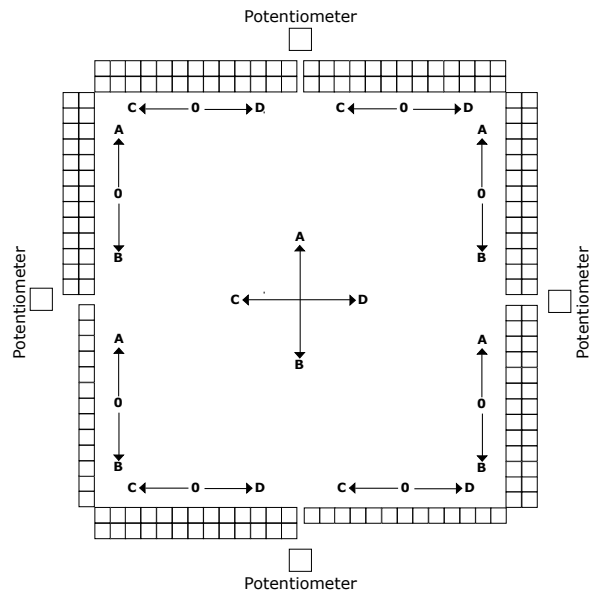
## Version with switches

### Potentiometer

- 1 2.2 kΩ  
 2 4.7 kΩ  
 3 10 kΩ  
 4 Preset only

### Instructions

When necessary, write the number corresponding to the **potentiometer** or to the **preset** required. Fill in the **contact** scheme blackening the boxes corresponding to the positions where the cams close the contacts (each bar of 13 boxes correspond 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.



## Proportional version\*

### Outputs

- Voltage (0-10V)  
 PWM (1KHz)  
 Current (4-20mA)  
 CANopen

\* Beside the analogical outputs, also 4 microswitches are available (configuration according to the scheme on the right)

