



PNS

PN2S

PN231

# LINEAR MOTION POTENTIOMETERS

## Series PNS • PN2S • PN231

- 50 to 950 mm strokes
- Excellent linearity
- Infinite resolution
- Easy mounting method
- Connections by M12 connector
- IP65 protection degree

PNS	PN2S	PN231
Strokes: 50 to 950 mm • rod Ø 6 mm • axial connector	Strokes: 50 to 750 mm • rod Ø 6 mm • radial connector • two ball joints Ø 5 mm	Strokes: 50 to 750 mm • rod Ø 8 mm • radial connector • two ball joints Ø 8 mm

ELECTRICAL & OPERATING SPECIFICATIONS			
Series	PNS	PN2S	PN231
▪ Sensor	Conductive plastic resistive element		
▪ Resistive value	5 KOhm ±20% Optional 10 KOhm ±20%		
▪ Strokes mm	50 • 100 • 150 • 200 • 250 • 300 • 400 • 500 • 750 • 950*		
▪ Linearity	±0.075%		±0.1%
▪ Resolution	Infinite		
▪ Permissible applied voltage	28 Vdc		
▪ Load resistance	1 MOhm min.		
▪ Recommended cursor current	< 1 µA		
▪ Mechanical life	100 milion cycles		
▪ Ripetibility	<0.01 mm		
▪ Dissipation at 40°C	3 W		
▪ Insulation resistance	>100 MOhm at 500 Vdc		
▪ Connections	4-pin M12 male connector		
▪ Connector position	Axial	Radial	Radial

\*Stroke mm 950 is only available for PLS series

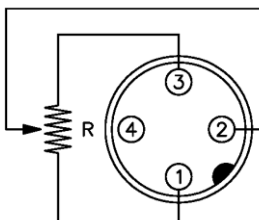
MECHANICAL & ENVIRONMENTAL SPECIFICATIONS			
Series	PNS	PN2S	PN231
▪ Dimensions	See the drawing		
▪ Materials: housing rod	Anodised aluminium with glass-filled nylon flanges Stainless steel on self-lubricating bearings – free rotation		
▪ Rod Ø	6 mm	6 mm	8 mm
▪ Fixing	Freely movable clamping brackets or ball joints		
▪ Stem max linear speed	5 m/sec		
▪ Sliding friction	0.1 Kg – with return spring: 0.5 Kg		
▪ Vibration resistance (10-2000 Hz)	15 g		
▪ Shock resistance (11 ms)	50 g		
▪ Operating temperature	-20 ÷ 80°C		
▪ Stocking temperature	-30 ÷ 90°C		
▪ Protection degree	IP65		

## AVAILABLE STROKES

Series PNS • PN2S • PN231										
NOMINAL STROKE mm	50 •	100 •	150 •	200 •	250 •	300 •	400 •	500 •	750 •	950*
ELECTRICAL STROKE	Nominal stroke + 1 mm									
MECHANICAL STROKE	Nominal stroke + 3 mm									
*Stroke mm 950 is only available for PNS series										

## CONNECTIONS

The electrical connection is granted by means of 4-pin M12 male connector. Flying part not included.



PIN 1 resistenza 0 Ohm con stelo inserito  
resistance 0 Ohm with rod in

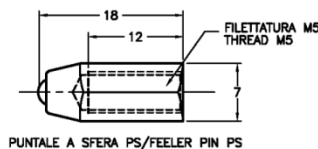
## MOUNTING & OPTIONAL FITTINGS

The potentiometers are easily fastened by means of the provided **brackets**, which can be placed **freely along the body**.

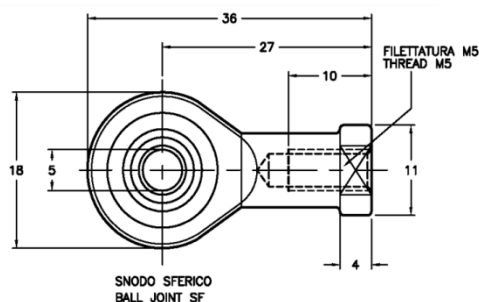
**Ball joints and self-aligning articulated joints** can be used for **air-fixing**, allowing to compensate mounting mis-alignments.

The potentiometer series **PNS** can be provided with **feeler pin** and **return spring** (for strokes up to 150 mm) for applications as comparator.

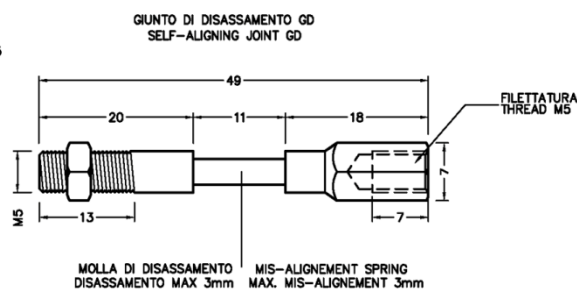
### FEELER PIN



### BALL JOINT



### SELF-ALIGNING JOINT



REF. M1040/ M1041/M1039

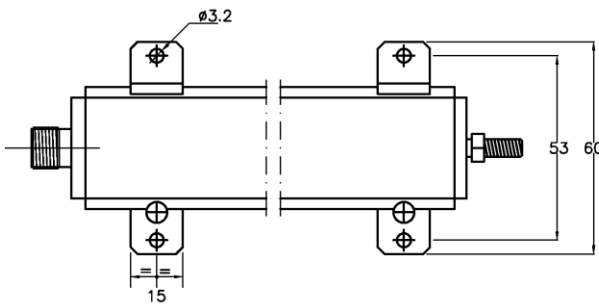
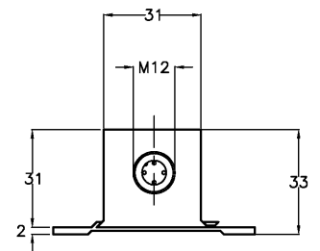
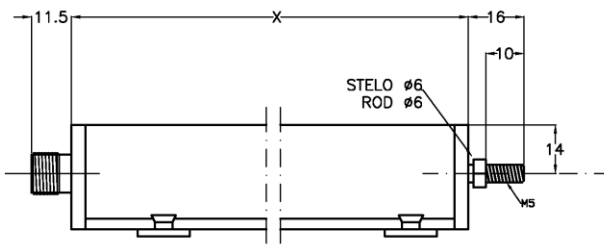
## ORDERING INFORMATION

PNS	50	5K	MR
<b>TYPE</b>	<b>STROKE</b>	<b>RESISTANCE</b>	<b>FITTINGS</b>
PNS	50 50 mm	5K Resistance 5 KOhm	(series PNS)
PN2S	100 100 mm	10K Resistance 10 KOhm	MR Inside return spring (strokes up to 150 mm)
PN231	150 150 mm		SF Ball joint
	200 200 mm		GD Self-aligning joint
	250 250 mm		PS Feeler pin
	300 300 mm		
	400 400 mm		
	500 500 mm		
	750 750 mm		
	950 950 mm *		
	*Series PNS only		

# DIMENSIONS

## Series PNS

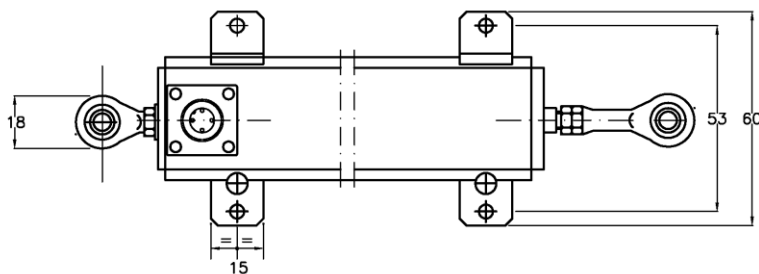
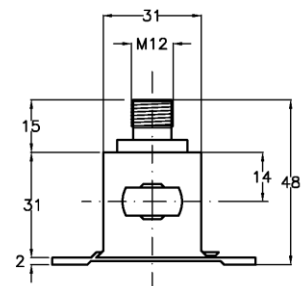
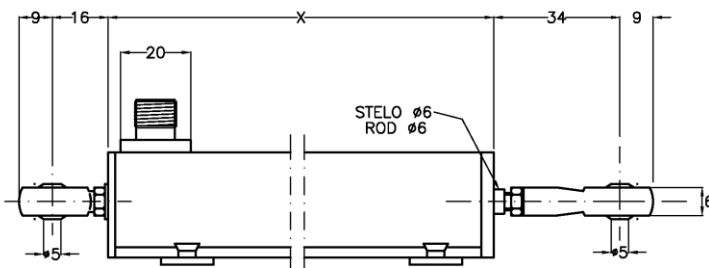
Rif M2166V



CORSA NOMINALE STROKE	X
50	130
100	180
150	230
200	280
250	330
300	380
400	480
500	580
750	830
950	1030

## Series PN2S

Rif M2167V

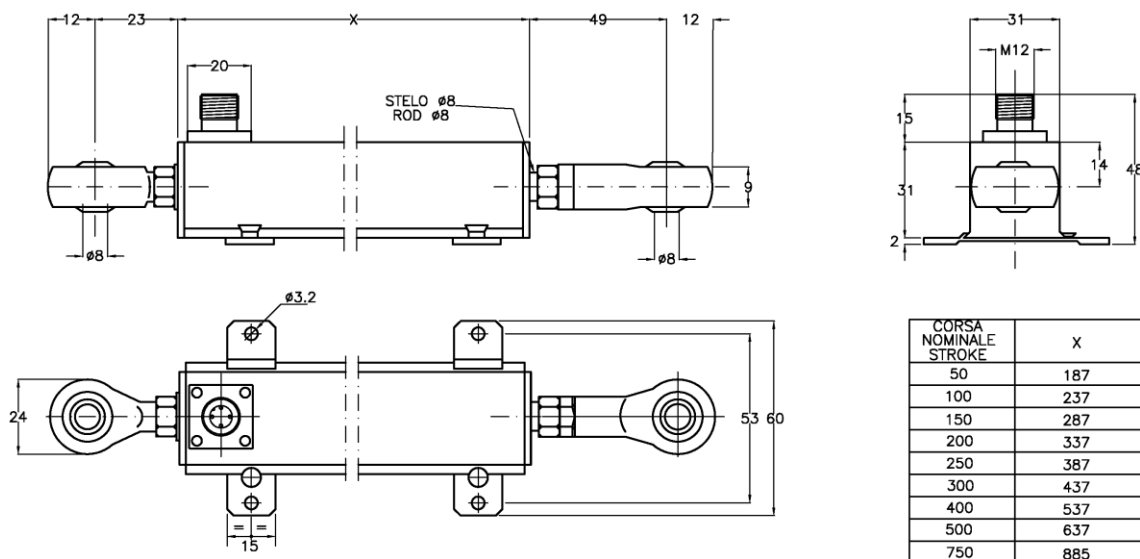


CORSA NOMINALE STROKE	X
50	127
100	177
150	227
200	277
250	327
300	377
400	477
500	577
750	827

## DIMENSIONS

Series PN231

Rif M2168V



## REFERENCES

Further information at:

### Linear Potentiometers

<https://www.elap.it/linear-potentiometers/>

### Potentiometers PNS

<https://www.elap.it/linear-potentiometers/pns-series/>

### Potentiometers PN2S

<https://www.elap.it/linear-potentiometers/pn2s-series/>

### Potentiometers PN231

<https://www.elap.it/linear-potentiometers/pn231-series/>



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