

GEFRAN

PMA12

SELF-SUPPORTING LINEAR POSITION TRANSDUCER WITH
MAGNETIC PULLING

Patent pending



Main characteristics

- Strokes from 50 to 1000 mm.
- Magnetic pulling of cursor
- Mechanical anchoring and self-aligning pulling on 2 ball joints
- Max. angle of movement up to $\pm 26^\circ$
- Independent linearity up to $\pm 0.05\%$
- Repeatability: ≤ 0.08 mm
- Hysteresis: ≤ 0.25 mm
- Infinite resolution
- No electrical variation of electrical output signal outside theoretical electrical stroke
- Work temperature: $-30^\circ\text{...}+100^\circ\text{C}$
- Electrical connections: cable output shielded with highly flexible polyurethane, 3-pin, 1 m
- Life: $> 25 \times 10^6$ m strokes, or $> 100 \times 10^6$ maneuvers, whichever is less (within U.E.S.)
- Protection level: IP67 (CEI EN 60529)
- Suitable for use in explosive environments with presence of gas (groups IIA, IIB, IIC) and combustible powders. Standards for simple device: ATEX CEI EN 50020 2003 - paragraph 5.4 a

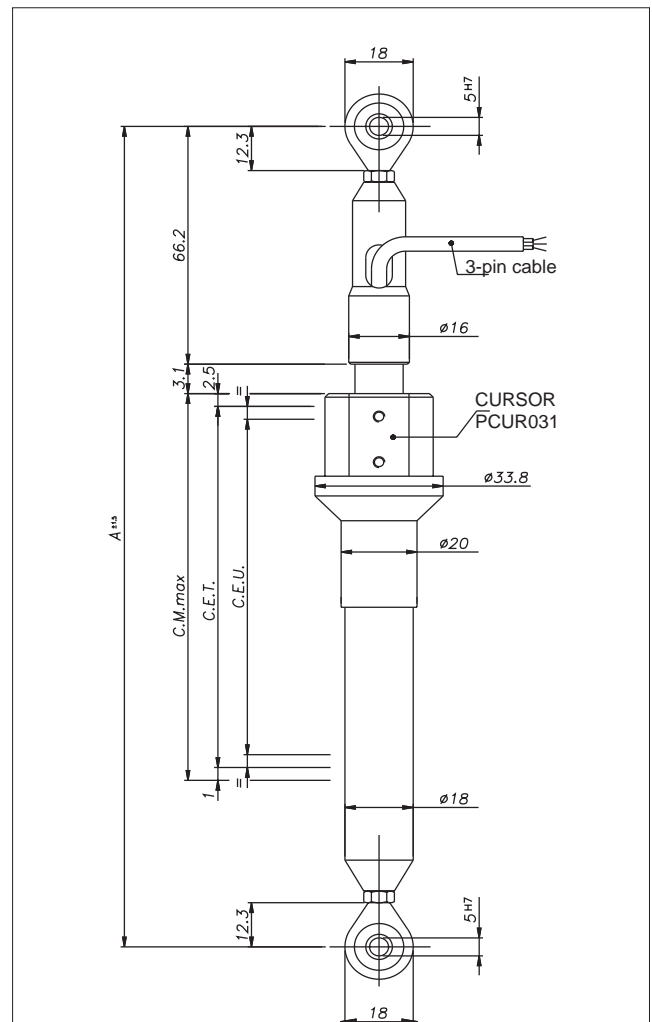
Linear potentiometric position transducer, completely sealed (IP67), designed to operate in damp/wet environments as well as in temporary immersion (CEI EN 60529).

The PMA series features an external magnetic actuator coupled to an internal measurement cursor.

TECHNICAL DATA

Useful electrical stroke (U.E.S.)	From 50 to 1000 mm
Independent linearity (within U.E.S.)	see chart
Shift speed	≤ 5 m/s
Max. acceleration	$\leq 10\text{m/s}^2$ shift
Vibrations DIN IEC 68T2-6	12g, 10...2000Hz
Cursor pulling force	≤ 0.5 N
Shock test DIN IEC68T2-27	50 g, 11ms. singolo colpo
Shift sensitivity (without hysteresis)	from 0.05 to 0.1 mm
Resistance tolerance	$\pm 20\%$
Recommended current in cursor circuit	$< 0.1 \mu\text{A}$
Max. current in cursor circuit in case of malfunction	10mA
Max. applicable voltage	See chart
Electrical isolation	$> 100\text{M}\Omega$ a 500V~, 1bar, 2s
Dielectric strength	$< 100 \mu\text{A}$ a 500V~, 50Hz, 2s, 1bar
Dissipation at 40°C (0W a 120°C)	See chart
Protection	IP 67
Real thermal coefficient of output voltage	$< 1,5\text{ppm}/^\circ\text{C}$
Work temperature	$-30\text{...}+100^\circ\text{C}$
Storage temperature	$-50\text{...}+120^\circ\text{C}$

MECHANICAL DIMENSIONS

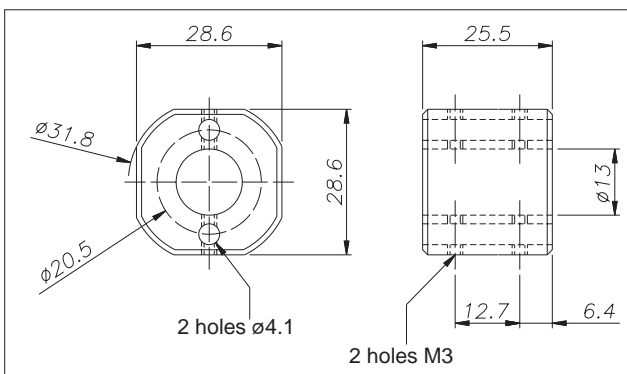


Important: all data shown in the catalog for linearity values and temperature coefficients are valid when the sensor is used as voltage divider with maximum current of $I_c \leq 0.1 \mu\text{A}$ in the circuit.

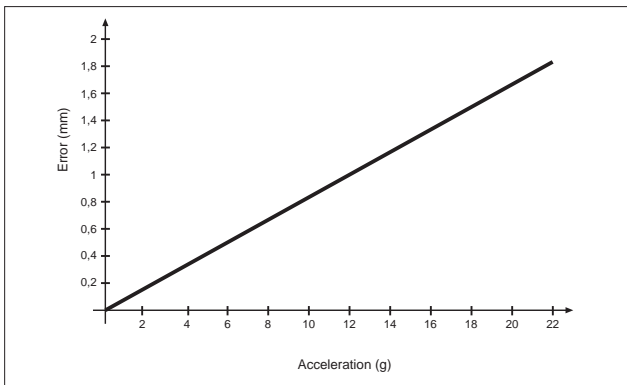
ELECTRICAL / MECHANICAL DATA

MODEL		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Useful electrical stroke (U.E.S.) +1 / -0	mm	Model																			
Theoretical electrical stroke (T.E.S.) ± 1	mm	U.E.S. + 1																			
Resistance (on T.E.S.)	kΩ	5					10					20									
Independent linearity (within U.E.S.)	±%	0.1		0.05																	
Dissipation at 40°C (0W at 120°C)	W	1	2	3																	
Max. applicable voltage	V	40		60																	
Mechanical stroke MC	mm	U.E.S. + 3,5																			
Case length (A)	mm	U.E.S. + 155																			

CURSOR PCUR031



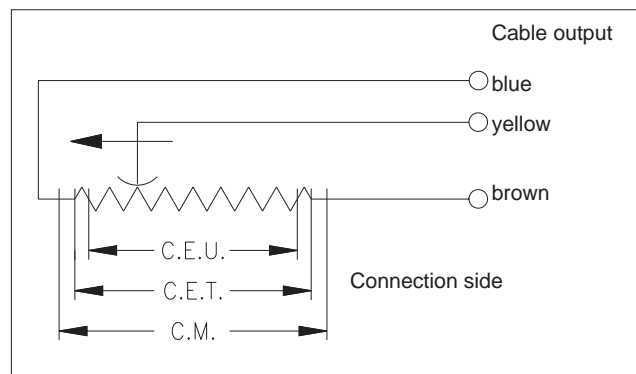
TRACKING ERROR



Included in the supply

- PMA series position transducer
- 1 Magnetic cursor code: **PCUR031**

ELECTRICAL CONNECTIONS



ORDER CODE

Position transducer **PMA**

Dimensions 1/2"

PUR 3 pole cable output 3x0,25 1m

Model

Empty

Mechanical and/or electrical characteristics differing from those in the standard version may be arranged on request.

E.:PMA-12-F-400-X 0000-X000-XX-00-XXX

Position transducer model PMA12, stroke 400

CODE EXTENSION

CABLE LENGTH (version F standard 1 m)
 Output F 00 =1m 02 =2m 03 =3m 04 =4m 05 =5m
 10 =10m 15 =15m

GEFRAN spa reserved the right to make aesthetic or functional changes at any time and without notice.