

# GEFRAN

## PMA12

SELF-SUPPORTING LINEAR POSITION TRANSDUCER WITH MAGNETIC PULLING



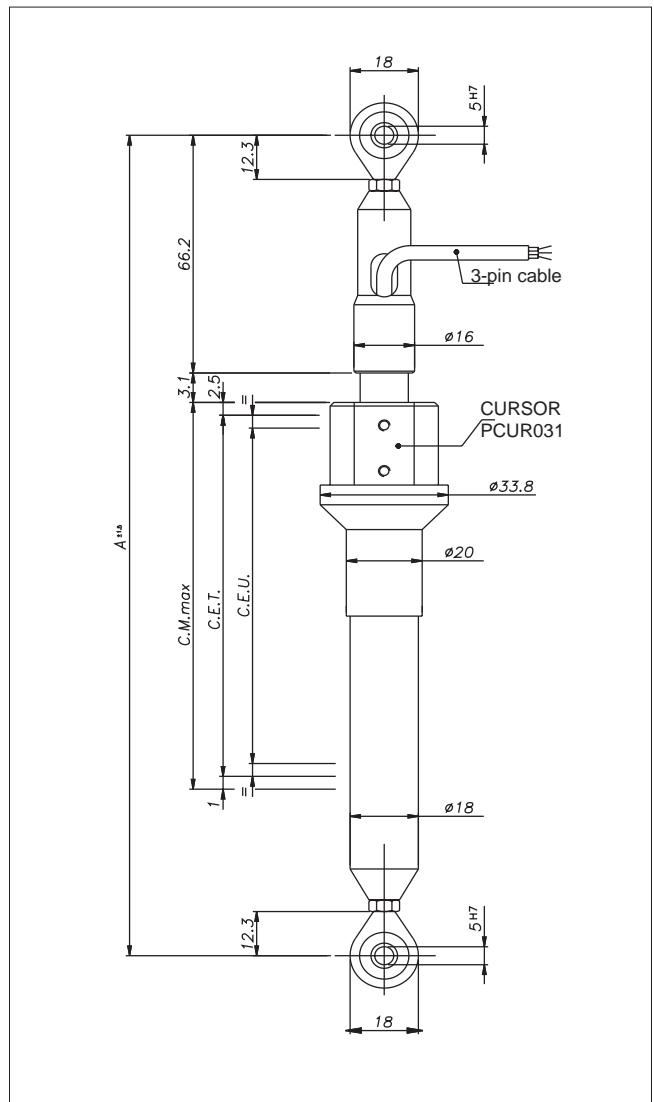
### Principal characteristics

- The PMA-12 transducer, a development of the PME series, is designed for installation with self-aligning joints.
- The IP67 protection level makes the PMA-12 highly suitable for humid and wet environments and in temporary immersion (CEI EN 60529).
- Available only with cable output.
- Ideal for applications on metalworking and ceramics machines, as well as on earth-moving machines and utility vehicles. Recommended in all cases where the angle of the drive axle changes constantly.

### TECHNICAL DATA

Useful electrical stroke (C.E.U.)	50 to 1000mm
Independent linearity (within C.E.U.)	see table
Resolution	infinite
Repeatability	≤ 0.08 mm
Hysteresis	≤ 0.25mm
Electrical connection	PME12 F 1 m 3-pole shielded cable
Protection level	IP67 (CEI EN 60529)
Life	> 25x10 <sup>8</sup> mstrokes, or > 100x10 <sup>6</sup> operations, whichever is less
Displacement speed	≤ 5 m/s
Max. acceleration	≤ 10m/s <sup>2</sup> displacement
Shock test DIN IEC68T2-27	50g, 11ms single stroke
Vibrations DIN IEC68T2-6	12g, 10...2000Hz
Cursor dragging force	≤ 0.5 N
Displacement sensitivity (no hysteresis)	0.05 to 0.1 mm
Tracking error	See table
Tolerance on resistance	±20%
Recommended cursor current	< 0.1 µA
Maximum cursor current in case of bad performances	10mA
Maximum applicable voltage	See table
Electrical isolation	>100MΩ at 500V~, 1bar, 2s
Dielectric strength	< 100µA at 500V~, 50Hz, 2s, 1bar
Dissipation at 40°C (0W at 120°C)	See table
Thermal coefficient of resistance	-200 +200 ppm/°C typical
Actual Temperature Coefficient of the output voltage	≤ 5 ppm/°C typical
Working temperature	-30...+100°C
Storage temperature	-50...+120°C
Material for transducer case	Anodised aluminium Nylon 66 G25
Material for cursor magnets	Nylon 66 G25, Nickel-plated
Mounting	Self-aligning joints with adjustable distance between centres

### MECHANICAL DIMENSIONS

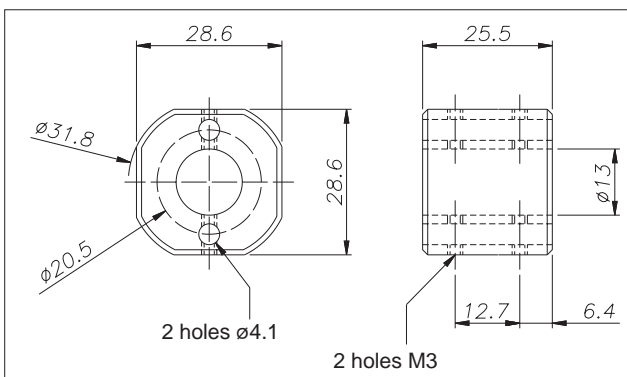


**Important:** all data shown in the catalog for linearity values and temperature coefficients are valid when the sensor is used as voltage divider with maximum current of  $I_c \leq 0.1 \mu A$  in the circuit.

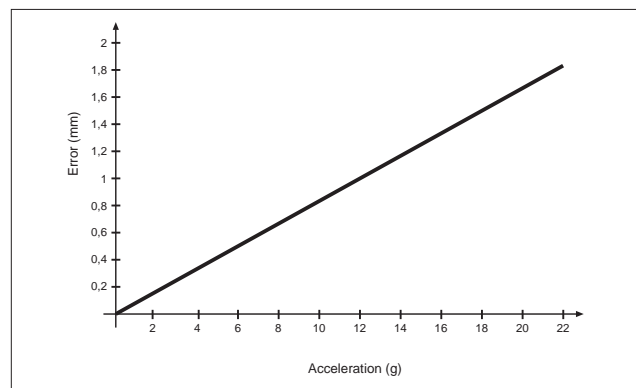
## ELECTRICAL / MECHANICAL DATA

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																			

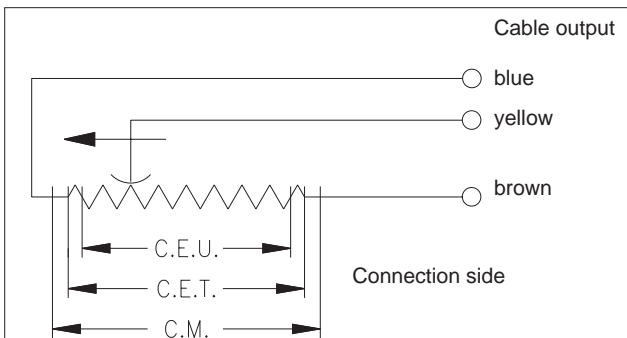
## CURSOR PCUR031



## TRACKING ERROR



## ELECTRICAL CONNECTIONS



### INSTALLATION INSTRUCTIONS

- Respect the indicated electrical connections (DO NOT use the transducer as a variable resistance)
- When calibrating the transducer, be careful to set the stroke so that the output does not drop below 1% or rise beyond 99% of the supply voltage.

## 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.