



# PMI12

RECTILINEAR DISPLACEMENT TRANSDUCER WITH MAGNETIC DRAG  
Patent Pending



## Main features

- 50 to 1000 mm strokes
- Cursor magnetic drag
- Independent linearity up to  $\pm 0,05\%$
- Repeatability:  $\leq 0,08$  mm
- Hysteresis:  $\leq 0,25$  mm
- Tracking error (see table)
- Infinite resolution
- No variation of electrical output signal outside theoretical electrical stroke
- Working temperature:  $-30...+100^{\circ}\text{C}$
- Electrical connection: 3-pole polyurethane screened cable with high flexibility (1m lenght)
- AISI 316 stem and nipple
- Lifetime:  $> 25 \times 10^6$  meters or  $> 100 \times 10^6$  operations whichever is the smallest (within C.E.U.)
- Max. working pressure 250bar, 400bar peak

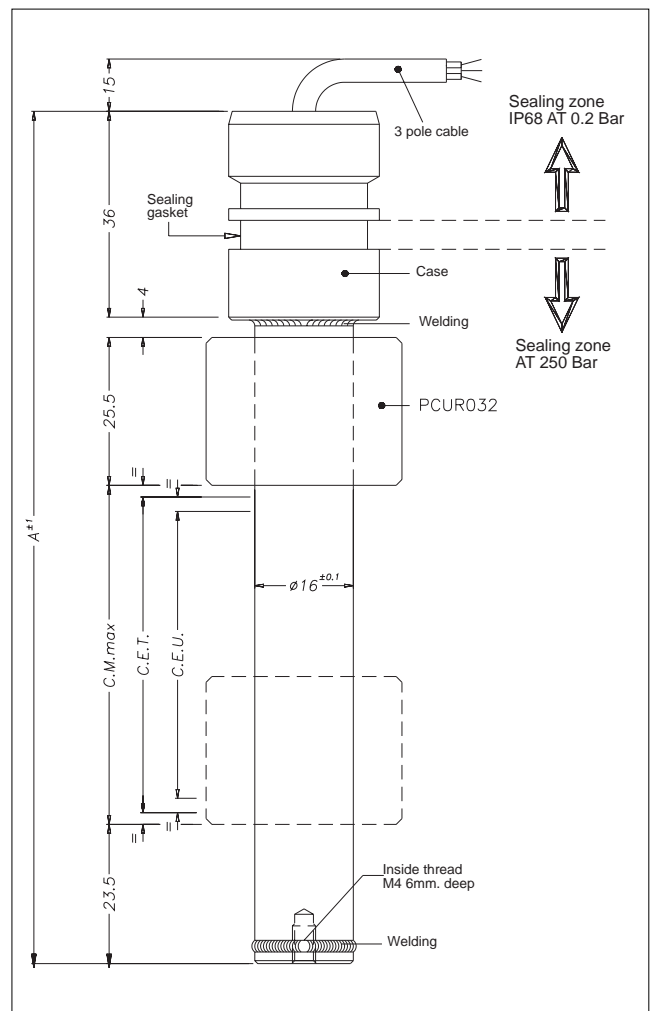
Rectilinear potentiometric displacement transducer without dragging shaft; completely waterproof (IP68); designed to work with high pressure applications (250bar static, 400bar peak) i.e. hydraulic cylinders. The PMI series is characterised by an external magnetic actuator coupled with an internal measurement cursor.

## TECHNICAL DATA

Useful electrical stroke (C.E.U.)	50 to 1000 mm
Linearità indipendente (within C.E.U.)	see table
Displacement speed	$\leq 5$ m/s
Max. acceleration	$\leq 10\text{m/s}^2$ displacement
DIN vibration IEC 68T2-6	12g, 10...2000Hz
Cursor dragging force	$\leq 0,5$ N
Shock test DIN IEC68T2-27	50 g, 11ms. single shock
Displacement sensitivity (no hysteresis)	0.05 to 0.1 mm
Tolerance on resistance	$\pm 20\%$
Recommended cursor current	$< 0,1$ $\mu\text{A}$
Maximum cursor current in case of bad performances	10mA
Maximum applicable voltage	See table
Electrical isolation	$> 100\text{M}\Omega$ at 500V~, 1bar, 2s
Dielectric strenght	$< 100\mu\text{A}$ at 500V~, 50Hz, 2s, 1bar
Dissipation at 40°C (0W at 120°C)	see table
Environmental protection	IP 68, max. pressure 250 bar, 400 bar peak
Actual temperature coefficient of the output voltage	$< 1,5\text{ppm}/^{\circ}\text{C}$
Working temperature	$-30...+100^{\circ}\text{C}$
Storage temperature	$-50...+120^{\circ}\text{C}$

**Important:** All the data reported in the catalogue linearity and temperature coefficients are valid for a sensor utilization as a ratiometric device with a max current across the cursor circuit  $I_c \leq 0.1 \mu\text{A}$ .

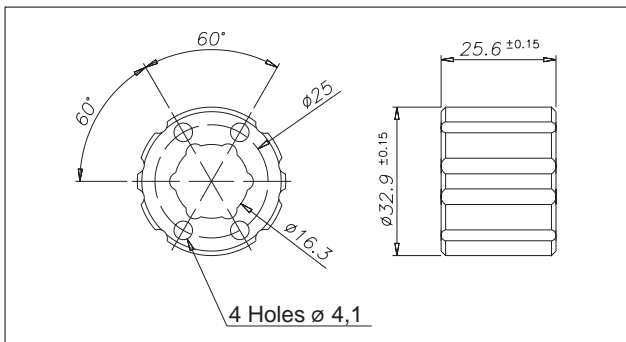
## MECHANICAL DIMENSION



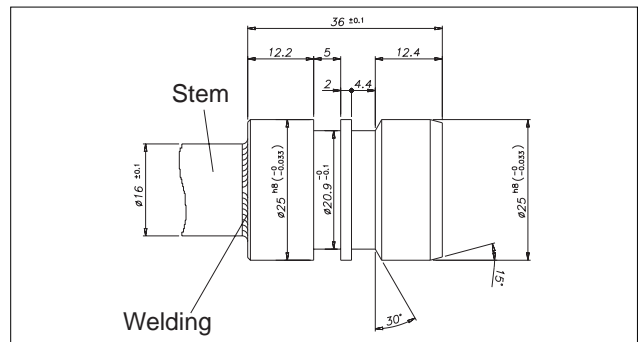
## MECHANICAL / ELECTRICAL DATA

MODEL		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Useful electrical stroke (C.E.U.) + 1 / - 0	mm	Model																			
Theoretical electrical stroke (C.E.T.) ± 1	mm	C.E.U. + 1																			
Resistance (C.E.T.)	kΩ	5					10					20									
Independent linearity (within C.E.U.)	±%	0,1		0,05																	
Dissipation at 40°C (0W at 120°C)	W	1	2	3																	
Max applicable voltage	V	40		60																	
Mechanical stroke (C.M)	mm	C.E.U. + 5																			
Case Length (A)	mm	C.E.U. + 94																			

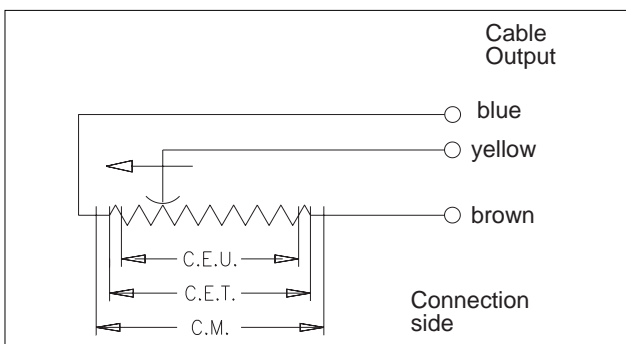
### PCUR032 CURSOR



### CASE DIMENSION



### ELECTRICAL CONNECTIONS



### ORDER CODE

Displacement transducers **PMI**

Dimensions 1/2"

3-pole PVC cable output 3x0,25 1m

Model

Free code

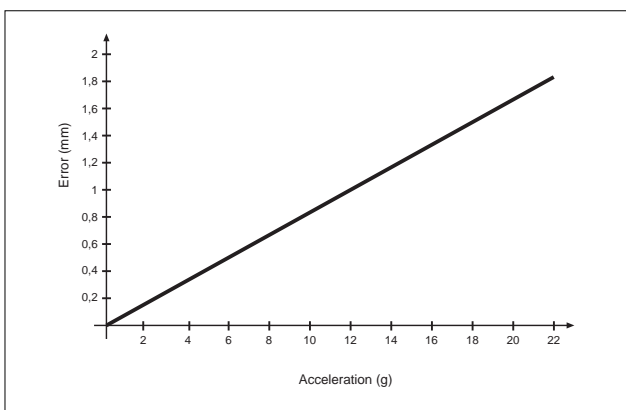
If requested, it is possible to supply models with non-standard mechanical and/or electrical features

Example: **PMI-12-F-400-X 0000-X000-XX-00-XXX**  
 PMI 12 model transducer, useful electrical stroke (C.E.U.) 400mm.

#### Included in the delivery

- Displacement Transducer PMI series
- N° 1 Magnetic cursor code: **PCUR032**

### TRACKING ERROR



### CODE EXTENSION

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

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice



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