GEFRAN

# PME12

*RECTILINEAR DISPLACEMENT TRANSDUCER WITH MAGNETIC DRAG* *Patent Pending*

### *Main features*

- *50 to1000 mm. strokes*
- *Cursor magnetic drag*
- *Independent linearity ± 0,05%*
- *Repeatability: 0.08 mm*
- *Hysteresis: 0.25 mm*
- *Infinite Resolution*
- *No variation of electical output signal outside theoretical electrical stroke*
- *Working temperature: -30...+100°C*
- *Electrical connection: 3-pole polyurethane screened cable with high flexibility (1m lenght)*
- *Lifetime: > 25x10⁶ meters or >100x10⁶ operations, whichever is the smallest (within C.E.U.)*
- *IP67 waterproof, (IEC 60529)*
- *Suitable for pneumatic applications with working pressures max. 20bar, 50bar peak*
- *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*

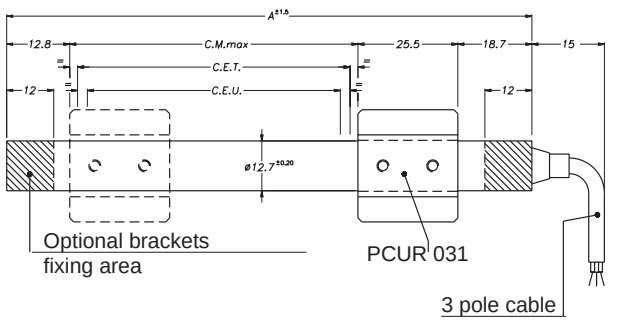
Rectilinear potentiometric displacement transducer without dragging shaft; completely waterproof (IP67); designed to work whether in wet environments or temporarity submerged (IEC 60529). The PME series is characterised by an external magnetic actuator coupled with an internal measurement cursor. The magnetic cursor substitutes the dragging tree used in the traditional displacement transducers; by this way, the overall dimensions are smaller.

## TECHNICAL DATA

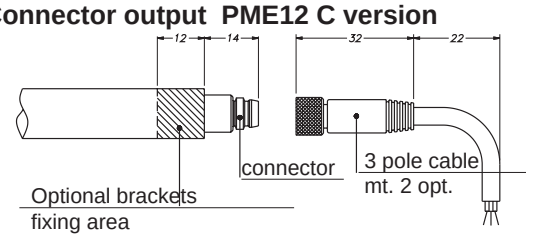
| | |
|---|---|
| Useful electical stroke (C.E.U.) | 50 to 1000 mm |
| Independent linearity (within C.E.U.) | see table |
| Displacement speed | ≤ 5 m/s |
| Max. acceleration | ≤ 10m/s² displacement |
| DIN vibration IEC 68T2-6 | 12g, 10...2000Hz |
| Cursor dragging force | ≤ 0,5 N |
| Shock test DIN IEC68T2-27 | 50 g, 11ms. single shock |
| Displacement sensitivity (no hysteresis) | from 0.05 to 0.1 mm |
| Tolerance on resistance | ± 20% |
| Recommended cursor current | < 0,1 µA |
| Maximum cursor current in in case of bad performances | 10mA |
| Maximum applicable voltage | see table |
| Electrical isolation | >100MΩ at 500V=, 1bar, 2s |
| Dielectric strenght | <100 µA at 500V~, 50Hz, 2s, 1bar |
| Dissipation at 40°C (0W at 120°C) | see table |
| Enviromental protection | IP 67 |
| Actual temperature coefficient of the output voltage | < 1,5ppm/°C |
| Working temperature | -30...+100°C |
| Storage temperature | -50...+120°C |

## MECHANICAL DIMENSION

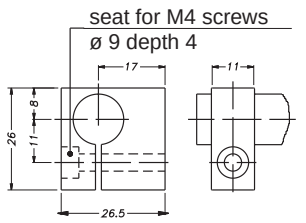
### Cable output PME12 F Version




### Connector output PME12 C version




### Fixing Bracket

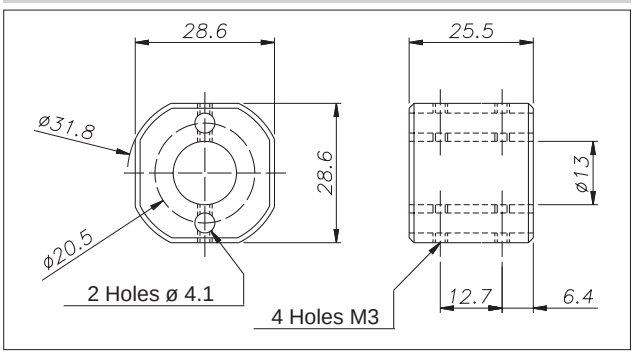



**Importante**: All the data reported in the catalogue linearity and temperature coefficients are valid for sensor utilization as a ratiometric device with a max. current across the cursor circuit Ic ≤ 0.1 µA.

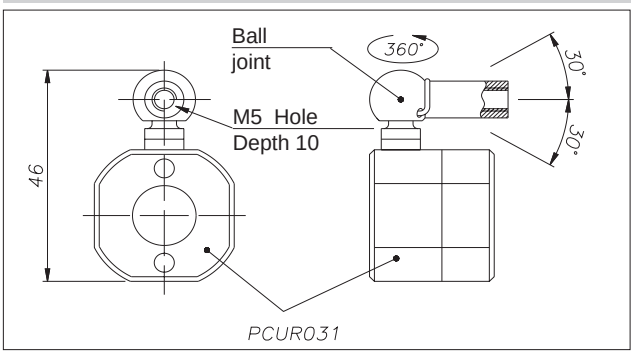
## MECHANICAL / ELECTRICAL DATA

| 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 Lenght (A) | mm | C.E.U. + 61,5 | | | | | | | | | | | | | | | | | | | |

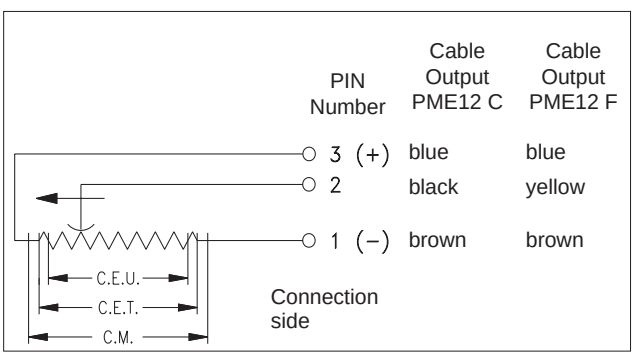
## PCUR031 (S) CURSOR



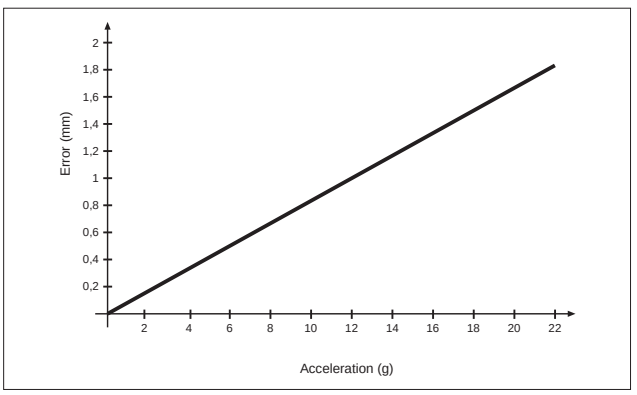

## PCUR033 (B) CURSOR




## ELECTRICAL CONNECTIONS




## TRACKING ERROR




## ORDER CODE

Displacement transducer **PME** | **12** | **F** | | **S**

| | |
|---|---|
| Dimension 1/2” | |
| 3 pole connector output | **C** |
| PUR 3 pole cable output | **F** |
| Model | |
| PCUR031 (Standard) | **S** |
| PCUR033 (Ball joint) | **B** |

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

Example: **PME-12-F-400-S 0000-X000-XX-00-XXX**
PME12 model transducer, cable output, model 400, with PCUR031 cursor.

**Included in the delivery**
- Displacement Transducer PME series
- N° 2 Fixing brackets cod: **STA001**

**Accessories on request**
- Female connector + mt.2 wired cable PVC cod: **CAV 010**

## CODE EXTENSION

| 0 | 0 | 0 | 0 | X | 0 | 0 | 0 | X | X | 0 | 0 | X | X | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CABLE LENGHT (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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