GEFRAN

# PY1

*RECTILINEAR DISPLACEMENT TRANSDUCER*

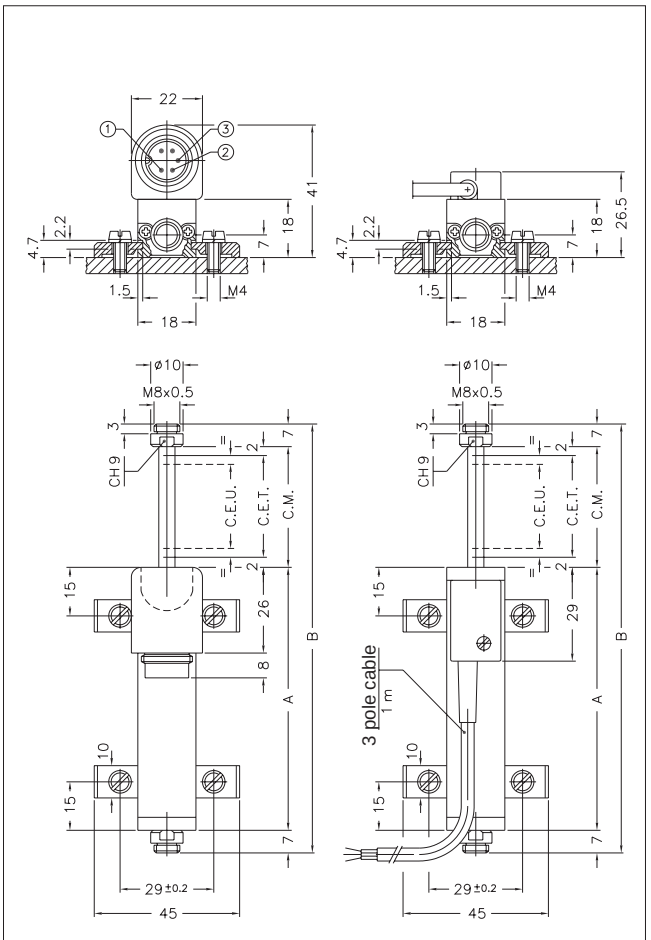
### *Principal characteristics*

- *The transducer's compactness makes it suitable for installation in small spaces and for detecting small shifts.*
- *The side connection creates a through-rod structure with double rod support, guaranteeing greater overall strength of the transducer.*
- *Installation is simplified by the lack of electrical signal variation at output outside theoretical electrical stroke.*
- *Ideal for small mechanical devices, valves, and test tools and benches.*

## TECHNICAL DATA

| | |
|---|---|
| Useful electrical stroke (C.E.U.) | 25/50/75/100/150 |
| Resolution | Infinite |
| Independent linearity (within C.E.U.) | see table |
| Displacement speed | ≤ 10 m/s |
| Displacement force | ≤ 0.30N |
| Life | >25x10⁶m strokes,or 100x10⁶ operations, whichever is less (within C.E.U.) |
| Vibrations | 5...2000Hz, Amax =0,75 mm amax. = 20 g |
| Shock | 50 g, 11ms. |
| Tolerance on resistance | ± 20% |
| Recommended cursor current | < 0,1 µA |
| Maximum cursor current | 10mA |
| Maximum applicable voltage | see table |
| Electrical isolation | >100MΩ at 500V=, 1bar, 2s |
| Dielectric strength | < 100 µA at 500V~, 50Hz, 2s, 1bar |
| Dissipation at 40°C (0W at 120°C) | see table |
| Actual Temperature Coefficient of the output voltage | < 1,5ppm/°C |
| Working temperature | -30...+100°C |
| Storage temperature | -50...+120°C |
| Case material | Anodised aluminium Nylon 66 G 25 |
| Control rod material | Stainless steel AISI 303 |
| Fixing | Brackets with variable longitudinal axis |

## MECHANICAL DIMENSIONS

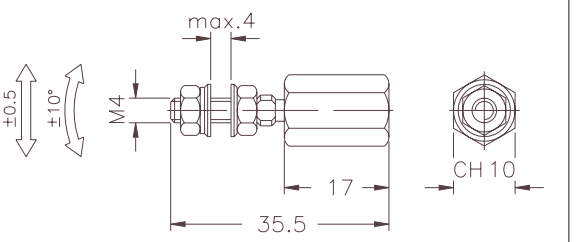



**Important**: all the data reported in the catalogue linearity, lifetime, temperature coefficient are valid for a sensor utilization as a ratiometric device with a max current across the cursor Ic ≤ 0.1 µA.

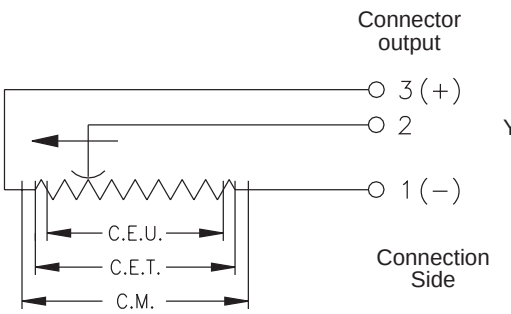
## MECHANICAL / ELECTRICAL DATA

| MODEL | | 25 | 50 | 75 | 100 | 150 |
|---|---|---|---|---|---|---|
| Useful electrical stroke (C.E.U.) +3/-0 | mm | 25 | 50 | 75 | 100 | 150 |
| Theoretical electrical stroke (C.E.T.) ±1 | mm | C.E.U. + 1 | | | | |
| Resistance (C.E.T.) | kΩ | 1 | 5 | 5 | 5 | 5 |
| Independent linearity (within C.E.U.) | ± % | 0,2 | 0,1 | 0,1 | 0,1 | 0,05 |
| Dissipation at 40° (0W at 120°C) | W | 0,6 | 1,2 | 1,8 | 2,5 | 3,6 |
| Maximum applicable voltage | V | 25 | 60 | | | |
| Mechanical stroke (C.M.) | mm | C.E.U. + 5 | | | | |
| Case length (A) | mm | C.E.U. + 38 | | | | |
| Total length (B) | mm | 107 | 157 | 207 | 257 | 357 |

## COUPLING JOINT




## 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

Displacement transducer **PY1** [ ][ ] [S][ ][M]

| | |
|---|---|
| 3 pole PVC cable output 3x0.25 1m. | **F** |
| 5 pole connector output DIN 43322 | **C** |
| **Model** | |

**Cable length (in metres)**

This part of the code only applies to the model with cable output PA1-F

[ ][0][0][0][X][0][0][0][X][0][ ]

| | |
|---|---|
| No certificate attached | **0** |
| Linearity curve to be attached | **L** |

| | |
|---|---|
| Color of plastic heads (green) | **0** |
| Color of plastic heads (black) | **N** |

Ex.:**PY1 - C - 100**
Displacement transducer model PY1, 5-pole connector output, useful electrical stroke (C.E.U.) 100mm.

## ACCESSORIES

**STANDARD ACCESSORIES**

| | |
|---|---|
| Fixing kit for PA1: 4 brackets, M4x10 screws, washer | **PKIT005** |
| Coupling joint | **PKIT020** |

**OPTIONAL ACCESSORIES**

| | |
|---|---|
| 5-pin axial female PCB connector DIN43322 IP40 clamp for wire ø4 - ø6 mm | **CON011** |
| 5-pin axial female PCB connector DIN43322 IP65 clamp PG7 for wire ø4 - ø6 mm | **CON012** |
| 5-pin 90° radial female PCB connector DIN43322 IP40 clamp for wire ø4 - ø6 mm | **CON013** |



**GEFRAN spa**
via Sebina, 74
25050 PROVAGLIO D'ISEO (BS) - ITALIA
tel. 0309888.1 - fax. 0309839063
Internet: http://www.gefran.com