

PD/PE Line driver

PD/PE Push-pull

PD/PE Pressurized Version

LINEAR TRANSDUCERS

Series PD/PE

- **Incremental linear transducers, with or without zero pulse**
- **Strokes: 60 to 990 mm**
- **Different reading resolutions available**

| AVAILABLE VERSIONS | | |
|--|--|--|
| PD100 | PD500 | PE |
| Strokes from 60 to 990 mm Reading resolution 0.01 mm after the electronic quadrupling | Strokes from 60 to 750 mm Reading resolution 0.005 mm after the electronic quadrupling | Strokes from 60 to 990 mm Reading resolution 0.05 mm after the electronic quadrupling |
| SPECIAL VERSIONS | | |
| <ul style="list-style-type: none"> • Pressurized version IP67 with connector for compressed air • Cable outlet version | <ul style="list-style-type: none"> • Version with amplifier • Customer versions on request | |

| MECHANICAL & ENVIRONMENTAL SPECIFICATIONS | | ELECTRICAL SPECIFICATIONS | |
|---|--|---------------------------|-------|
| | PD | PE | PD/PE |
| • Materials: case | Anodized aluminium square dimension 31x31 mm | | |
| shaft | AISI 303 steel 8 mm diameter | | |
| • Max speed. | 60 m/min. | 120 m/min. | |
| • Max. acceleration | 40 m/sec. ² | | |
| • Reference search max. speed | 12 m/min. | 24 m/min. | |
| • Progress strength | 1/3 N | | |
| • Operating temperature | 0 ÷ 50° C | | |
| • Stacking temperature | -20 ÷ 70° C | | |
| • Protection degree | IP64 – optional IP65 | | |
| • Fixing | By metal clamping feet placed freely along the body or by ball joints at the ends | | |
| • Lighting signal source | LED | | |
| • Supply voltage | 5Vdc or 8/24Vdc Polarity reversal protection | | |
| • Power consumption | 30÷80 mA max | | |
| • Output signals | Two square waves dephased by 90° ±15°. Zero pulse width 90°±15° | | |
| • Electronic output | Push-pull, open collector NPN, 5Vdc or 8/24Vdc line driver, Short circuit protection | | |
| • Connection | By connector | | |

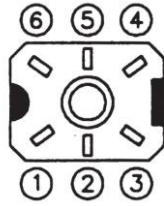
| OPERATING SPECIFICATIONS | | | |
|---------------------------------------|---|--------------|--|
| | PD100 | PD500 | PE |
| • Operating principle | Optoelectronic reading on glass graduated scale 2 mm thick | | Optoelectronic reading on polyester film graduated scale 0.18 mm thick |
| • Grating pitch | 20+20 micron | 10+10 micron | 100+100 micron |
| • Grating accuracy | ±3 µm/m | | ±10 µm/m |
| • Reading resolution | 0.01 mm | 0.005 mm | 0.05 mm |
| | After the electronic quadrupling | | |
| • Reference pulses | 1 at mid-stroke or 1 each 25 mm or according to the customer's requirements | | |
| • Measuring element material | Floatglas | | Polyester film |
| • Measuring element thermal expansion | 8x10 ⁻⁶ /°C | | 18x10 ⁻⁶ /°C |



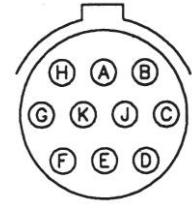
CONNECTIONS

PUSH/PULL – OPEN COLLECTOR NPN

| SIGNALS | PIN |
|--------------------|-----|
| Out 1 | 1 |
| Out 2 | 2 |
| Out Z (if present) | 6 |
| + Vdc | 4 |
| 0V | 3 |



| SIGNALS | PIN |
|--------------------|-----|
| Out 1 | A |
| Out 2 | C |
| Out Z (if present) | E |
| + Vdc | K |
| 0V | J |
| Out 1 | B |
| Out 2 | D |
| Out Z | F |

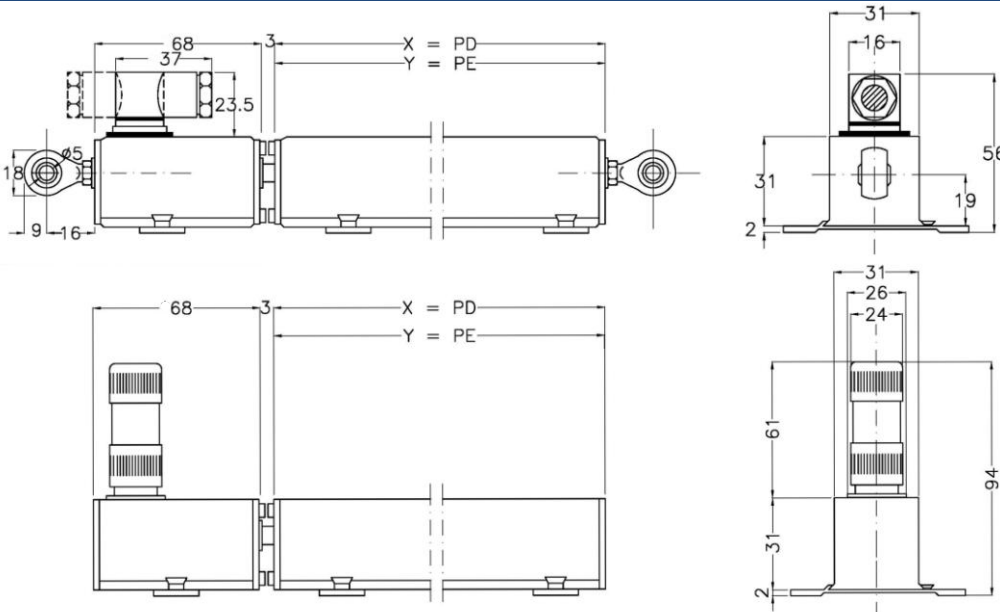


ORDERING INFORMATION

| PD | 100 | 120 | PP | 1 | K |
|-------------------------|--|------------------------------|---|--|---|
| TYPE PD PE | RESOLUTION 100 0.01 mm (PD) 500 0.005 mm (PD) 050 0.05 mm (PE) | STROKE 60 – 990 mm | OUTPUT & SUPPLY Supply voltage 10/24 Vdc PP Push-pull OC NPN Open Collector LR Line driver out 10/24 Vdc LP Line driver out 5Vdc Supply voltage 5 Vdc PN Push-pull OX NPN Open Collector LD Line-driver out 5 Vdc | ZERO REFERENCE No zero reference 1 zero ref. at mid-stroke 2 2 zero ref. at the ends 3 1 zero ref. at mid-stroke*, the other each 25 mm 4 1 zero ref. - scanning head side (7.5 mm from opening end*) 5 1 zero ref. at closing end (7.5 mm from stroke end*) X According to the customer's requirements * ±2.5 mm tolerance | MECHANICAL PECULIARITIES K O-ring |

ELAP reserves the right to upgrade the product without notice

DIMENSIONS

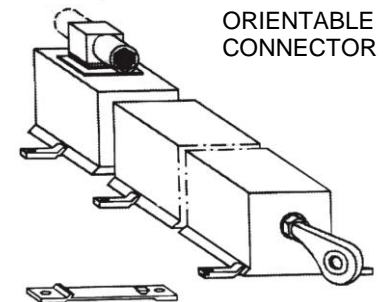


| STROKE | X SERIES PD | Y SERIES PE | N. SUPPORTS |
|--------|-------------|-------------|-------------|
| 60 | 155 | 138 | 3 |
| 120 | 215 | 198 | 3 |
| 150 | 243 | 228 | 3 |
| 170 | 265 | 248 | 3 |
| 200 | 294 | 278 | 3 |
| 220 | 315 | 298 | 3 |
| 255 | 350 | | 4 |
| 280 | 375 | 358 | 4 |
| 360 | 513 | 498 | 4 |
| 380 | 533 | | 4 |
| 440 | 593 | 578 | 5 |
| 520 | 673 | 658 | 5 |
| 580 | 733 | 718 | 5 |
| 650 | 814 | 803 | 6 |
| 750 | 915 | 904 | 7 |
| 990 | 1155 | 1142 | 7 |

IPT CONNECTOR



ORIENTABLE CONNECTOR



FIXING FEET

REFERENCES

Further information at:

<https://www.elap.it/linear-transducers/trasduttori-lineari-pd-pe/>

