

ELAP PD/PE

INCREMENTAL LINEAR TRANSDUCERS

- High reading resolution (up to 0.005 mm) • Easy mounting method • High protection degree (IP65)

Accurate, strong, easy to mount, and weatherproof, transducers series PD and PE are the ideal solution when you need to measure thickness or control linear displacement on any kind of industrial machine. There are three versions available, each one with or without zero pulse:

- PD100: reading resolution 0.01 mm • PD500: reading resolution 0.005 mm • PE050: reading resolution 0.05 mm

TYPICAL APPLICATIONS: • Measuring thickness (of glass panes, wood plates, paper sheets) • Control of strokes length • wood-working machinery, glass/marble-working, sheet, plastics, paper machinery • Hydraulic and pneumatic motion systems

COMPLYING WITH  STANDARDS

GENERAL

SPECIFICATIONS

| | PD100 | PD500 | PE050 |
|--|---|----------------|--|
| 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 micron/m | | ±0.01 mm |
| Reading resolution | 0.01 mm | 0.005 mm | 0.05 mm |
| Reference pulses | Standard: 1 at mid-stroke or 1 each 25 mm . On request: placed according to the customer's requirements | | |
| Measuring element material | Floatglass | | Film polyester |
| Thermal expansion of the measuring element | 8 x 10 ⁻⁶ /°C | | 18 x 10 ⁻⁶ /°C |

MECHANICAL

SPECIFICATIONS

| | PD100 | PD500 | PE050 |
|----------------------------|---|------------|-------|
| Strokes | 60 to 990 mm | | |
| Protection degree | IP64 - IP 65 for the version with O-ring | | |
| 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 | | |
| Case | Anodised aluminium - square dimensions 31x31 mm | | |
| Stem | Stainless steel diameter 8 mm | | |
| Fixing | Metal clamping feet placed freely along the body or ball joints at the ends | | |
| Operating temperature | 0 ÷ 50° C | | |
| Stocking temperature | -20 ÷ +70° C | | |
| Dimensions | See the drawing | | |

ELECTRICAL

SPECIFICATIONS

| | PD100 | PD500 | PE050 |
|------------------------|---|-------|---|
| Lighting signal source | LED | | |
| Supply | 10 ÷ 24 Vdc - 5 Vdc ± 5% protection against polarity reversal | | |
| Current consumption | max 50 mA - 90 mA for line driver output | | |
| Output signals | 2 square waves, 90 ± 15 degree out of phase or 2 sinusoidal waves 90 ± 15 degree out of phase 1V _{pp} | | 2 square waves, 90 ± 15 degree out of phase |
| | Zero signal 90°±15° | | |
| Electronic output | push-pull (max. 50 mA), open collector NPN (max. 50 mA 30 V), line driver (5 o 10/24 Vdc) Protection against short circuits | | |
| Electrical connections | By connector | | |

SPECIAL VERSIONS

- PRESSURIZED VERSION (IP 67) with connection for compressed air
- version with cable connection
- version with amplifier
- CUSTOMIZED VERSIONS ON REQUEST

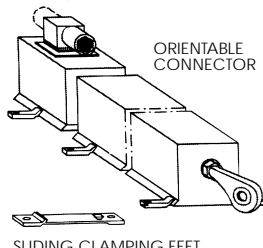
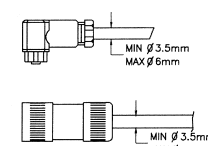
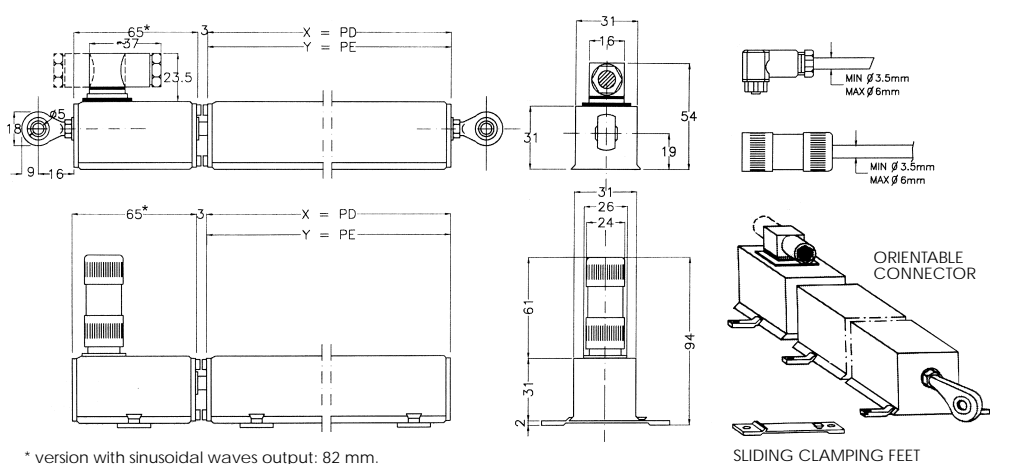
CONNECTOR SIGNAL

- PUSH PULL OUTPUT NPN OPEN COLLECTOR OUTPUT
- LINE DRIVER OUTPUT

- A signal 1
- B signal 1
- C signal 2
- D signal 2
- E signal Z
- F signal Z
- G
- H
- J 0 Volt
- K + Vdc



DIMENSIONS PD/PE SERIES



| STROKE | X SERIES PD | Y SERIES PE | N° CLAMPINGS |
|--------|-------------|-------------|--------------|
| 60 | 153 | 137 | 3 |
| 120 | 213 | 197 | 3 |
| 170 | 263 | 247 | 3 |
| 200 | 293 | 277 | 3 |
| 220 | 313 | 297 | 3 |
| 255 | 348 | 332 | 4 |
| 280 | 372 | 357 | 4 |
| 360 | 512 | 497 | 4 |
| 380 | 532 | 517 | 4 |
| 440 | 592 | 577 | 5 |
| 520 | 672 | 657 | 5 |
| 580 | 732 | 717 | 5 |
| 650 | 813 | 787 | 6 |
| 750 | 913 | 887 | 7 |
| 990 | 1153 | 1127 | 7 |

VARIATIONS ADMITTED WITHOUT NOTICE REV. 02/03



ELAP S.P.A. I-20094 CORSICO (MI) ITALIA - VIA VITTORIO VENETO 4 - TEL. (+39) 02 4519561 R.A. FAX (+39) 02 45103406 - E-MAIL: elapsa@tin.it - URL www.elap.it