

LINEAR TRANSDUCERS

Series PD/PE/PS

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

AVAILABLE VERSIONS			
PD100	PD500	PE	PS100
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	Strokes from 60 to 990 mm Reading resolution 0.04 mm Sinusoidal output
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/PS	PE	PS
• 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°	Two sinusoidal waves dephased by 90±15° 1 V _{pp} Line driver Zero pulse 0-4V	
• Electronic output	Push-pull, open collector NPN, 5Vdc or 8/24Vdc line driver, Short circuit protection	Sinusoidal waves 1 V _{pp} , line driver	
• Connection	By connector		

OPERATING SPECIFICATIONS			
	PD100/PS100	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



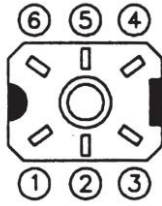
CONNECTIONS

PUSH/PULL – OPEN COLLECTOR NPN

SIGNALS

PIN

Out 1	1
Out 2	2
Out Z	6
+ Vdc	4
0V	3

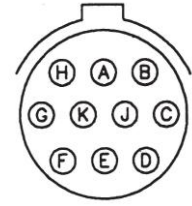


LINE DRIVER

SIGNALS

PIN

Out 1	A
Out 2	C
Out Z (E31)	E
+ Vdc	K
0V	J
Out 1	B
Out 2	D
Out Z	F

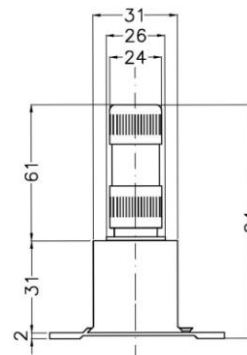
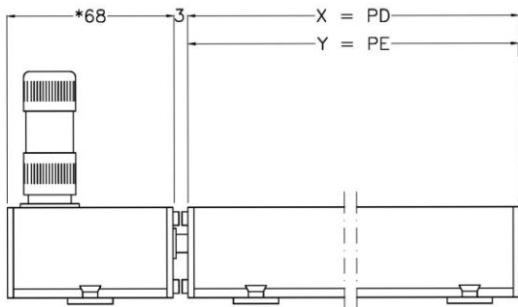
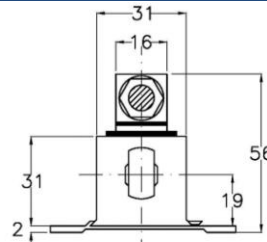
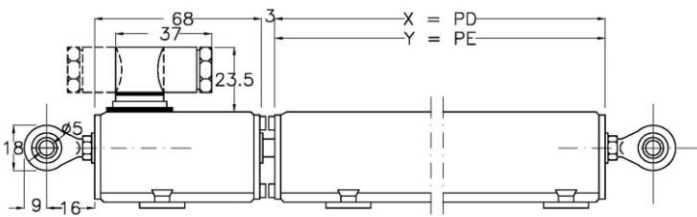


ORDERING INFORMATION

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

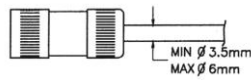
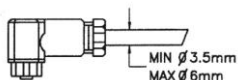
ELAP reserves the right to upgrade the product without notice

DIMENSIONS



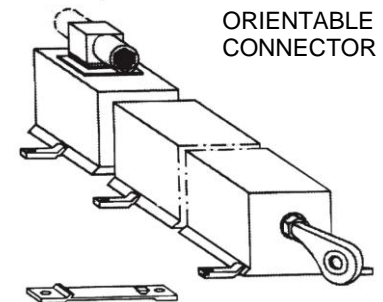
* TYPE PS = 83 mm

IPT CONNECTOR



STROKE	X SERIES PD/PS	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	518	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

ORIENTABLE CONNECTOR



FIXING FEET

REFERENCES

Informazioni e disegni dimensionali disponibili all'indirizzo

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

