



# 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
<b>SPECIAL VERSIONS</b> <ul style="list-style-type: none"> <li>• Pressurized version IP67 with connector for compressed air</li> <li>• Cable outlet version</li> <li>• Version with amplifier</li> <li>• Customer versions on request</li> </ul>			

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS			ELECTRICAL SPECIFICATIONS	
	PD/PS	PE	PD/PE	PS
• Materials: case	Anodized aluminium square dimension 31x31 mm		• Lighting signal source	LED
shaft	AISI 303 steel 8 mm diameter		• Supply voltage	5Vdc or 8/24Vdc Polarity reversal protection
• Max speed.	60 m/min.	120 m/min.	• Power consumption	30÷80 mA max
• Max. acceleration	40 m/sec. <sup>2</sup>		• Output signals	Two square waves dephased by 90° ±15°. Zero pulse width 90°±15°
• Reference search max. speed	12 m/min.	24 m/min.		Two sinusoidal waves dephased by 90±15° 1 V <sub>pp</sub> Line driver Zero pulse 0-4V
• Progress strength	1/3 N		• Electronic output	Push-pull, open collector NPN, 5Vdc or 8/24Vdc line driver, Short circuit protection
• Operating temperature	0 ÷ 50° C			Sinusoidal waves 1 V <sub>pp</sub> , line driver
• Stacking temperature	-20 ÷ 70° C		• Connection	By connector
• Protection degree	IP64 – optional IP65			
• Fixing	By metal clamping feet placed freely along the body or by ball joints at the ends			

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 <sup>-6</sup> /°C		18x10 <sup>-6</sup> /°C



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## CONNECTIONS

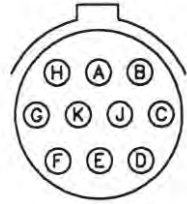
### PUSH/PULL – OPEN COLLECTOR NPN

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



### LINE DRIVER SIGNALS

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

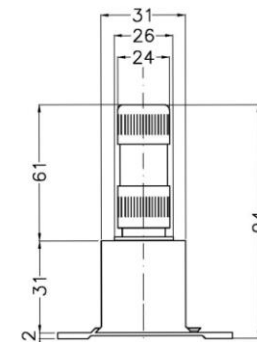
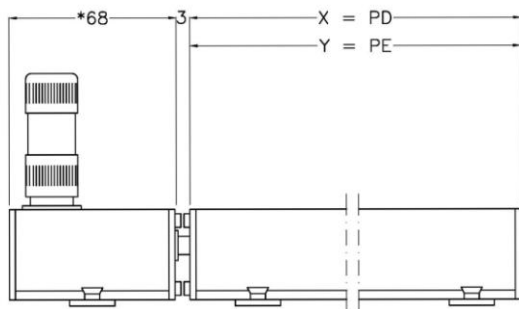
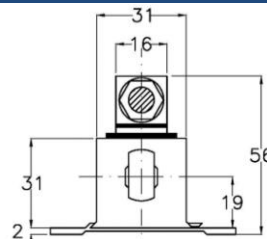
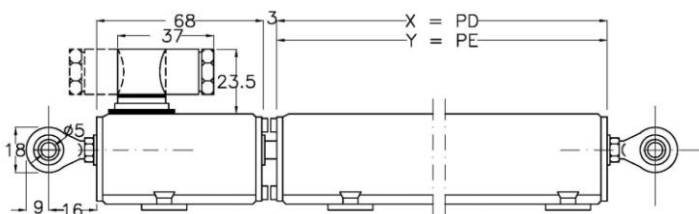


## ORDERING INFORMATION

PD	100	120	PP	1	K
<b>TYPE</b> PD PE PS	<b>RESOLUTION</b> 100 0.01 mm (PD/PS) 500 0.005 mm (PD) 050 0.05 mm (PE)		<b>STROKE</b> 60 – 990 mm		
			<b>OUTPUT &amp; SUPPLY</b> 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		
			<b>ZERO REFERENCE</b> No zero reference 1 zero ref. at mid-stroke 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		
			<b>MECHANICAL PECULIARITIES</b> K O-ring		

ELAP reserves the right to upgrade the product without notice

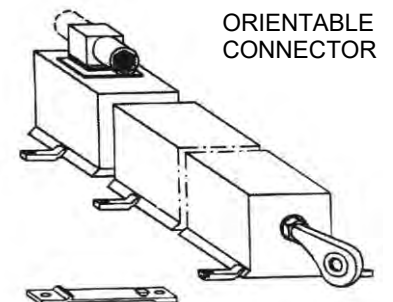
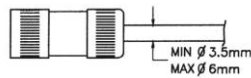
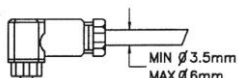
## DIMENSIONS



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

\* TYPE PS = 83 mm

### IPT CONNECTOR



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