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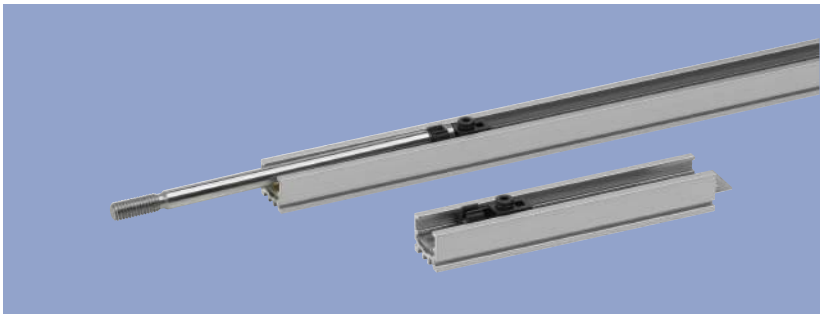
Position Transducers potentiometric up to 300 mm Open System

PTP Series



Special features
- Compact dimensions
- Cost-optimized solution with open housing
- Suitable for mounting in closed applications
- Very long life up to 50 million movements, depending on application
- Resolution better than 0.01 mm
- Variable mechanical customer interfaces
- Outstanding linearity up to ±0.05 %
- Easy mounting

Customized product with minimum order quantity

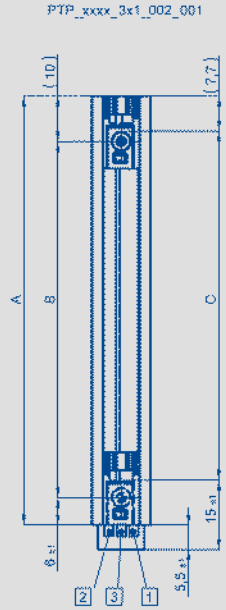
Position transducers with open housing are suitable for mounting in enclosed devices. They are a cost-effective solution for applications, where density against fluid and dust isn't neccessary, but reliability and accuracy.

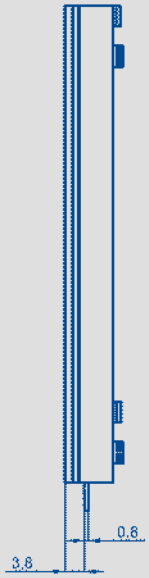
Mounting clamps, screwing the housing directly as well as further mounting possibilities allow an optimum adaption to the particular environmental conditions.

Depending on the construction the position transducers with housing are available in different order sizes.

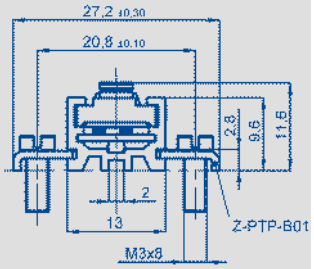
Description	
Housing	aluminium, anodized
Fixings	optional accessories, longitudinally adjustable clamps
Actuating rod	optional accessories stainless steel, rotatable
Coupling	optional follower pin DIN1473-2x6
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	Soldering pads Cu/Ni/Au on FR4 cable and lead wires optional on request

PTP_xxxx_3x1_002_001





Optional



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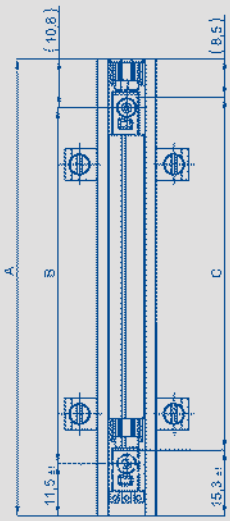
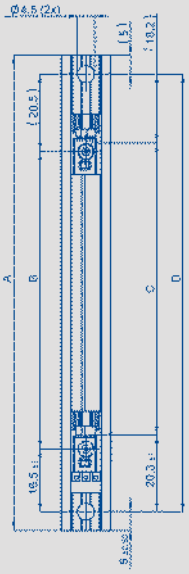
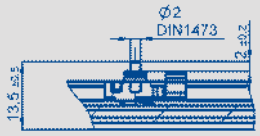


Fixing clamps optional

PTP_xxxx_4xx_002_001



PTP_xxxx_x2x_002_101



Type designations	PTP 0010	PTP 0025	PTP 0050	PTP 0075	PTP 0100	PTP 0125*	PTP 0150	PTP 0175*	PTP 0200	PTP 0250	PTP 0300	
Electrical Data												
Defined electrical range	10	25	50	75	100	125	150	175	200	250	300	mm
Electrical stroke (dimension C)	12	27	52	77	102	130	155	180	205	255	305	±0,1 mm
Nominal resistance	1	1	2	3	4	5	6	7	8	10	12	kΩ
Resistance toleranz	30											±%
Independent linearity	0,25	0,2	0,10	0,10	0,10	0,05	0,05	0,05	0,05	0,05	0,05	±%
Repeatability	0,01											mm
Recommended operating wiper current	≤ 1											µA
Max. wiper current in case of mulfunction	10											mA
Max. permissible applied voltage	42											V
Temperature coefficient of the output-to-applied voltage ration	5											ppm/K
Insulation resistance (500 VDC)	≥ 10											MΩ
Dielectric strength (500 VAC, 50Hz)	≤ 100											µA
Mechanical Data												
Body length (dimension A)												
PTP_xxxx_1xx_002_001	35,8	50,8	75,8	100,8	125,8	153,8	178,8	203,8	228,8	278,8	328,8	±0,5 mm
PTP_xxxx_3x1_002_001	29,5	44,5	69,5	94,5	119,5	147,5	172,5	197,5	222,5	272,5	322,5	±0,5 mm
PTP_xxxx_4xx_002_001	60,5	75,5	100,5	125,5	150,5	178,5	203,5	228,5	253,5	303,5	353,5	±0,5 mm
Mechanical stroke (dimension B)	13,5	28,5	53,5	78,5	103,5	131,5	156,5	181,5	206,5	256,5	306,5	±1 mm
Hole separation (dimension D)												
PTP_xxxx_4xxx_002_001	50,5	65,5	90,5	115,5	140,5	168,5	193,5	218,5	243,5	293,5	343,5	±0,2 mm
Weight												g
Operating force horizontal	≤ 0,5											N
Environmental Data												
Temperature range	-40 ... +100											°C
Operating humidity range	0...95 (no condensation)											% R.H.
Vibration	5...2000 A_{max} = 0,75 a_{max} = 20											Hz mm g
Shock	50 6											g ms
Life	>50 x 10^6 typical											movements
Operating speed	10											m/s max.
Protection class	no											

*) on request

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Ordering specifications

Mechanical design profil element
1: Aluminium profil length = resistance element length
3: Aluminium profil short with single-sided element overlap
4: Aluminium profil long with bore, therefore longer as element

Mechanical design wiper assembly
1: TEX wiper assembly without modification
2: TEX wiper assembly with additional follower pin

Mechanical design others
1: model NT standard drawing
4: mechanical end stop (single-sided mechanic 1xx; twin-sided mechanic 4xx)

Electrical design
002: Independent linearity ±0,05 % up to ±0,25 %

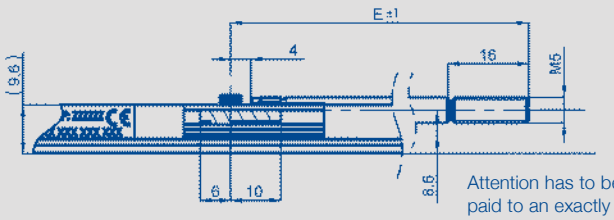
Electrical connection
001: soldering pads Cu/Ni/Au on FR4

P	T	P	0	1	5	0	3	1	1	0	0	2	0	0	1

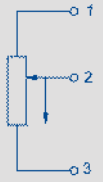
Series

Defined electr. range
Various standard lengths
from 0010 up to 0300 mm;

Optional accessories: actuating rods



Attention has to be paid to an exactly parallel guidance of the actuating rod!



Schematic

Connection actuating rods

Typ	Z-PTP-S01-xxxx											
(Dimension E)	55	70	95	120	145	183	208	233	258	308	358	±1 mm

Further actuating rods on request

Recommended accessories

Fixing clamps Z-PTP-B01, Art.No. 056034, VE50 (4 clamps Z1-11 with 4 screws M3x8);
Various actuating rods on request.

Included in delivery

PTP without fixing material and without actuating rod. These has to be ordered separatly if required.

Mounting instruction

Sensor has to be mounted in dry and clean environment.

Important

All values specified in this data sheet for linearity, lifetime and temperature coefficient are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper ($I_e \leq 1$ µA).