

# Conductive Plastic Potentiometric Position Transducers

**KL** Series



## Special features

- very small dimensions
- 10 x 10<sup>6</sup> movements
- high resolution better than 0.03 mm

With a housing just 13 mm wide, the KL Series is designed for measuring applications in limited space.

Careful selection of the materials and high-quality components used in KL potentiometers ensure consistent measurement and reliable operation throughout the service life of the sensor.

Special designs with better linearities are available on request.





see Mechanical Data
aluminum, anodized
sleeve bearing
conductive plastic
precious metal multi-finger wiper
cable 1 m PUR 3 x 0.06 mm <sup>2</sup>

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Type designations	KL100SE	KL250SE	KL500SE	KL750SE	KL1000SE	
Mechanical Data						
Dimensions	see drawing					
A	68.5	98.5	148.5	198.5	248.5	mm
В	42	57	82	107	132	mm
С	26.5	41.5	66.5	91.5	116.5	mm
D	58.5	73.5	98.5	123.5	148.5	mm
E	35	50	75	100	125	mm
Mounting	2 x cylinder head screw M2 (not included in delivery)					
Permitted shaft loading (radial) static or dynamic force	1					Ν
Operating force of the actuating shaft	≤ 3					Ν
Maximum operational speed	0.1					m/s
Weight	19	24	29	36	42	g
Electrical Data						
Actual electrical travel	10	25	50	75	100	mm
Available resistance values	1	5	5	5	5	kΩ
Resistance tolerance	±20					%
Repeatability	0.05	0.05	0.05	0.05	0.05	mm
Effective temperature coefficient of the output-to-applied-voltage ratio	typical 5					ppm/K
Independent linearity	±1	±1	±1	±1	±0.25	%
Max. permissible applied voltage	20					V
Recommended operating wiper current	≤ 1					µА
Max. wiper current in case of malfunction	10					mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10,000					MΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	700					V
Environmental Data						
Temperature range	-25 +75					°C

Temperature range	-25+75	C°
Vibration	30500	Hz
	$A_{max} = 0.75$	mm
	A <sub>max</sub> = 0.75 a <sub>max</sub> =10	g
Life	10 x 10 <sup>6</sup>	movements
Shock (DIN IEC68T2-27)	50	g
	7	ms
Protection class (DIN 40050)	IP 65	

Order designations				
Туре	Art. no.			
KL 100 1K0/M SE	70438			
KL 250 5K0/M SE	70491			
KL 500 5K0/M SE	70444			
KL 750 5K0/M SE	82318			
KL 1000 5K0/M SE	82432			

## Recommended accessories

MAP process-control indicators and display. MUP signal conditioner for standardized output signals.

### Important

All values given for this series – including linearity, lifetime, micro-linearity, resistance to external disturbances and temperature coefficient in voltage dividing mode – are quoted for the device operating with the wiper voltage driving an operational amplifier working as a voltage follower where virtually no load is applied to the wiper (le  $\leq 1 \mu A$ ).

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