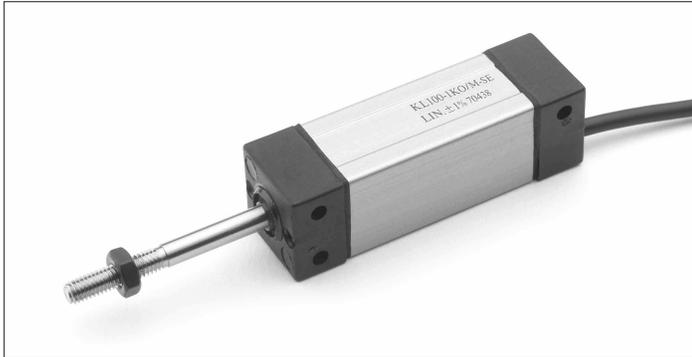


**Conductive Plastic
Potentiometric
Position Transducers**

KL Series



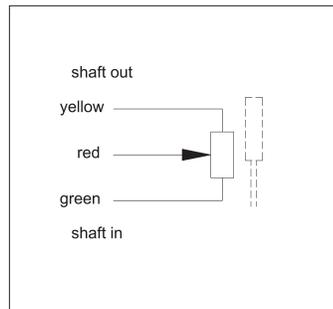
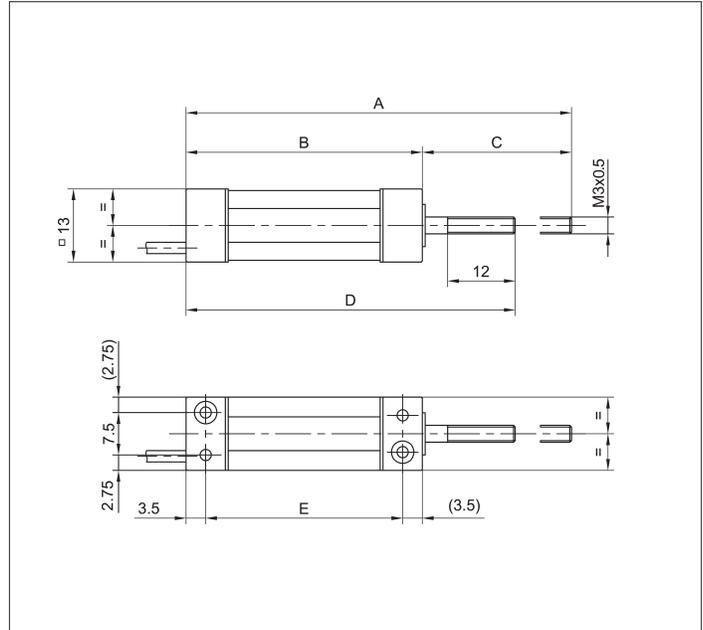
Special features

- very small dimensions
- 10×10^6 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.



Description	
Size	see Mechanical Data
Housing	aluminum, anodized
Bearings	sleeve bearing
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	cable 1 m PUR 3 x 0.06 mm ²

Type designations	KL100...SE	KL250...SE	KL500...SE	KL750...SE	KL1000...SE		
Mechanical Data							
Dimensions	see drawing						
A	68.5	98.5	148.5	198.5	248.5	mm	
B	42	57	82	107	132	mm	
C	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						N
Operating force of the actuating shaft	≤ 3						N
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						μA
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
Vibration	30...500 A _{max} = 0.75 a _{max} = 10						Hz mm g
Life	10 x 10 ⁶						movements
Shock (DIN IEC68T2-27)	50 7						g ms
Protection class (DIN 40050)	IP 65						

Order designations

Type	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 ($I_e \leq 1 \mu\text{A}$).

Subject to changes

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