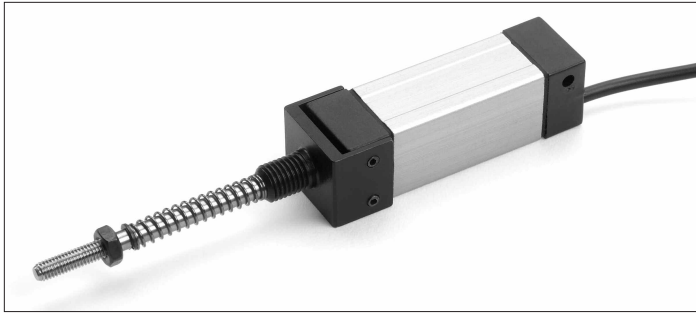


**Conductive Plastic  
Potentiometric  
Position Transducers**

KL Series with Return  
Spring



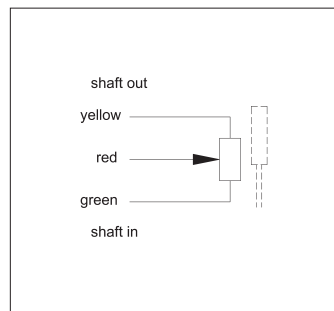
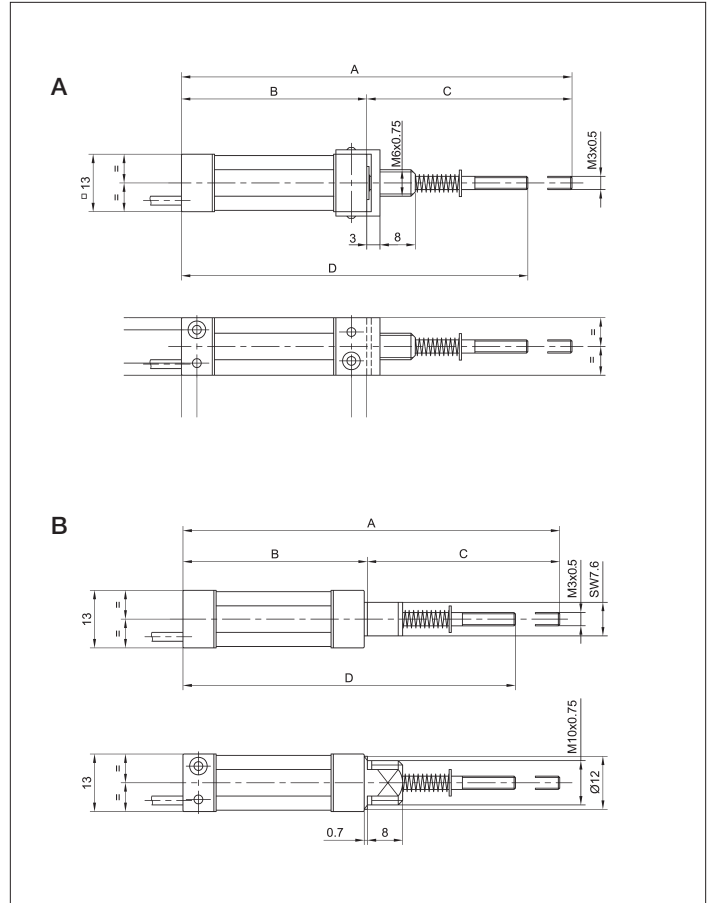
**Special features**

- very small dimensions
- $10 \times 10^6$  movements
- high resolution – better than 0.1 mm

Designed for measuring applications in limited space, the KL with return spring housing is only 13 mm wide.

Careful selection of the materials and high quality components used in KL with return spring 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 <sup>2</sup>

Type designations	KL100...SEFZN	KL250...SEFZN	KL500...SEFZN	KL100...SEFZM	KL250...SEFZM	KL500...SEFZM		
<b>Mechanical Data</b>								
Dimensions	see drawing A			see drawing B				
A	88.5	128.5	188.5	85.2	125.2	185.2	mm	
B	42	57	82	41.7	56.7	81.7	mm	
C	46.5	71.5	106.5	43.5	68.5	103.5	mm	
D	78.5	103.5	138.5	75.2	100.2	135.2	mm	
Mounting	nut M6x0.75			nut M10x0.75				
Permitted shaft loading (radial) static or dynamic force	1							N
Operating force of the actuating shaft	≤ 10							N
Maximum operational speed	0.1							m/s
Weight	22	28	35	22	28	35	g	
<b>Electrical Data</b>								
Actual electrical travel	10	25	50	10	25	50	mm	
Available resistance values	1	5	5	1	5	5	kΩ	
Resistance tolerance	±20							%
Repeatability	0.05	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							%
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
<b>Environmental Data</b>								
Temperature range	-25...+75							°C
Vibration	30...500 A <sub>max</sub> = 0.75 a <sub>max</sub> = 10							Hz mm g
Life	10 x 10 <sup>6</sup>							movements
Shock (DIN IEC68T2-27)	50 7							g ms
Protection class (DIN 40050)	IP 65							

**Order designations**

Type	Art. no.
KL 100 1K0/M SEFZN	82236
KL 250 5K0/M SEFZN	82238
KL 500 5K0/M SEFZN	82240
KL 100 1K0/M SEFZM	82656
KL 250 5K0/M SEFZM	82658
KL 500 5K0/M SEFZM	82660

**Included in delivery**

Nut M6x0.75 (version SEFZN)  
Nut M10x0.75 (version SEFZM)

**Recommended accessories**

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

**Important**

All values given for this series –  
including linearity, lifetime, micro-  
linearity, resistance to external dis-  
turbances and temperature coeffi-  
cient in voltage dividing mode –  
are quoted for the device operat-  
ing with the wiper voltage driving  
an operational amplifier working  
as a voltage follower where virtu-  
ally no load is applied to the wiper  
( $I_e \leq 1 \mu\text{A}$ ).

Subject to changes

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