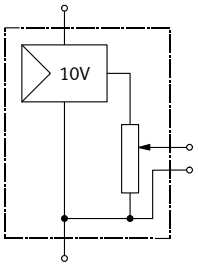
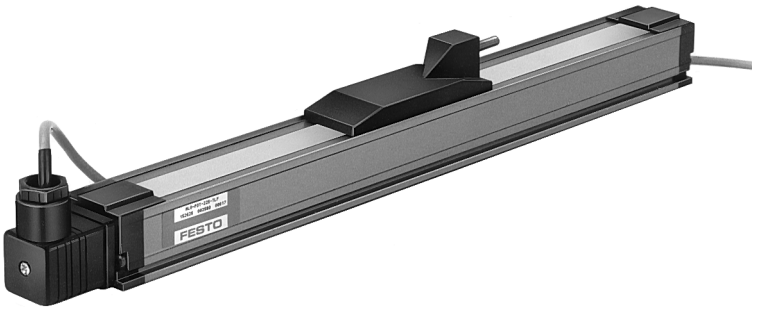
152628

Linear potentiometer





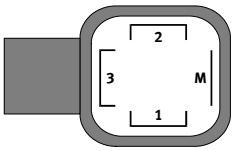
Design

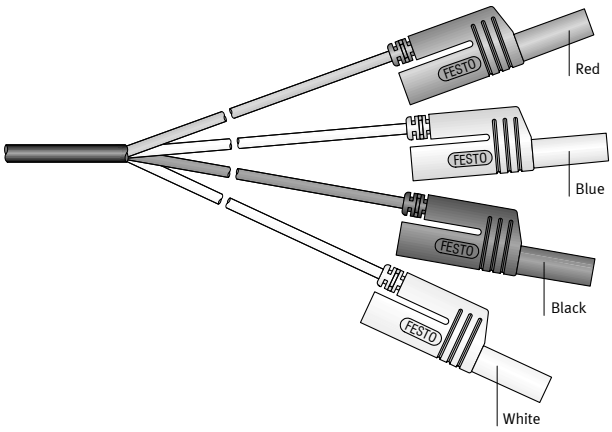
This linear potentiometer is a sliding potentiometer without connecting rod and with connections at each end. It is fitted in an aluminium housing and attached to the linear actuator LA-450 (Order No. 192501) with the aid of a mounting kit (Order No. 178441). The electrical connection is by means of a cable (Order No. 376177). The cable has a rectangular plug at one end for the linear potentiometer and four banana plugs at the other. The cable incorporates a reference power supply and an impedance converter.

Function

The linear potentiometer supplies an output voltage which is proportional to the supply voltage and the wiper position. Its resistive material consists of a conductive-plastic coating, which has the advantage over wire-wound potentiometers of higher resolution and longer service life.

Pin assignment





1	Ground (0 V)	red	Power supply (13 – 30 V)
2	Signal voltage (0 – 10 V)	blue	Power supply (0 V)
3	Power supply (10 V)	black	Signal + (0 – 10 V)
M	Screen	white	Signal –

152628

Linear potentiometer

Technical data

Electrical, Mechanical	
Permissible operating voltage **	13 – 30 V DC
Potentiometer resistance	5 kΩ
Resistance tolerance	±20 %
Recommended wiper current	≤1 µA
Effective electrical working distance	457 mm
Output voltage **	0 – 10 V DC
Operating ambient temperature **	-30 – +100 °C
Max. linearity error	±0.07 % FS*
Resolution and reproducibility	≤0.01 mm
Polarity-safe**	yes
Insulation resistance (potentiometer)	<100 MΩ at 500 V; 0.1 bar
Dielectric strength (potentiometer)	500 V_{ms} at 50 Hz; 1 min; 1 bar
Speed of adjustment	≤10 m/s
Acceleration during adjustment	≤200 m/s^2
Actuating force (horizontal)	<1 N
Max. number of actuations	10^8
Material (housing)	Aluminium
Weight	1000 g
Connections	Cable with plugs

* FS = Of full-scale value

** Applies to potentiometer inclusive of impedence converter