

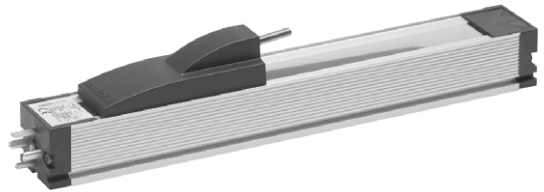
Position Sensor Model TLH

Type 2119A...

for displacement, tolerance measurements and continuous position sensing

Designed for direct, accurate measurement of displacement or length in control, regulation and measuring applications.

- Rodless design
- Ball coupling avoids side loads
- Long life: >100x10⁶ movements
- Outstanding linearity
- High resolution – better than 0.01 mm
- Very high operating speed



Description

The rodless design allows the actuator to be driven from the side, along the unit length, thereby avoiding the "pump" effect problem normally associated with conventional sensors.

A magnetically restrained stainless steel band completely covers the opening through which the actuator operates. The ball coupling is a new design which prevents forces, generated through parallel or angular offsets, from being transmitted to the bearing surfaces.

Fixing is achieved through the use of clamps which permit fine adjustment after initial mounting. Due to the design and the selected materials the temperature coefficient of the sensor is extremely small.

Careful attention to detail and choice of materials has resulted in a sensor with an extremely low temperature drift. The robust design ensures reliable operation even under harsh environmental conditions such as vibration or temperature changes. The simplicity of the measuring technique – both passive and absolute – ensures that the sensor is immune to external electrical interference, and does not require any built-in power supply to maintain positional information in the event of power failure.

Housing	Aluminum, anodized
Sliding parts	Aluminium with plastic inserts
Coupling ball	Coupling, incorporating a hardened ball, with spring and hardened plate
Resistance element	Conductive plastic
Wiper assembly	Precious metal multi-finger wiper, elastomer-damped
Electrical connection	4 pin socket to DIN 43650

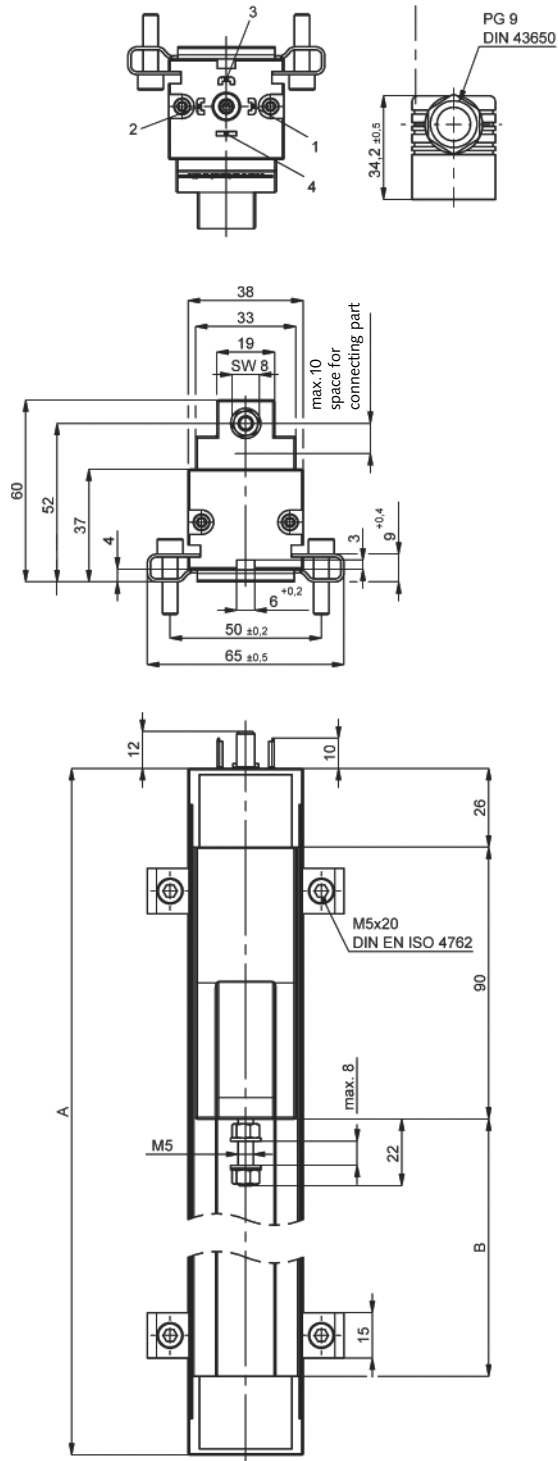
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Technical data

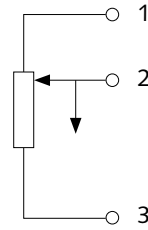
Model		TLH100	TLH225	TLH1250
Electrical data				
Defined electrical range	mm	100	225	1,250
Electrical range	mm	102	228	1,270
Nominal resistance	kΩ	3	3	10
Resistance tolerance	±%	20		
Linearity, independent	±%	0,1	0,07	0,03
Repeatability	mm	0,01		
Max. permissible applied voltage	V	42		
Recommended operating wiper current	<μA	1		
Max. wiper current in case of malfunction	mA	10		
Mechanical data				
Overall length (dimension A ^{+1 mm})	mm	250	376	1,418
Mechanical stroke (dimension B ^{+1.5 mm})	mm	108	234	1,276
Total weight	g	440	620	2,110
Operating force (horizontal)	≤N	0,4		
(vertical)	≤N	1,1		
Environmental data				
Temperature range	°C	-30 ... 100		
Vibration	Hz	5 ... 2,000		
Shock	g/ms	50/11		
Operating speed (max.)	m/s	10		
Operating acceleration (max.)	m/s ²	200 (20 g)		
Protection class (En 40050)	IP	54 (mounted "up-side-down")		

Important: All the values given in this data sheet for linearity, lifetime and temperature coefficient in the voltage dividing mode are quoted for the device operating with the wiper voltage driving on operational amplifier working as a voltage follower, where virtually no load is applied to the wiper (I_e ≤ 0,1 μA).

Dimensions



Schematic



Included accessories

- Fixing clamps Z-43
- 1 plug connector GDM 3009
- 1 seal GDM 3-16

Accessories (optional)

- Connection cable for maXYmo family, L = 5 m, **Type 1200A153C5**
- Connection cable for maXYmo family, L = sp, **Type 1200A153CSP**
- Extension cable for maXYmo family, L = 5 m, **Type 18013960**
- Extension cable for maXYmo family,, L = sp, **Type 18025475**

Ordering key

Position sensor TLH

100 mm	100
225 mm	225
1 250 mm	1250

Type 2119A

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