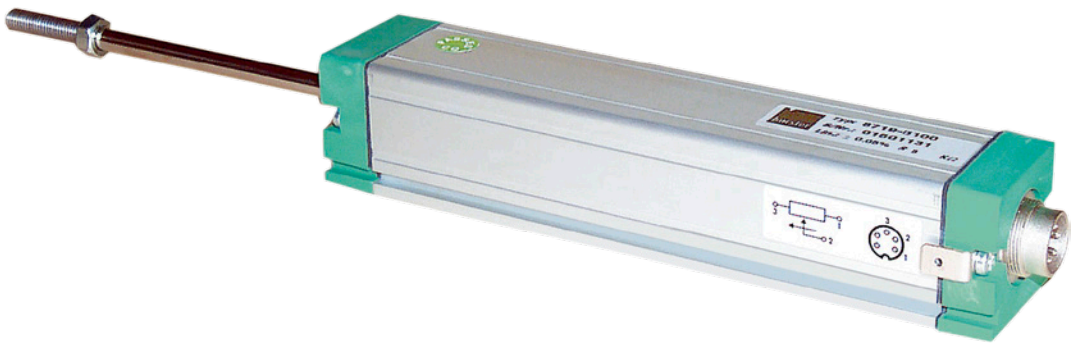
Potentiometric Displacement Sensor

Model 8719

Code:	8719 EN
Delivery:	ex stock / 5 weeks
Warranty:	24 months

CAD data 2D/3D for this sensor:
Download directly at www.traceparts.com
Info: refer to data sheet 80-CAD-EN



NEW **Option Protection Class IP67**

- **Measuring ranges: between 0 ... 50 mm and 0 ... 900 mm**
- **Non-linearity ± 0.05% F.S.**
- **Resolution: 0.01 mm**
- **Durability: Up to 100 x 10^6 movements**
- **Adjustment speed up to 10 m/s**
- **Plug or cable connection**
- **Optional protection classes IP65 and IP67**

8719 EN

Application

Due to its high resolution also when measuring long distances, linear displacement measurements up to 900 mm can be carried out. Conversions between rotatory and translation movements through ball screws, wire or cord connections and so on are not necessary for direct displacement measurement.

Application fields include

- ► Electromagnets
- ► Deformations - bending
- ► Pneumatic cylinders
- ► Length tolerances
- ► Press-insertions (longitudinal press-fits)
- ► Feed strokes
- ► Machine hubs
- ► Punch, knee lever or extruder distances
- ► Hydraulic cylinders

Description

Due to the technology employed in potentiometric displacement sensors, they always operate with a sliding contact system. Special processes are applied to give the resistance tracks low friction, low tendency to stick/slip, resistance to abrasion and long-term stability.
The rod is guided in a low-play floating frontal bearing. This absorbs small angular and parallel displacements. The guide lug and slide block have particularly tight tolerances, in order to ensure reliable slider contact.
A ball joint coupling (see accessories) at the end of the sliding shaft minimizes axial errors between the sensor and the equipment.

burster praezisionsmesstechnik gmbh & co kg · Tel. +49-7224-6450 · Fax 64588
Talstr. 1-5 · DE-76593 Gernsbach · **www.burster.com** · **info@burster.com**

Technical Data

Measuring Range [mm]	50	100	130	150	175	200	225	275	300	375	400	450	500	600	750	900
Length of Housing [mm]	112	163	192	212	237	263	288	338	363	439	465	516	571	672	825	977
Total Displacement [mm]	59	109	139	159	184	210	235	285	310	386	412	463	518	619	772	924
Weight of Rod and Slider approx. [g]	50	50	50	50	50	50	100	100	100	200	200	250	250	300	350	400
Total Weight approx. [g]	300	350	400	500	500	500	600	600	650	700	800	900	1000	1200	1400	1600
Order Code 8719-	5050	5100	5130	5150	5175	5200	5225	5275	5300	5375	5400	5450	5500	5600	5750	5900

Electrical values

Resistance:	50-600 mm electr. usable length	5 kΩ
	750-900 mm electr. usable length	10 kΩ
Tolerance of resistance:		± 20 %
Operating voltage:		max. 50 V DC
Operating current in slider circuit (see drawing 2):		recom. < 0.1 µA max. 10 mA
Dissipation at 40 °C:		max. 3 W
Insulation resistance:		> 100 MΩ at 500 V DC, 2s
Electric strength:		< 100 µA at 500 V AC, 50 Hz, 2s

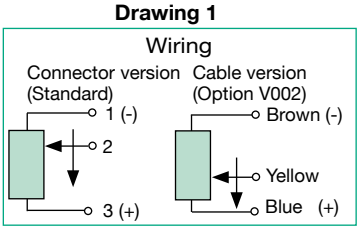
Environmental conditions

Range of operating temperature:		- 30 °C ... 100 °C
Range of storage temperature:		- 50 °C ... 120 °C
Influence of temperature:	to resistance	- 200 ± 200 ppm/°C
	to output voltage	< 1.5 ppm/°C

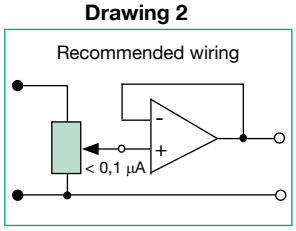
Mechanical values

Non-linearity:		± 0.05 % F.S.
Resolution:		0.01 mm
Durability:		10^8
Displacement force:		≤ 4 N at IP60 and ≤ 25 N at IP65
Displacement speed:		max.10 m/s
Vibrations:		5 ... 2000 Hz, A_{max} = 0,75 mm, a_{max} = 20 g
Acceleration in operation:		max. 200 m/s² (20 g)
Shock resistance:		50 g, 11 ms
Material:	Rod	stainless steel AISI303
	Housing	anodized aluminium
Protection class:	acc. to EN 60529	standard IP60 (IP65 option)
Electrical connection:		refer to drawing 1

Drawing 1



Drawing 2



Important:

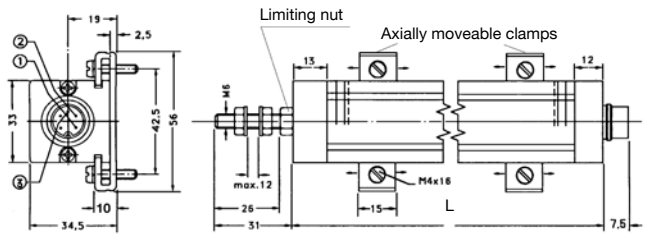
The technical data quoted can only be maintained if the sensors are used properly. Their outstanding properties are only available when the loading of the slider in the voltage divider is kept < 0.1 µA. If the measuring chain draws higher currents, the use of an operational amplifier as a voltage follower (I < 0.1 µA) is necessary (see Drawing 2).
If used close to the stops (slider at the end of the conductor track) the measurement errors can be higher.

Mounting Instructions:

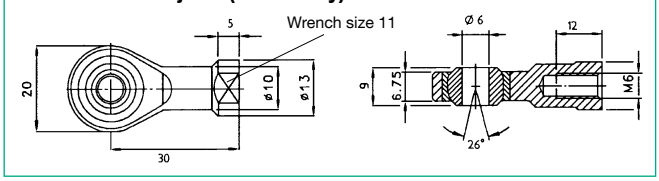
Clamps with adjustable clearance; sensor can be clipped into the fitted clamps.

Dimensional drawings

Model 8719



Model 8705 ball joint (accessory)



The CAD drawing (3D/2D) for this sensor can be imported online directly into your CAD system.
Download via www.burster.com or directly at www.traceparts.com. For further information about the burster traceparts cooperation refer to data sheet 80-CAD-EN.

Order Information

1. Potentiometric displacement sensor standard version, range 200 mm **Model 8719-5200**
2. Potentiometric displacement sensor range 375 mm, Option: protection class IP65 **Model 8719-5375-V001**

Accessories

Ball joint, refer to drawing above	**Model 8705**
Mounting set, 2 clamps and 4 screws included in scope of delivery	**Model 8719-Z001**
Mating connector, 5 pin (socket, IP40) included in scope of delivery	**Model 9991**
Mating connector, 5 pin (socket, IP40) 90°-outlet	**Model 9900-V590**
Mating connector (socket, IP67) for sensor with mating connector IP65	**Model 9900-V554**
Mating connector for sensors with IP67	**Model 8719-Z002**
Cable, length 3 m, one end open	**Model 99130**
Cable for connection to burster desktop devices, length 3 m	**Model 99132**
Connecting cable to DIGIFORCE® 9310, length 3 m	**Model 99209-591A-0090030**
Connecting cable to 9163 desktop version, length 3 m	**Model 99209-591B-0090030**
Supply units, amplifiers or indicators like digital indicator 9163, amplifier 9243 or DIGIFORCE®	**refer to section 9 of the catalog**

Options

Identification	Meaning
V001	protection class IP65
V002	cable outlet (length of the cable 1 m)
V004	V 001 and V 002
V007	protection class IP67

Manufacturer Calibration Certificate (WKS)

Calibration of the sensor with or without evaluation electronics in 20 % steps (6 calibration points).