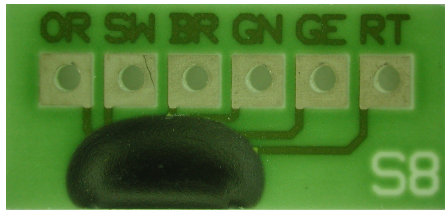




# Magnetic Length Sensor MLS-8



Front view length sensor MLS-8

### Description

The magnetoresistive strong field sensor MLS-8 consists of two against each other shifted Wheatstone bridges. They are assembled on a ceramic hybrid. The resistance position at the bridge is fixed by a magnetic scale with a period length (pole distance N-S) of 2.5 mm. The pole stripe with his changing magnetization is guided along the sensor in a distance of  $z < 1.5$  mm. Thereby occur output signals with a sine and cosine characteristic. By sine/cosine analysis precise distances in between the pole stripe can be detected. The reachable measurement precision depends on the distance between sensor and pole stripe.

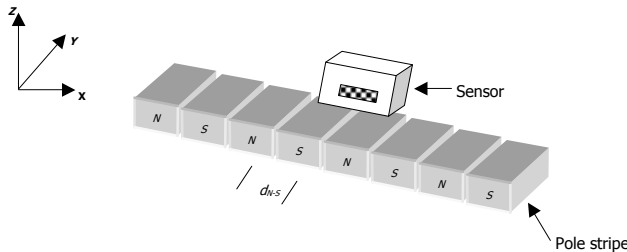
### Advantages

- high resolution
- low noise
- low current consumption
- low interference field sensitivity

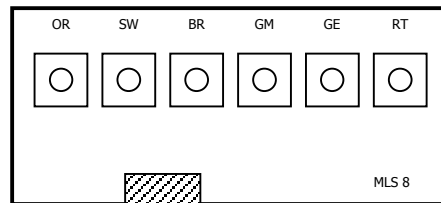
### Applications

- Length measurement for direction identification
- Angle measurement with pole wheels

### Application principle



### Pin out



Pin	Mean	Typ
OR	Output signal	$V_{\cos 2+}$
SW	Supply voltage	$V_B$
BR	Ground	GND
GN	Output signal	$V_{\sin 2-}$
GE	Output signal	$V_{\sin 1+}$
RT	Output signal	$V_{\cos 1+}$

### Specification

Parameter	Condition	Symbol	Min	Typ	Max	Unit
Supply voltage		$U_{cc}$		5	10	V
Sensor resistance		$R_s$	30	40	50	$k\Omega$
Pole distance		$d_{N-S}$		2.5		mm
Signal amplitude	by $H_{appl}=32kA/m$ , $T=RT$	$\Delta U/U_{cc}$	8			mV/V
Offset voltage		$ U_{off}/U_{cc} $			1	mV/V
Applied magnetic field	Magnet field distance $z < 1.5mm$	$H_{appl}$	10			kA/m
Temperature coefficient of amplitude		TCSV	-0.37	-0.33	-0.29	%/K
Temperature coefficient of resistance		TCBR	0.29	0.33	0.37	%/K
Operating temperature		$T_{op}$	-40		+85	$^{\circ}C$
Storage temperature		$T_{storage}$	-55		+125	$^{\circ}C$
Dimension		$W \times D \times L$	17.8 x 8.1 x 2.2			mm