

The Penny+Giles SLH100 Hall Effect Linear Sensor has been specifically designed to provide precision cost-effective position sensing, using the proven contactless Hall effect principle.

The sensing system comprises two parts: the sensor and the magnetic activator.

The sensor is a fully encapsulated electronic device and is intended to compete with sealed potentiometers and inductive sensors. The sensor can be used for a variety of automotive, industrial vehicle, marine and control applications.

The durable design and absence of mechanical linkages makes this sensor attractive for use in harsh environments - where particles, moisture, temperature and vibration can be present.

Robust, maintenance-free and easy to fit, the SLH100 Hall Effect Linear Sensor represents a cost-effective solution for demanding linear position sensing applications.

- 28mm measuring range
- 5V or 8-30Vdc supply
- 0.5 to 4.5Vdc output
- -40 to +125°C working range
- Features an on-board micro controller that linearises the sensor output
- Robust, sealed housing
- Suitable for high dither vibration conditions
- Virtually infinite life



**EMC Directive 2004/108/EC**

The products detailed in this document have been tested to the requirements of EN61000-6-3 (Emissions) and EN61000-6-2 (Immunity).



**Quality Assurance**

Penny+Giles are accredited to BS EN ISO9001:2000

Quality is at the heart of all our systems ensuring the reliability of our products from initial design to final despatch.

Certificate No. LRO 0924881

# SLH100 HALL EFFECT CONTACTLESS LINEAR SENSOR

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# SLH100 CONTACTLESS LINEAR SENSOR

## PERFORMANCE

### ELECTRICAL

<b>Supply voltage</b>	<b>Vdc</b>	8 to 30 unregulated and 5 ±0.25 regulated
<b>Over voltage protection</b>	<b>Vdc</b>	Up to 30
<b>Maximum supply current</b>	<b>mA</b>	15
<b>Reverse polarity protection</b>		Yes – (up to 15V)
<b>Short circuit output to V supply</b>		Yes – (up to 15V)
<b>Short circuit output to GND</b>		Yes
<b>Resolution</b>	<b>mm</b>	0.05mm (based on dimension Y)
<b>Non-linearity</b>	<b>%</b>	±1.0 typical ±1.5 max over ±14mm (based on dimension Y) ±0.5 typical ±0.75 max over ±13mm (based on dimension Y)
<b>Electrical length</b>	<b>mm</b>	Up to 28
<b>Range accuracy</b>	<b>mV</b>	±150
<b>Voltage output range</b>	<b>Vdc</b>	0.5 to 4.5
<b>Minimum load</b>	<b>kΩ</b>	10 resistive to ground
<b>Output noise</b>	<b>mVAC</b>	<5
<b>Temperature coefficient</b>	<b>ppm/°C</b>	<100 typical 150 max (25 zero shift, 75 span)
<b>Output lag</b>	<b>mS</b>	<1

### MECHANICAL

<b>Mechanical stroke</b>	<b>mm</b>	No maximum mechanical length (see electrical length)
<b>Mounting</b>		Sensor body is mounted using 2 x M3 cap head screws supplied. Magnet block is mounted using 2 x M3 countersunk screws supplied
<b>Weight</b>	<b>g</b>	35 max including mounting fixtures (supplied)

### ENVIRONMENTAL

<b>Protection class</b>		Tested to a depth of 2m in water for 1 hour
<b>Life</b>		Virtually infinite (contactless technology)
<b>Operational temperature</b>	<b>°C</b>	-40 to +125 (+150 short term [<5 hours]) @ 5V supply -40 to +123.2 with 8Vdc supply Derate upper temperature limit by 0.6°C for each 1V increase in V supply e.g. -40 to 110 @ 30Vdc (see note below) Note: Excessive temperature will cause the internal voltage regulator to shut down to protect the circuit from damage through overheating.
<b>Vibration</b>		12.6grms, all axis 10-2000Hz
<b>Shock</b>		2 metre drop (onto concrete)
<b>Electromagnetic interference</b>		BS EN 61000 to 100V/M 2004/108/EC

### ORDERING CODE

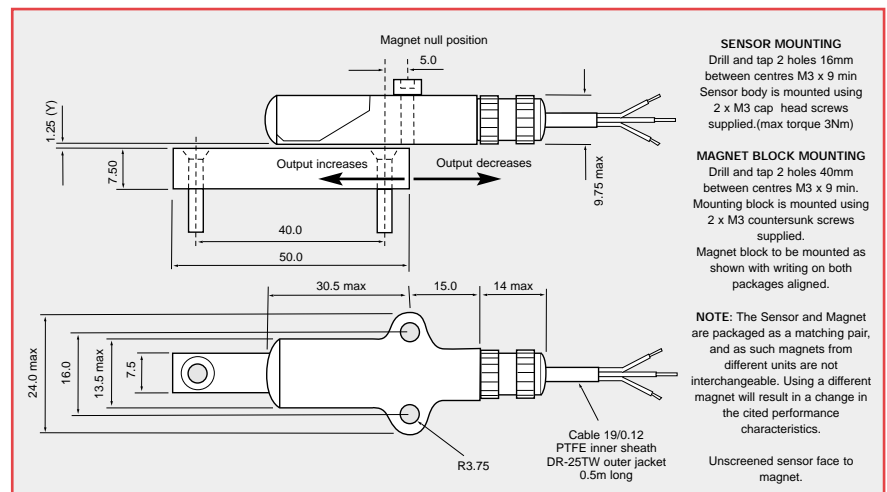
SLH100

### DIMENSIONS

Note: drawings not to scale

### ELECTRICAL CONNECTIONS

Red wire = +V supply  
Black wire = 0V supply (GND)  
Yellow wire = sensor output



**CURTISS  
WRIGHT** Controls  
Integrated Sensing

Innovation In Motion

The design of this product is subject to Community Registered Design No 000925433-0001 and 000925433-002  
The SLH100 includes an Input Protector Circuit (Patent Applied For)