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
SLH 100 CONTACTLESS LINEAR SENSOR

PERFORMANCE

ELECTRICAL

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

MECHANICAL

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

ENVIRONMENTAL

Protection class Tested to a depth of 2m in water for 1 hour
Life Virtually infinite (contactless technology)
Operational temperature °C -40 to +123.2 with 8Vdc supply
-40 to +125 (+ 150 short term [<5 hours]) @ 5V supply
Derate upper temperature limit by 0.6ºC 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.
Vibration 12.6grms, all axis 10-2000Hz
Shock 2 metre drop (onto concrete)
Electromagnetic interference 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

MAGNET BLOCK MOUNTING

Sensor block is mounted using 2 x M3 cap head screws supplied.

NOTE:
The Sensor and Magnet are packaged as a matching pair, and as such magnets from different units are not interchangeable. Using a different magnet will result in a change in the cited performance characteristics.

Unscreened sensor face to magnet.

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)