

55140 Flange Mount Hall Effect Sensor Features and Benefits



Features

- Magnetically operated position sensor
- Digital, latching or programmable analogue types available
- Medium, high or programmable sensitivities
- 3 wire (voltage output) or 2 wire (current output) versions
- Vibration 50g max. @ 50-2,000Hz
- Shock 150g max. @ 11ms 1/2 Sine
- EMC to DIN 40839 (Consult Hamlin)
- Reverse/Over Voltage Protection
- Built in temperature compensation

Benefits

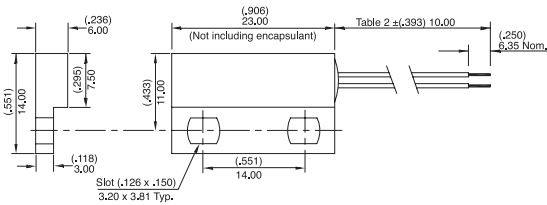
- High switching speed up to 10kHz
- Long life; up to 20 billion operations
- Unaffected by harsh environments
- Operates in static or dynamic magnetic field
- Customer selection of cable length and connector type

Applications

- Position and limit sensing
- RPM measurement
- Flow metering
- Commutation of brushless dc motors
- Angle sensing
- Magnetic encoders

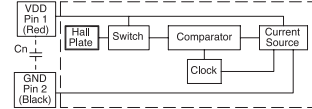
DIMENSIONS (in) mm

2 WIRE VERSION ILLUSTRATED

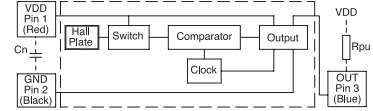


BLOCK DIAGRAMS

2 WIRE VERSION



3 WIRE VERSION



Notes

- 1) Add capacitor Cn as shown, close to the sensor, for transient suppression if required
- 2) Add resistor Rpu as shown for sinking output

CUSTOMER OPTIONS - Switching Specifications

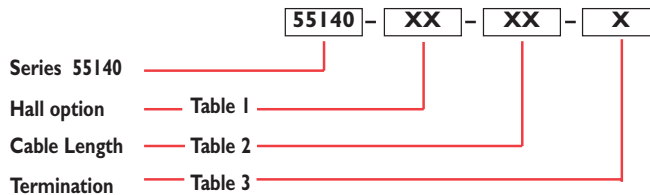
| SPECIFICATIONS | | Digital Switch or Digital Latch | | |
|--|------------------------|---------------------------------|-------------------------|---|
| | | 3 Wire (Voltage output) | 2 Wire (Current Output) | A - Analogue (Programmable Only) (Note 2) |
| Supply Voltage (Note 1) | Absolute Ratings | Vdc | -15 to +28 | 8.5 |
| | Operate | Vdc | +3.8 to +24 | 4.5-5.5 |
| | Overvoltage Protection | Vdc-max | 32 | 19.5 |
| Output High Voltage | Vdc | sinking output | N/A | 4.65 |
| Output Low Voltage | Vdc-max | 0.4 @ 20mA | N/A | 0.35 |
| Output Current (continuously on) | mA-max | 20 | N/A | -1.0 to +1.0 |
| Current Consumption over Temperature Range | Low | mA | 1.6 - 5.2 | 2 - 10 |
| | High | mA | 1.6 - 5.2 | 2 - 10 |
| Switching Speed | kHz-max | 10 | 10 | 2 |
| Temperature | Operating | °C | -40 to +100 | -40 to +100 |
| | Storage | °C | -65 to +105 | -65 to +150 |

Note 1 - As long as Tj (Junction Temperature) max. is not exceeded
 Note 2 - Preprogrammed by Hamlin or Customer pending agreement

CUSTOMER OPTIONS - Sensitivity, Cable Length and Termination Specification

| TABLE 1 HALL OPTIONS | | | | TABLE 2 | | TABLE 3 | |
|--|---------------|--------------------------|----------------------|---|----------------------|-----------------------|--|
| ACTIVATE DISTANCES ARE APPROXIMATE USING NeFeB MAGNET (.827L x .276W x .185H) 21 x 7 x 4.7 HAMLIN P/N 5812334000 | | | | Cable Length:- (Cable Type 24 AWG 7/32 PVC 105°C UL1430/UL1569) | | Termination Options:- | |
| | | | | Standard Lengths | | SELECT OPTION | DESCRIPTION (2 WIRE VERSION ILLUSTRATED) |
| Select Hall Option | Hall Type | Sensitivity Gauss (Typ.) | Activate - d (in) mm | SELECT OPTION | CABLE LENGTH (in) mm | A | Tinned leads |
| 2M | 2 Wire Switch | 120 | (.531) 13.5 | 01 | (3.94) 100 | | |
| 2H | 2 Wire Switch | 57 | (.728) 18.5 | 02 | (11.81) 300 | C | 6.35mm fastons |
| 2L | 2 Wire Latch | 40 | (.827) 21.0 | 03 | (19.69) 500 | D | AMP MTE 2.54mm pitch |
| 3M | 3 Wire Switch | 130 | (.492) 12.5 | 04 | (29.53) 750 | E | JST XHP 2.5mm pitch |
| 3H | 3 Wire Switch | 59 | (.709) 18.0 | 05 | (39.37) 1000 | | |
| 3L | 3 Wire Latch | 86 | (.394) 10.0 | | | | |
| AP | Analogue | Programmable | Consult Hamlin | | | | |

ORDERING INFORMATION



Hamlin USA Tel: +1 920 648 3000 • Fax: +1 920 648 3001 • Email: sales.us@hamlin.com
 Hamlin UK Tel: +44 (0)1379 649700 • Fax: +44 (0)1379 649702 • Email: sales.uk@hamlin.com
 Hamlin Germany Tel: +49 (0) 6142 923920 • Fax: +49 (0) 6142 923921 • Email: sales.de@hamlin.com
 Hamlectrol France Tel: +33 (0) 1 4687 0202 • Fax: +33 (0) 1 4686 6786 • Email: sales.fr@hamlin.com

Issue No: AE Date: 16/07/09 DCR B6301

INFORMATION PROVIDED ON THIS DATA SHEET IS PROVIDED FOR INFORMATION PURPOSES ONLY AND SHOULD NOT BE RELIED UPON AS BEING ACCURATE FOR ANY PARTICULAR PURPOSE. Product performance may be affected by the application to which the product is put. Upon request, HAMLIN will assist purchasers by providing information specific to any particular application. HAMLIN disclaims any and all liability whatsoever for any purchaser's reliance upon the information contained on this data sheet without further consultation with authorised representatives of HAMLIN.