

55140 Hall Effect Flange Mount Sensor



Features

- Magnetically operated position sensor
- Digital, latching or programmable analog 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 ½ Sine
- EMC to DIN 40839 (Consult Hamlin)
- Reverse/Over voltage protection
- Built in temperature compensation

Benefits

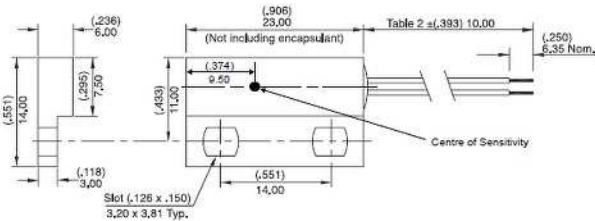
- High switching speed up to 10kHz
- Long life; up to 20 billion operations
- Unaffected by harsh environment
- Operates in static or dynamic magnetic field
- Customer selection of cable length and connector type

Applications

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

DIMENSIONS (in) mm

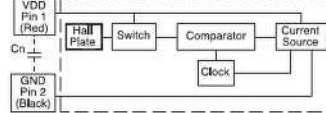
2 WIRE VERSION ILLUSTRATED



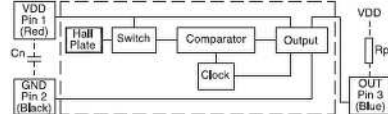
General Tol.: ±(.005) 0.13

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	Digital Switch or Digital Latch	A - Analog
Hall Type			3 Wire (Voltage output)	2 Wire (Current output)	(Programmable Only) (Note 2)
Supply Voltage (Note1)	Absolute Ratings	Vdc	-15 to +28	-15 to +28	8.5
	Operate	Vdc	+3.8 to +24	+3.75 to +24	4.5 - 5.5
	Overvoltage Protection	Vdc - max.	32	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	5 - 6.9	2 - 10
	High	mA	1.6 - 5.2	12 - 17	2 - 10
Switching Speed		kHz - max.	10	10	2
Temperature	Operating	°C	-40 to +100	-40 to +100	-40 to +100
	Storage	°C	-65 to +105	-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 ACTIVATE DISTANCES ARE APPROXIMATE USING NEFEB MAGNET (.8271 x .276W x .185H) 21 x 7 x 4.7 HAMLIN P/N 5812334000			
Select Hall Option	Hall Type	Sensitivity Gauss (typ.)	Activate - d (in) mm
2M	2 Wire Switch	120	(.531) 13.5
2H	2 Wire Switch	57	(.728) 18.5
2L	2 Wire Latch	40	(.827) 21.0
3M	3 Wire Switch	130	(.492) 12.5
3H	3 Wire Switch	59	(.709) 18.0
3L	3 Wire Latch	86	(.394) 10.0
AP	Analog	Programmable	Consult Hamlin

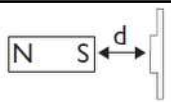


TABLE 2 Cable Length:- (Cable Type 24AWG 7/32 PVC 105° C UL 1430/UL1569)	
Standard Lengths	
SELECT OPTION	CABLE LENGTH (in) mm
01	(3.94) 100
02	(11.81) 300
03	(19.69) 500
04	(29.53) 750
05	(39.37) 1000

TABLE 3 Termination Options:-		
SELECT OPTION	DESCRIPTION (2 WIRE VERSION ILLUSTRATED)	
A	Tinned Leads	
D	AMP MTE 2.54mm pitch	
E	JST XHP 2.5mm pitch	

ORDERING INFORMATION

55140 - XX - XX - X

Series 55140

Hall Option — Table 1

Cable Length — Table 2

Termination — Table 3

Hamlin USA Tel: +1 920 648 3000 • Fax: +1 920 648 3001 • Email: sales.us@hamlin.com
 Hamlin Europe Tel: +44 (0)1603 257700 • Fax: +44 (0)1603 257702 • Email: sales.uk@hamlin.com
 Hamlin China Tel: +86 (0) 512 69365 800 • Fax: +86 (0) 512 69365 811 • Email: sales.cn@hamlin.com