

55140 Flange Mount Hall Effect Sensor Features and Benefits



- 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

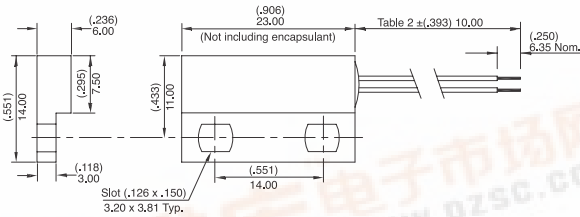
- High switching speed up to 10kHz
- Long life; up to 20 billion operations
- Unaffected by harsh environments
- Operates in static or dynamic magnetic field
- Customer selection of cable length and connector type

Applications

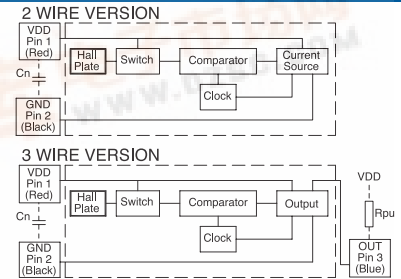
- Position and limit sensing
- RPM measurement
- Flow metering
- Commutation of brushless dc motors
- Angle sensing
- Magnetic encoders

DIMENSIONS (in) mm

2 WIRE VERSION ILLUSTRATED



BLOCK DIAGRAMS



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		A - Analogue (Programmable Only) (Note 2)
Hall Type			3 Wire (Voltage output)	2 Wire (Current Output)	
Supply Voltage (Note 1)	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				TABLE 2 Cable Length:- (Cable Type 24 AWG 7/32 PVC 105°C UL1430/UL1569)		TABLE 3 Termination Options:-	
ACTIVATE DISTANCES ARE APPROXIMATE USING NeFeB MAGNET (.827L x .276W x .185H) 21 x 7 x 4.7 HAMLIN P/N 5812334000				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		
2M	2 Wire Switch	120	(.531) 13.5	01	(3.94) 100	A	Tinned leads
2H	2 Wire Switch	57	(.728) 18.5	02	(11.81) 300		
2L	2 Wire Latch	40	(.827) 21.0	03	(19.69) 500	C	6.35mm fastons
3M	3 Wire Switch	130	(.492) 12.5	04	(29.53) 750	D	AMP MTE 2.54mm pitch
3H	3 Wire Switch	59	(.709) 18.0	05	(39.37) 1000	E	JST XHP 2.5mm pitch
3L	3 Wire Latch	86	(.394) 10.0				
AP	Analogue	Programmable	Consult Hamlin				

ORDERING INFORMATION

55140 - XX - XX - X

Series 55140

Hall option

Cable Length

Termination

Table 1

Table 2

Table 3

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.

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