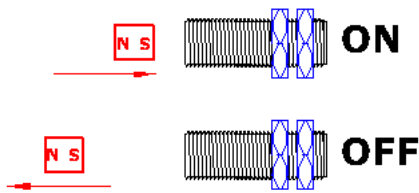


M12-HS3-OCT21 - Hall or Magneto Resistive Switch Sensor

www.sensorso.com

High Field S-Pole Hall Switch, 270G, npn open collector output, Plastic 12x1mm x 35mm housing, free end Teflon 22AWG wires, 1 foot

Digital output switches on and off with a magnet.



Type - HS

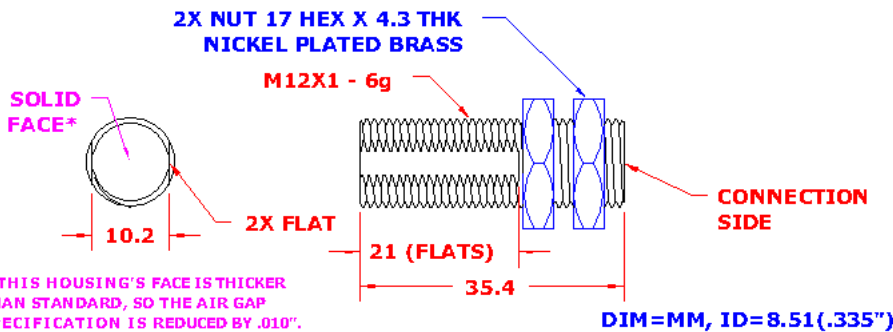
- o INTERNAL HYSTERESIS
- o SOLID STATE (Nothing to wear out!)
- o TEMPERATURE STABLE

ENVIRONMENTAL SPECIFICATIONS - M12	
Corrosion Resistance	500 hours salt spray ASTM B-117
Installation Torque	18 Inch-Pounds Maximum
Enclosure	Nema 1,3,4,6,13 & IEC IP67
Vibration	10 G's 2 to 2000 Hz Sinusoidal
Mechanical Shock	100 G's, 11 ms Half-Sine

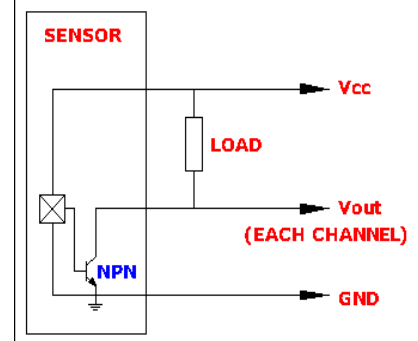
M12, Plastic 12mm x 35mm Long Housing

Rev C

MATERIAL: GLASS FILLED NYLON (+150°C)



OC, Open Collector NPN



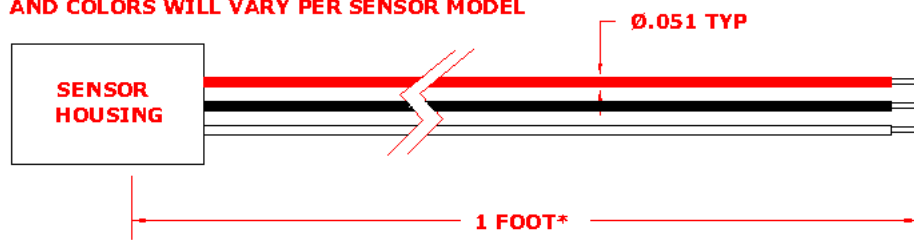
T21, Free End Teflon 22AWG Wires

FREE END WIRE LEADS

22 AWG, TEFLON 200°C, 19/34

3 WIRES SHOWN. THE NUMBER OF WIRES AND COLORS WILL VARY PER SENSOR MODEL

*OTHER STANDARD LENGTHS: 3", 6", 2', 5', 10', AND 20'



Rev A

DIM=INCH

Connections Chart

Red	Vcc
Black	Ground
White	Vout (or RELAY)
Green (if present)	RELAY COM
T21-HS3	

Date Code 'YYM'

YY = YEAR, M = MONTH

A JAN	D APR	H JUL	L OCT
B FEB	E MAY	J AUG	M NOV
C MAR	G JUN	K SEP	N DEC

The HS3 sensors provide one digital output that is normally OFF and turns ON when a magnetic field is present. The Hall Effect switch triggers from the South Pole of a magnet. Note that OUTPUT ON means LOW for NPN sensors and HIGH for PNP sensors. The HS3 requires a strong field to trigger, which will allow the sensor to ignore background magnetic fields that may trigger standard Hall Switches.

The distance between the sensor face and the South Pole of a magnet that operates the switch (turns the output transistor on) is referred to as the 'Operate Air Gap'. This gap is determined by looking at the magnet's flux density vs. air gap curve. The distance that produces the magnetic South Pole field equal to or less than 'Release Point' specified on this sheet is the Release air gap. The must operate air gap is the distance at which the magnet produces a South Pole field equal to the MAX operate point of the Hall switch. The must release gap is the distance the at which the magnet produces the South Pole field equal to the MIN release point. Note that magnets produce weaker fields as the temperature increases.

In addition to the HS3, we offer a variety of South Pole and Either pole Hall Effect and Magnetoresistive sensors including multiple programmable sensors, North and South Pole output sensors, latching sensors, and sensors with speed/count and direction outputs. Check our website or contact us to discuss all of our magnetic speed, count, and position detection sensors.

HS3-OC, Electrical & Functional Specifications

ABSOLUTE MAX LIMITS	MIN	MAX	UNITS
Supply Voltage, Vcc	-15	+28	Volts DC
Voltage applied to output	-0.3	Vcc	Volts
Current into output	--	50	mA
Current out of output	--	n/a	mA
Load Dump, 40mS Rs = 20	--	60	Volts

ELECTRICAL SPECS	CONDITIONS	MIN	MAX	UNITS
Temperature Range *	Operating	-40	+110	Deg C
Supply Voltage, Vcc	Over temperature	+3.8	+24	Volts DC
Supply Current	Into Vcc	+1	+5.5	mA
Frequency Range		0	20	kHz
Saturation Voltage Low	I sink = 20 mA	0	0.4	Volts
Output Leakage Current	Output high	0	10	uA
Output Rise Time 10-90%	R pu=1k, C < 100pF	--	2.0	uS
Output Fall Time 90-10%	R pu=1k, C < 100pF	--	1.0	uS
ESD **	Nondestructive	--	n/a**	Volts
EMI **	20k to 1 G Hz	--	n/a**	V/M

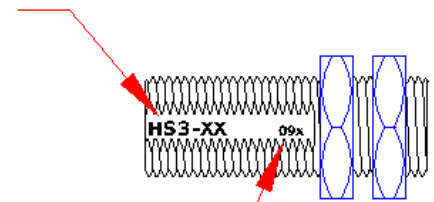
* T max = 150°C is available, contact factory

** Specifications not available at release

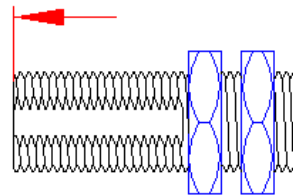
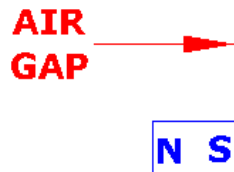
MAGNETIC CHARACTERISTICS	MIN	TYP	MAX	UNITS
Operate Point over temp	213	268	311	Gauss
Release Point over temp	183	232	272	Gauss
Hysteresis	25	35	39	Gauss

Rev A

**CHARACTERISTIC-OPTION
MARKED ON THIS SURFACE
XX = ELECTRICAL OPTION**



**DATE CODE,
THIS SURFACE**



**NO ORIENTATION
REQUIRED**