

## Solid State Hall Effect Position Sensors

## SR13/15 Series

### FEATURES

- 3.8 to 30 VDC supply voltage
- Digital current sinking output
- Snap-in or flat mount packages
- Quad-Hall design eliminates stress effects
- Temperature compensated magnetics
- Bipolar, unipolar and latching magnetics
- High output capability, 50mA absolute maximum
- Operating temperature range -40°C to +150°C
- Varying leadwire lengths of 24 AWG Radox wire



### **WARNING**

#### **PERSONAL INJURY**

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**



The newly introduced SR13/15 Series package enhancements permit quick and easy sensor installation, increasing the usability of the SS400 Series. These devices can be installed without additional mounting hardware. The snap-in and flat mount sensor packages can house any of the present SS400 Series sensors or any similarly sized sensing elements. The packages also provide varying 24AWG Radox leadwire length or connector capabilities.

The SS400 Series position sensors have a thermally balanced integrated circuit that provides predictable performance for the -40°C to +150°C operating temperature range. The SS400 Series band gap regulation provides stable operation over 3.8 to 30 VDC. Current consumption is 10 mA at +40°C ambient temperature. SS400 Series sensors are capable of continuous 20 mA sinking output. The sensors may be cycled as high as 50 mA maximum. Bipolar, unipolar and latching magnetics are available.

### **WARNING**

#### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as product installation information.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**



# Solid State Hall Effect

## Position Sensor

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### OPERATING CHARACTERISTICS -40°C TO 125°C, 3.8 TO 30 VDC

	Min.	Typ.	Max.	Remarks
Supply voltage	3.8	—	30	VDC
Current consumption	—	—	13	mA
Output voltage (operated)	—	—	0.40	Sinking 10 mA max.
Sink current (operated)	—	—	20	mA
Output leakage current (released)	—	—	5 $\mu$ A	$V_{OUT} = 30$ VDC, $V_{CC} = 30$ VDC
Output switching time				
Rise, 10 to 90%	—	1.5 $\mu$ s.	1.5 $\mu$ s	$V_{CC} = 12$ V, $R_L = 1.6$ K $\Omega$ , $C_L = 20$ pF
Fall, 90 to 10%	—	15 $\mu$ s	1.5 $\mu$ s	
Operating Temperature	-40°C to +150°C (-40°F to +302°F)			

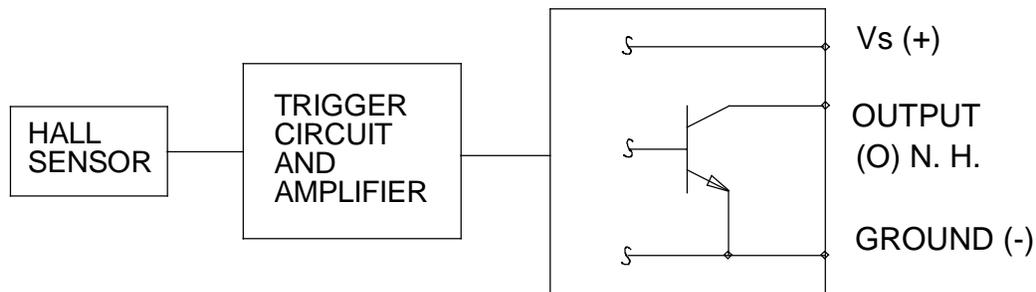
### MAGNETIC CHARACTERISTICS

	SR13C-A1	SR13D-A1	SR13F-A1	SR13R-A1	SR15C-A3
Magnetic Type	Unipolar	Unipolar	Unipolar	Latching	Unipolar
25°C					
Max. Op.	180	115	390	85	180
Min. Rel.	75	20	235	-85	75
Min. Dif.	25	20	30	50	25
-20°C to 85°C					
Max. Op.	215	135	435	110	215
Min. Rel.	60	15	200	-110	60
Min. Dif.	10	8	30	50	10

### NOTICE

Bipolar Hall effect sensors may have an initial output in either the On or Off state if powered up with an applied magnetic field in the differential zone (applied magnetic field > Brp and < Bop). Honeywell recommends allowing 10  $\mu$ s for output voltage to stabilize after supply voltage has reached 5 volts.

### BLOCK CIRCUIT WIRING DIAGRAM

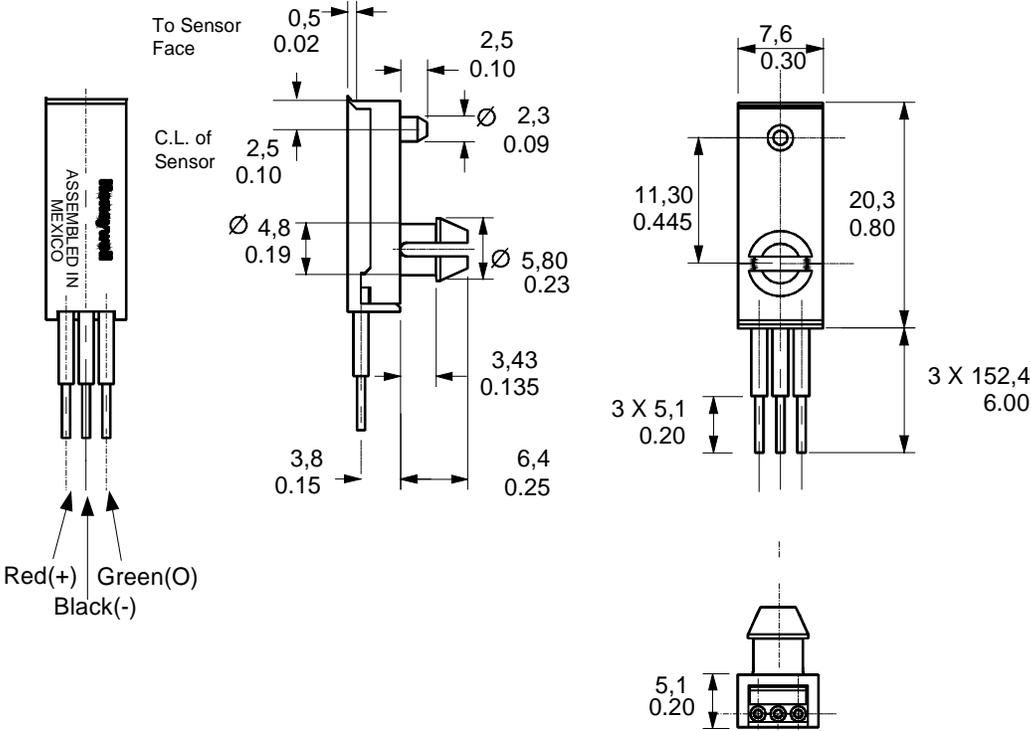


# Solid State Hall Effect

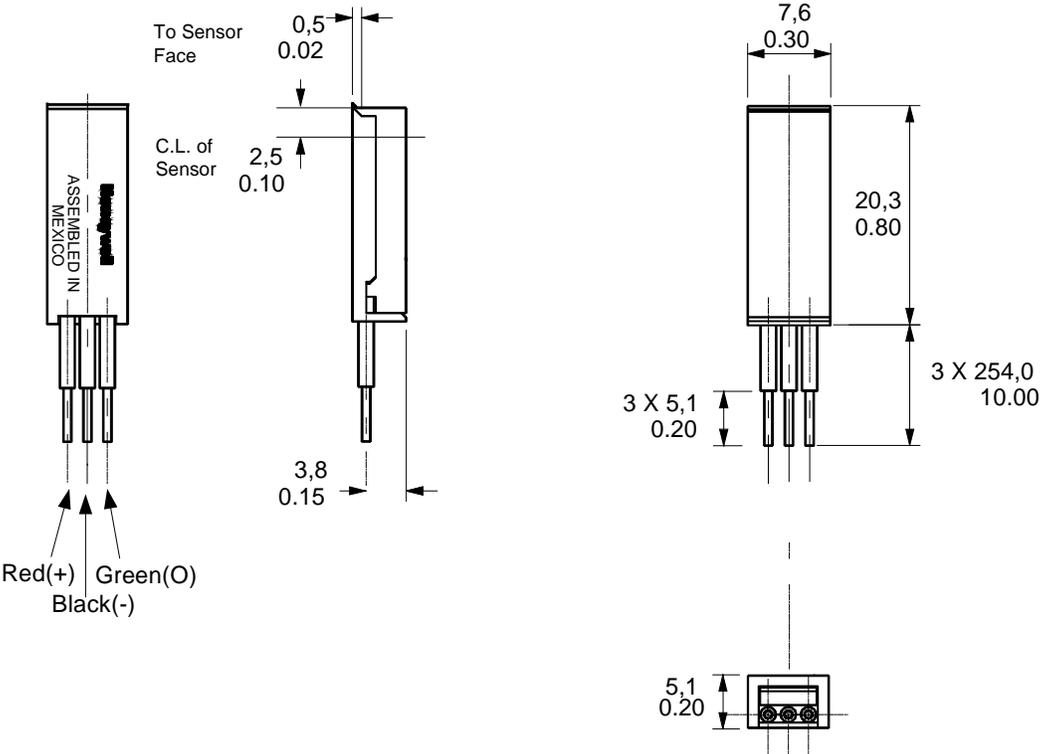
## Position Sensors

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**MOUNTING DIMENSIONS (for reference only) mm/in**  
**SNAP-IN DIGITAL POSITION SENSOR (SR13C-A1, SR13D-A21, SR13F-A1, SR13R-A1)**



**FLAT MOUNT DIGITAL POSITION SENSOR (SR15C-A3)**

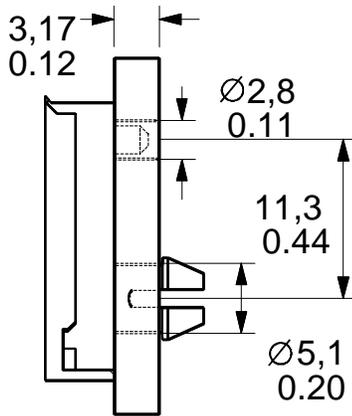


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### SUGGESTED MOUNTING DETAIL



### WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:  
1-800-537-6945 USA  
1-800-737-3360 Canada  
1-815-235-6847 International  
**FAX**  
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