

# Proximity Sensors

## SG Magnet Actuated Sensors

### Surface Mounted Style



Surface mounted magnet actuated sensors for industrial applications.

- Sensing is independent of magnet polarity
- Typical applications: security systems (gate interlocks), high speed rotational counting, identification of metal bins with magnet coded "labels", sensing through non magnetic walls, etc.

#### Features:

- Housing; aluminum, plastic (PBT) for SG08168 and SG28195
- Completely epoxy encapsulated
- Very fast response time (reed output only)
- PLC compatible AC models (triac output)
- High transients protection (AC models)
- No bouncing.

#### Magnet actuated proximity sensors

Circuit Type	AC ratings			DC ratings			Leakage (mA)	Dim. Fig. No.	Wiring Fig.	Catalog Number
	VA (max.)	Volts †	Current (max.)	VA (max.)	Volts (max.)	Current (max.)				
<b>Reed output - DC only</b>										
N.O.	-	-	-	10	200	0.5 A	0	1	A	SGA8016
N.O.	-	-	-	10	200	0.5 A	0	2	A	SGA8031
<b>Reed output - DC only - built-in resistor protection</b>										
N.O.	-	-	-	10	200	0.5 A	0	1	A	SGA8182
<b>Reed output - DC only - High temperature -40° F to 300° F</b>										
N.O.	-	-	-	10	200	0.5 A	0	1	A	SGA8053
<b>Reed output - AC and DC - built-in RC protection</b>										
N.C.	3	130	0.25 A	3	100	0.25 A	6 (R) ①	2	B	SGB8175
N.O.	10	130	0.5 A	10	200	0.5 A	6 (R) ①	2	A	SGA8176
N.O.	10	130	0.5 A	10	200	0.5 A	6 (R) ①	1	A	SGA8177
<b>Triac output - AC only (inductive PLC)</b>										
N.O.	240	120	2.0 A	-	-	-	1.7 (P) ①	3	A	SG08168 ★
N.O./N.C.	50	240	0.5 A	-	-	-	1.7 (P) ①	3	C	SG28195 ★
N.O.	50	130	0.5 A	-	-	-	1.7 (P) ①	1	A	SG08239

- ① PLC applications:  
P = PLC compatible.  
R = Bleeder resistor required.  
† For reed output: max. voltage. For triac output: nominal voltage.  
★ UL Recognized

#### Magnet actuators

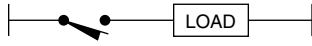
		Sensing distance		Catalog Number
		All ③	SG2 8195	
Tubular		1.3" (33mm)	1" (25.4mm)	7046
Flat bracket, center	South pole	0.7" (17.7mm)	0.4" (10mm)	7093
Flat bracket, side	South pole	0.5" (12.7mm)	0.2" (5mm)	7063
90° bracket	South pole	0.5" (12.7mm)	0.2" (5mm)	7062
Block type		0.5" (12.7mm)	0.2" (5mm)	7099
Flexible tape 1' long		0.3" (7.6mm)	0.2" (5mm)	7096

③ All block sensors except SG28195.

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**Wiring**

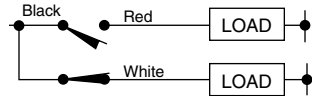
**Figure A (N/O)**



**Figure B (N/C)**



**Figure C (N/O or N/C)**



**Specifications**

Mechanical		
Standard temperature range	-40° F to +140° F (-40° C to +60° C) (to 300° F for SGA 8053)	
Enclosure ratings (NEMA) Type	1, 4, 13	
Vibration resistance	20 G (10 to 2000 Hz)	
Shock resistance	50 G for 11 mS	
Differential	Max. 75%	
Repeatability	0.003"	
Electrical		DC
Voltage drop (across switch)	2 V	0 V (IR for SGA8182) ①
Minimum load current	15 mA	-
On delay (ms)	1 ms	0.75 ms
Off delay (ms)	8 ms	0.75 ms
Cable 3'	#22 AWG vinyl except SGO8168: #16 AWG SJTO, 2 individual Teflon #22 AWG for SGA8053	
Agency Listings	E 42259 CCN NKCR2 (SGO8168 and SG28195 only)	

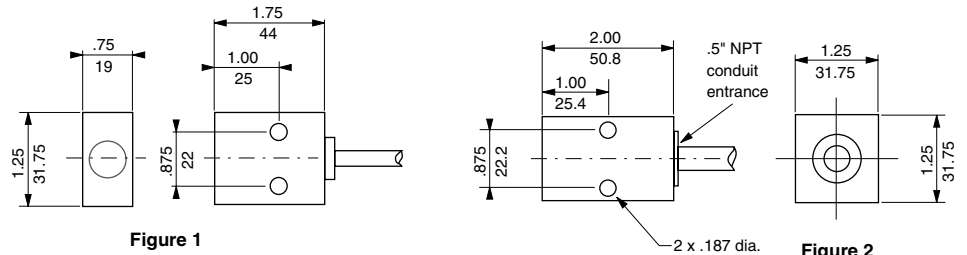
① Voltage drop = IR where I= load current, R = 150 Ω

**Options**

	Cable Type	Suffix
2 meters (6') of individual wires	Teflon (SGA8053)	L02
5 meters (16') of individual wires	Teflon (SGA8053)	L05
5 meters (16') of cable	Vinyl	L05
	SJTO (SGO8168)	L05
10 meters (33') of cable, (for triac and models with built in resistor)	Vinyl	L10
	SJTO (SGO8168)	L10

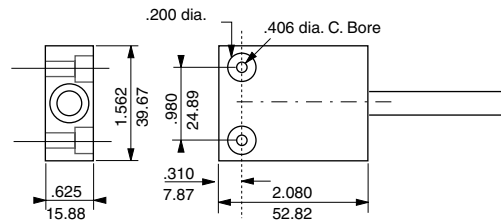
Ex: SGO8168L05

**Dimensions**



**Figure 1**  
SGA8016  
SGA8177  
SGA8182  
SGA8053  
SGO8239

**Figure 2**  
SGA8031  
SGA8175  
SGA8176



**Figure 3**  
SGO8168  
SG28195

Dual Dimensions  $\frac{\text{inches}}{\text{mm}}$

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# Proximity Sensors

## SG Magnet Actuated Sensors

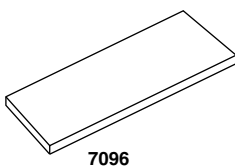
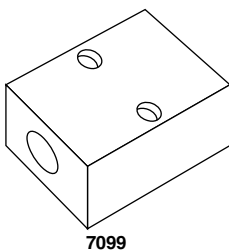
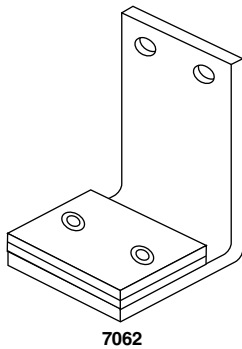
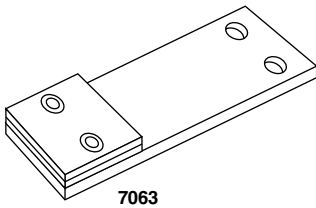
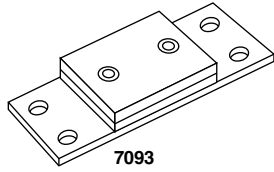
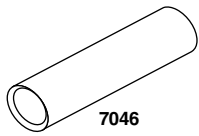
### Magnet Actuators

#### Features:

- Industrial grade magnet recommended for magnet actuated proximity sensors.
- Alnico is used as magnet material for all rigid models.
- Kevlar is used for the flexible magnetic tape.
- The rigid models are already mounted on several types of standard brackets for convenience (except the tubular “high power” version).
- Both South and North Poles are accessible and marked. **The South Pole version is the standard.** North Pole versions may be required in conjunction with the maintained magnetic switch (see page 308).
- For comparison an average magnetic strength rating is listed below. Measurements were made with a Gaussmeter at 0.13" from the sensing surface.

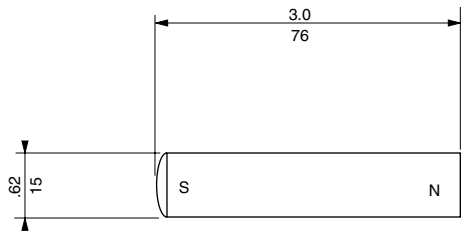
Description		Magnetic Strength	Catalog Number
Tubular		700 Gauss	7046
Flat bracket, center	South pole	330 Gauss	7093
	North pole	330 Gauss	7547
Flat bracket, side	South pole	240 Gauss	7063
	North pole	240 Gauss	70631
90° bracket	South pole	260 Gauss	7062
	North pole	260 Gauss	70621
Block type		340 Gauss	7099
Flexible tape	1' long	180 Gauss	7096*

\* For longer tape specify total length in feet. Example: 70966 = 6 feet.

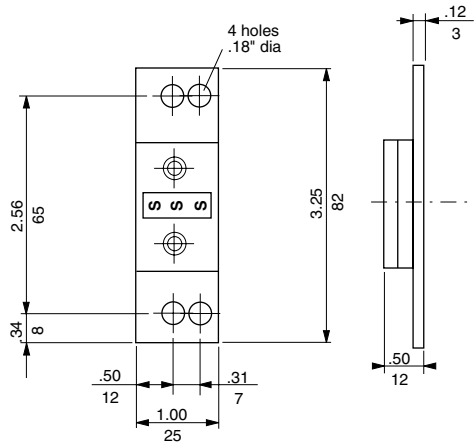


**Magnet actuator dimensions**

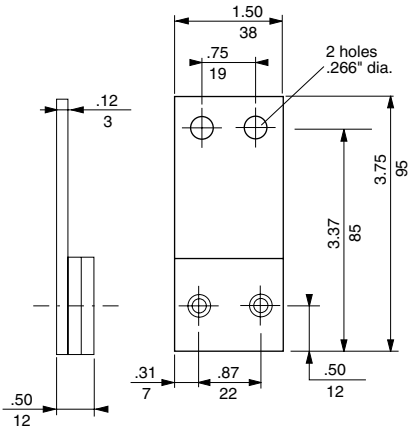
**Tubular magnet actuator 7046**



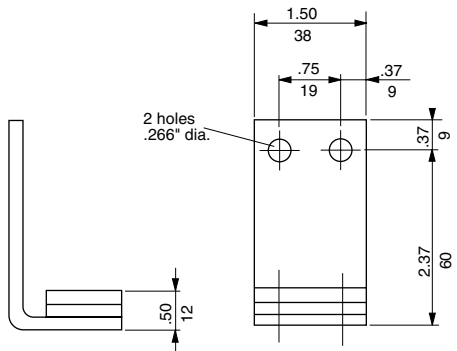
**Magnet actuator 7093 (south pole)  
Magnet actuator 7597 (north pole)**



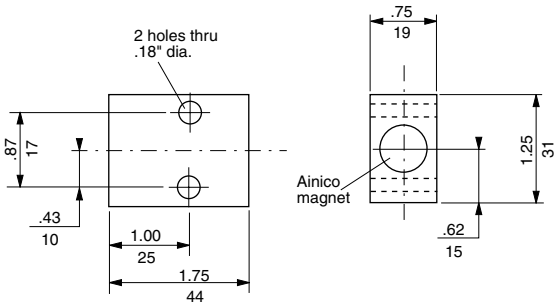
**Magnetic actuator 7063 (south pole)  
Magnet actuator 70631 (north pole)**



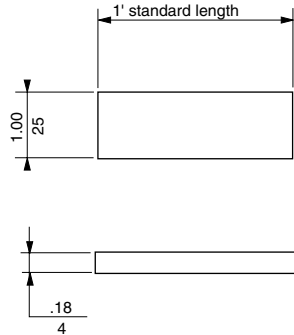
**Magnet actuator 7062 (south pole)  
Magnet actuator 70621 (north pole)**



**Block type magnet actuator 7099**



**Flexible magnetic tape 7096 1 foot**



Dual Dimensions  $\frac{\text{inches}}{\text{mm}}$

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