

GO™ - SV7 Nuclear Qualified Dry Contact Proximity Switch

For Harsh Duty AECL / Harsh Duty IEEE Non-LOCA / AP1000 5&10 / MSIV Non-LOCA

Exceeds Gen 3 Qualifications Non-LOCA



Summary

The TopWorx SV7 Nuclear Certified GO Proximity Sensor is made for Global Containment Non-LOCA, AECL Harsh and MSIV HELB/MSLB. The SV7 is environmentally and seismically robust; The perfect selection for the following profiles:

Qualifications

Harsh Duty AECL / Harsh Duty IEEE Non-LOCA

- AECL 98-30830-TS 008 Quinshan CANDU Project, Rev.1 Seismic Qualification of Valves
- AECL 98-60000-TS 005 Quinshan CANDU Project, Rev.0 Seismic Qualification of instruments and control equipment
- AECL 98-60000-TS-006 Quinshan CANDU project, Rev.1 Environmental Qualification of Instruments and control equipment
- Standards and reference practices IEEE 382-1996, IEEE 572-1985, IEEE 323-2003, IEEE 344-2004, IEEE 383-2003, and conforms to all previous revisions of these standards.
- APP-GW-VP-010, Equipment Qualification Methodology and Documentation Requirements for AP1000 Safety-Related Valves and Valve Appurtenances, 2010.

Technical Data

- Leverless Limit Switch™ with only one, inside moving part; No springs or complex mechanisms
- Single Pole Double Throw contacts (SPDT Form C)
- Cycle speed over 200 per minute
- Repeatable to 0.002 inch
- 100 Years Qualified Life
- PEEK insulated leads
- Environmental:
 - 350°F (177°C); 500°F (260°C) Peak
 - 250 Megarad gamma
 - 50 Megarad normal life
 - 200 Megarad accident
 - 75 psig cycle test
- Seismic:
 - Sine Beat 10G input
 - Broad Band Random 45G Peak
 - Response @ 5% damping
- 303 Stainless Steel Housing
- Weights:
 - Switch – 115 grams
 - Target Magnet – C-AMS7A 70 grams
 - C-AMS12 130 grams
- Lock Washers and Nuts provided 18-8 Stainless Steel

Operating Principle

Switch has only one internal moving part utilizing permanent magnets to maintain the normally closed contact. Target magnet attracts switch's primary magnet, closing the normally open contact with a "snap action".

Contacts

AC	Volts	120	240	DC	Volts	24	48	120	250
	Amps	5.0	2.0		Amps	4.0	1.0	0.5	0.5

*Please consult factory for voltages / amperages not listed.

Brackets

Custom-fit, stainless steel brackets available for most valves. Consult Factory.

Maintenance

None required during qualified life; Sealed switch/no user serviceable parts.

Mounting

Mounting assemblies must be stainless steel. **TopWorx VIP brackets** are recommended and preferred for accurate, reliable mounting of Nuclear Qualified GO Switch position sensors. Over 2,000 pre-engineered bracket packages currently available. Consult factory for more details.

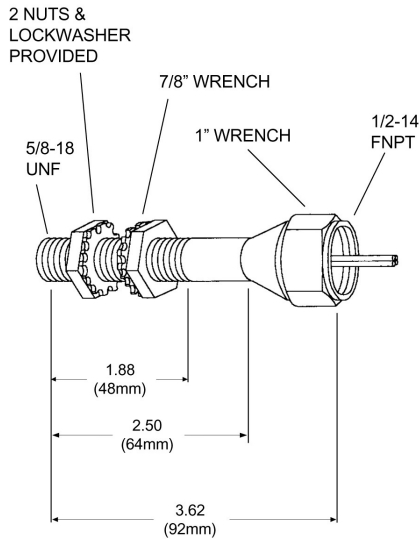


NOTE: This information on testing and function is considered proprietary. TopWorx reserves the right to make changes to this document at our discretion.

GO-SV7 Nuclear Qualified Leverless Limit Switch



SV7 Switch



Sensing:

Sensing occurs when Target Magnet and switch are on axis as shown below.

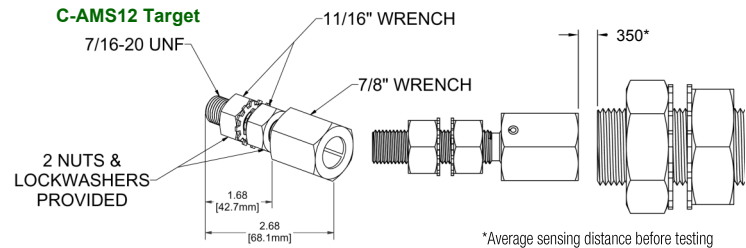
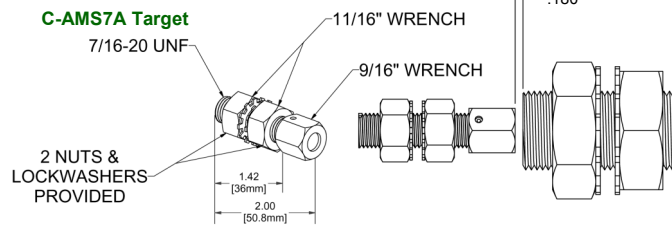
Operating Distance With C-AMS7A Target

Average Sensing	0.180" ± 0.020"
Average Reset	0.023" ± 0.010"
Repeatable to	0.002"

Operating Distance With C-AMS12 Target

Average Sensing	0.350" ± 0.025"
Average Reset	0.031" ± 0.015"
Repeatable to	0.002"

Target Magnets



Seismic Qualification

IEEE 344 2004

45G's @ 5% Damping
12G ZPA

IEEE 382 1996

2Hz-64Hz-2Hz Low Fatigue Cycle
2Hz-64Hz Sine Beat RIM dwell
10G RIM

Environmental Qualification

IEEE 323 2003

100 Years Qualified Life
250 Megarad gamma
50 Megarad normal life
200 Megarad accident
75 psig Cycle Test

Temperature:

350°F (177°C); 500°F (260°C) Peak

Qualification Test Report:

Contact TopWorx

Certificate of Compliance:

Available for each part number

BOP Outside Containment Applications:

Contact TopWorx



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