



# 1550 Top Mounted Level Detector

## General Instructions

The SOR® 1550 Electric Level Detector mounts into the top of a vessel.

Electric detecting action is provided by the float moving a magnet into the field of a hermetically sealed reed detector.

**NOTE: If you suspect that a product is defective, contact the factory or the SOR Representative in your area for a return authorization number (RMA). This product should only be installed by trained and competent personnel.**

### Before Installing the Level Detector

- Inspect the unit for any shipment damage.
- Check for mechanical clearance of the float. Float must move freely without binding throughout its stroke.
- Use an acceptable thread compound when installing unit to ensure a leak-free fit and avoid thread galling.



## Electrical Connection

Electrical connection is free wire leads with a 1/2" NPT(F) conduit connection. Use two wrenches - one to hold hex conduit connection, the other to tighten conduit fitting. Detecting element is a hermetically sealed reed detector.

Wiring schematics shown on page 2.

Ensure that all wiring conforms to all applicable local and national electrical codes and install unit(s) according to relevant national and local safety codes.



**Do not exceed catalog stated electrical ratings. Improper current input to detector will cause permanent damage to contacts.**

## Table of Contents

|                                      |   |
|--------------------------------------|---|
| Electrical Connections .....         | 1 |
| SIL Installation .....               | 2 |
| Wiring .....                         | 2 |
| Float Attachment .....               | 3 |
| Special Conditions.....              | 3 |
| Dimensions .....                     | 4 |
| ATEX and IECEx Marking Details ..... | 4 |
| Declaration of Conformity .....      | 6 |
| Troubleshooting .....                | 7 |
| Replacement Parts .....              | 7 |

*Design and specifications are subject to change without notice.*

*For latest revision, go to [www.sorinc.net](http://www.sorinc.net)*

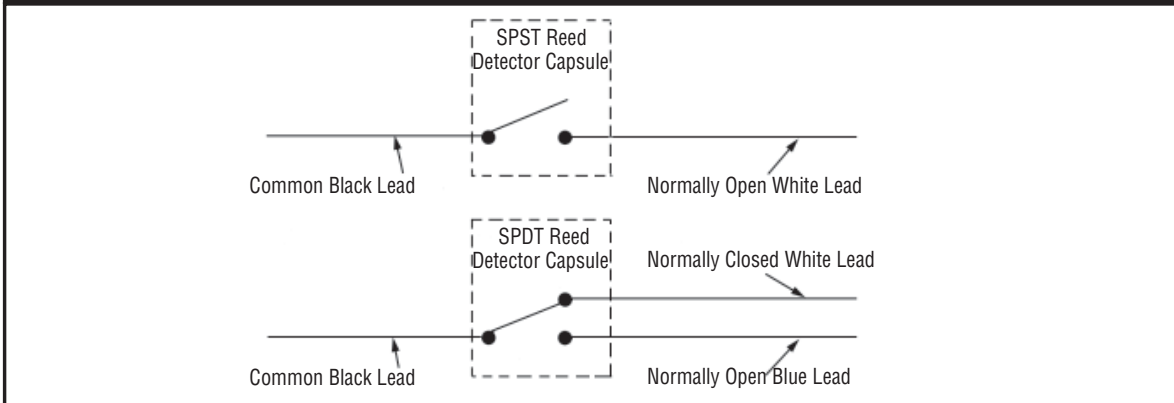
## Safety Integrity Level (SIL) Installation Requirements

The SOR pressure detectors have been evaluated as Type-A safety related hardware. To meet the necessary installation requirements for the SIL system, the following information must be utilized:

- Proof Test Interval shall be one year.
- Units may only be installed for use in Low Demand Mode.
- Products have a HFT (Hardware Fault Tolerance) of 0, and were evaluated in a 1oo1 (one out of one) configuration.

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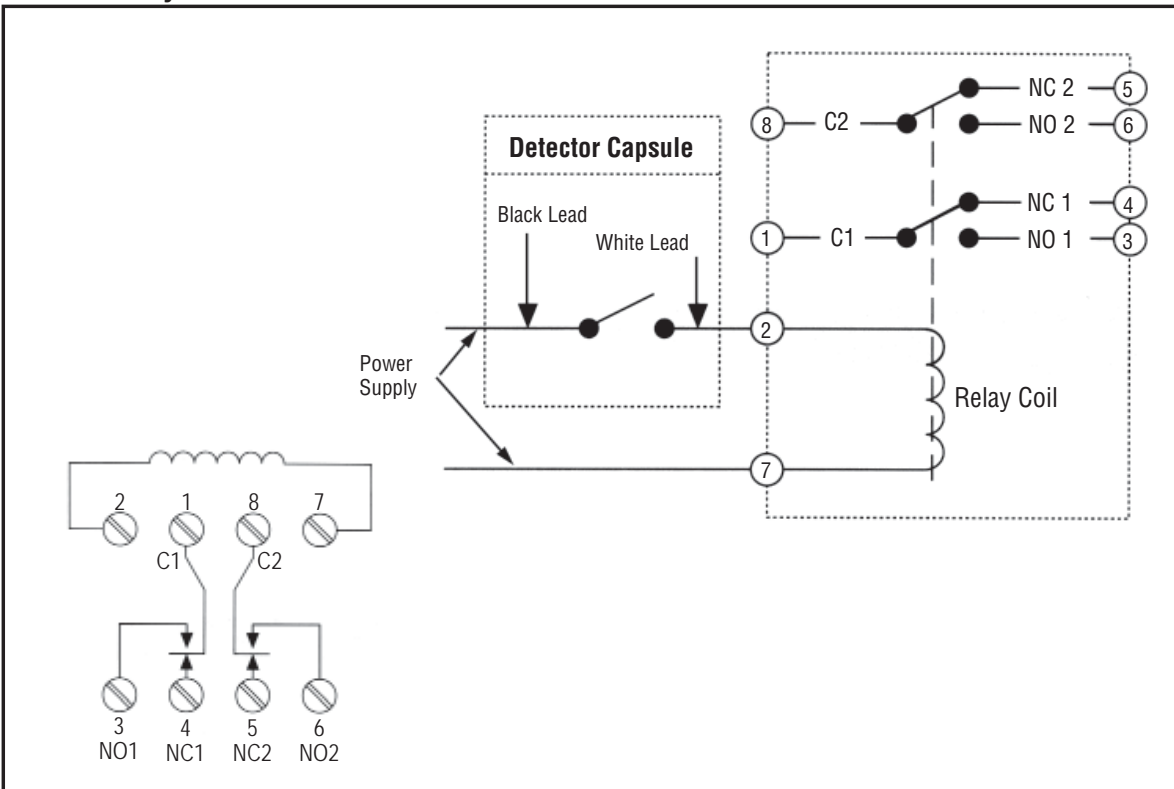
## Wiring for SPST and SPDT Detector Operation



## Wiring for DPDT Relay

For Type 1550 Level Detectors equipped with DPDT relays, a wiring schematic and pin position schematic is shown below. When the 1550 is actuated, the coil will energize and “make” both NO1 and NO2 while it will “break” NC1 and NC2. This provides a DPDT circuit.

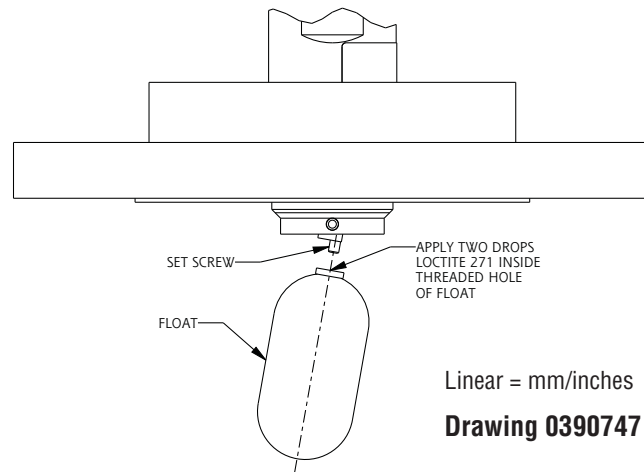
## DPDT Relay Schematic



## Float Attachment (Series 1500 with Flange)

- 1 Place two drops of Loctite 271 inside the threaded hole of the float.
- 2 Thread the float onto the set screw and hand-tighten.

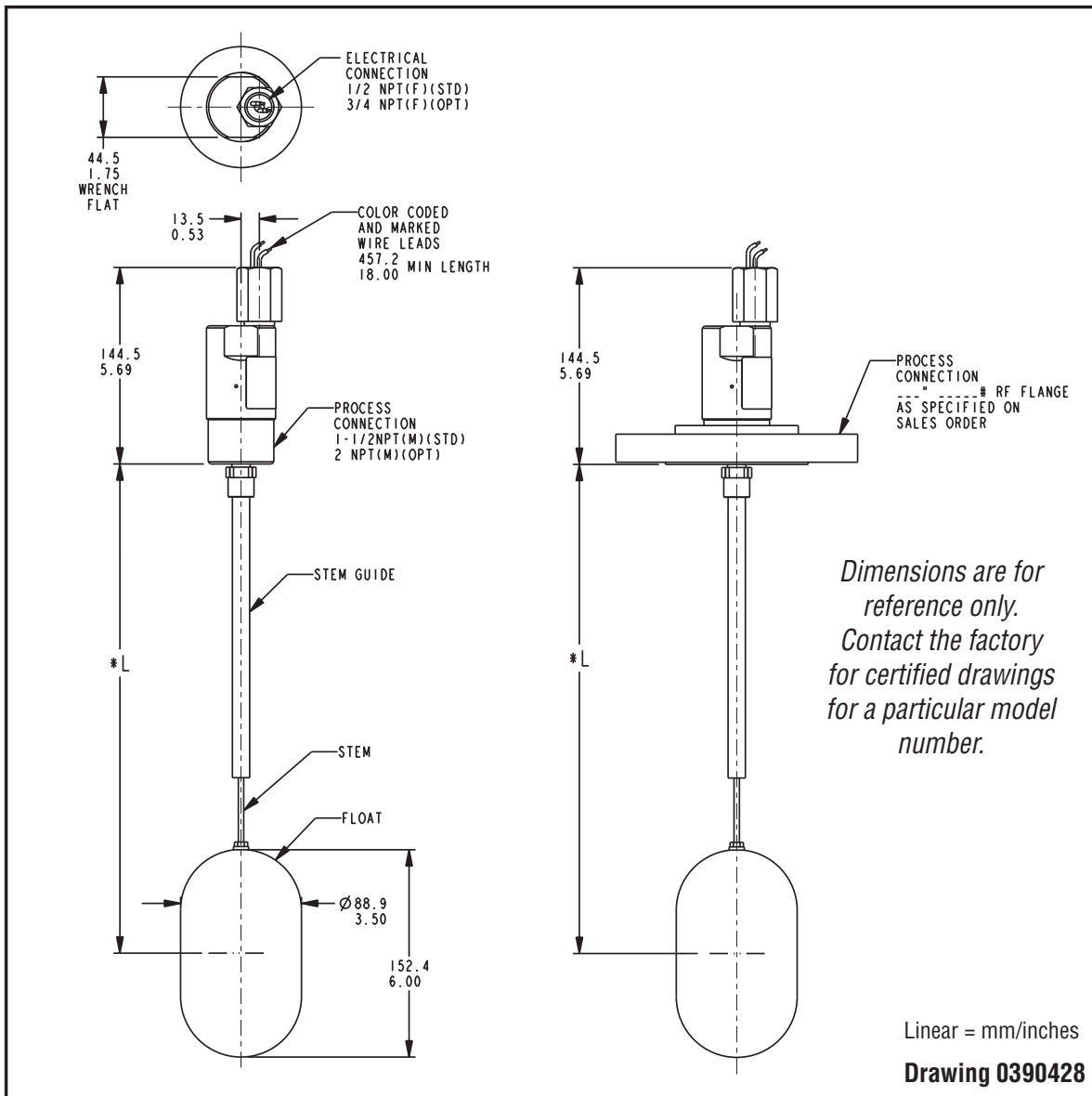
**NOTE:** Do not remove the set screw as it secures the pivot arm to the shaft.



## Special Conditions of Safe Use

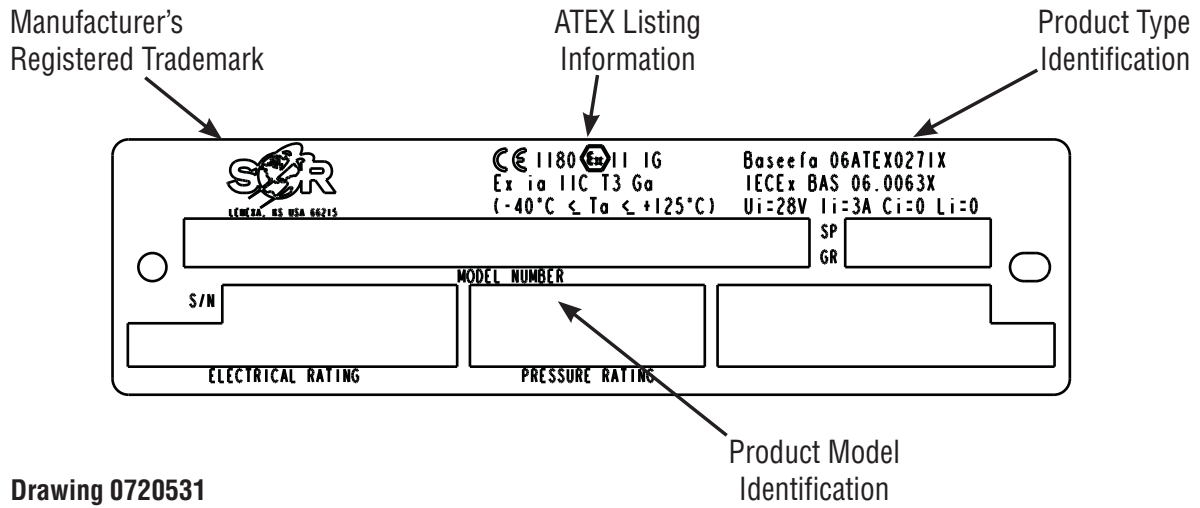
The permanently attached leads must be suitably protected against mechanical damage and terminated in a suitable junction or terminal facility with a minimum degree of protection of at least IP20.0

# Dimensions



# ATEX and IECEx Marking Details

## For ATEX and IECEx Certified Models



Drawing 0720531


Standards Assessed To: ATEX Certification: EN 60079-0: 2009 & EN 60079-11:2007  
IECEx Certification: IEC 60079-0:2004 & IEC 60079-11: 1999

# Declaration of Conformity

For ATEX Certified Models

## EC Declaration of Conformity



|  |  |
|--|--|
| <b>Product</b>   | <b>Type 1500 Electric Detectors</b>  |
| <b>Manufacturer</b>  | SOR Inc.<br>14685 West 105 <sup>th</sup> Street<br>Lenexa, Kansas 66215-2003<br>United States of America   |
| <b>Date of Issue</b>   | <b>November 12, 2012</b>   |
| <b>We declare that the above products conform to the following specifications and directives</b> | ATEX Directive (94/9/EC) Equipment Intended for use in Potentially Explosive Atmospheres<br>EN 60079-0: 2009 & EN 60079-11: 2007<br>IEC 60079-0: 2004 & IEC 60079-11: 1999                           |
| <b>Carries the marking</b>   |  <b>II 1 G Ex ia IIC T3</b><br>(-40°C ≤ Ta ≤ +125°C) or (-25°C ≤ Ta ≤ +125°C)<br>Ex ia IIC T3 (-40°C ≤ Ta ≤ +125°C) |
| <b>Reference document</b>  | <b>EC-Type Examination Certificate</b><br><b>Baseefa06ATEX0271X</b><br><b>IECEX BAS06.0063X</b><br>Issued January 12, 2007   |
| <b>ATEX Notified Body</b>  | <b>Baseefa Ltd.</b> (Notified Body No. 1180)<br>Rockhead Business Park, Staden Lane,<br>Buxton, Derbyshire SK17 9RZ<br>United Kingdom<br><br>Baseefa Customer Reference No. 1021                     |
| <b>Persons responsible</b>   | John J. Fortino (VP of Engineering)  |

  
John J. Fortino

Engineered to Order with Off-the-Shelf Speed



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## Troubleshooting

| Symptom   | Probable Cause   |
|---|--|
| Float in actuated position but no output signal.                    | a. No power supply.<br>b. Detector damaged. (Replace.)   |
| Float in de-actuated position but still receiving an output signal. | a. Detector damaged. (Replace.)  |
| Liquid in vessel at the actuation level but unit does not respond.  | a. Leaky or collapsed float. (Replace.)<br>b. Liquid specific gravity too low.<br>c. Float stem bound up or dirty. (Clean.)<br>d. Float travel is obstructed. Verify float can move freely and is not obstructed when installed. |

## Replacement Parts

| Part Number | Description   |
|-------------|---|
| 3130-091    | W9 - SPST Hermetically Sealed Detector Capsule      |
| 3130-245    | W1 - SPDT Hermetically Sealed Detector Capsule      |
| 3130-107    | L9 - SPST Hermetically Sealed Detector Capsule      |
| 3130-244    | L1 - SPDT Hermetically Sealed Detector Capsule      |
| 3101-122    | 316SS Float. (Consult factory for other materials.) |
| 3130-396    | Actuator Arm Replacement Kit                        |



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**8/8** Registered Quality System to ISO 9001

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