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

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

**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 Switch**
- 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. Switching element is a hermetically sealed reed switch.

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.

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

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Design and specifications are subject to change without notice.

For latest revision, go to www.SORInc.com
Safety Integrity Level (SIL) Installation Requirements

The SOR pressure switches 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.

Wiring for SPST and SPDT Switch Operation

For Type 1550 Level Switches 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.

Wiring for DPDT Relay

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.*

*NOTE: Do not remove the stem guide as it may cause damage to the unit.*

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**Special Conditions for Safe Use**

This apparatus may have a combined nameplate which carries multiple approvals (intrinsically safe and flameproof). The equipment should be marked as to which protection method it is installed as and shall not be changed or utilized in any other means than was originally marked by the end user.

When marked and installed as Ex i equipment, the permanently attached leads must be suitably protected against mechanical damage and terminated in a suitable junction box or terminal facility having a degree of protection at least IP20.

When marked and installed as Ex d equipment, the permanently attached leads must be suitably protected against mechanical damage and terminated in a suitable junction box or terminal facility.
Dimensions

With CK Accessory – ATEX and IECEx dual approved:

Dimensions are for reference only. Contact the factory for certified drawings for a particular model number.
ATEX and IECEx Marking Details

For ATEX and IECEx Certified Models

Standards Assessed To

                    EN 60079-0: 2012, EN 60079-1: 2007,

IECEx Certification: IEC 60079-0: 2011, IEC 60079-1: 2007-04,
                    IEC 60079-0: 2004 & IEC 60079-11: 1999
Declaration of Conformity
For ATEX Certified Models

EC Declaration of Conformity

Product: Type 1500 Electric Switches
Manufacturer: SOR Inc., 14685 West 105th Street, Lenexa, Kansas 66215-2003
United States of America

Date of Issue: April 20, 2016

We declare that the above products conform to the following specifications and directives:

- EN 60079-0: 2012 & EN 60079-11: 2012
- EN 60079-0: 2012, EN 60079-1: 2007,
- IEC 60079-0: 2011, IEC 60079-11: 2007,

Carries the Marking:

- ATEX Marking
  - II 1 G Ex ia IIC Ga
  - T3 (-40°C ≤ Ta ≤ +125°C) or
  - T3 (-25°C ≤ Ta ≤ +125°C)

- IECEx Marking
  - Ex ia IIC Ga
  - T3 (-40°C ≤ Ta ≤ +125°C) or
  - T3 (-25°C ≤ Ta ≤ +125°C)

- Ex d IIC Ga/Gb
  - T4 (-40°C ≤ Ta ≤ +90°C) or
  - T5 (-40°C ≤ Ta ≤ +75°C)

Reference Documents:

- EC-Type Examination Certificate
  - Baseefa06ATEX0271X, IECEx BAS06.0063X
  - Issued January 12, 2007

- Baseefa13ATEX0056X, IECEx BAS13.0035X
  - Issued July 26, 2013

ATEX Notified Body: SGS Baseefa Ltd. (Notified Body No. 1180)
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ, United Kingdom
Baseefa Customer Reference No. 1021

Person Responsible: Michael J. Bequette (VP of Engineering)

Engineered to Order with Off-the-Shelf Speed

SOR
14685 West 105th Street, Lenexa, KS 66215-2003
913-888-2630 • 800-676-0794 USA • 913-888-0767 FAX

Form 1385 (04.16) SOR Inc.
## Troubleshooting

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

## Replacement Parts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3130-091</td>
<td>W9 - SPST Hermetically Sealed Switch Capsule</td>
</tr>
<tr>
<td>3130-245</td>
<td>W1 - SPDT Hermetically Sealed Switch Capsule</td>
</tr>
<tr>
<td>3130-259</td>
<td>W1 - SPDT Switch/Conduit Connection Assembly (CK Option Only)</td>
</tr>
<tr>
<td>3130-107</td>
<td>L9 - SPST Hermetically Sealed Switch Capsule</td>
</tr>
<tr>
<td>3130-244</td>
<td>L1 - SPDT Hermetically Sealed Switch Capsule</td>
</tr>
<tr>
<td>3130-260</td>
<td>L1 - SPDT Switch/Conduit Connection Assembly (CK Option Only)</td>
</tr>
<tr>
<td>3101-122</td>
<td>316SS Float. (Consult factory for other materials.)</td>
</tr>
<tr>
<td>3130-396</td>
<td>Actuator Arm Replacement Kit</td>
</tr>
</tbody>
</table>