

OPERATING PRINCIPLE

Series 15 Side Mount Level Switches

HOW IT WORKS

Series 15 side-mount level switches provide reliable, cost-effective liquid-level sensing for OEM applications across industrial, chemical, and environmental systems. The design combines a hermetically sealed-in-glass reed switch with a hinged magnetic float — delivering crisp ON/OFF switching without wear-prone mechanical contact.

Operating Principle

The 15-650 consists of two injection-molded sections: a **housing** containing a sealed glass magnetic reed switch, and a **float section** containing a permanent magnet, hinged together by an integral clevis mechanism.

As liquid level rises or falls, the float pivots on its clevis. When the float's magnet approaches the reed switch, the magnetic field actuates the contacts — no physical contact, no wear surfaces, no mechanical linkages. When the float pivots away, the field collapses and the contacts reset. The result: a distinct "click" on, "click" off behavior that delivers millions of reliable cycles.

Reversible Action

The switch's actuation logic — **open on rise** or **close on rise** — is determined by how the unit is oriented when installed. The centerline-symmetrical design allows OEM designers to configure either Normally Open or Normally Closed behavior without modifying internal circuitry. This flexibility simplifies inventory and reduces part number proliferation for multi-mode applications.



15-650-AC exploded view showing reed switch, magnet, and clevis

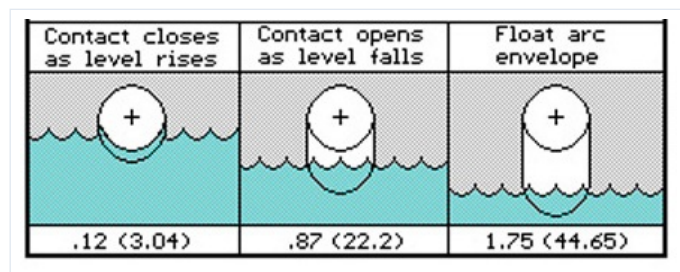
Contact Condition vs. Float Position

Wet	Dry	Arrow	Above CL	Below CL
Open	Closed	Up	X	-
Closed	Open	Down	-	X

CL = switch centerline. Arrow on switch body points UP when float is above centerline, DOWN when below. This orientation marker simplifies field service and assembly verification.

POINT OF OPERATION & MATERIALS

Point of Operation — SG 1.0



Contact closes / opens / float arc envelope

Trip Point (Dry State Behavior)

Normally Closed: Opens when gap reaches **0.015"/0.381 mm** or greater (float heel to hard point). Recloses at the same gap (clevis floor to hard point). Characteristic differential between open and closed states: 0.50"/12.7 mm arc excursion.

Normally Open: Closes when gap reaches **0.015"/0.381 mm** or greater (clevis floor to hard point). Reopens at the same gap (float heel to hard point). Same 0.50" differential.

Electrical Rating

ELECTRICAL RATING	
KOFU A STANDEX ELECTRONICS JAPAN BRAND	
Contact life	ORD229 Data Sheet: https://standelectronic.com/technical-library/technical-papers/datasheet-reed-switch-ord229
Contact rating	70 VA*, 50W* *Resistive Standex Electronics Japan Corporation 1088-7,Otsu-machi,Kofu-shi Yamanashi, 400-0055, Japan
UL file E70063	
Max Switching Voltage	300AC, 350DC
Max Switching Current	AC 0.5AMP*, DC 0.7AMP*

* UL component recognition applies to the OKI switch Model ORD229. Observe applicable electrical codes when using this product.

Standex/OKI ORD229 — UL File E70063

Material Compatibility

Available in three injection-molded materials, each selected for a distinct family of process chemistries:

PP — Polypropylene (Gray): Water, aqueous solutions, soaps, and mild alkalis. The general-purpose choice for clean liquids near ambient conditions.

AC — Acetal (Red): Hydrocarbons, petroleum fuels, diesel, hydraulic oils, and engine coolants. Best for mobile equipment and fuel systems.

KR — PVDF Kynar (Natural): Acids, caustics, chlorinated compounds, and high-purity process chemistry. The semiconductor and electroplating workhorse.

OEM APPLICATIONS BY MATERIAL

The following examples represent typical deployments of Series 15 side-mount switches across the three primary material families. Side-mount geometry is ideal where top access is blocked, where space above the tank is occupied by process equipment, or where bulkhead integration simplifies assembly.

Polypropylene (PP) — Gray

- Bulk water storage tank level control
- HVAC expansion tank monitoring
- Soap and detergent dispensing systems
- Cooling tower basin level sensing
- Low-acid food processing tanks
- Deionized water storage monitoring
- Commercial laundry and dishwashing systems

Acetal (AC) — Red

- Diesel generator fuel tank level indication
- Hydraulic oil reservoir level control
- Gasoline dispensing equipment
- Engine coolant expansion tanks
- Mobile equipment lubrication reservoirs
- Compressor lubricant monitoring
- Turbine oil systems

PVDF Kynar (KR) — Natural

- Electroplating chemical baths
- Semiconductor wet bench process tanks
- Sulfuric and nitric acid dosing systems
- Chlorine bleach storage vessels
- High-purity chemical day tanks
- Caustic soda neutralization tanks
- Pharmaceutical process monitoring
- Hydrofluoric acid etch baths
- Sodium hypochlorite dosing tanks
- Photoresist developer tanks
- Ultra-pure water polishing loops

Selection Note

When in doubt, request a sample. Compac provides free evaluation samples for OEM qualification.

Chemical compatibility verification is available — contact sales@compac.com with your process chemistry and operating conditions.