

RS85

Vibrating fork level switch K-TEK products

Measurement made easy



Features

- Direct replacement for ultrasonic Gap switches, RF capacitance switches, float switches and other technologies
- Immune to coating or build-up on sensor
- Robust sensing element
- 3/4" and 1" (NPT, BSPT) process connections
- Choice of international flanges and range of tri-clamp fittings and probe finishes
- Single or dual compartment housing with viewing cover
- Field selectable parameters with external magnet or internal pushbuttons (fail safe, density, time delay)
 - Temperatures between -40°F to 350°F (-40°C to 177°C) with HT6 high temp ext.
 - Pressures to 2000 psig (138 bar)
 - Viscosity up to 20000 cP
 - Density from 0.52 to 2.0
- Modular electronics with alarm status LED
- Self-test diagnostics
- Extended probe lengths to 84 in./2133 mm

Options

- Hermetic seal probe and housing
- Special alloy sensors (hastelloy) and halar/PFA coating for chemical resistance
- Remote mount electronics
- Low/high pressure packing glands

SPECIFICATIONS

Mechanical

Housing Type Single Compartment Powder Coated Aluminum (standard)
Optional: Dual Compartment (Powder Coated Aluminum or Stainless Steel)

Electronics Temperature -40°F to 158°F (-40°C to 70°C)

Specific Gravity Variable Setpoint Sensitivity (0.52 to 2.0 SG)

Viscosity Up to 20,000 cP

Remote Mounting Maximum length of 20 ft. from sensing probe to the remote electronics

Process Temperature -40°F to 350°F (-40°C to 177°C) *with HT6 High Temp Ext.*

Process Pressure 0 to 2000psig (138 bar)

Process Connection 3/4" NPT (standard)

Probe Length 3-3/8" (86mm) (standard) to 120" (3048mm)

Approvals

Factory Mutual System XP CL1, Div1&2 ABCD, CLII, III EFG



Canadian Standards Association XP CL1, Div1&2 ABCD, CLII, III EFG



GOST Russia 1ExdIICT6



Electrical

Input Power 120-250 VAC, 50-60Hz
18-36 VDC



Relay Contact Rating 1 x DPDT Resistive: 8 Amp @ 250 VAC;
8 Amp @ 30 VDC
Inductive: 1/2 HP @ 240 VAC,
1/4 HP @ 120 VAC

Repeatability 0.1" (2.6mm)

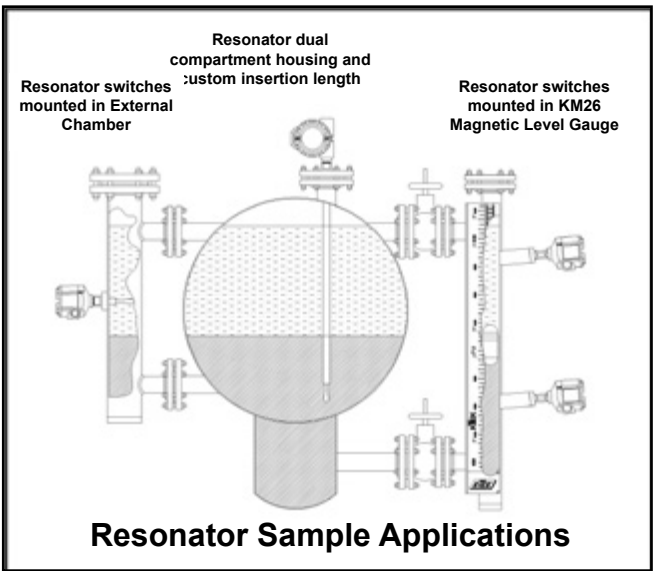
Static Protection Peak Surge Current: 800 Amps; Clamp Voltage: 75 Volts

Selectable Fail-safe High or Low

Adjustable Time Delay 0.5 to 35 seconds

Cable Entry 2 x 3/4" NPT (Single Compartment)
1 x 1/2" NPT (Dual Compartment)

Power Consumption 1 x 3/4" NPT (Dual Compartment with Relay)
1.5 Watts



ORDERING INFORMATION

RS85 / a / b / c / d / e / f / g / PL:

/a Housing

- A1** Single Compartment Aluminum Housing (Standard)
- A1W** Single Compartment Aluminum Housing with Glass Viewing Window
- A2** Dual Compartment Aluminum Housing
- A2W** Dual Compartment Aluminum Housing with Glass Viewing Window
- S2** Dual Compartment 316L Stainless Steel Housing
- S2W** Dual Compartment 316L Stainless Steel Housing with Glass Viewing Window

/b Process Connection

- P7** 3/4" MNPT (Standard)
- P1** 1" MNPT
- B7** 3/4" BSPT
- B1** 1" BSPT
- Tnn** Tri-Clamp; Specify 'nn' as follow: 10 = 1" , 15 = 1.5" , 20 = 2.0" , 25 = 2.5" up to 6"
- WP** Welded Flange^{1,2}
- FL** Loose Flange^{1,2,3}

Notes:
 1. Minimum Flange size is 1".
 2. Specify type and size from flange designation table (SLG-0001-1) located at www.ktekcorp.com under vibrating fork level switches. View "Data Sheet" section and select "Flange Designations."
 3. P7 (¾" MNPT) will be utilized with loose flanges unless otherwise specified.

/c Sensor Material

- S6** 316L SS (Standard)
- HC** Hastelloy C-276
- MO** Monel

/d Probe Finish

- X** Standard Finish
- 1F** 180 grit finish
- 2F** 240 grit finish
- EP** 240 grit and Electro-polished (316 SS Only)
- TN6** Teflon® (registered trademark of DuPont) "S" Coated 316SS^{1,2}
- HL6** Halar Coated 316SS^{1,3}
- TF6** Tefzel Coated 316SS^{1,2}

Notes:
 1. Flange units only
 2. Minimizes build-up on forks [115" (2921mm) maximum insertion length]
 3. For increased corrosion resistance [115" (2921mm) maximum insertion length]

/e Power

- 1** 18-36 VDC
- 2** 100-136 VAC
- 3** 200-245 VAC

/f Options

- X** Not FM or CSA approved, **CE Mark**
- HT6** 6" 316SS High Temperature Extension (>250°F / 121°C up to 350°F / 177°C)
- MM** M20 Conduit Connection Brass (CSA only)
- MMS** M20 Conduit Connection Stainless
- HS** Hermetic Seal between Probe and Housing (Hastelloy, Stainless Only)
- Rxx** Remote Mounted Electronic; Specify length in feet (up to 20 ft.)
- RSG1** Packing Gland for Retractable Probe (50 psig / 3.4 bar max) *Consult factory.*
- RSG2** Packing Gland for Retractable Probe (500 psig / 34.5 bar max) *Consult factory.*

/g Approvals

- X** No approvals
- FMX** Factory Mutual Standards (FM) Explosion Proof
- CSX** Canadian Standards Association (CSA) Explosion Proof
- GR** GOST Russia

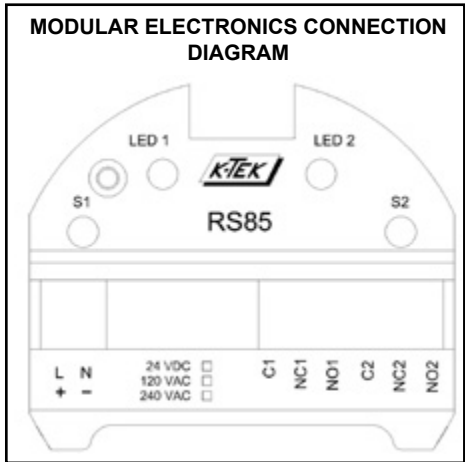


/PL Probe Length

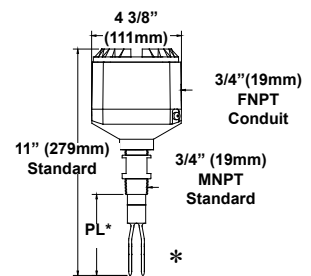
3-3/8" (86 mm) **Standard**, 4-3/8" (111 mm), 5-3/8" (136 mm) optional, specify extended lengths in 1.0" (25.4 mm) increments from 7" to 84" (2133 mm) available.

PRINCIPLE OF OPERATION:

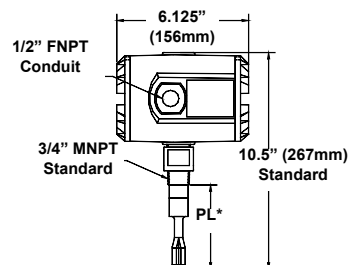
The Resonator utilizes a piezoelectric driven tuning fork that exhibits a large change in resonant frequency when immersed in any liquid. A "smart" microprocessor-based electronic unit keeps the sensor in a resonant state as it changes from dry to wet or wet to dry. The resonant frequency is continuously monitored for changes created by a wet or dry sensor and an alarm is provided via a relay. An important feature of the Resonator is that its resonant frequency is not significantly affected by coating on the fork until the space between the forks is bridged. The Resonator's ability to identify true liquid level in viscous, coating or aerated liquid is unparalleled. The self-test option checks for fault conditions such as crystal damage and excessive product build up on the sensor. Applications include redundant high/low liquid level without concern for parameters such as specific gravity, dielectric constant or mounting position of the sensor.



Standard Single Compartment Dimensions



Optional Dual Compartment Dimensions



*Trip Point 3/4" from probe end type

Contact us

ABB Inc.

18321 Swamp Road
Prairieville, LA 70769 USA
Phone: +1 225 673 6100
Service: +1 225 677 5836
Fax: +1 225 673 2525
E-mail: quotes.ktek@us.abb.com
Service e-mail: ktek-service@us.abb.com

ABB Inc.

585, Boulevard Charest E., Suite 300
Quebec, QC Canada G1K 9H4
Phone: +1 418 877 2944
Service: +1 800 858 3847
Fax: +1 418 877 2834
E-mail: qc_rfq@ca.abb.com
Service e-mail: laserscanner.support@ca.abb.com

ABB Engineering (Shanghai) Ltd.

No. 5, Lane 369, Chuangye Road
Kangqiao Town, Pudong District
Shanghai, 201319, P.R. China
Phone: +86 10 64231407
Service: +86 21 61056421
Fax: +86 10 64371913
E-mail: shan.li@cn.abb.com
Service e-mail: rola.li@cn.abb.com

ABB Limited

Salterbeck Trading Estate
Workington, Cumbria, England CA14 5DS
Phone: +44 7885333752
Service: +44 145 3826661
E-mail: enquiries.mp.uk@gb.abb.com
Service e-mail: abb.service@gb.abb.com

www.abb.com/level

Note:

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

All copyrights and trademarks are the property of their rightful owners.

Copyright© 2013 ABB
All rights reserved



Level Measurement



Service