

VTKR

Level Switch for Liquids

A Level Switch for various industrial applications

Features

- All mechanics and wetted parts are made from 316 stainless steel (Halar coating available)
- Unaffected by variations in conductivity or dielectric constant
- IP66 class protection (IEC 60529)
- Output SPDT Relay
- Customized length options to best suit your application
- Available in Threaded, Sanitary and Flanged connection



Description

Sitron's VTK series of vibrating tuning forks are an ideal solution for many point level detection applications because they are un-affected by either the dielectric or the conductivity of the medium.

When the tuning fork is submerged in the medium the frequency at which it vibrates changes. This change is detected by the unit's electronics and is converted into a switch output, either relay (SPDT).

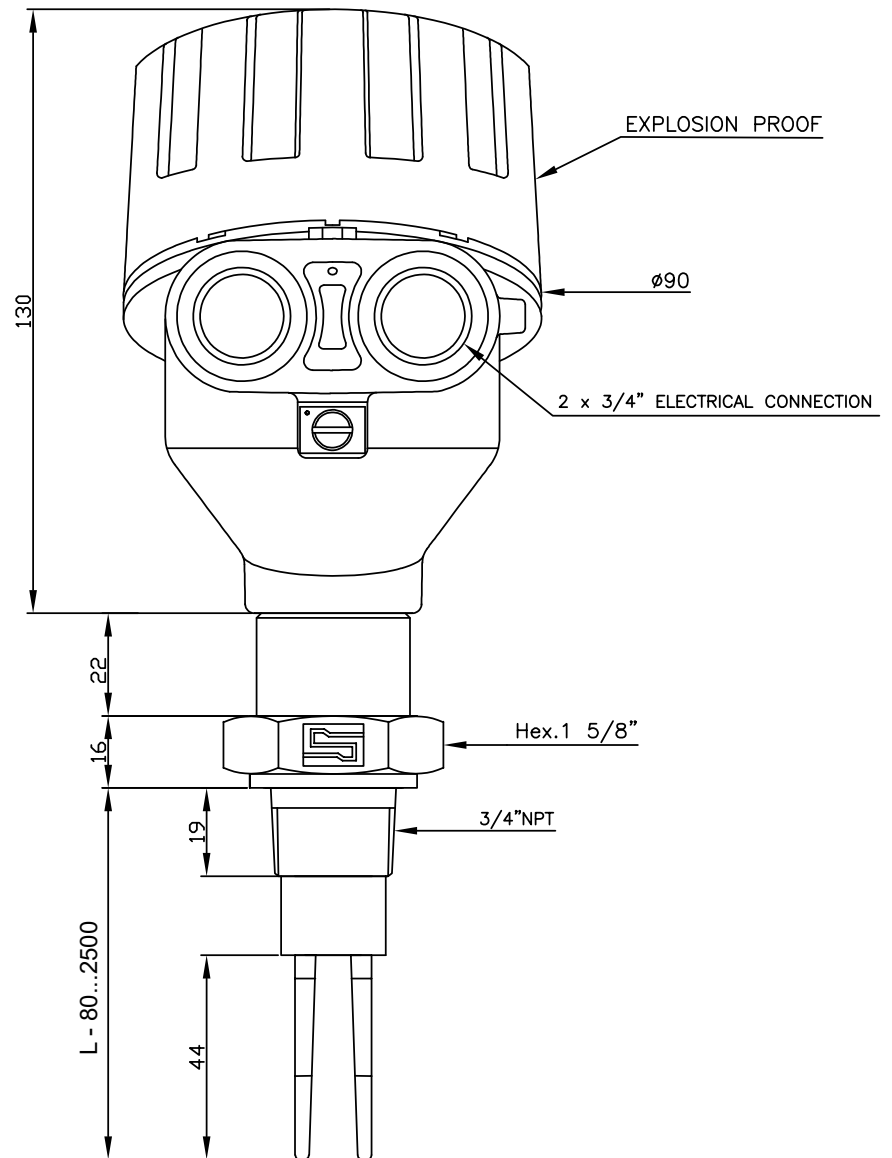
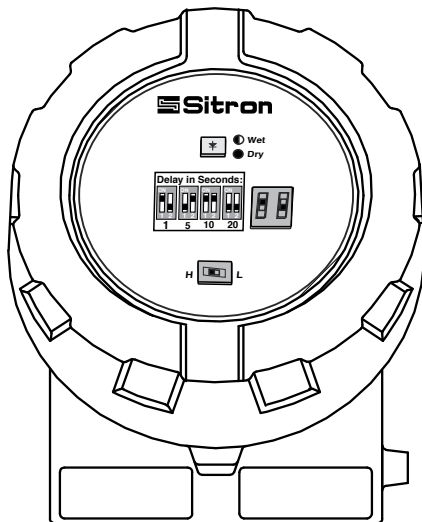
Users around the world have come to depend on this technology as one that is easy to apply and very reliable. All models are made in 316 Stainless Steel, can be ordered with a great variety of threaded, flange, or hygienic fittings, and are available with Halar coating.

All models (except the mini-versions) have a time delay adjustment of 1, 5, 10 or 20 seconds as well as a Wet/Dry selection for both High and Low level application requirements.

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Dimensions (mm)



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Technical Specifications

Application: Level detection for Liquids

Supply: DC:18...30Vdc

AC: 85...264Vac (50/60hz)

Consumption: DC<20mA / AC < 35mA.

Output: 1 SPDT 5A 250Vac / 5A 30Vdc

Accuracy: ± 0.1%

Repeatability: < 0.5mm

Delay: 1 to 20 sec (adjustable)

Set point: 13mm from tip

Housing: Aluminum PX2 with glass viewing window
316SS AX2 with glass viewing window

Viscosity: 0.5...5000 cSt

Electrical Connection (cable entry): 2 x 3/4" NPT

Process Connection: BSP, NPT, Flange or Sanitary






Body material: 316 SS (Halar coating for corrosive medium upon request)

Work Temperature: -10 to + 80°C (extended neck up 110°C)

Max Pressure: 50 Bar

Class Protection: IP66

Housing Approvals

HOUSING	CERTIFICATIONS	STANDARDS	HAZARDOUS AREAS
PX2 Aluminum		FM 3600 FM 3615 FM 3810 ANSI/NEMA 250	Class I, Groups A, B, C, D Class II, Groups E, F, G Class III NEMA 4x
		ANSI/ISA - 12.00.01 ANSI/ISA - 12.22.01 ANSI/IEC 60529	Class I, Zone 1, AEx d II C, T6, IP66
		CSA C22.2 No.0.4 CSA C22.2 No.0.5 CSA C22.2 No.25 CSA C22.2 No.30 CSA C22.2 No.94	Class I, Groups A, B, C, D Class II, Groups E, F, G Class III Type 4x
		CSA E60079-0 CSA E60079-1 CSA E60529	Class I, Ex d II C, IP66
	  <small>Directive 2014/34/EU</small>	EN IEC 60079-0:2018 IEC 60079-1:2014 IEC 60079-31:2014	II 2G Ex db IIC Gb II 2D Ex tb IIIC Db
AX2 316 SS		EN IEC 60079-0:2017 IEC 60079-1:2014 IEC 60079-31:2013	Ex db IIC Gb Ex tb IIIC Db

USA and Canada		Europe	
Division	Protection Code	Zone	Protection Code
Division 1	Explosion proof	Zone 1 , Zone 21	Ex d
Division 2		Zone 2 , Zone 22	Ex d

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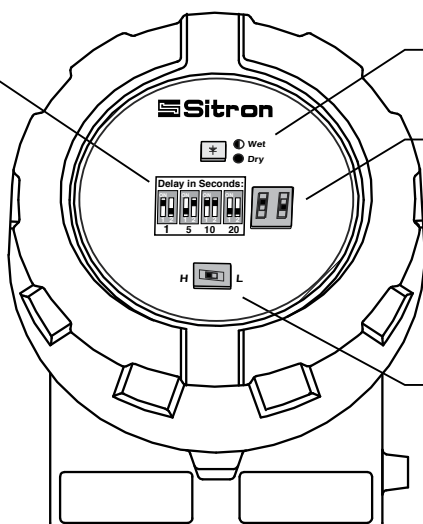
Overview

Delay Guide
1 to 20 sec.

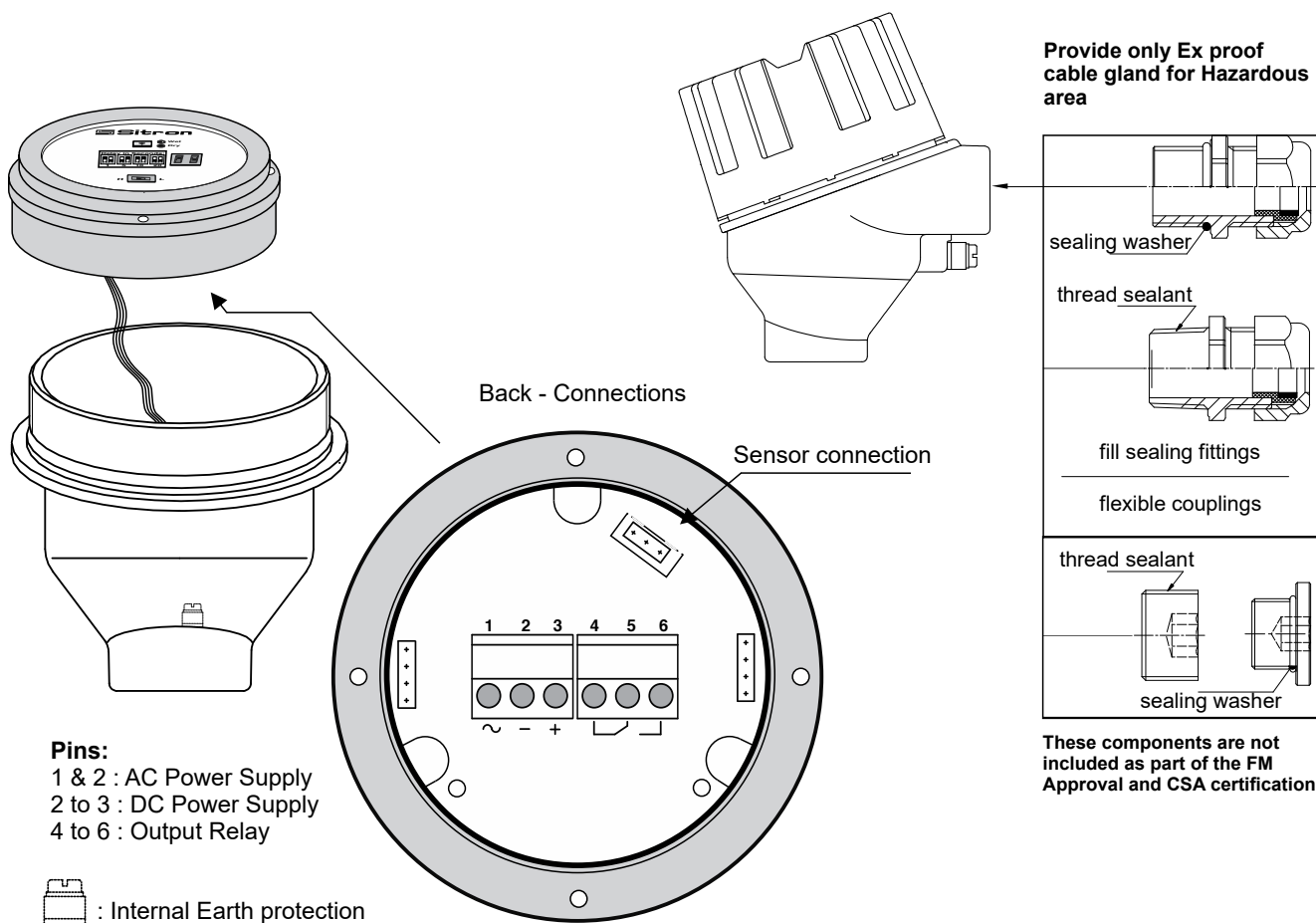
Level Status Indication (Wet / Dry)

Time Delay Switch

High / Low Detection
Define the Output status Switch



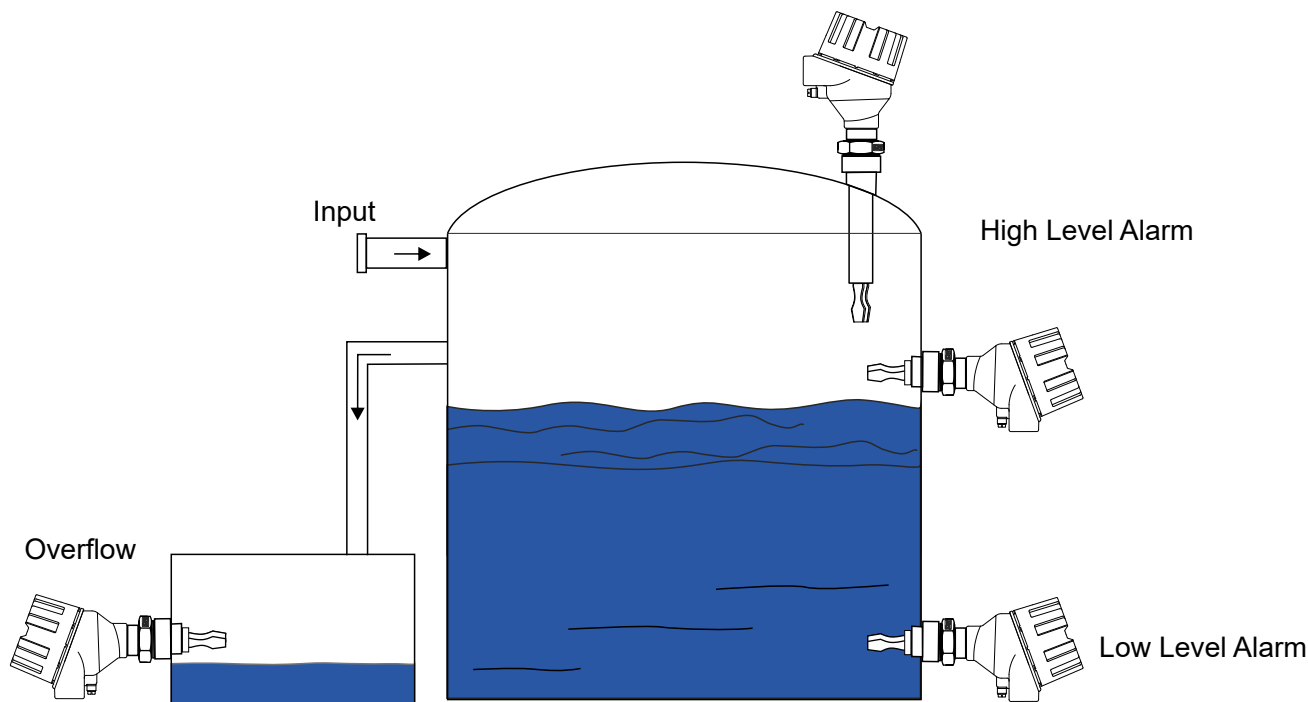
VTKR Module and Connections



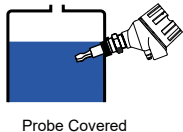
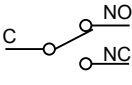
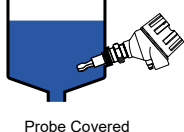
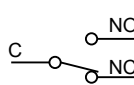
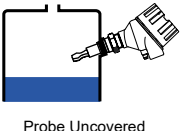
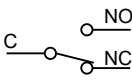
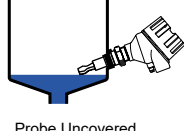
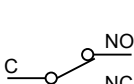
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Level Detection Example



Operating Mode

Switch Position	Level	Out	Status Indication	Switch Position	Level	Out	Status Indication
<div> <div>H</div> <div>L</div> <div>←</div> </div>	 Probe Covered		WET (Blink)	<div> <div>H</div> <div>L</div> <div>→</div> </div>	 Probe Covered		WET (Blink)
	 Probe Uncovered		DRY (On)		 Probe Uncovered		DRY (On)

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Order Code

MODEL	
VTKR	Universal Power Supply - Output Relay (1 SPDT)
SIZE	
4	3/4"
5	1"
6	1 1/2"
7	2"
9	3"
Q	4"
X	OTHER
PROCESS CONNECTION TYPE	
B	BSP
C	CHEERY BURREL - 316
N	NPT
D	FLANGE ANSI 150# - Carbon Steel Painted
E	FLANGE ANSI 150# - 316 SS
G	FLANGE ANSI 300# - Carbon Steel Painted
H	FLANGE ANSI 300# - 316 SS
K	FLANGE ANSI 150# - 304 SS
L	FLANGE ANSI 300# - 304 SS
T	TRI-CLAMP
X	OTHER - SPECIFY
COATING	
S	NONE
H	HALAR [®] Coated (L max. = 200mm)
P	Polished
X	OTHER - SPECIFY
INSERTION LENGTH	
L80	L=3 1/8" (80mm) - Standard
L64	L=64mm - Standard (Sanitary Connection)
L	SPECIFY
HOUSING	
PX2	Aluminum with glass viewing window
AX2	316SS with glass viewing window
ELECTRICAL CONNECTION	
6	1/2" NPT
9	3/4" NPT
X	OTHER - SPECIFY
ACCESSORIES	
A	Clamp
B	Sanitary Nipple - 1"BSP
F	O'ring seal for clamp
S	Sanitary Nipple - TC Connections
MT	Medium Temp - 50mm 316SS Neck (up to 110°C)
0	NONE

Terms & Conditions

Sitron's TERMS & CONDITIONS

Design: Sitron reserves the right to make any alterations or changes necessary to improve the Products, correct defects or to make the Products safer, without prior notice or consent by Buyer.

Pricing: All stipulated amounts shall be in US dollars and all prices quoted are valid for thirty (30) days from date of offer, unless otherwise stated.

Safety and Instructions: The Buyer ensures that it and all its representatives and agents will observe all safety and technical instructions in Sitron's operating manuals, catalogs or other directions or instructions (either written or verbal).

Delivery and Freight: All goods are sold FOB point of shipment, Brasil. Transportation to the destination is the Buyer's responsibility and Buyer alone shall bear the cost of freight, optional or other shipping requirements, and or insurance. Sitron shall not be liable for loss or damage to the Products after said Products are delivered to or received by the shipper/carrier, and all risk of damage or loss shall immediately pass to Buyer. Receiving, unloading and storing of Products will be the responsibility of the Buyer. Buyer also accepts that courier may choose to return Products to Sitron if any local taxes or duties are not paid by Buyer at point of delivery. Buyer must make any and all claims for corrections or deductions within ten days of the delivery of the Products.

Shipment Delays: Sitron has no control over the length of time shipments may be held at customs, etc. For this reason, Sitron commits only to a "shipment date", not a "delivery date". Buyer shall not hold Sitron liable for claims resulting from delay in shipment except in cases where these terms are accepted in writing by Sitron. Acceptance of delivery of Products by Buyer shall constitute a waiver of all claims for delay.

Partial Deliveries: While Sitron strives to deliver all orders on time and complete, Sitron reserves the right to make partial deliveries when necessary.

Changes: Any changes initiated by the Buyer which affects the products specifications; quantities ordered; delivery schedule; method of shipment or packing; or delivery location, must be made in writing and signed by both parties. In this case, Sitron reserves the right to adjust the pricing and or delivery of the order, which will be agreed to by both parties before further work is performed on the order. Any such requests will be priced according to the scope of changes and the status of the current order. Customer must sign and return or acknowledge approval of drawings along with any Purchase Order. If approval drawings are not returned with order, the delivery date may be held or pushed back until Customer has acknowledged approval.

Cancellation: Any cancellation of the Contract by the Buyer shall be effective only if made in writing and accepted, in writing by the Sitron. In such a case, Sitron is entitled to reasonable cancellation charges including but not limited to labor, material and other related expenses.

Termination Fee Schedule:

Order entered but not released for manufacturing	10%
Order in any stage of production	75%
Order complete and ready for shipment	100%

Warranty: Sitron warrants its product against manufacturing defects in material and workmanship, when installed in applications approved by Sitron, for a period of one year from the date of original shipment, unless otherwise stated in writing by Sitron.

Sitron is not responsible for damage to Sitron's Products or other equipment or products because of improper installation or misapplication of the Products by Buyer. Installation or startup of Sitron's equipment must be performed under the guidelines set forth in Sitron's instruction manuals, wiring diagrams, etc., or performed under the direct supervision of Sitron's field technicians or Sitron's authorized Sales Representatives, in order to be covered by Sitron's warranty.

Sitron shall be under no liability in respect to any defect from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow Sitron's instructions (whether written or verbal), misuse, modification or alteration or attempted repair of the Goods without Sitron's approval.

Sitron shall not be liable under the above warranty (or any other warranty, condition or guarantee) if the total price for the Products or the payment of Services rendered has not been paid by the due date for payment.

The Buyer must make all tools, resources or personnel available to help Sitron to diagnose the defect without any back charge. In absence of Buyer's cooperation in this regard, there shall be no liability under the above Warranty.

Sitron's liability under this warranty shall be limited to repair or replacement at Sitron's option of such defective Products, FOB factory, upon proof of defect satisfactory to Sitron. Warranty does not include transport.

Return Goods: No goods may be returned without Sitron's permission and an RMA number. Sitron assumes no responsibility for return shipments made without permission. In issuing credit for such shipments, Sitron reserves the right to charge a restocking fee dependent on Sitron's ability to recondition and resell the returned equipment.

Insurance: The responsibility for insuring the Goods after the risk in them has passed to the Buyer shall be that of the Buyer.

Confidential Information: All drawings, specifications, and technical information provided by either Buyer or Sitron shall be treated as confidential and shall not be disclosed to anyone other than those who require it as part of the fulfillment of the order. Buyer agrees that the designs and/or any other related material provided are and remain Sitron's exclusive property and that the Buyer acquires no right, title or interest to this intellectual property, whether in whole or in part.

Errors: Sitron reserves the right to correct all typographical or clerical errors or omissions, in its prices or specifications.



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