# VTK Vibrating Point Level Switch

Equipped with the highly reliable vibrating tuning fork technology, the VTK level switch becomes indispensable in the detection of a wide variety of liquids, fine solids and even liquid/solid interface applications.

## Applications

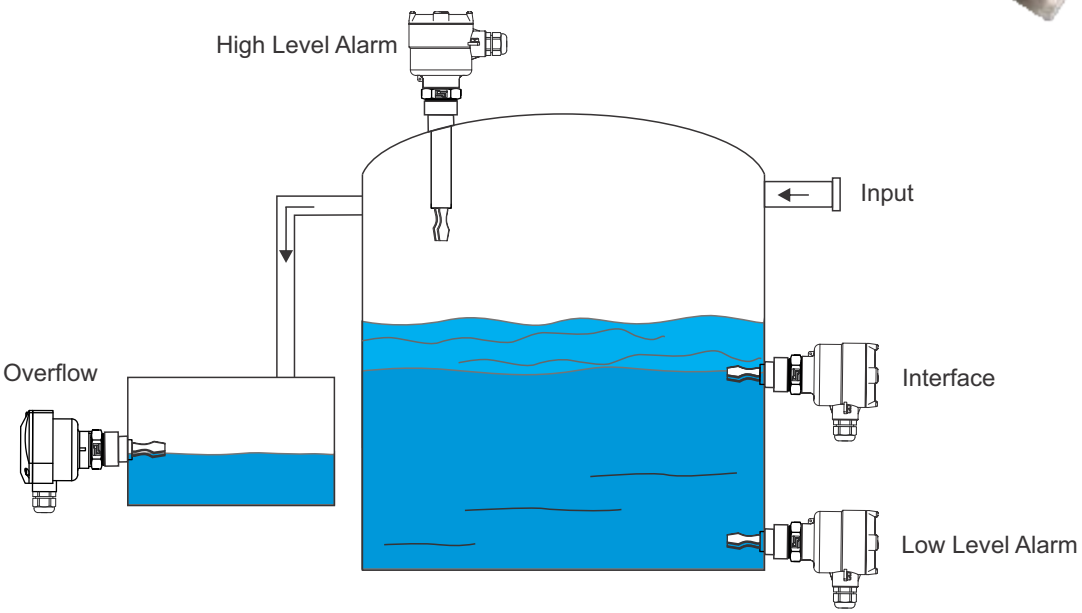
- Water Treatment Plants
- Food and Beverage Industry
- PetroChemical Industry
- Pharmaceutical Industry
- Pulp and Paper Manufacturers

# VTK

## Vibrating Point Level Switch for liquids

## Characteristics

- **All 316SS body and wetted parts (Halar coating available)**
- **Unaffected by variations in conductivity or dieletric constant**
- **IP65 class protection (IEC 60529)**
- **Output SPDT Relay**
- **Customized length options to best suit your application**
- **Available in Threaded, Sanitary and Flanged connections**




## 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 at which it vibrates changes. This change is detected by the unit's electronics and is converted into a switch output, either relay (SPDT).

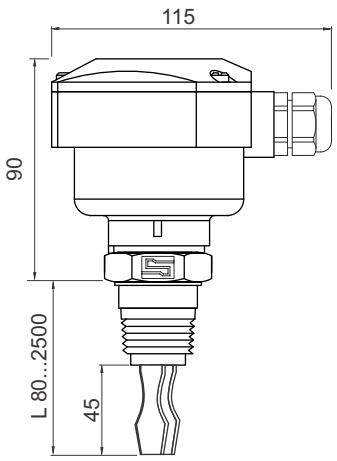
Users around the world have come to depend on this technology as one that is easy to apply and very reliable. All models are made in 316 Stainless Steel, can be ordered with a great variety of threaded, flange, or hygienic fittings, and are available with Halar coating.

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.

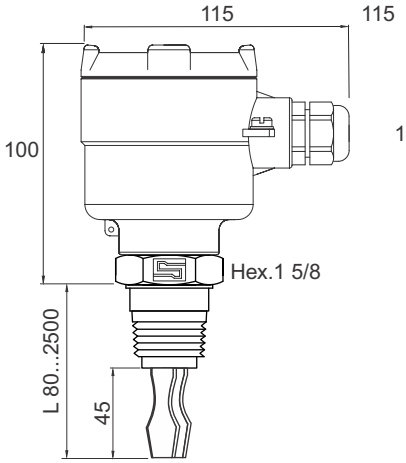
# Dimensions (mm) / Models

## BSP / NPT Threaded Connections

### N1 - Nylon Housing




### G1 - Aluminum Housing

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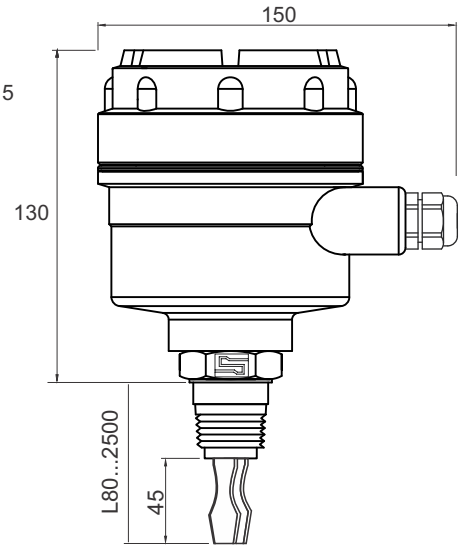
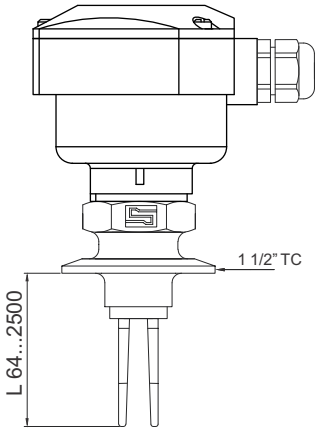
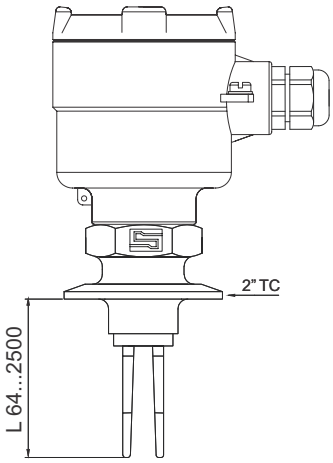
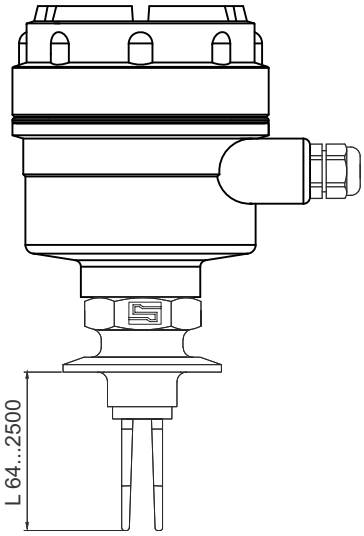



## Sanitary Connection

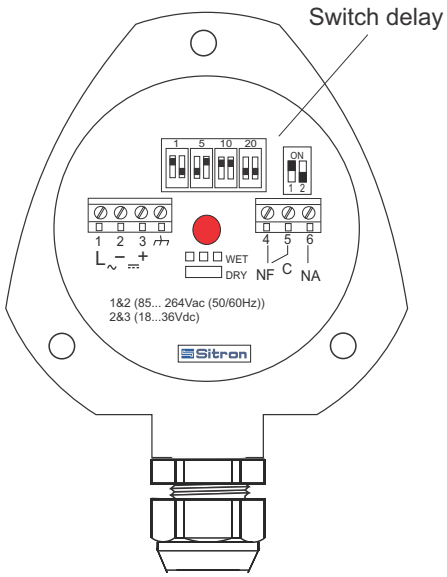


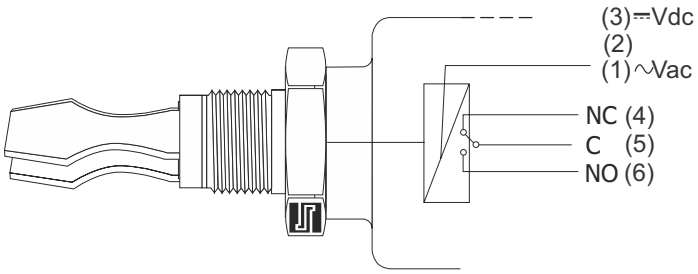



## Electrical Connections

### VTKR - N1/G1



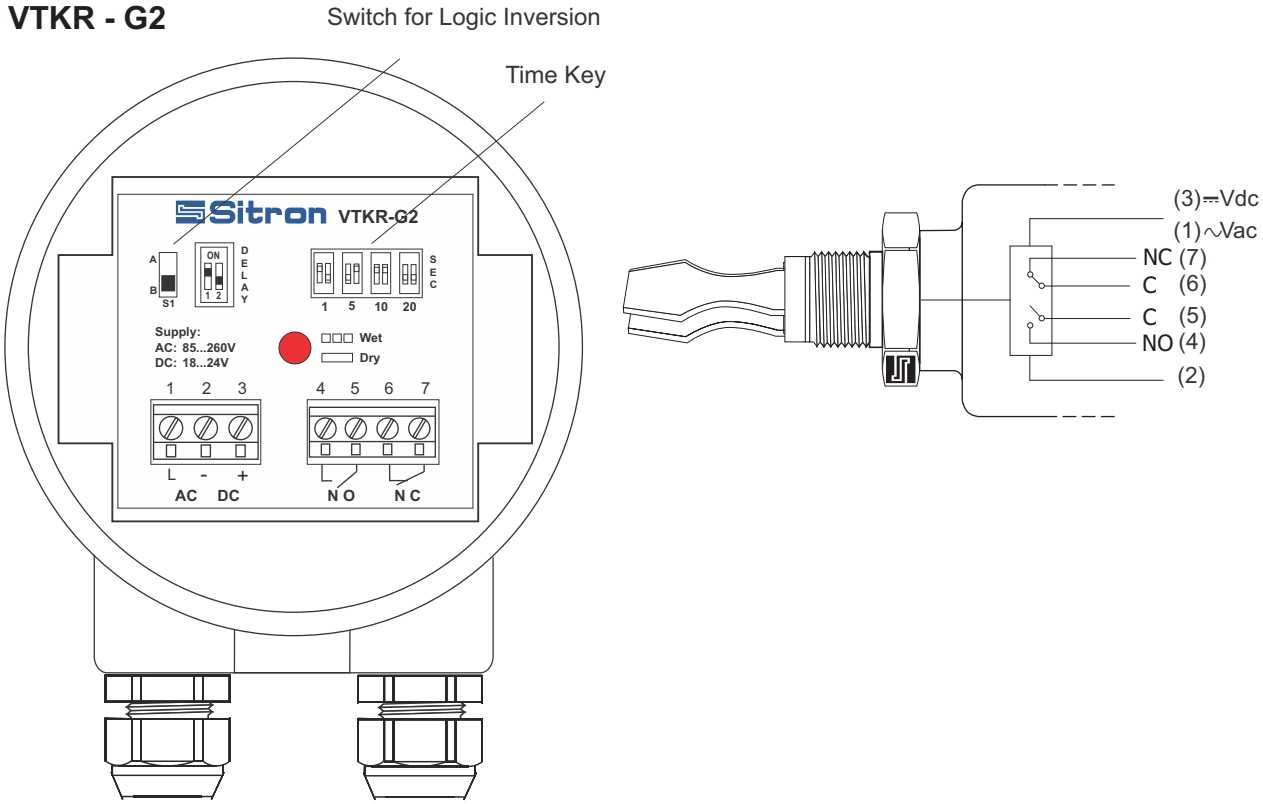

## Technical Specifications

### VTKR_-X-X-X-X-X

**Application:** Level Switch for Liquids
**Power Supply:** 18...36Vdc & 85...264Vac (50/60 Hz)
**Consumption:** DC:<20mA / AC: <35mA
**Output:** Relay (SPDT), 5A-250Vac
**Housing:** N1 Nylon Fiberglass / G1 - Aluminum
**Switching Point:** 13 mm from tip
**Time Delay:** 1 to 20 seconds.
**Medium Viscosity:** 0.5...5000 cSt
**Electrical Connection:** 1/2" NPT, M12, (others)
**Process Connections:** BSP, NPT, Sanitary or Flanged
**Body Material:** 316 SS
**Operating Temp.:** -14 to 176º F (-10 to 80ºC) /
Extended Neck to 212°F (100°C)
**Max Pressure:** 50 Bar
**Class Protection:** N1 - Ip65
G1 - IP66

## Electrical Connections

**VTKR - G2**

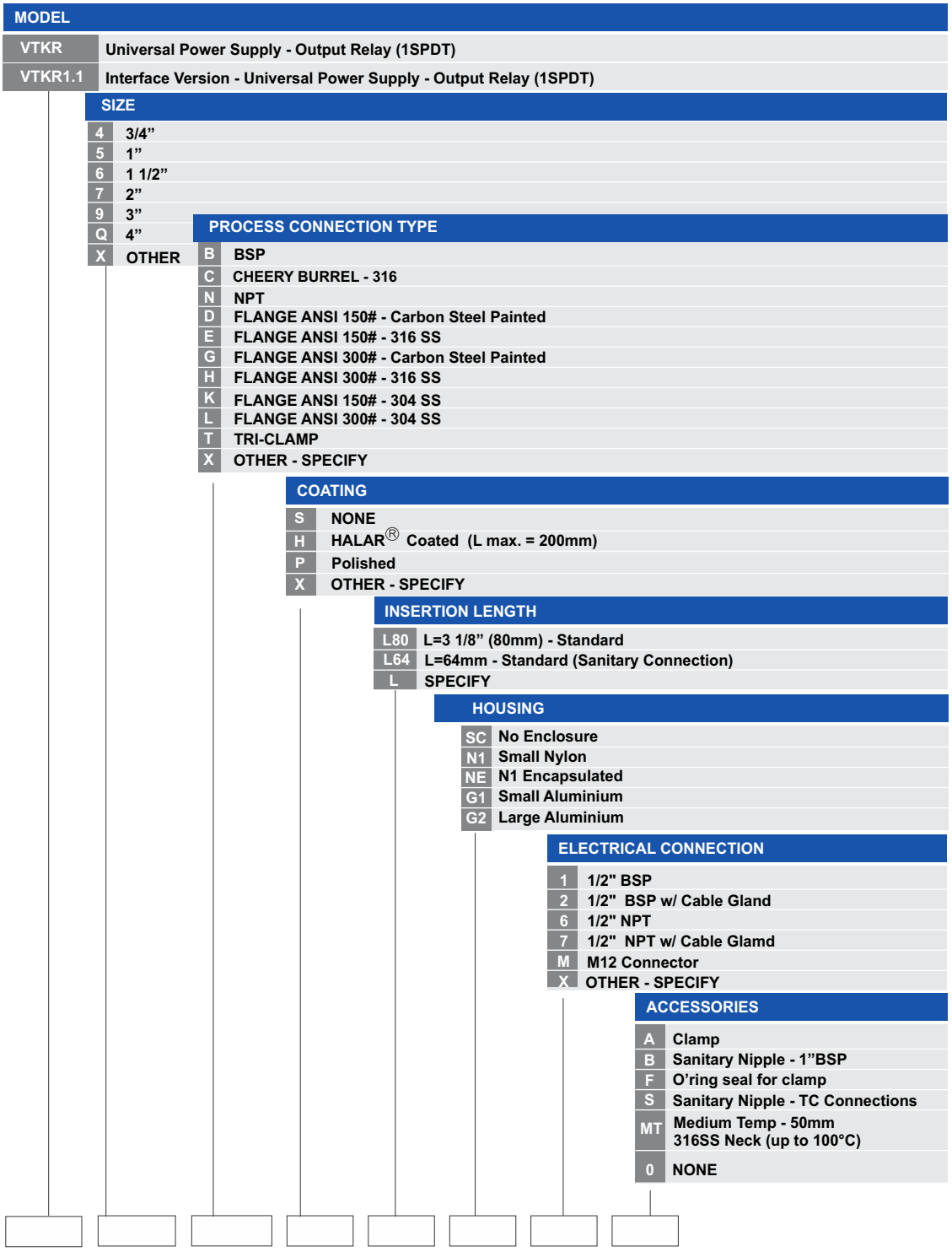



## Technical Specifications

**VTKR_-X-X-X-X-X**

**Application:** Level Detection for Liquids
**Power VTKR:** 18...36Vdc and 85...264Vac (50/60 Hz)
**Consumption VTKR:** DC: <20mA / AC: <35mA
**Output VTKR:** Relay (NO + NC), 5A-250Vac
**Enclosure:** Aluminum (Epoxy Painted)
**Action Point:** 13 mm from the tip
**Time Adjustment:** 1 to 20 seconds.
**Hysteresis:** +/- 1mm
**Approximate Viscosity:** 0.5...5000 cSt
**Electrical Connection (input):** 2x 1/2” NPT entries
**Connection to the Process:** BSP, NPT, Flange or Sanitary
**Body Material:** 316 Stainless Steel
**Work Temperature:** -10 to + 80°C / up to 100°C with Neck Extended
**Maximum Pressure:** 50Bar
**Protection Class:** IP66

# Order Codes


MODEL
VTKR
Universal Power Supply - Output Relay (1SPDT)
VTKR1.1
Interface Version - Universal Power Supply - Output Relay (1SPDT)
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
SC No Enclosure
N1 Small Nylon
NE N1 Encapsulated
G1 Small Aluminium
G2 Large Aluminium
ELECTRICAL CONNECTION
1 1/2" BSP
2 1/2" BSP w/ Cable Gland
6 1/2" NPT
7 1/2" NPT w/ Cable Glamd
M M12 Connector
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 100°C)
0 NONE

# How to Order?

## Inform the application conditions below:

**1) What is the application? What is the product?**
ex. LSH/water Level Detection

**2) Application in the food industry?**
(polishing on wet parts required)

**3) Viscous or fouling fluid?**
(fouling fluids can cause false detections due to the accumulation of residue on the forks
In this case we recommend another type of technology (HFS sitron model)

**4) What is the electrical connection (cable entry)?**
(Standard 1/2' NPT cable gland)

**5) What type of output?**
Relay

**6) What type of connection?**
ex (BSP, NPT, Flange, Tri-Camp TC, etc..)

**7) What is the insertion length (L)?**

**8) Fluid aggressive to 316 stainless steel? Apply Halar Coating?**

**9) Process with CIP (tank cleaning)? What temperature and product?**
Processes with CIP and high temperature require encapsulation in the head to avoid condensation (GE)

**10) What is the process temperature?**
Above 80° apply MT neck for heat dissipation

Using this information, create the order code and send us these answered questions in your email request **info@sitron.com**

# VTK
## Vibrating Point Level Switch for liquids

## 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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