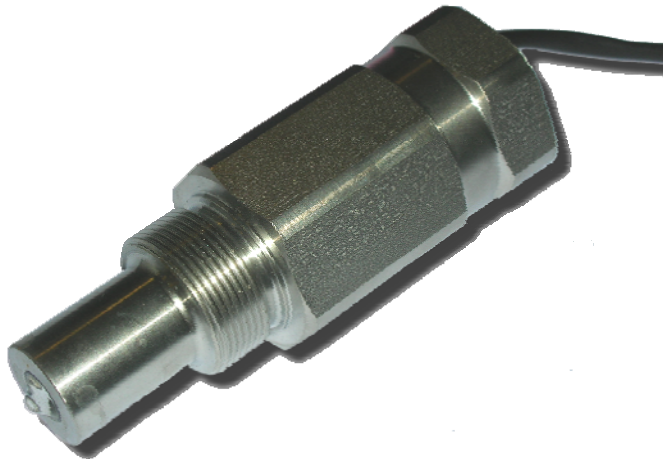


## K12 Level Switch for Screw Compressors



## Operating Instructions

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## 1. Note

Please read and take note of these operating instructions before unpacking and commissioning. The instruments may only be used, maintained and installed by personnel familiar with the operating instructions and the applicable health and safety requirements.

## 2. Product Conformance

The above product conforms to the following standards noted below:  
EN 50081-1 1993.03  
Electromagnetic compatibility (EMC) - Generic emission standard  
EN-50082-2 1996.12  
Electromagnetic compatibility (EMC) - Generic immunity standard

## 3. Instrument Inspection

The instruments are inspected before dispatch and sent out in perfect condition. Should damage to the instrument be visible, we recommend close inspection of the delivery package. In cases of damage, please immediately inform the forwarder as he is liable for any damage in transit.

Scope of Supply

\* Level Switch K12 and o-ring when requested.

### 4. Specific Application

The optical level switch has been designed for use in level monitoring applications for the control of oil for screw compressors and can be fitted directly to crankcase or to the separator (internal or external) of the compressor. The switch has no moving parts, thus it is particularly suited for monitoring critical media where high reliability is needed.

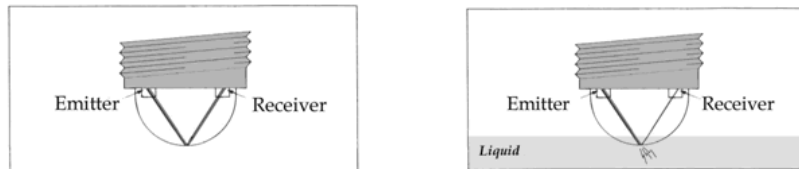
The switch gives an alarm when low (or high) liquid level is detected.

It combines the 90-230VAC Power Supply with the high temperature resistance (up to 125°C) and a variety of possible threads.

Main features:

- lubricating oil reservoir level monitoring
- immediate sight glasses replacement
- critical fluid level detection on machine tools, chillers and any industrial OEM equipment
- monitoring refrigerant liquid level in both horizontal and vertical liquids receivers
- monitoring oil level in oil reservoirs
- P.O.E. Oil and Refrigerant Fluids compatibility

### 5. Operating Principle

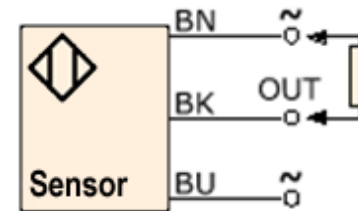


The sensors contains an infrared-ray emitter and an optical receiver. In air (liquid not present), all the light emitted is reflected - internally - by the dome and then redirected to the receiver. When the liquid reaches the sensor dome, a big amount of the light emitted is lost in the liquid and the sensor senses its presence.

### 6. Technical Data of the Instrument

<b>OPERATION MODE</b>	Detect liquid presence with contact
<b>REPEATABILITY</b>	± 2 mm
<b>BODY MATERIALS</b>	Stainless Steel
<b>SENSIBLE DOME</b>	GLASS
<b>ELECTRONIC PROTECTIONS</b>	Transient over voltage
<b>MAX. TEMPERATURE RANGE</b>	From -40°C up to +125°C
<b>STORAGE TEMPERATURE</b>	From -40°C up to +125°C
<b>SUPPLY VOLTAGE</b>	90 - 230 VAC 50/60 Hz
<b>AC OUTPUT CURRENT</b>	200 mA Max
<b>OUTPUT MODE</b>	Output Normally Open or Closed in the air
<b>DELAY TIMES</b>	Customizables depending on application needs
<b>MAX PRESSURE</b>	30 BAR
<b>TORQUE TIGHTEN</b>	40 Ntm

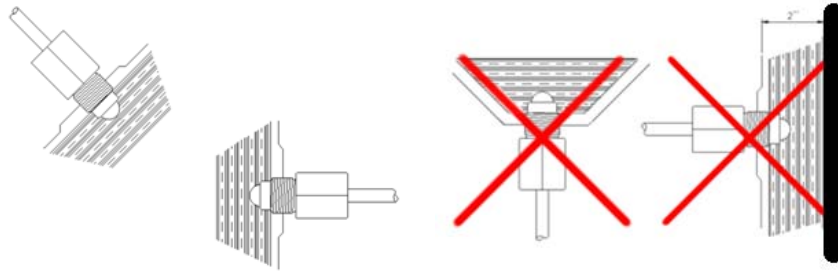
### 7. Electrical Connection



BN: BROWN  
BK: BLACK  
BU: BLUE

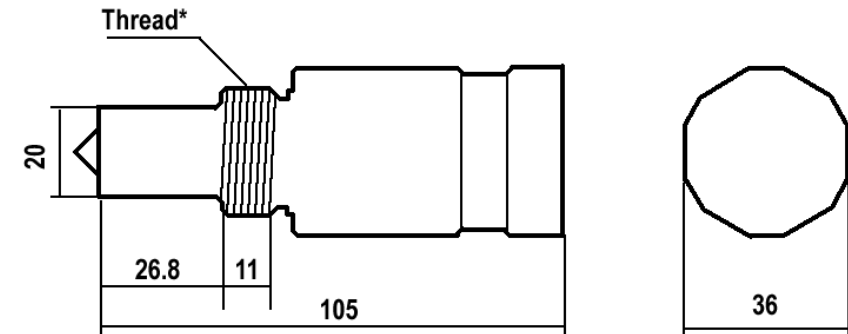
## 8. Installation instruction

- Only qualified personnel should carry out installation
- Protect hands and face from contacting the liquids, which may contain harmful acid.
- Depressurise the system before attempting any work
- Switch off power supply and isolate system
- If fitting to an existing installation, drain the refrigeration system
- Assemble the switch on the system



- Do not install sensor close to infrared sources.
- Dome of the sensor must be at least 2" (~ 50mm) from any reflective surfaces. Please contact Teklab for lower distances.
- Do not install the sensor in a stagnation point of the liquid
- Do not use to detect freezing liquids
- The mounting position corresponds to the desired switching point.
- The optical sensor tip must be free of insulating materials.
- The sensor tip must be installed in a way that it is not in contact with any moving parts inside the tank or the reservoir.
- During installation the sensor tip may not be touched with any device which could scratch or damage the glass dome in any way.
- It is recommended that for conical threads proper tapes should be applied to the threads itself on the switch body. The switch should then be threaded and sealed by using a correct wrench and under no circumstances by using any other device which may damage the housing .

## 9. Mechanical Dimensions



Quotes in mm

\*Available threads: 3/4" NPT, 1"1/8 18 UNEF.

## 10. Recommendation

Teklab recommend the use of a 10 micron filter in the oil line to protect the sensor from contamination. While the device is totally maintenance free we recommend that the optical lens be cleaned during major servicing.

Teklab is not to be held responsible for erroneous literature regarding dimensions, applications, etc. stated in this document. Products, specifications and data in this literature are subject to change without giving any evidence. The information given herein is based on technical data and tests which Teklab acquired during years of experience and believe to be reliable and which are in compliance with technical knowledge of today. It is intended only for use by persons having the appropriate technical knowledge and skills, at their own discretion and risk. Since conditions of use are outside of Teklab control we can not assume any liability for results obtained or damages occurred due to improper application.