

## Application Note 4 Detection of Water in Oil Tanks



### Description:

The Rechner KAS series sensors can easily be applied to detect the accumulation of water in the bottom of oil or petroleum product tanks. Since the dielectric constant of petroleum products is considerably lower than water (the dielectric constant of water is 80 and the dielectric constant of petroleum is between 2 and 4) the KAS sensor can be adjusted to detect the water and not the petroleum.

### Function:

The sensor should be mounted at or below the maximum acceptable water accumulation level. When the sensor detects the water, it will energize the relay providing a high water indication or alarm.

The KAS sensor is capable of detecting water through glass up to 4mm (5/32 inch) thick. If a sight glass is available at or below the maximum acceptable water accumulation level, installing the sensor to detect through the sight glass eliminates the need to make a mounting hole through the tank.

Adjust the sensor to ignore the oil in the tank:

1. **Locate the sensitivity adjustment potentiometer** on the back of the sensor.
2. **Fully immerse the sensor** into the oil.
3. **Find the switching point of the oil** by turning the potentiometer clockwise until the sensor detects the oil.
4. **Adjust the sensor to ignore** the oil by turning the potentiometer counter-clockwise until the sensor turns off.
5. **Add 1/4 turn for safety** by turning the potentiometer a further 90 degrees counter-clockwise.

### Parts Required:

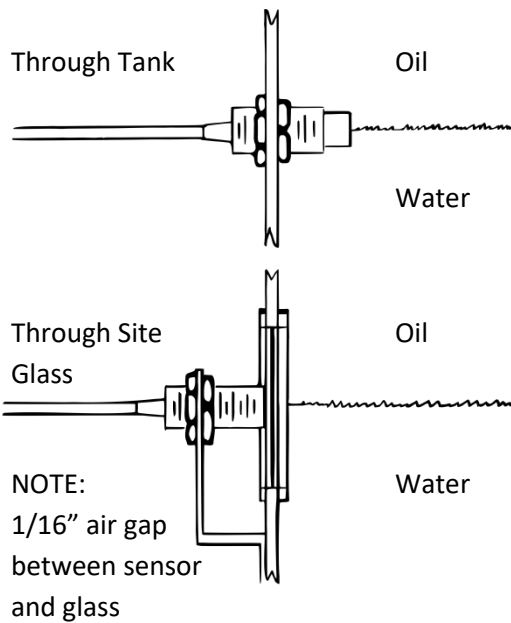
1 Rechner Logic Controller: EGI-RLC

1 5 Meter Cable: 0.25SQX4C

1 Sensor: KAS-80-A24-A-M30-PPO-Y3-1-NL (for through tank installation)  
-OR-  
KAS-80-A14-A-M30-PPO-Y3-1-NL (for through site glass)

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### Wiring Diagrams:



### EGI-RLC

