

# AquiTron

# AT-OPSEN

Optical Sensor



**INSTALLATION  
INSTRUCTIONS**



**aquilar**  
leak detection solutions

# AT-OPSEN

## Optical Sensor

Please read these instructions carefully and keep them in a safe place for future reference. These instructions must be followed carefully to ensure proper operation.

### A. GENERAL INFORMATION

The OPSEN optical sensor has been specifically designed for use with TraceTek and AquiTron leak detection systems. The OPSEN is designed for use in ordinary areas with temperatures of 0°C to 50°C (32°F to 122°F).

#### ZONES & REGIONS

AT-OPSEN probes have built in resistors (weighted lengths) equal to 8 metres (25 feet) for the first sensor and 16 metres (50 feet) for each subsequent sensor when used on the TraceTek TTDM or TTSIM-1 / 1A / 2 alarm & locator panels. If sensors are used alone on a circuit, without sensing cable, the 'zones' setting within 'units' can be used on the panels.

#### TOOLS REQUIRED

- Phillips (cross-head) screwdriver
- Small flat-head screwdriver

#### STORAGE

Keep the module in a dry place prior to installation to avoid possible damage to internal components.

#### ADDITIONAL ITEMS

- AT-PSU - 1 OPSEN Power Supply Unit (max 10 sensors)
- AT-OPSEN-CBL Bulk OPSEN Cable (50 metre reel).

### B. PRODUCT INFORMATION

#### INSTALLATION

The AT-OPSEN and the AT-OPSEN-RS (Remote Sensor Version) designed for internal use only. In harsh environments where there is the possibility of water ingress, additional protective measures such as potting compounds or Insulating, encapsulating potting gel must be used to safeguard the internal circuitry against these environmental factors.

When installing the AT-OPSEN range, standard installation procedures should be observed such as drip loops and making sure cable glands are tight to preserve the Ingress Protection Rating.

The remote sensor of the AT-OPSEN-RS has an IP68 rating. This can be safely used externally if standard procedures are observed for the external installation of electrical devices. The AT-OPSEN control box must be protected as described above if required by environmental factors.

AT-OPSEN-RS Cabling between the sensor and control box should not exceed 3 Meters in Length.

#### POWER SUPPLY

Each OPSEN requires a 12Vdc power supply. Power is available from a separate power supply unit: AT-PSU-1 for 1 to 10 sensors. The 12Vdc should be connected as detailed below, care should be taken when connecting the power as the sensor is polarity sensitive. The Bulk OPSEN cable is colour coded for connection into the TraceTek and AquiTron™ panels: white 12Vdc (+) and blue OV (-) should be used for the power cables.

## AT-OPSEN Optical Sensor

### POWER INDICATION

The sensor unit is provided with a GREEN LED to indicate power present.

### LEAK ALARM INDICATION

In the event of a leak being detected the units RED LED will illuminate. Indication will also be displayed on the following leak detection panels:

**AT-ECO**, individual zone indication.

**AT-MZA**, individual zone indication.

**AT-SZA**, single zone indication.

**AT-MZA**, individual zone indication.

**AT-APA**, distance or zone name indication.

**TTDM**, distance or zone number/region/area name.

**TTSIM-1/1A/2**, via the master panel or BMS a distance or zone number/region/area name is available.

### DETECTION TIME

The Optical sensor head will detect the presence of a liquid within seconds of it making contact. The alarm activation on the OPSEN (Red LED) will be immediate, however, alarm indication on the leak detection control panel will depend on the model selected.

### MAXIMUM NUMBER OF SENSORS

TTDM and TTSIM panels - 100

AT-SZA and TTSIM-1A - 10

AT-MZA - 10 per channel/zone

### APPLICATION LIQUIDS

The OPSEN has been designed for use with hydrocarbon based liquids such as fuels and oils. The sensor will also detect other non aggressive liquids. The OPSEN optical sensor head will also detect water and many other chemicals. For further liquids please contact Aquilar.

### TEMPERATURE

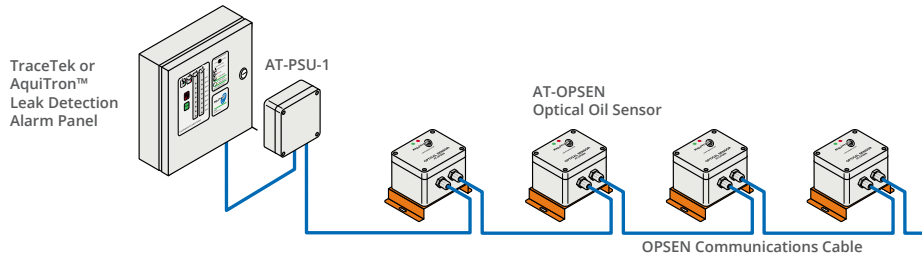
**Environment:**

**Storage:** -18°C to 60°C (0°F to 140°F) **Operating:** 0°C to 50°C (32°F to 122°F)

**Liquid:**

**Operating:** 0°C to 50°C (32°F to 122°F)

## AT-OPSEN Optical Sensor



### Single / Multiple sensors

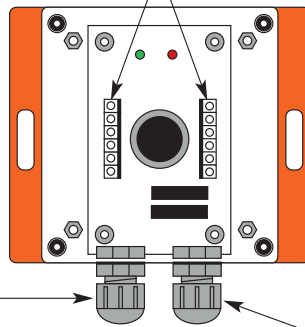
#### Wiring/connection Notes

Match colour coding in sequence through the chain of probes:

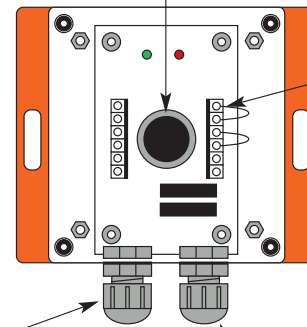
- Black - Black
- Yellow - Yellow
- Red - Red
- Green - Green
- 12Vdc - 12Vdc (White)
- 0V - 0V (Blue)

Connect to TraceTek /  
AquiTron™ Leak  
Detection Panel

Terminals can be pulled from the  
circuit board for ease of wiring



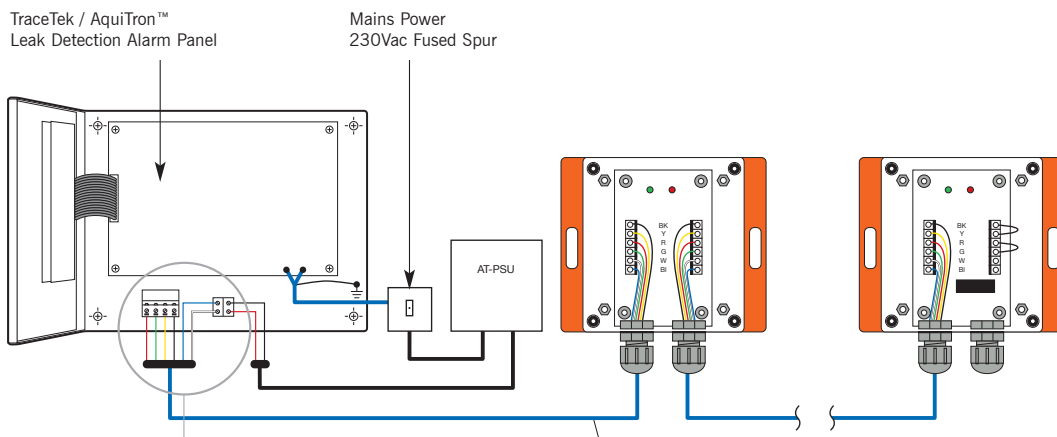
Small height adjustment can be achieved  
by twisting the optical sensor,  
up = anti clockwise, down = clockwise



End of line  
connection  
Loop,  
Black & Yellow  
Red & Green  
(Remove  
for future  
extension)

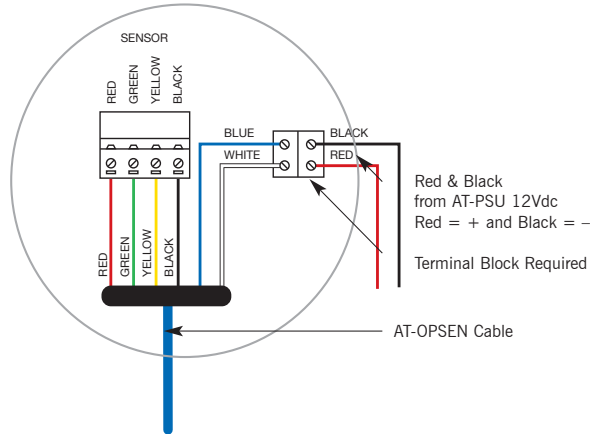
Connect Bulk Cable  
AT-OPSEN-CBL

Adjust cable glands to  
provided strain relief to  
the cables



**AT-OPSEN Cable**  
Red, Green, Yellow, Black = Sensor Colours

## AT-OPSEN Optical Sensor



Connection in AquiTron or TraceTek alarm panel.

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