

# Aquitron

# AT-OSP

Optical Sensing Panel



**INSTALLATION  
INSTRUCTIONS**



**aquilar**  
leak detection solutions

# AT-OSP

## Optical Sensing Panel

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

### A. GENERAL INFORMATION

The AquiTron AT-OSP is a 4 zone panel designed for use with AT-OSP Probes providing visual and audible indication when a leak has occurred. The panel has 2 sets of SPDT volt free alarm contacts to connect to other external alarm equipment, BMS and PLC's. The OSP is designed for use in ordinary areas with temperatures of 0°C to 50°C (32°F to 122°F).

#### INSTALLATION ITEMS (NOT SUPPLIED)

- Wall fasteners for surface mounting (four screws)
- Rubber or elastomeric washers to seal at mounting points
- Semi-flush recess flange (optional)

#### TOOLS REQUIRED

- Drill or hole punch for electrical conduit entries
- 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-OFS

Optical floor sensor (max 4 per panel)

##### AT-OIS

Optical Immersion sensor, M12 fine thread, 3 metre lead.

Semi Flush Mounting Flange

### B. PRODUCT INFORMATION

#### AT-OSP

85 to 265 Vac 47/80 Hz

#### POWER CONSUMPTION

7 watt maximum

#### RELAYS

**Number:** Two Leak

**Type:** SPDT

**Rating:** 2A at 250 Vac/24 Vdc

#### TEMPERATURE

**Storage:** -18°C to 60°C (0°F to 140°F)

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

#### ENCLOSURE

NEMA 12; IP54

#### ORDINARY / HAZARDOUS AREAS

The OSP is approved for use in ordinary areas. The module must be located in an Ordinary Area, This unit is not approved for hazardous areas

### D. SELECT A MOUNTING POSITION

Choose a location indoors where the module will be protected from the elements and temperature extremes.

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### PREPARE THE MODULE FOR MOUNTING

**Important:** The OSP is an electronic unit. During installation, take the following precautions to avoid damage to its electronic components:

- Handle with care, avoid mechanical damage.
- Keep the electronics dry.
- If handling circuit boards, hold them by their edges to avoid physical contact with electronic components.
- Avoid exposure to static electricity.
- Avoid contamination with metal filings, liquid, or other foreign matter.
- Remove the module from its packaging.
- Open the enclosure door using a flat-blade screwdriver or coin.

- Carefully disconnect the ribbon cable from the motherboard.
- Unscrew the four Phillips(cross-head) screws holding the motherboard to the enclosure. Remove the motherboard, and put it out of harm's way.
- Taking care to protect the User Interface board on the enclosure door, drill/punch entries as required.
- **Note:** The TraceTek sensing circuit is power limited, so the TraceTek leader or jumper cable and the power supply cable must not run in the same conduit.
- Fit conduit bushings / adapters.
- Remove all traces of metalfilings and dust from inside the module enclosure.

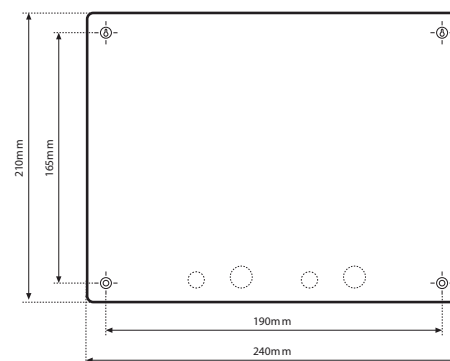
### REASSEMBLE THE MODULE

Note: Before replacing the motherboard, ensure that the interior of the enclosure is clean.

- Replace the motherboard and secure it in place with the Phillips (cross-head) screws.
- Reconnect the ribbon cable (taking care not to bend any pins in the connection).

### MOUNT THE MODULE

The module mounts with four screws with mounting centers as noted in Fig 1. To seal around the mounting screw (necessary to maintain the IP54 rating), use a rubber or elastomeric washer.



**Figure 1**  
Cable entry knockouts are provided as follows:

Back plate 4 x 20mm and 3 x 3/4"  
Base of enclosure 6 x 20mm and 5 x 3/4"

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### C. CONNECTING THE POWER CABLE AND RELAYS

#### CONNECTING THE POWER WIRING

- Open door of AT-OSP enclosure.
- Pass the power cable through the knock-out/adaptor/bushing if fitted.
- **Note:** Proper grounding/earthing is important to avoid the possibility of electromagnetic interference.
- Connect the power supply wires to the special three-pin terminal block marked NEL (Neutral, Earth and Live), observing the polarity. (Fig 2)

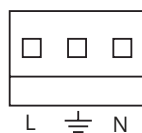


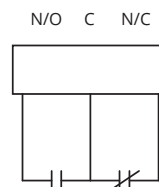
Figure 2

- The electrical supply should be fused at no more than 3 amps via an un-switched fused spur adjacent to the unit.
- **Note:** Do not exceed maximum voltage.

#### CONNECT THE ALARM/BREAK RELAYS

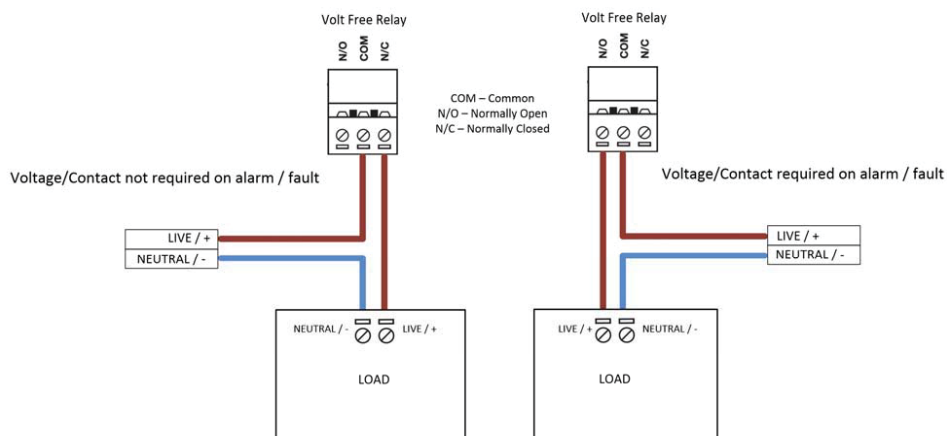
The OSP has two LEAK alarm relays. Each relay provides Form C relay contacts, normally open and normally closed. The relays are **energised** to indicate an alarm condition. Each relay is independent of the next. The illustration below shows the relay status when in the alarm (energised) state.

**Note:** The relay plugs can accept wires 12 to 24 AWG. Cable should have a temperature rating of 65°C. **Note:** Maximum load for relays is 2 amps.



#### VOLT FREE RELAY OPERATION

All leak detection alarm panels supplied by Aquilar are provided with, at least one, volt free relay. These are also known as volt free contacts or dry contacts. They are used to operate auxiliary equipment such as – valves, sounders, pumps, beacons etc., sending closed or open contact signals to Building Management Systems (BMS) or other logic level controls. As the name suggests, there is no voltage present at the terminals. So, to operate a valve, for example, you need to have a dedicated power supply which is then fed through the relay (typically the live feed) to switch it on or off accordingly. Typical wiring is as follows:



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Please ensure that the load does not exceed the ratings of the volt free relay. This is stated in the relevant product's data sheet / installation instructions.

Wiring of volt free relays should be undertaken by a suitably qualified technician and in accordance with the regulations and standards in their industry/country. These notes are only intended as a guide and Aquilar Ltd bears no responsibility for the installation or operation of the unit.



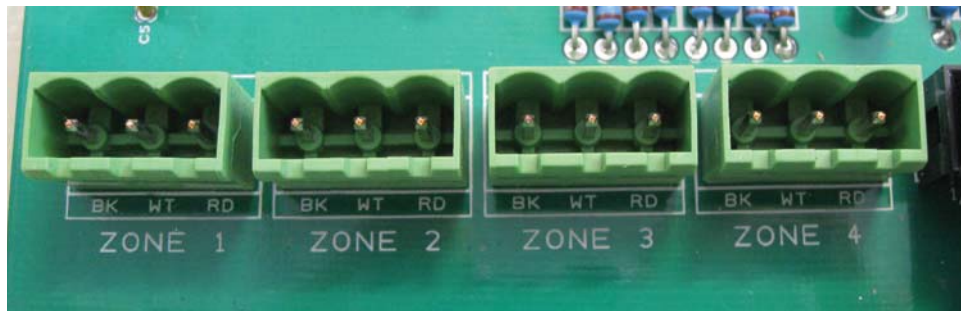
Volt free alarm relay contacts.

**Note:** Do not exceed the maximum voltage and current

### MAKE CONNECTIONS

- Confirm that the power to the AT-OSP unit has been turned off.
- Open the enclosure door.

**Important:** Observe the colour coding. If wires are not connected to the proper terminals, the leak detection system cannot operate properly.



Optical sensor terminals.

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