AquiTron | AT-APA

Addressable Pinpoint Alarm

INSTALLATION & OPERATION INSTRUCTIONS

aquilar
leak detection solutions

AT-APA
Addressable Pinpoint Alarm

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

This compact module is suitable for integration into the building's computer network, and in the event of a leak it will automatically send an alert to notify engineers of the problem. The module can be easily configured and data consulted either locally via the touchscreen or remotely via the built-in web server. Any alarms are shown on the module's touchscreen, and a buzzer activated. Automatic alarms are sent via SNMP or email, and the alarm relay is enabled. All alarm data can be viewed remotely. All alarms are stored in the module's memory, together with the timestamp and details. The location of the leak is easy to identify on a diagram in PDF format, which can be loaded into the alarm module. Up to 4 hardwired leak detection circuits can be connected to the module. 10 leak detection probes or up to 150 metres of leak detection cable can be connected to each circuit. The AT-APA can be easily integrated into any building management system by connection to the volt free relay contacts or reading the standard Modbus TCP/IP registry or over BACnet.

B. PRODUCT INFORMATION

POWER REQUIREMENTS

230/120Vac, 50/60Hz , 24Vac 12/24Vdc, 10 watt maximum

REMOTE INTERFACE

Relays : 2 independent potential-free relay contacts per zone. The first relay switches off if there is a power failure or system fault. The second relay switches off if a water leak is detected.
Type: SPDT
Rating: 3 A at 250Vac/24 Vdc

MODBUS / TCP-IP

SNMP TRAPS

BACNet

CONNECTION TO PANEL

LAN via RJ45 connector, Via the built-in WiFi.

TOUCHSCREEN

7 inch. Resolution: 800 x 480 pixels. Screen size 155 x 86 mm.

ENCLOSURE

Powder Coated Metal Matt White - RAL 9006
244 mm x 233 mm x 61 mm (L x H x D)

COMPATIBLE SENSORS

Works with all TraceTek leak detection cables (see technical datasheets) TT1000, TT1100, TT3000, TT5000, TT5001, TT7000
Works with AquiTron AT-PROBE-TS/M water leak detection probes (see technical datasheets)

MAXIMUM CIRCUIT LENGTH

150 metres Tracetek Sensing Cable per zone or 10 AquiTron AT-PROBE-M/TS

OPTIONAL AMBIENT SENSOR

Combined temperature and humidity sensor which can be directly connected and configured.

NUMBER OF CIRCUITS

Choice of 1, 2, 3 or 4 circuits up to 150 metres sensing cable or 10 probes on each.

SYSTEM MAP FORMAT

Drawing in PDF format

APPROVALS

LVD: 60950:2001 +A11:2004 EMC: Emission: EN61000-6-3 Immunity: EN61000-6-1 :2001

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

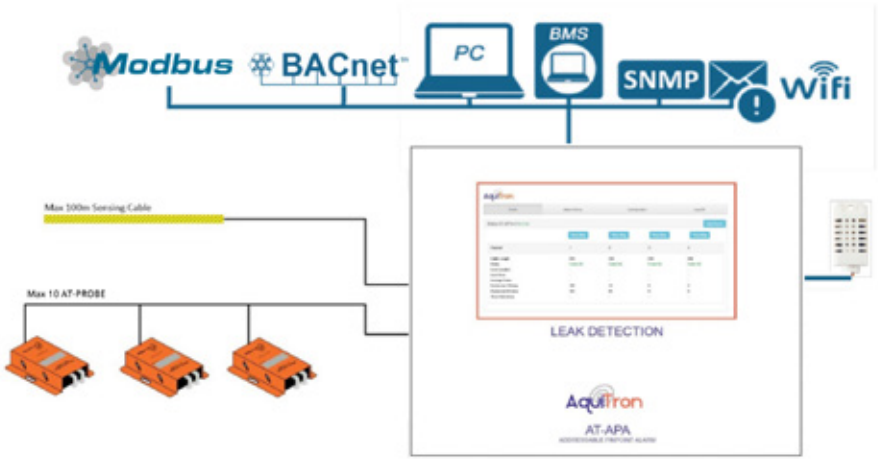
AT-APA
Adressable Pinpoint Alarm

ALARM NOTIFICATIONS

Onscreen display
Audible alarm
Alarm emails are sent automatically.
Via SNMP trap , Modbus register, BACNet.
Via connection to the built-in alarm relay

COMMUNICATION WITH THE BMS OR SNPMP MANAGEMENT SYSTEM

Modbus TCP/IP register, SNMP trap or BACNet



- Alarm module for water leak detection with touch screen, built-in web server and link to the BMS via the Modbus register or BACNet.
- All data and alarms can be continuously consulted via the LAN.
- Accurate indication of the location of the leak.
- Automatic alarm alert via relay, SNMP trap and alarm email.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AquiTron

AT-APA
Adressable Pinpoint Alarm

CONTENTS

1.0 Installing and Connecting the alarm module
2.0 Detailed configuration of the module using the integrated web server
3.0 Alarm on a leak detection cable
4.0 Alarm history
5.0 Configuration
6.0 Configuration of circuit 1, 2, 3 or 4
7.0 Configuration of optional ambient sensor
8.0 Modbus TCP/IP registers
9.0 BACNET Instances
10.0 Setting the IP address in a laptop or desktop (Windows Management System)
11.0 Routine Maintenance and Testing
12.0 Troubleshooting
13.0 Volt Free Relay with RC Snubber ADDENDUM
14.0 Wiring Examples
15.0 Volt Free Relay N/O and N/C Examples
16.0 Warranty

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR

+44 (0) 1403 216100

info@aquilar.co.uk

www.aquilar.co.uk

AquiTron

AT-APA
Adressable Pinpoint
Alarm

1. INSTALLING AND CONNECTING THE ALARM MODULE:

Mount the housing against the wall. Use the holes provided on the outside of the housing. Connect the cables to the module as shown in the diagram below. Holes are provided for this purpose in the bottom of the housing, together with cable glands.

A. CONNECTING THE POWER SUPPLY:

Depending on power supply selected connect the cable that powers the module to the 24 VAC, 12/24 VDC terminals or the 230Vac terminals.

B. ISOLATE SPARE SENSING ZONES CONNECTING THE LEAK DETECTION CIRCUITS:

Connect 4 two-wire water leak detection circuit cables (leak detection cable sensor or probe) to the GR-RE-YE-BL terminals of LEAK circuit 1, 2, 3 or 4.

⚠ **ATTENTION:** Note the colour of the cables to the terminals. GR = Green, RE = Red, YE = Yellow and BL = Black. Up to four separate circuits may be connected to the panel. If any circuits are left unused. These circuits must either be disabled in the software, or bridging wires must be used to connect the YE terminal to the BL terminal and the GR terminal to the RE terminals.

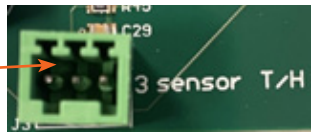
C. OPTIONAL: CONNECTING THE AMBIENT SENSOR:

The AT-APA-HTS comes with a 5m cable attached. The distance should not be increased. Connect the optional AT-APA-HTS sensor to the connector marked “sensor T/H”:

BL wire to terminal 1

YE wire to terminal 2

RE wire to terminal 3

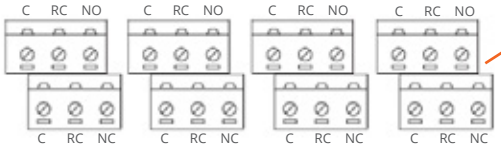


D. BOARD LAYOUT CONTACTS AND JUMPER POSITION:

The upper row of relay outputs (FAULT) switch each circuit in the event of a cable or system fault. These relays switch on if the module is connected to the power supply, and switch off if there is a power failure or system fault. The lower row of relay outputs (LEAK) switch each circuit in the event of an alarm. Relays NO and NC are now determined by jumper position as shown below, as default all jumper positions will be on the left side. Correct set up is described in Section 14.0 Addendum.

E. AT-APA BOARD LAYOUT:

Jumper default position (Left)



Relay default N/O and N/C positions with Jumper on left hand side

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR

+44 (0) 1403 216100

info@aquilar.co.uk

www.aquilar.co.uk

AT-APA
Adressable Pinpoint Alarm

CONNECTING TO THE COMPUTER NETWORK:

The network cable is connected to the module via an M20 RJ45 connector mounted on the bottom of the panel case. Correct Ethernet connection is indicated by the lights being on. This module contains an integrated web server. When correctly connected, the module can be accessed by all the computers on the network. All data from the module is transmitted to the BMS via the network, or the external alarm system via the Modbus TCP/IP register of BACnet. If you require relay contacts for sending to an external system, then connect a cable to the appropriate relays below the module.

Note: The AquiTron Addressable Pinpoint Alarm module is now ready for use. Additional settings for sending alarms or uploading a diagram must be done via the touch screen, or via a computer or tablet with a standard web browser.

Note: To prevent any risk of damage to the user or module, the power supply should only be switched on after all the cables are connected and the housing closed.

2. DETAILED CONFIGURATION OF THE MODULE USING THE INTEGRATED WEB SERVER:

Note: To log in to the configuration area, enter a password. The default password is “admin”. Select the box. A keyboard appears on the touchscreen. Enter this password, and the home page appears. You will now be able to enter the configuration page.

1.0 VIA WIFI NETWORK

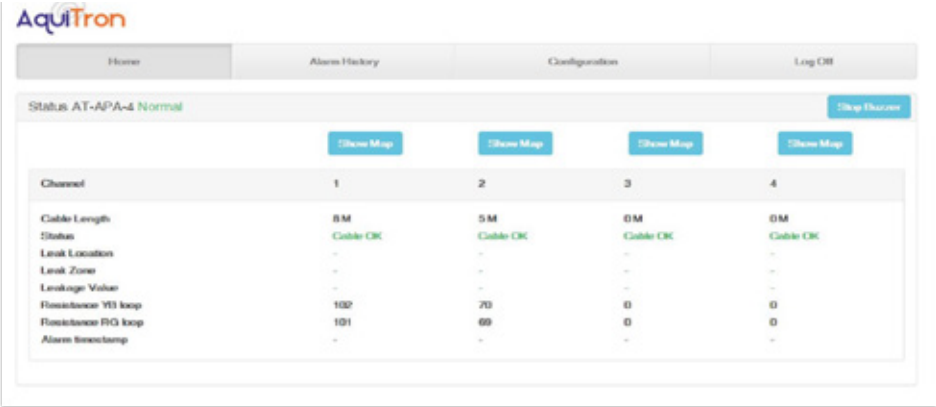
The AT-APA has its own “Aquitron_AT-APA” WiFi network. Connect to the WiFi network via tablet, laptop or computer. After the WiFi connection is established, open the web browser and enter the following address in the command bar: http://10.0.0.1. The home screen should now be shown on your device.

2.0 VIA HARDWIRED CONNECTION WITH A NETWORK CABLE

Connect a network cable between the AT-APA and the computer or laptop that will carry out the configuration. By default, the IP address of the AT-APA is set to 10.100.100.105. The computer or laptop must be in the same IP range to establish a connection (to make any modifications, see section 9 “Setting the IP address in a laptop or desktop” at the end of this document). After these modifications have been made, open the web browser and enter the following address in the command bar: http://10.100.100.105. The home screen below will appear on your computer.

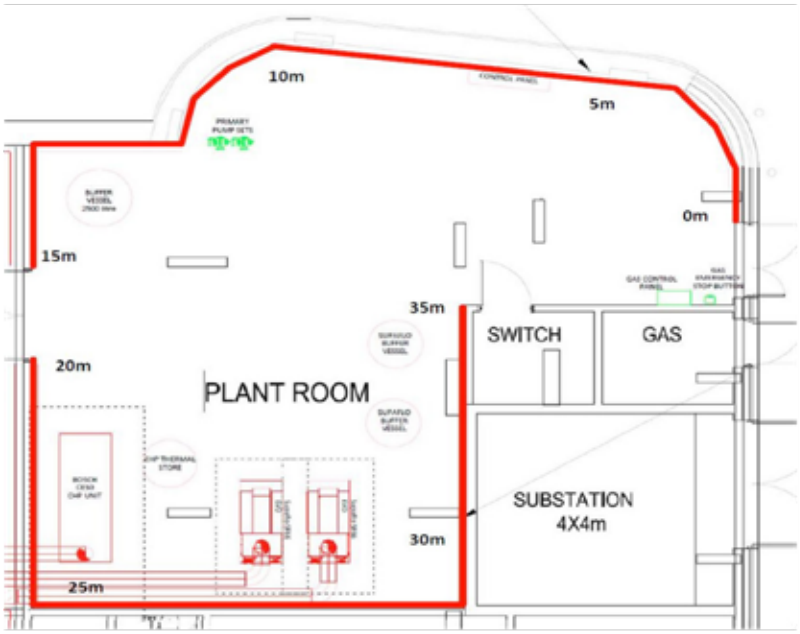
Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AT-APA
Adressable Pinpoint Alarm



The home page displays the system status and the status of the active leak detection circuits.

- Cable length: this is the total length of leak detection cable connected to a circuit.
- Status: this is the status of the leak detection cable (see below).
- Leak location: this is the location where the leak alarm is active.
- Leak zone: this is the zone where the leak alarm is active.
- Leak value: this is a value expressed in %, representing a leak.
- YB resistance loop: this is the measured resistance value in ohms of the Yellow-Black detection circuit.
- RG resistance loop: this is the measured resistance value in ohms of the Red-Green detection circuit.
- Alarm timestamp: this is the time when an alarm was activated.
- A PDF diagram of the leak detection area can be loaded into the AT-APA for each circuit. Click the “Show Diagram” button to view each circuit.



Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

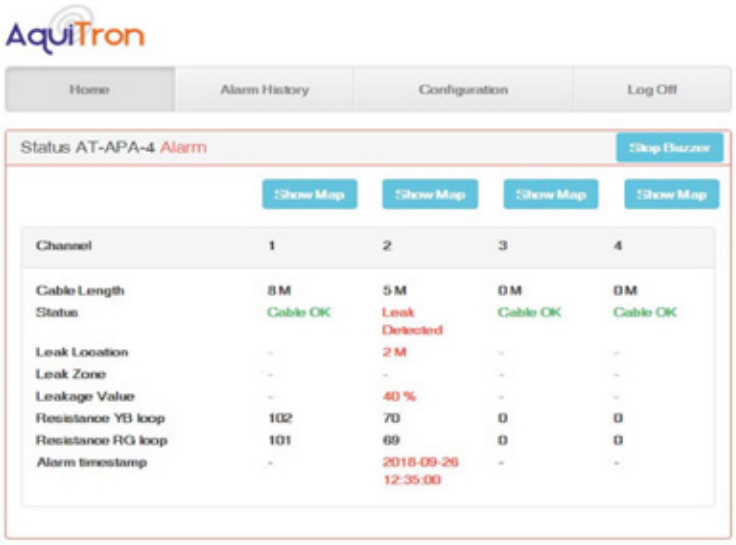
AT-APA
Adressable Pinpoint
Alarm

3. ALARM ON A DETECTION CABLE

If an alarm is activated by a leak detection cable or probe, it is displayed on the home page as follows:

ALARM BUZZER

The alarm buzzer is activated with each new alarm, and can be stopped by pressing “Stop Buzzer” on the touch screen. This buzzer can also be stopped remotely via the web application using a computer or tablet with access to the network.



4. ALARM HISTORY

All alarms activated in the AT-APA are stored in the memory, together with a timestamp. These events can be consulted at any time, and can also be downloaded to a CSV file. The last 15 alarms are always displayed. Select the date range to retrieve and download older events. All Events will be cleared by pressing the Clear Button.

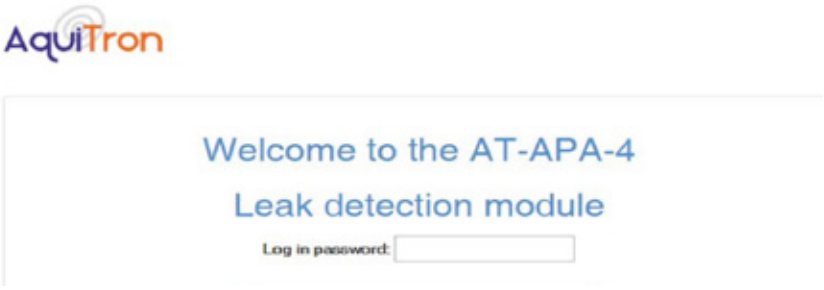
⚠ **Note:** The AT-APA has been designed to store a maximum of 1000 events on the system which can be viewed using the ‘Date From and Date To’ search bars.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

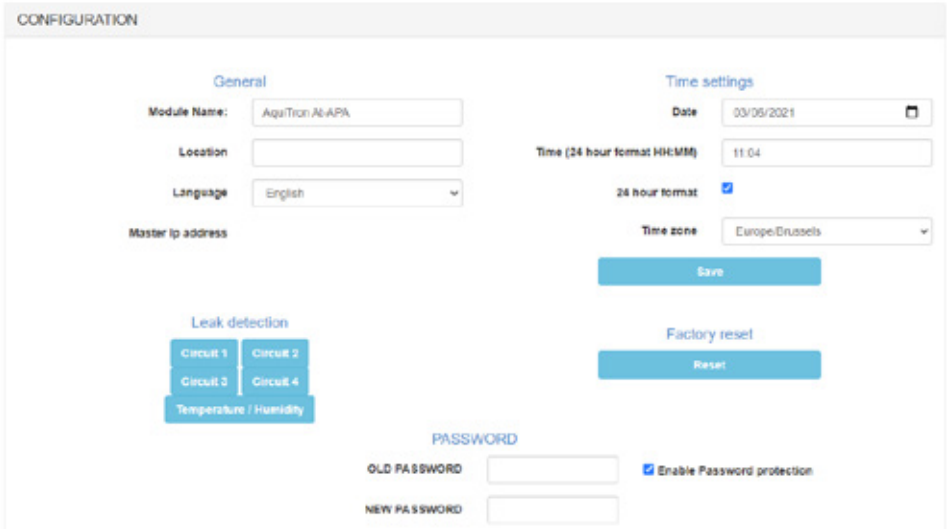
AT-APA
Adressable Pinpoint Alarm

5. CONFIGURATION

The AT-APA can be completely set up on the configuration page via the touchscreen, computer or tablet. To enter the configuration page a password must be entered.



Note: To log in to the configuration area, enter a password. The default password is "admin". Select the box. A keyboard appears on the touchscreen. Enter this password, and the home page appears. You will now be able to enter the configuration page.



OPTIONS AVAILABLE ON THIS PAGE ARE:

General: enter a name and location for the panel and select the language if required.

Leak detection settings: click on circuit 1, 2, 3, 4 and/or Ambient to adjust the settings of the leak detection cables and ambient sensor.

Password: the login password can be modified here. First enter the old password, then the new password and click 'Save'. if Enable password is ticked, each screen will be password protected and would require the user to enter a password.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

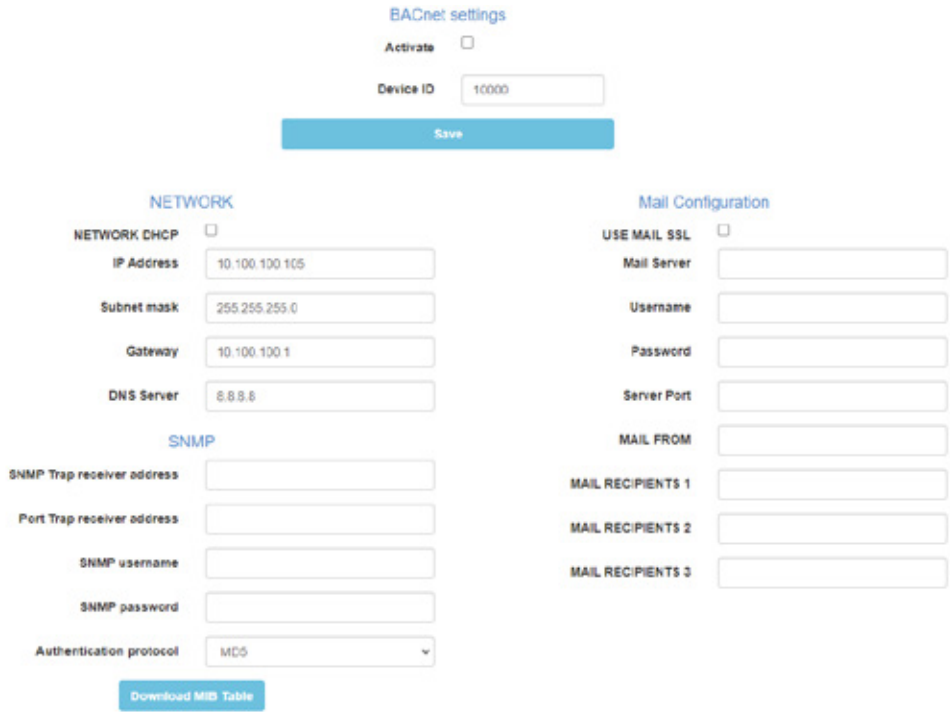
AT-APA
Adressable Pinpoint Alarm

⚠ **Warning:** Please keep the new password in a safe location. If the password is changed then lost you will not be able to access the configuration area of your panel without returning it to Aquilar for a factory reset. This will result in all settings, including history, being lost. **Factory reset due to a lost password is not considered a warranty issue and is chargeable.**

Date, Time & Time Zone: adjust the data and time and select the appropriate time zone.

Factory Reset: when pressed the panel will be reset to its default factory settings. Please note that the individual circuits will need to be activated as the factory reset will deactivate all the 4 channels.

BACNet Settings: this sections gives you the option to activate BACNet. The user will require to input a Device ID for the Panel to be recognised on the BACNet network.



Network Configuration: select whether to use a fixed IP address or a DHCP address. Enter the settings if a fixed IP address is used.

SNMP: enter the settings for the SNMP trap receiver if an SNMP trap must be sent in the event of an alarm. The MIB table can also be downloaded with the 'Download MIB Table' button. Note: The 'Sent SNMP Trap' option must still be selected on the relevant circuit configuration page under alarm action definition for SNMP traps to actually be sent.

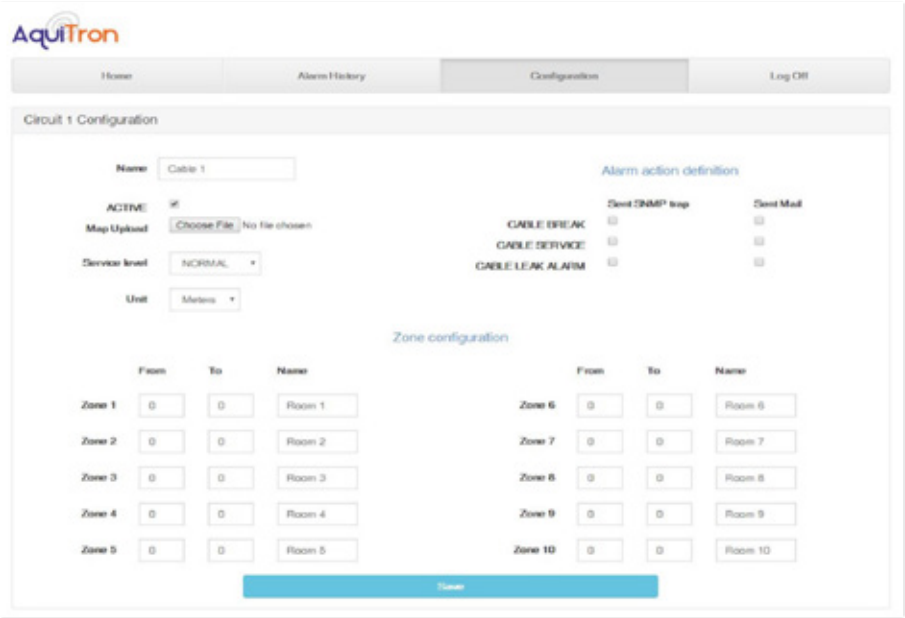
Email Configuration: enter the settings for the mail server and the recipients if an alarm email must be sent in the event of an alarm. Click 'Save' to save the settings. Note: The 'Sent Mail' option must still be selected on the relevant circuit configuration page under alarm action definition for email notifications to actually be sent.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AT-APA
Adressable Pinpoint Alarm

6. CONFIGURATION OF CIRCUIT 1, 2, 3 AND / OR 4

Clicking on one of the circuit buttons opens a new page where configuration options for each individual circuit can be entered or adjusted.



OPTIONS AVAILABLE ON THIS PAGE ARE:

Name: Enter a name or location for the leak detection circuit.

Active: Tick the box if a circuit is not used or no detection cable is connected. Unticking this box will disable the circuit even if sensing cable is attached.

Diagram upload: Select the PDF diagram of the circuit. This diagram is then loaded into the module, and can be retrieved via the home page (see section 3.).

Service level: This setting adjusts the level of circuit service alarm sensitivity to either LOW, NORMAL, HIGH or DISABLED.

Unit: Select 'Metres' or 'Feet'.

Zone configuration: The detection cable can be divided into 10 detection zones. Enter the start and end values and name of each detection zone. Weighted lengths should be used on the circuit to ensure distinction of areas. Care must be taken when using this option to make certain the maximum 'sensing' length of 100m is not exceeded with the combination of cable and weighted lengths.

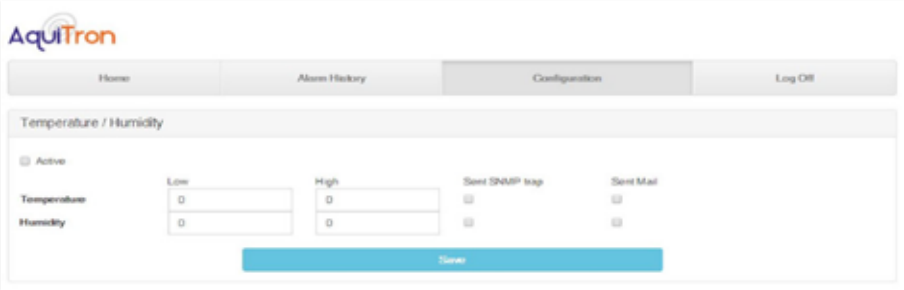
Alarm action definition: Select the additional action to be activated in the event of a specific alarm.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AT-APA
Adressable Pinpoint
Alarm

7. CONFIGURATION OF OPTIONAL AMBIENT SENSOR

Clicking on one of the circuit buttons opens a new page where configuration options for each individual circuit can be entered or adjusted.



OPTIONS AVAILABLE ON THIS PAGE ARE:

Active: Tick if an ambient sensor is connected.

Temperature: Enter minimum and maximum temperature limits and indicate how you want to receive an alarm message if these limits are exceeded.

Humidity: Enter minimum and maximum humidity limit and indicate how you want to receive an alarm message if these limits are exceeded.

Service level: This setting adjusts the level of circuit service alarm sensitivity to either LOW, NORMAL, HIGH or DISABLED.

8. MODBUS TCP/IP REGISTERS

This information is only intended for those who set up and program BMS systems. The following data can be read out by a BMS via the ModBus TCP/IP communication protocol on the standard 502 IP port.

Register 30001	Circuit 1	Total cable length in metres
Register 30002	Circuit 1	Total cable length in feet
Register 30003	Circuit 1	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
Register 30004	Circuit 1	Leak location in metres
Register 30005	Circuit 1	Leak Zone
Register 30006	Circuit 1	Leak value in %
Register 30007	Circuit 2	Total cable length in metres
Register 30008	Circuit 2	Total cable length in feet

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AquiTron

AT-APA
Adressable Pinpoint
Alarm

Register 30009	Circuit 2	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
Register 30010	Circuit 2	Leak location in metres
Register 30011	Circuit 2	Leak Zone
Register 30012	Circuit 2	Leak value in %
Register 30013	Circuit 3	Total cable length in metres
Register 30014	Circuit 3	Total cable length in feet
Register 30015	Circuit 3	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
Register 30016	Circuit 3	Leak location in metres
Register 30017	Circuit 3	Leak Zone
Register 30018	Circuit 3	Leak value in %
Register 30019	Circuit 4	Total cable length in metres
Register 30020	Circuit 4	Total cable length in feet
Register 30021	Circuit 4	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
Register 30022	Circuit 4	Leak location in metres
Register 30023	Circuit 4	Leak Zone
Register 30024	Circuit 4	Leak value in %
Register 30025	Temperature Value	Temperature*10
Register 30026	Temperature Status	0 = normal 1 = too low 2 = too high
Register 30027	Humidity value	Humidity*10
Register 30028	Humidity status	0 = normal 1 = too low 2 = too high

9. BACNET INSTANCES

This information is only intended for those who set up and program BMS systems.

The following data can be read out by a BMS via the BACNET communication protocol.

1	C1LM	Circuit 1	Total cable length in metres
2	C1LF	Circuit 1	Total cable length in feet
3	C1LS	Circuit 1	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
4	C1LL	Circuit 1	Leak location in metres
5	C1LZ	Circuit 1	Leak Zone

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR

+44 (0) 1403 216100

info@aquilar.co.uk

www.aquilar.co.uk

AquiTron

AT-APA
Adressable Pinpoint Alarm

6	C1LV	Circuit 1	Leak value in %
7	C2LM	Circuit 2	Total cable length in metres
8	C2LF	Circuit 2	Total cable length in feet
9	C2LS	Circuit 2	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
10	C2LL	Circuit 2	Leak location in metres
11	C2LZ	Circuit 2	Leak Zone
12	C2LV	Circuit 2	Leak value in %
13	C3LM	Circuit 3	Total cable length in metres
14	C3LF	Circuit 3	Total cable length in feet
15	C3LS	Circuit 3	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
16	C3LS	Circuit 3	Leak location in metres
17	C3LZ	Circuit 3	Leak Zone
18	C3LV	Circuit 3	Leak value in %
19	C4LM	Circuit 4	Total cable length in metres
20	C4LF	Circuit 4	Total cable length in feet
21	C4LS	Circuit 4	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
22	C4LL	Circuit 4	Leak location in metres
23	C4LZ	Circuit 4	Leak Zone
24	C4LZ	Circuit 4	Leak value in %
25	TV	Temperature Value	Temperature*10
26	TS	Temperature Status	0 = normal 1 = too low 2 = too high
27	HV	Humidity value	Humidity*10
28	HS	Humidity status	0 = normal 1 = too low 2 = too high

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR

+44 (0) 1403 216100

info@aquilar.co.uk

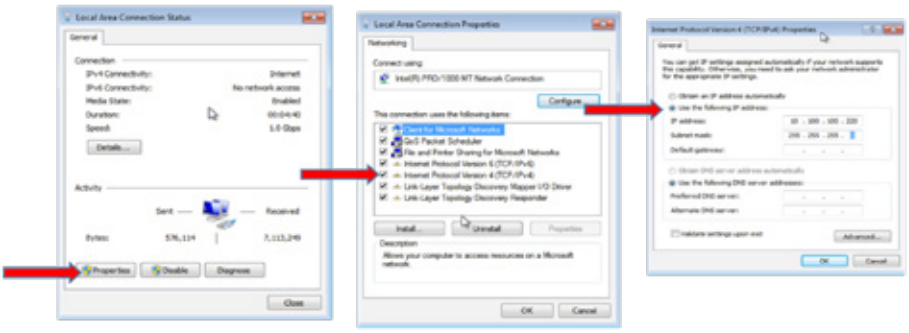
www.aquilar.co.uk

AT-APA
Adressable Pinpoint
Alarm

10. SETTING THE IP ADDRESS IN A LAPTOP OR DESKTOP (WINDOWS MANAGEMENT SYSTEM)

In order to open the web page of the AT-APA, it must be accessed from a computer in the same IP address range as the AT-APA. Communication can be established as follows:

- Use a network cable to connect the computer or laptop with the AT-APA.
- Open 'Settings' then 'Network Centre/Adaptor Settings' to change the IP address of the computer.



- Within the properties of IPV 4 set the computers IP to: 10.100.100.220
- The computer will now use IP address 10.100.100.220 as default.
- Connect the network cable between the computer and the AT-APA. Enter the IP address (10.100.100.106) in the web browser and the web page of the AT-APA will open.

Alternatively the AT-APA can be set to communicate with your existing network. There are two options to achieve this.

1. On the configuration within the Network area select the Network DHCP box so it is ticked. Select save button at the bottom of the page. The units IP will now be allocated via DHCP. Scan your system for AD4net.local to identify the panels IP address.
2. For the panel to sit on a fixed IP enter the required information and then select the save button at the bottom of the page.

Once you have the panels IP address via either method you will be able to log onto the panel using a standard browser window, where real time status information will be shown and configuration changes can be made.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR

+44 (0) 1403 216100

info@aquilar.co.uk

www.aquilar.co.uk

AT-APA
Adressable Pinpoint
Alarm

11 ROUTINE MAINTENANCE AND TESTING

Perform a functional check per the following procedure as a minimum of 12-month intervals. Repair or replace all damaged wiring, probes and sensor cables. Such a check will identify conditions that adversely affect the capability of the system.

More frequent checks may be required if the sensing cable is repeatedly exposed to leaks, or if construction or repair work is done where the sensing cable or probes may be exposed. Apart from fuse replacement there are no field repair procedures for the AT- APA panel. If the module fails to perform the functional tests it must be returned to your supplier for repair or replacement.

Contact your local AquiTron representative for further information on service and maintenance support.

ROUTINE TEST PROCEDURE

1. Complete a system inspection. This should include sensors and jumper/leader cables. They should be clean and free from debris. Any damaged items should be replaced.
2. Ensure an up to date “as fitted plan(s)” showing the location of the zone and sensors is available, either loaded onto the unit, adjacent to it or in a safe place.
3. Check that the following information is clearly visible adjacent to the alarm module:

    - “In case of alarm” instruction.
    - Location of the system “as fitted plan(s)” in case it is not installed on or adjacent to the alarm module.
    - Name and contact number of the person responsible for operating the system
    - Supplier’s contact name and address. Or details of the installation/maintenance company.

TEST PROCEDURE FOR THE AT-APA

Check the display is working as expected.

Check each zone is operating as expected for both leak and fault conditions by simulating both. Ensure that each alarm:

- Is displayed on screen correctly
- The relevant relay is operating correctly

Check function of any attached devices, such as remote sounders.

If the panel has a battery back-up fitted this should be tested for function and the battery condition checked.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AT-APA
Adressable Pinpoint
Alarm

12 TROUBLESHOOTING

POWER

Problem : Screen is not illuminated

Possible Cause: Screen is in 'power save' mode. No power to alarm panel. Mains or internal fuse blown.

Action: Touch screen to wake up. Check 3A fuse within spur, replace if necessary. Verify mains power present at mains terminals of panel. Please note that on board internal fuse is non replaceable. If panel remains inoperative please contact supplier.

RELAY OUTPUTS

Problem : No power from the relay

Possible Cause: Relays are volt free contacts. No power is available from them.

Action: Rewire to use relay as a switch from an external power source. Please see relay connection addendum. Check correct jumper position for N/O or N/C function.

Problem : Solenoid valve opening when expected to be closed (or vica versa), or other connected equipment behaving in the opposite manner to required. Paying particular attention to the break/fault relay as it is energized when the alarm is powered.

Possible Cause: Cable is connected to incorrectly.

Action: Refer to relay wiring section for correct wiring.

Possible Cause: Relay jumper position is incorrect.

Action: Refer to Volt Free Relay section and re-position jumper as required.

WATER SENSING

Problem : Leak or Service Alarm, but no leak is found.

Possible Cause: Sensing cable is dirty or contaminated.

Action: Clean cable using water (no solvents, acetone, white spirit or turps). Dry the cable and check front panel. Heavily contaminated cable may require replacement. But if dirt is accumulating, cleaning and/or replacement will eventually be required.

Problem : Leak Alarm, but no leak is found.

Possible Cause: Sensing cable is exposed to occasional water spraying.

Action: It is best to keep the sensor cable at least 1 meter (3 feet) from the airflow of any air conditioning units, or areas where occasional wetting of the sensor could be expected.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AquiTron

AT-APA
Adressable Pinpoint Alarm

Problem : Leak Alarm, but no leak is found.

Possible Cause: Cable is in contact with sharp metal edges.

Action: Check the sensor cable for possible points of contact with sharp edges such as the edges of drip trays or the pipe threads on adjustable floor supports trunking and ducting. Reposition the cable as necessary or insert a small piece of insulating material to prevent the cable from making contact with the metal edge.

FUEL OIL SENSING

Problem : Leak Alarm, but no leak is found.

Possible Cause: Cable is pinched (TT5000 cable)

Action: Check the sensor cable for possible pinch points. TT5000 can indicate a leak if tightly bent or compressed by a heavy object.

Problem : Leak Alarm.

Possible Cause: Probe or sensing cable is contaminated (TT5000 cable)

Action: Locate the spill area, investigate the cause of the spill and take necessary repair actions. Clean up in the spill area and clean and dry the probe, if necessary. Any TT5000 cable contaminated with hydrocarbons (oil, fuel etc.) will need to be replaced, it cannot be cleaned and re-used. Leak LED will turn off when cable/probe is replaced/dried and reset button is pressed.

FAULT ALARM

Problem : Fault output to BMS but no fault indicated on zones.

Possible Cause: Mains power lost to panel.

Action: Check mains power is connected and turned on. Check fuses. Test and replace as necessary.

Problem : Fault (including noise fault) indicated, but no obvious fault found.

Possible Cause: Loose connection on sensing circuit.

Action: Check all connections are sufficiently tightened within the alarm panel, connectors are fully pressed home, and any modular connectors are fully tightened. If using TT1000 sensing cable or AT-PROBE-M ensure the TT-MET-PC end termination is fitted properly on the end of line. If using AT- PROBE-TS ensure the last probe has end of line terminations (cable loops) fitted.

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR

+44 (0) 1403 216100

info@aquilar.co.uk

www.aquilar.co.uk

AT-APA
Adressable Pinpoint Alarm

Problem : Fault indicated, but no obvious fault found.

Possible Cause: Sensing cable or probe faulty or damaged.

Action: Check sensors for damage, test and replace as necessary.

Problem : Fault indicated, but no obvious fault found.

Possible Cause: Short to earth on sensing circuit.

Action: Check sensing cables or probes are not earthed. Pins on probes should be positioned not touching metal surfaces. Sensing cable not positioned running over sharp metal surfaces (drip tray edges, false floor support pedestals etc.)

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR

+44 (0) 1403 216100

info@aquilar.co.uk

www.aquilar.co.uk

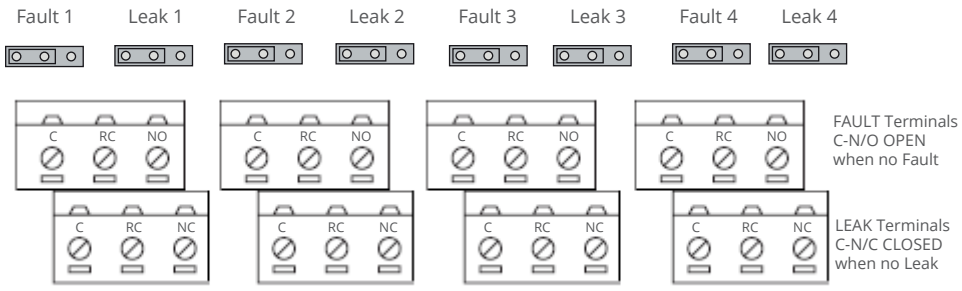
AT-APA
Adressable Pinpoint Alarm

13 VOLT FREE RELAY- ADDENDUM

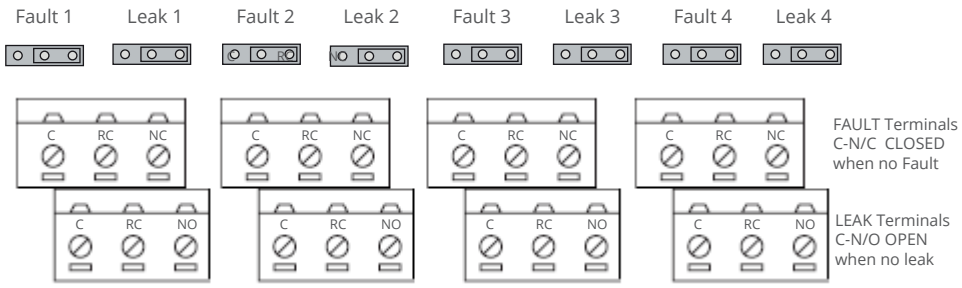
All leak detection alarm panels supplied by Aquilar are provided with, at least one, volt free relay.These are also known as volt free contacts or dry contacts. They are used to operate auxiliary equipment such as – valves, sounders, pumps, beacons etc., sending closed or open contact signals to Building Management Systems (BMS) or other logic level controls.
As the name suggests, there is no voltage present at the terminals. For example, to operate a solenoid valve 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.

Note: The latest verision of the AT-APA Motherboard layout is below, detailing the updated relay operation and how they are activated through jumper positioning.

Relay connector layout situation A, jumpers in LEFT position (Default)



Relay connector layout situation A, jumpers in RIGHT position



FAULT Relay N/O position Jumper in LEFT position (Default

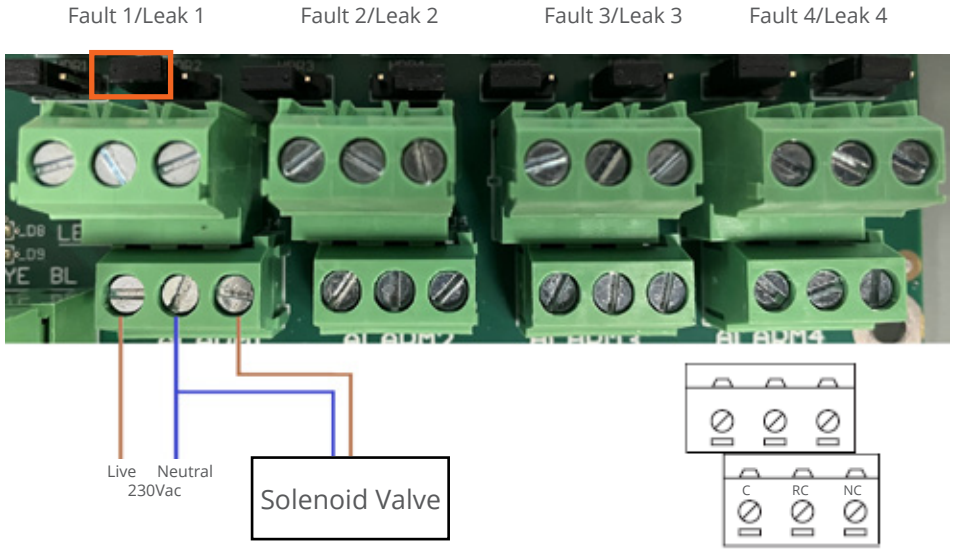
Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AT-APA
Adressable Pinpoint Alarm

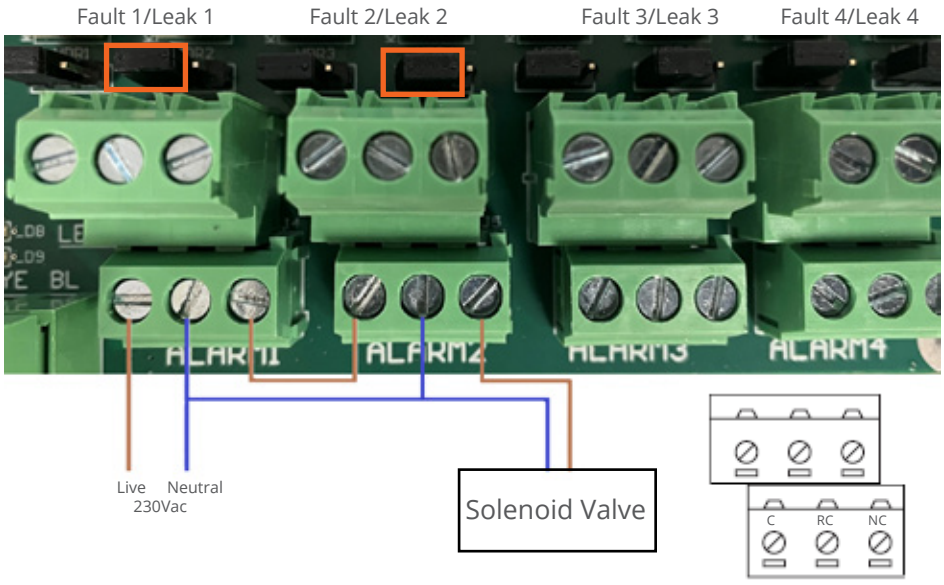
14 APPLICATION WIRING EXAMPLES

Below shows when there is no leak, the solenoid will be powered. If there is a leak, the relay will operate and C will no longer be connected to NC. The internal RC snubber over terminals RC and NC prevents arcing and unwanted noise during the relay opertion.

The example below shows the operation of a solenoid valve in relay LEAK 1 (Normally Closed position requiring power to open):



Below shows how you link one or more relays so the solenoid valve in relay LEAK 1 and LEAK 2 requires power to open when set in Normally Closed position as per jumpers:

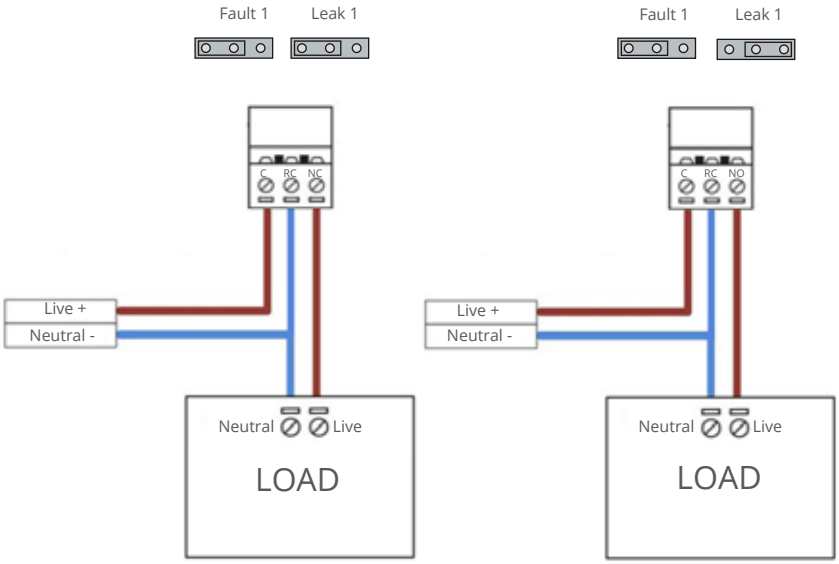


Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk

AT-APA
Adressable Pinpoint Alarm

15 VOLT FREE RELAY N/C AND N/O EXAMPLES

Please configure jumper position when being used as a volt free relay as below:



⚠ 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.

16 WARRANTY

The warranty is valid for 5 years against all manufacturing defects. Installation instructions must be strictly observed, please refer to Aquilar Terms and Conditions available on this link.

Important: All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. Aquilar Limited makes no warranty as to the accuracy or completeness of the information, and disclaims any liability regarding its use. The only obligations of Aquilar Limited are those in the Aquilar Standard Terms and Conditions of Sale for this product, and in no case will Aquilar Limited be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use or misuse of the product. Specifications are subject to change without notice. In addition, Aquilar Limited reserves the right to make changes – without notification to Buyer – to processing or materials that do not affect compliance with any applicable specification.

AquiTron is a trademark of *AquiTron Limited*
Aquilar is a trademark of *Aquilar Limited*

Unit 30, Lawson Hunt Industrial Park,
Broadbridge Heath, Horsham, West Sussex,
RH12 3JR
+44 (0) 1403 216100
info@aquilar.co.uk
www.aquilar.co.uk