

# AquiTron

# AT-APA

Addressable Pinpoint Alarm



## INSTALLATION 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. 6 leak detection probes or up to 100 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.

### B. PRODUCT INFORMATION

#### APA

230/120Vac, 50/60Hz, 12Vdc, 7 watts

#### POWER CONSUMPTION

10 watt maximum

#### RELAYS

**Number:** 2 independent potential-free relay contacts. 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

#### TOUCHSCREEN

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

#### ENCLOSURE

Powder Coated Metal 200 mm x 240 mm x 55 mm (L x H x D)

#### TYPES OF LEAK DETECTION CABLE

Works with all TraceTek leak detection cables (see technical datasheets)(TT1000, TT1100, TT3000, TT5000, TT5001, TT7000)

#### TYPES OF DETECTION PROBES

Works with AT-PROBE-TS/M water leak detection probes (see technical datasheets)

#### MAXIMUM CIRCUIT LENGTH

100 metres Tracetek Cable (328 ft) per zone or 6 x 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 100 metres sensing cable or 6 probes on each.

#### CONNECTION TO NETWORK

LAN via RJ45 connector.

#### CONNECTION TO MODULE

Via the built-in WiFi, or via a LAN connection.

#### LOADING OF DIAGRAM

Diagram in PDF format

#### APPROVALS

LVD: 60950:2001 +A11:2004

EMC: Emission: EN61000-6-3

Immunity: EN61000-6-1 :2001

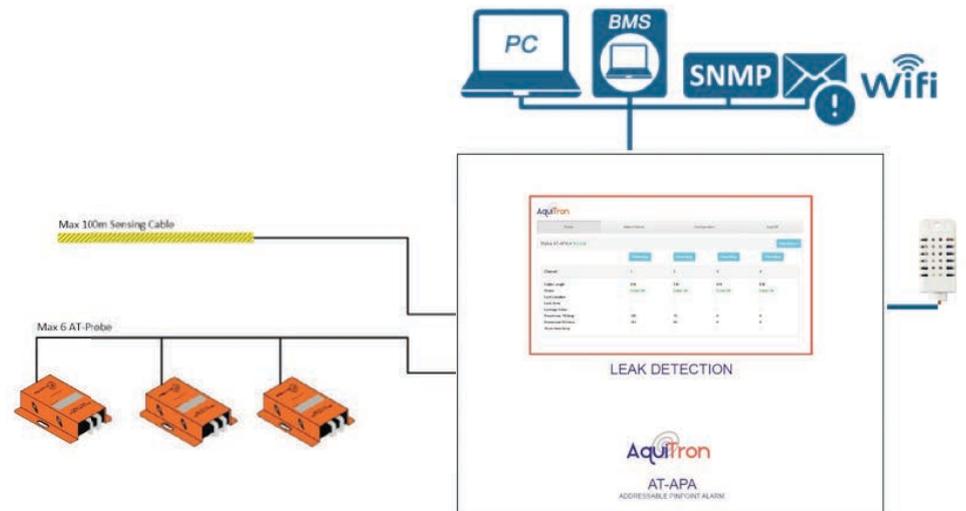
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### ALARM NOTIFICATIONS

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

### COMMUNICATION WITH THE BMS OR SNMP MANAGEMENT SYSTEM

- Modbus TCP/IP register SNMP trap



- Alarm module for water leak detection with touchscreen, built-in web server and link to the BMS via the Modbus register.
- 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.

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## AT-APA Addressable 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 available connect the cable that powers the module to the 24 VAC, 12/24 VDC terminals or the 230Vac terminals.

- Connect the black wire to terminal 1
- Connect the yellow wire to terminal 2
- Connect the red wire to terminal 3

The AT-APA-HTS comes with a 5m cable attached. This can be cut down to required length. But distance should not be increased.

#### 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.

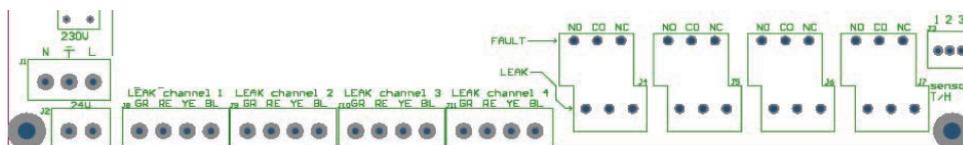
**ATTENTION:** Note the colour of the cables to the terminals. G = Green, R = Red, Y = Yellow and B = Black. Up to four separate circuits may be connected to the panel. If any circuits are left unused. These circuits must either be disabled in the software, or bridging wires must be used to connect the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

#### C. OPTIONAL: CONNECTING THE AMBIENT SENSOR:

Connect the optional AT-APA-HTS sensor to the connector marked "sensor T/H" on the bottom right:

#### D. NOTIFICATION VIA RELAY CONTACTS:

All data from the module is transmitted to the BMS via the network, or the external alarm system via the Modbus TCP/IP register. However, if you require relay contacts for sending to an external system, then connect a cable to the appropriate relays below the module. 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.



#### 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

**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 touchscreen, 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.

## AT-APA Addressable Pinpoint Alarm

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

The detailed settings of the AT-APA can be changed with the touchscreen or by the web application that can be accessed via a standard web browser. There are two ways to connect to the web application; via a hardwired network cable connection, or the AT-APA's Wi-Fi connection.

#### 1.0 VIA TOUCHSCREEN

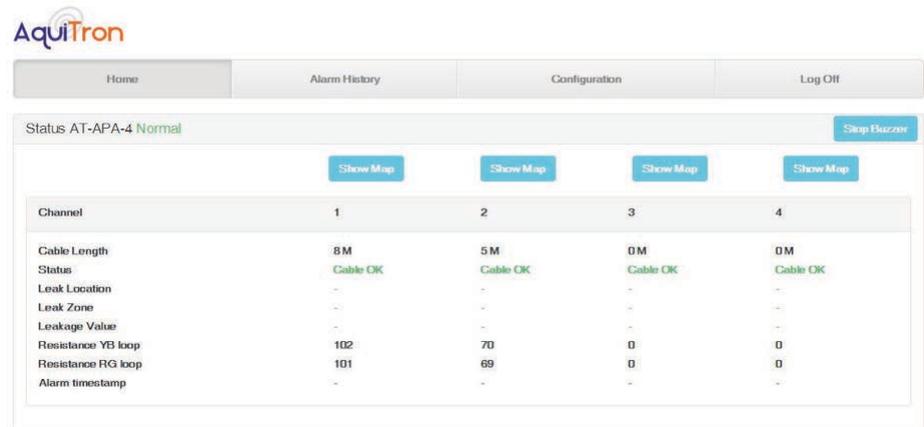
The AT-APA features a built-in touchscreen where detailed settings can be changed easily. If fields where data has to be entered are selected, an onscreen keyboard appears.

#### 2.0 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.

#### 3.0 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 10.100.100.106. 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://10.100.100.106`. The home screen below will appear on your computer.



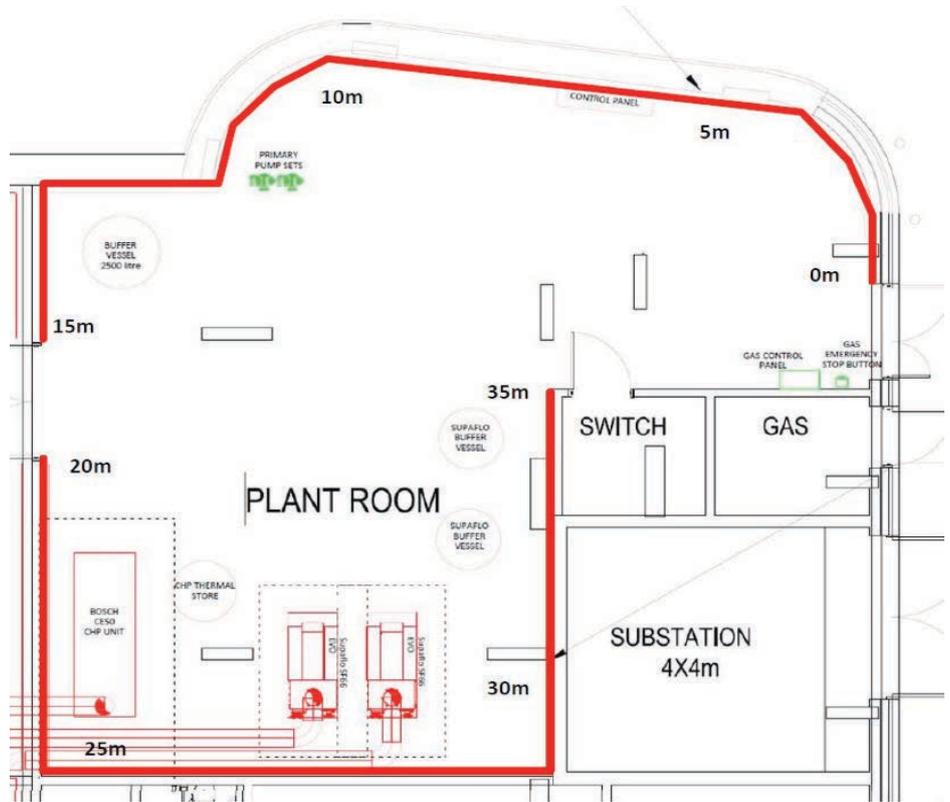
Channel	1	2	3	4
Cable Length	8M	5M	0M	0M
Status	Cable OK	Cable OK	Cable OK	Cable OK
Leak Location	-	-	-	-
Leak Zone	-	-	-	-
Leakage Value	-	-	-	-
Resistance YB loop	102	70	0	0
Resistance RG loop	101	69	0	0
Alarm timestamp	-	-	-	-

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 %, where 100% represents 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.

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- A PDF diagram of the leak detection area can be loaded into the LDM for each circuit. Click the “Show Diagram” button to view each circuit.



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**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 touchscreen. This buzzer can also be stopped remotely via the web application using a computer or tablet with access to the network.



Channel	1	2	3	4
Cable Length	8 M	5 M	0 M	0 M
Status	Cable OK	Leak Detected	Cable OK	Cable OK
Leak Location	-	2 M	-	-
Leak Zone	-	-	-	-
Leakage Value	-	40 %	-	-
Resistance YB loop	102	70	0	0
Resistance RG loop	101	69	0	0
Alarm timestamp	-	2018-09-26 12:35:00	-	-

**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.



ALARMS TIMESTAMP	ALARMS DESCRIPTION
2018-09-10 16:51:57	Cable break on 4 cable
2018-09-10 16:51:55	Cable break on 3 cable
2018-09-10 16:51:53	Cable break on 2 cable
2018-09-10 16:51:51	Cable break on 1 cable

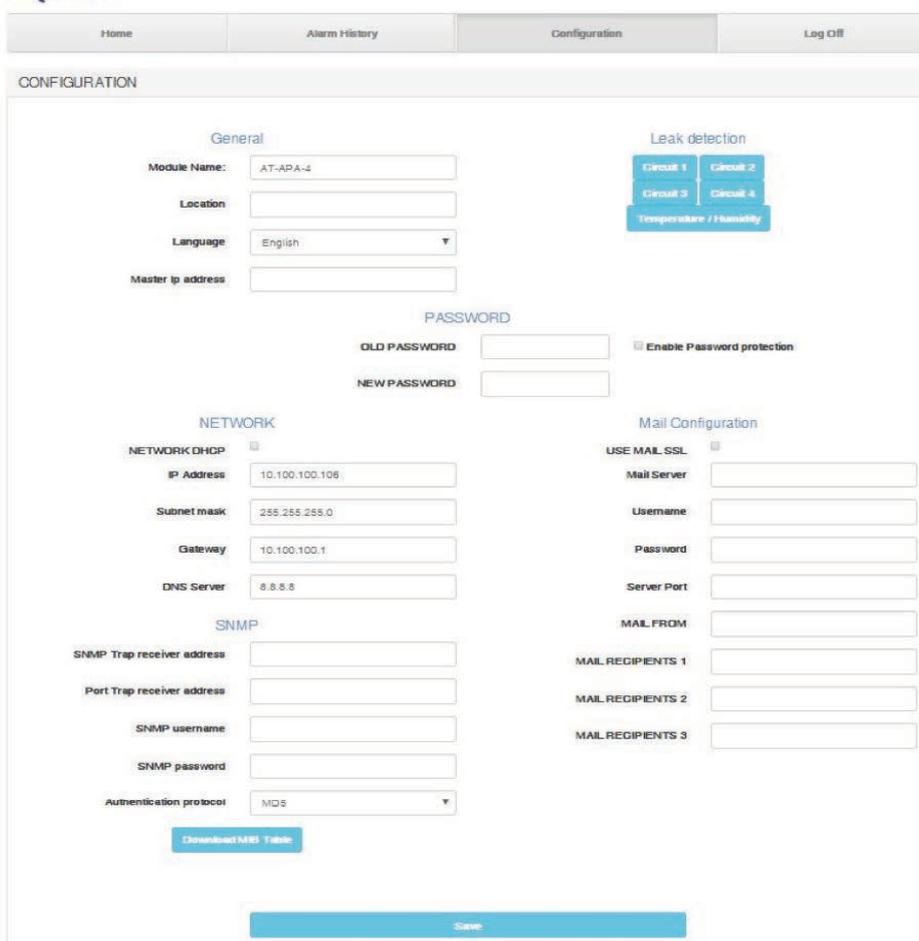
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**5 CONFIGURATION**

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.



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### 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 you do not tick Enable Password Protection, no password is required to access the data. A password is always required for configuration.



**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.

**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.

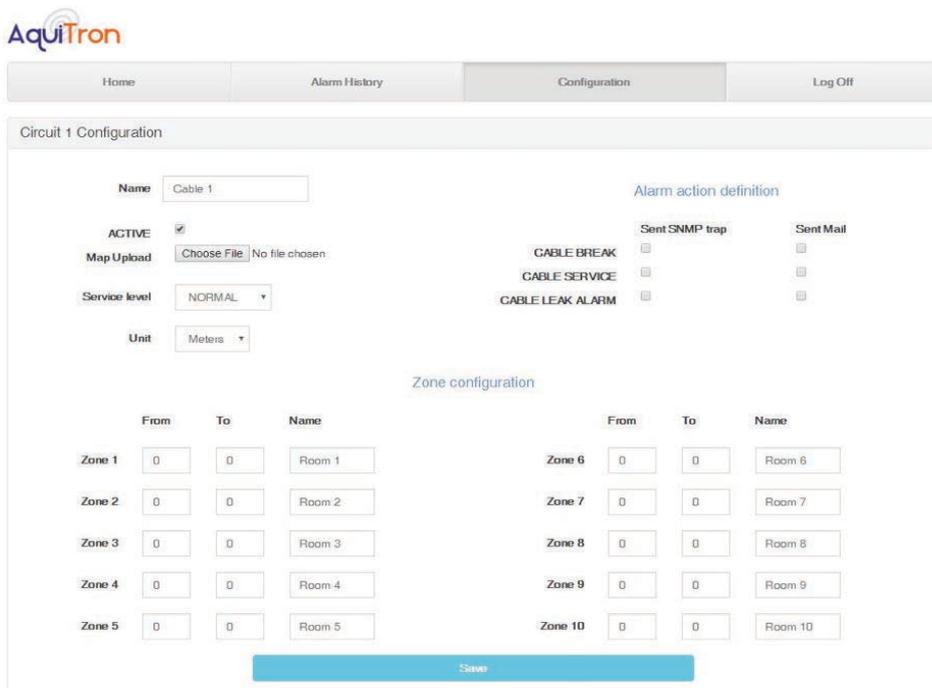
**Email Configuration:** enter the settings for the mail server and the recipients if an alarm email must be sent in the event of an alarm. Click 'Save' to save the settings. Note: The 'Sent Mail' option must still be selected on the relevant circuit configuration page under alarm action definition for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

**Leak detection settings:** click circuit 1, 2, 3, 4 and/or Ambient to configure the settings of the leak detection cables.

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**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:**

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

**Active:** untick 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'.

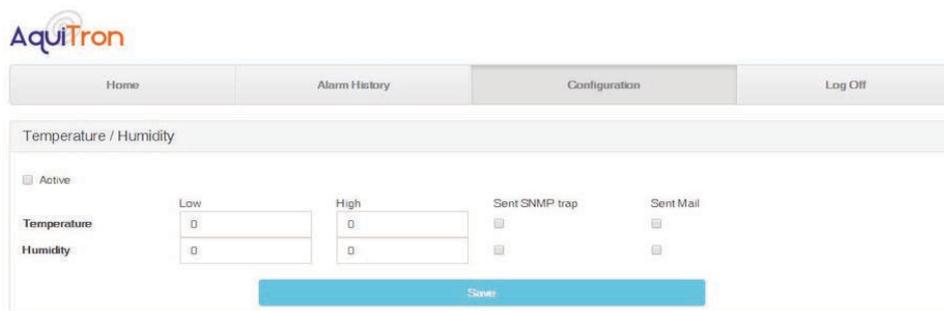
**Zone configuration:** the detection cable can be divided into 10 detection zones. Enter the start and end values, and name of each detection zone. Weighted lengths should be used on the circuit to ensure distinction of areas. Care must be taken when using this option to make certain the maximum 'sensing' 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.

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**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:**

**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.

**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.

<b>Register 30001</b>	Circuit 1	Total cable length in metres
<b>Register 30002</b>	Circuit 1	Total cable length in feet
<b>Register 30003</b>	Circuit 1	Leak detection cable status 0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
<b>Register 30004</b>	Circuit 1	Leak location in metres
<b>Register 30005</b>	Circuit 1	Leak zone
<b>Register 30006</b>	Circuit 1	Leak value in %
<b>Register 30007</b>	Circuit 2	Total cable length in metres
<b>Register 30008</b>	Circuit 2	Total cable length in feet
<b>Register 30009</b>	Circuit 2	Leak detection cable status (0=Normal, 1 = Service, 2 = Leak, 3 = Cable fault)
<b>Register 30010</b>	Circuit 2	Leak location in metres

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

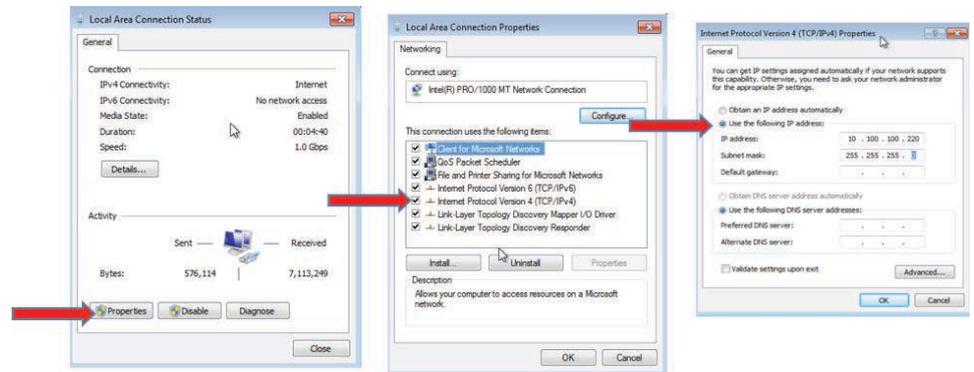
## 9 SETTING THE IP ADDRESS IN A LAPTOP OR DESKTOP (WINDOWS MANAGEMENT SYSTEM)

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.

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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.

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### 10 GUARANTEE

The guarantee is valid for 3 years against all manufacturing defects. Installation instructions must be strictly observed. The unit must be installed and serviced by a competent person and used for the purpose it is designed for. The guarantee only applies to the unit itself. The costs of removal and re-installation of the unit are excluded. If repairs are required during the guarantee period, the unit will be repaired free of charge, re-set and returned to the customer. If the unit cannot be repaired, it will be replaced by a similar one. If this type of unit is no longer made, it will be replaced by the newer version. The guarantee only applies to equipment manufactured and supplied by the manufacturer. Any additional components installed by the customer are excluded.

The above guarantee does not apply under the following circumstances:

- Damage to the unit due to incorrect manipulation at time of installation
- Damage to the unit due to use in abnormal circumstances
- Unit dismantled or modified by other than the technical services of the manufacturer
- Unit damaged by impact, violence, fire, frost, lightning, flood, current surge or water damage
- Damage to or removal of the guarantee seal.

The manufacturer does not authorise any person or organisation to conclude contracts or other commitments in the name of the manufacturer.

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