

***Technician use only – This procedure must be carried out by a suitably qualified technician in accordance with these instructions and the standards set down in their particular industry/country.**

Introduction

The frequency and nature of testing or calibration may be determined by local regulation or standards. EN378 and the FGAS Regulation require an annual check in accordance with the manufacturer's recommendation.

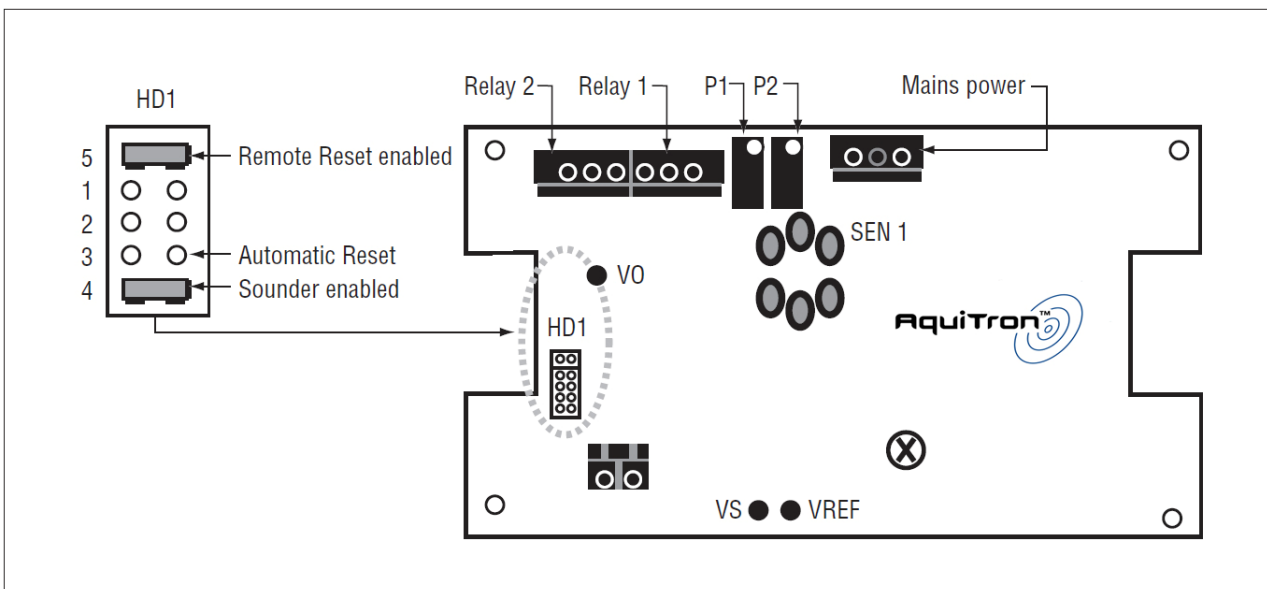
Aquilar recommends annual checks by resetting units electrically to the factory calibration settings and carrying out a bump test to ensure correct operation. This procedure should also be carried out to ensure correct functionality if the AT-G-SENSE has been exposed to a large leak.

Bump Test: This consists of exposing the sensor to a gas. The objective is to establish if the sensor is reacting to the gas and all the sensor outputs are working correctly. It is required in EN 378 to record the test results in the Logbook.

Before you carry out the test or calibration procedure:

- 1 - Advise occupants, plant operators and supervisors
- 2 - Check if the AT-G-SENSE is connected to external systems such as sprinkler systems, plant shut down, external sirens and beacons, ventilation etc. and **disconnect as instructed by the customer.**
- 3 - Deactivate the alarm delay, if active, by removing jumpers at HD1 (see Diagram 1 below)
- 4 – For bump test or calibration, AT-G-SENSE's should be powered up for a minimum of 12 hours.

Diagram 1 – Rear view – default settings



Electrical Set Up

Electrical set up returns the unit to the factory calibration values. This procedure is used to reset the units every 12 months as part of the annual check.

Tools required:

1. A voltmeter
2. Aquilar's set point values, now shown on the rating label
3. Estimate 10 minutes per sensor

Procedure

- You need to make sure the AT-G-SENSE is stabilized (powered up for at least 24 hours) and that there is no delayed response set on the jumpers.
- Connect the voltmeter, 0-10Vdc scale, between VS and VO at the back of the board and check the reading.
- If necessary adjust the pot P1(See Diagram 1) so that the voltmeter shows the factory standby voltage which is recorded on the rating label on the side of the AT-G-SENSE.
- Then connect the voltmeter, 0-10Vdc scale, between VREF and VO at the back of the board and check reading. Adjust using P2 if necessary using the alarm point voltage shown on the rating label.

If this information is not there you need to establish serial no. and what gas is being used and contact Aquilar for the appropriate set point values.

Bump Test / Gas Calibration

Having electrically checked, (and adjusted if required) the two set points, carryout a bump test to check function. Ideally bump tests are conducted on site in a clean air atmosphere.

Monitor the voltage between VS and VO

Expose the sensors to test gas using a calibration cylinder of the target gas at the correct concentration e.g. R410A at 1%.The red LED will light showing the system is in alarm. If a delayed response is set it will prevent the siren sounding or relay switching for the duration of a preset delay. Check that alarm lights and relays are activated.

If the AT-G-SENSE is on manual reset mode, after the gas has cleared, you can reset the alarm condition by using the reset button.

If the alarm is not activated (probably due to aging of the sensor) record the voltage reading. Then using the voltmeter between VREF and VO, adjust P2to newly recorded voltage and the alarm activates. This recalibrates the unit. Allow the gas to clear (approx 5 mins). Once stable, then record the new setting on the rating label for use in future set – ups.

If appropriate, enable the alarm delay by re-fitting the jumper link at HD1

- Position 1 off – Position 2 off = No delay
- Position 1 off – Position 2 on = 5 min delay
- Position 1 on - Position 2 off = 10 min delay
- Position 1 on – Position 2 on = 15 min delay

Factory defaults are shown below. The jumper settings corresponding to 0delay are Position 1 and 2 off (no jumper).

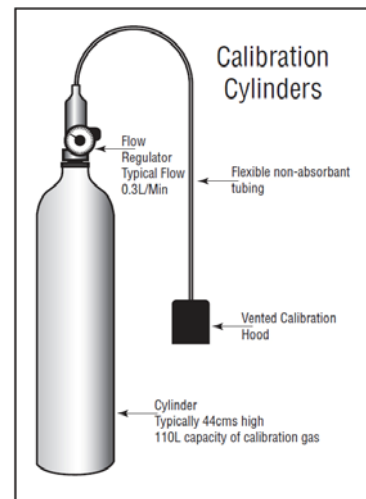
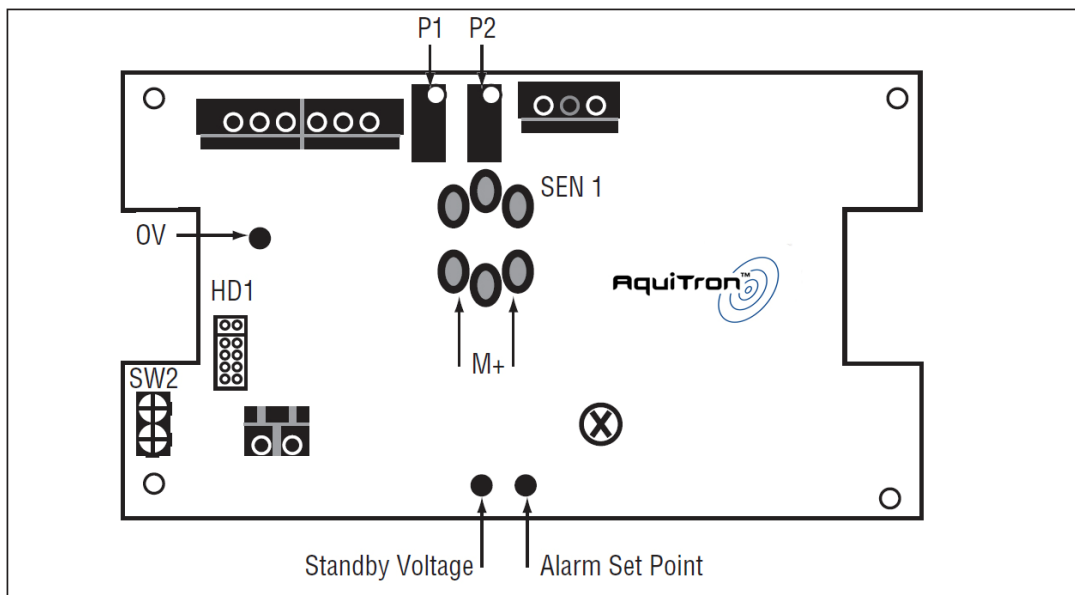


Diagram 2 – Rear view – Voltmeter Connections



AT-GSC-16 Panel

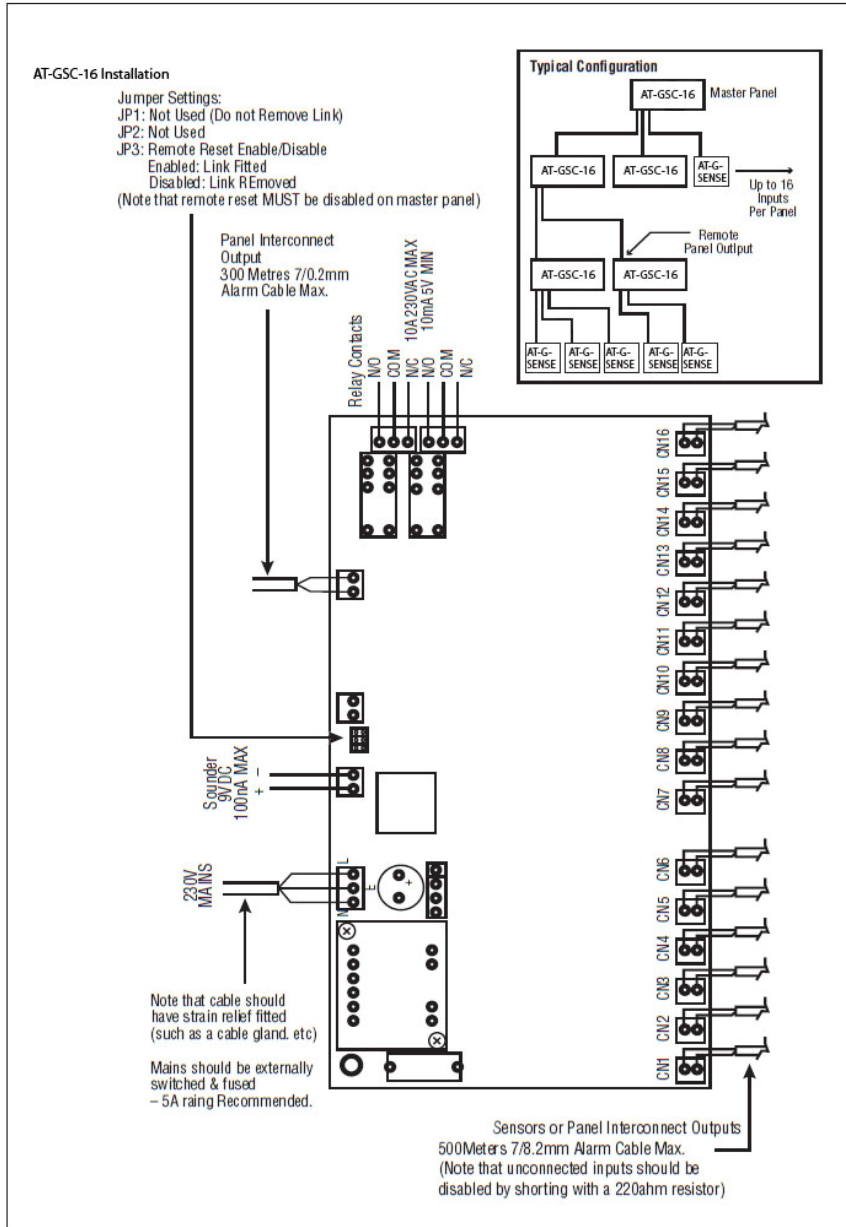
If the installation has an AT-GSC-16 panel, when testing the sensors also ensure that the panel's functions are activating accordingly:

Red LED indicating which sensor is on alarm

Siren – if connected

Relays – if enabled

Reset Function – if enabled, to enable remove jumper HD3 on master control panel



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