# Refrigerant Leak Monitor
## *AT-RLM2*

DATA SHEET

**Refrigerant Leak Monitor**

The AT-RLM2 offers intelligent, reliable and accurate gas monitoring for a wide range of HCFC and HFC refrigerants together with Carbon Dioxide and Ammonia. Its high sensitivity and selectivity ensures gas leaks are detected at the earliest opportunity, whist reducing unnecessary losses. Leading UK companies have successfully installed the AT-RLM infrared based refrigerant leak detection system which has now been superseded by the new AT-RLM2 system. The performance, reliability and quality of the previous system has been retained with the new AT-RLM2 together with a range of additional new features.

**Features**

- Detects all HCFC's, HFC's, CO2 and ammonia
- Monitors up to 16 zones
- Simple 6 key user interface with password protection
- Individual zone naming and alarm thresholds
- Optional fail-safe alarm operation
- Self-diagnostics detect system faults & dirty filters
- Highly selective to minimise nuisance alarms
- Historic data & alarm logs

**Zone Based Operation**

The AT-RLM2 is an aspirated system with the ability to monitor up to 16 zones independently. The system uses a high capacity vacuum pump to sequentially sample air from the refrigeration plant up to a maximum 200m away. Air samples are sucked through 6mm O/D colour coded pipe back to the AT-RLM2 where it passes through a valve manifold and water trap arrangement before entering the sample cell where the analysis is conducted. The result of the analysis is displayed clearly on the backlit LCD screen together with the associated zone name. Historic data from previous measurements is retained on the system to enable technicians to identify leak patterns and rectify any potential problems easier.

**High Accuracy**

The high sensitivity and selectivity of the unit is achieved as the AT-RLM2 uses the unique 'infrared signature' to identify the refrigerant and eliminate nuisance alarms from potential contaminant gases. As a result the AT-RLM2 can accurately detect refrigerant concentrations in parts per million levels. To maintain this high accuracy the system also compensates for changes in ambient pressure and is able to determine and alarm if blockages occur during operation which can prevent refrigerant leaks from being identified.

**Alarms**

Each zone can be assigned up to three alarm thresholds, leak, zone and spill. The leak and zone alarms have an optional delay which requires refrigerant above the alarm threshold to be measured over a number of consecutive cycles before being flagged whilst the spill alarm is instantaneous. In the event of a leak, spill or fault occurring, the corresponding LED and relay will be energised. Each of the 16 zones has a dedicated relay which is energised in the event of a zone alarm. All relays can be configured fail-safe and have both N/O and N/C volt free contacts.

**Interfaces**

Remote visibility can be provided via the RS485 or Ethernet interface. Modbus RTU and Woodley Protocols are supported on the RS485 interface whilst the Ethernet connection supports SNMP, XML and HTML protocols. Therefore using a PC with a standard web browser, operators can remotely view and interrogate the AT-RLM2 either locally or across a LAN or WAN. Aquilar also offers a range of ancillary equipment to interface with the AT-RLM2 to provide remote visibility and indication of refrigerant leaks and system faults.

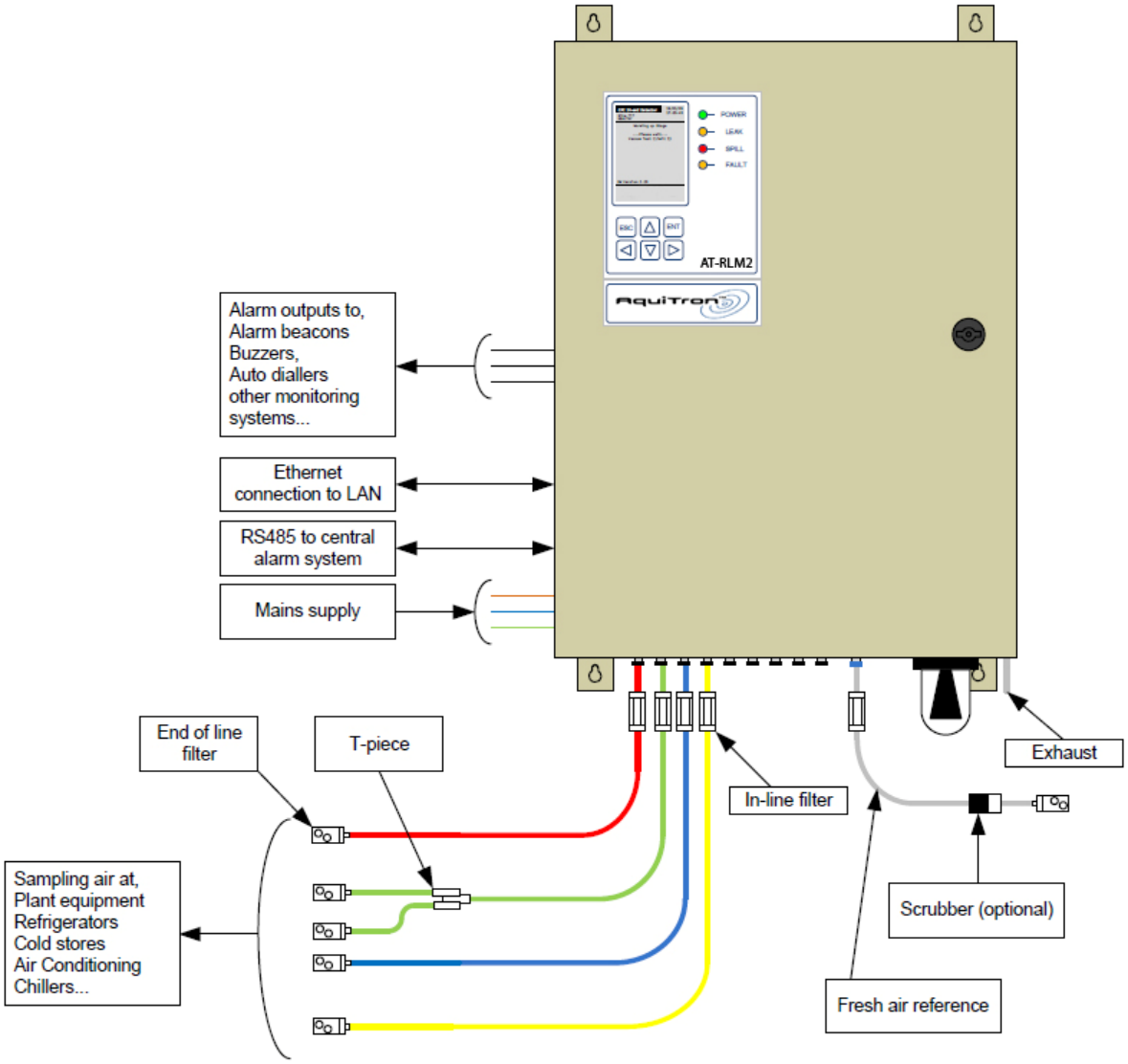
**Self-Diagnostics**

The airflow is constantly monitored and if it drops below an acceptable level that may impair the operation of the system, a fault condition is initiated. In addition, a daily-self test is conducted to verify the internal pneumatics of the AT-RLM2 and if a problem is identified a fault is displayed. All fault conditions are logged to enable problems to be easily resolved.

**Infrared Leak Detection System**

There are considerable environmental concerns about the Global Warming Potential impact of HFC refrigerants which have been extensively installed in recent years to overcome the previous ozone depletion problems associated with CFC and HCFC refrigerants. It is only when these refrigerants leak from the system does the environmental damage occur. Therefore, installing an AT-RLM2 will provide an early warning of these problems and enable customers to conform to the relevant EN378:2008, F-GAS Directive and EH40. As well as the environmental impact of lost refrigerant there are both financial and safety implications. Insufficiently charged refrigerant systems operate inefficiently, and therefore may result in stock losses, both events can be minimised with the installation of an AT-RLM2 system. Furthermore there are health risks associated to personnel exposed to leaking refrigerants of which the vast majority is odour free. Therefore installing an AT-RLM2 enables you to protect your workforce and the environment whilst benefiting from a substantial return on investment.

**Typical Application Schematic**

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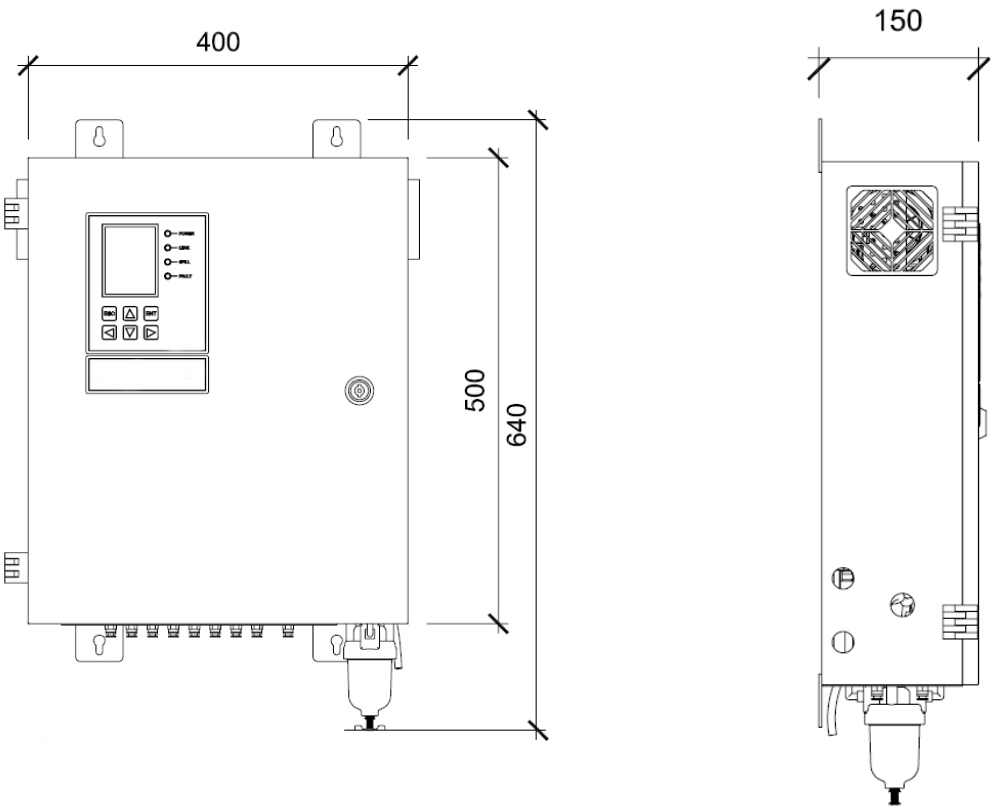


**Technical Information**

**Weight:** 18kg
**Refrigerants:** Ammonia, CO2, R22, R404a, R507a, R407c, R410a, R422d – Other refrigerants available on request
**Operating Environment:** Ambient 0 to 40 deg C <95% RH
**Fault/Leak/Spill Relay Rating:** SPDT 230Vac 2A
**Zone Relay Rating:** SPDT 24Vac 2A
**Power:** 230Vac 120va



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