GRM₂

Refrigerant Detector

The GRM2 is a multi-channel gas detection monitor utilising a unique infrared absorption technology. Monitors are available in 1, 4, 8, 12 and 16 channel configurations with a number of output options.

Product Features

Uses
- Monitoring and response to leakage from various gases including: CFC, HCFC, HFC, HC, HFO, CO_2 and others on request.
- Systems employed in refrigeration, HVAC, process and military environments.

Product Extensions
- Remote shut off using cluster outputs.
- Remote annunciation.
- Automated alarm emails and KPI's (Key Performance Indicator) using the Parasense Information Centre website.
- Cluster I/O configurations available

Features
- Draws a sample of air through remote tubing and analyses for content of target gas and displays the results as PPM.
- Continuous logging of samples and response to excursions above configurable alarm thresholds.
- 1 sampling pump and alarm per channel for enhanced reliability and longevity.

Certifications
- EN61010-1:2010
- UL61010-1
- CSA C22.2 61010-1
- MET Listing E112074

Product Dimensions

Model	GRM2-104D2-xxx
Height	500mm
Width	550mm
Depth	150mm
Weight	22kg
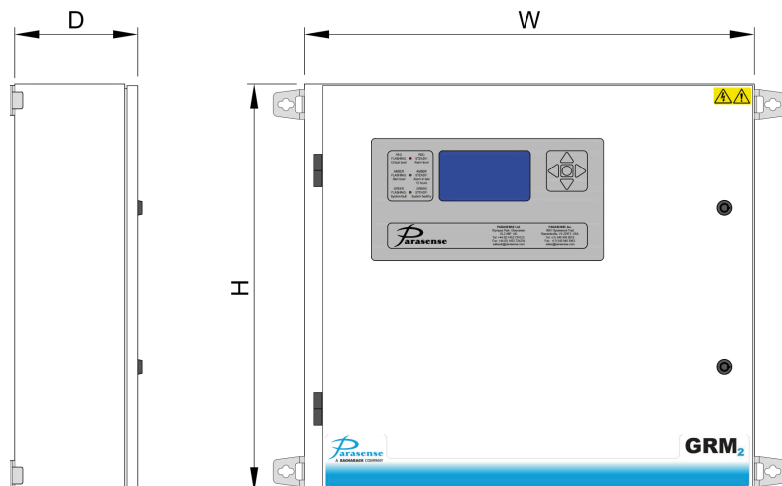
Technical Specification

Ethernet
- 10 Base-T RJ45 socket

USB
- USB2.0, Type B socket

Configurable Relays x 16
- Volt free, change-over and configurable
- Fault and alarm indication
- Max switching voltage: 24V AC/DC
- Max switching current: 5A AC/DC, resistive

2 Pilot Relays
- Volt free, change-over and configurable
- Max switching voltage: 240V AC/DC
- Max switching current: 5A AC/DC, resistive

Display & Operator Controls Options
- Traffic lights, LCD status display & navigation keypad

Cluster Networks
- RS485 communication
- Network power: 24V DC max 650mA
- Baud rate: 115kbps
- Total number of I/O clusters dependent on application

Sensor, CFC, HCFC, HFC
- Styx infrared absorption sensor
- 24V DC plus serial coms
- Resolution: 1ppm
- Accuracy: better than 15% (species dependant)

Sample Pumps
- 24V DC, 360mA

Maximum Number of Sample Pumps
- 16

Maximum Length of Sample Pipe
- 500ft (150m)

Operating Conditions
- Operating temperature: -9 to 43°C
- Storage temperature: -23 to 65°C
- Relative Humidity: 0 to 95% RH (non-condensing)

Power Requirements
- 100V to 240V, 100W, 50/60Hz or
- 240V to 280V, 100W, 50/60Hz

Overcurrent Protection
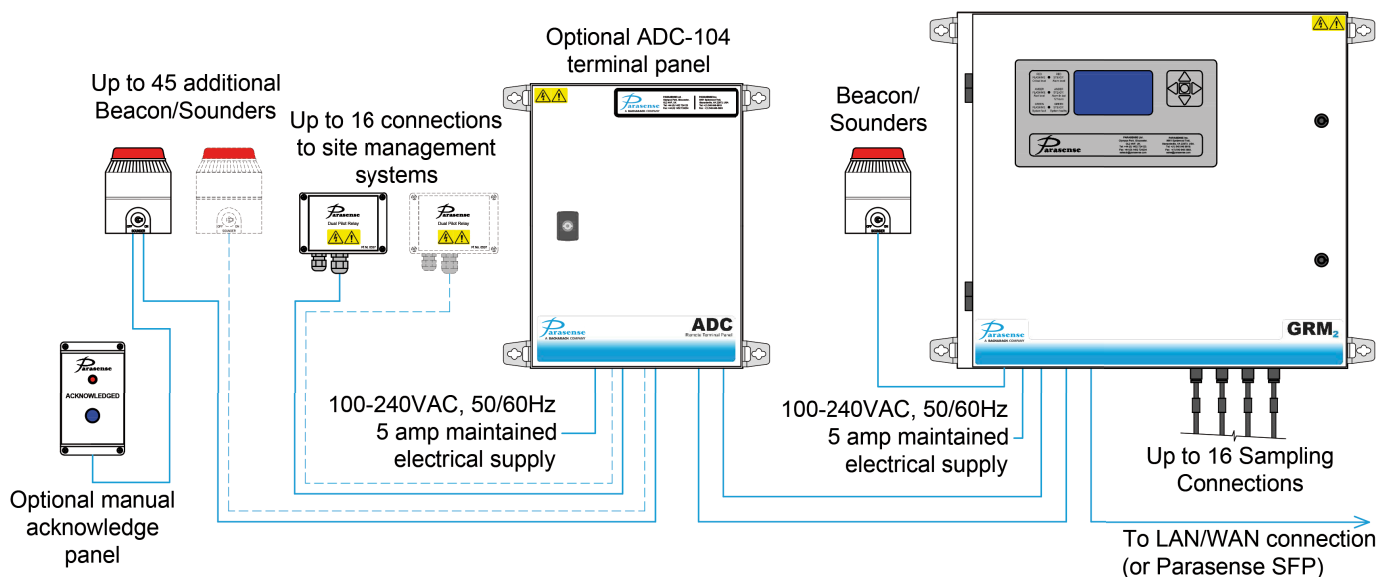- 6A DP MCB

Mains Filter
- Overvoltage Protection

Enclosure Rating
- NEMA 12
- IP54

GRM2 Typical Application

Up to 45 additional Beacon/Sounders

Up to 16 connections to site management systems

Optional ADC-104 terminal panel

Beacon/Sounders

ACKNOWLEDGED

ADC

GRM₂

Optional manual acknowledge panel

100-240VAC, 50/60Hz 5 amp maintained electrical supply

100-240VAC, 50/60Hz 5 amp maintained electrical supply

Up to 16 Sampling Connections

To LAN/WAN connection (or Parasense SFP)

Manual Acknowledge Panel

Used in conjunction with beacon / sounders this optional panel provides users with a physical push button for acceptance of critical refrigerant alarms; plus includes a local integrity test for proof of operation.

Technical Specification

Operating Range
- -25 to 50°C

Housing
- ABS

Rating
- IP54 / NEMA 12

ADC Terminal Panel

The ADC Terminal Panel is used in conjunction with a Parasense GRM2 monitor to increase the available number of Beacon / Sounders, terminal connections and integration with onsite facility management systems.

Technical Specification

Operating Range
- -9 to 41°C

Beacon Sounders
- up to 45

Terminal Connections
- up to16 for integration
- up to 24 for beacon/sounders

Housing
- Powder coated steel

Rating
- IP54/NEMA 12

Remote Beacon/Sounder

General purpose electronic beacon/sounders for use with Parasense products. They can be supplied with red, amber or blue beacons. They have a manual override switch that can disable the sounder if required. The beacon will continue to flash, even if the sounder has been disabled.

Technical Specification

Operating Range
- -30 to 55°C

Sound Level
- Typ. 101dB @ 1m

Alarm Tones
- 22 options

Supply Voltage
- 18-28V DC

Current
- Typ. 68mA @ 24V

Weight
- 0.35kg

Rating
- IP65 / NEMA 4

Analogue Sensor Trip Module

Used in conjunction with the GRM2 and GSRM2, this module gathers data from a locally mounted gas sensor, allows connection of a beacon/sounder and has 2 relay outputs. An optional test button (pictured) can be provided to check the operation of the beacon/sounder

Technical Specification

Operating Range
- 0 to 43°C

Analogue Input
- Range: 4-20mA
- Supply voltage: 24DC max, 12V DC min
- Accuracy: +/- 0.05mA

2 Output Relays
- Volt free change-over
- Max switching voltage: 250V AC/100V DC
- Max switching current: 10A AC/5A DC

Network Gas Sensor

Analogue sensors available for detecting a number of different gases. Used in conjunction with the Analogue Sensor Trip Module. Optional built-in heater available for LT applications.

Technical Specification

Operating Range
- -10 to 40°C

Output
- Range: 4-20mA

Housing
- IP41/IP66

Sensor Ranges (others available on request)
- CO_2 : 0-5% volume
- CO : 0-300ppm
- O_2 : 0-25%
- HCFC, CFC, HFC, HFO : 0-2000ppm
- Ammonia : 0-1000ppm
- Propane : 0-1.7% volume

Accuracy
- Typically ≤ 5%

GRM2 with Network Sensors Typical Application

Beacon/Sounder   Gas Sensor   Beacon/Sounder   Gas Sensor   Beacon/Sounders

2 x Relay Connections

2 x Relay Connections

NOTE: Total number of additional sensors dependant on application

100-240VAC, 50/60Hz 5 amp maintained electrical supply

RS485 communication link

Up to 16 Sampling Connections

To LAN/WAN connection (or Parasense SFF)