

MM2000™

Refrigerant Gas Leak Detection

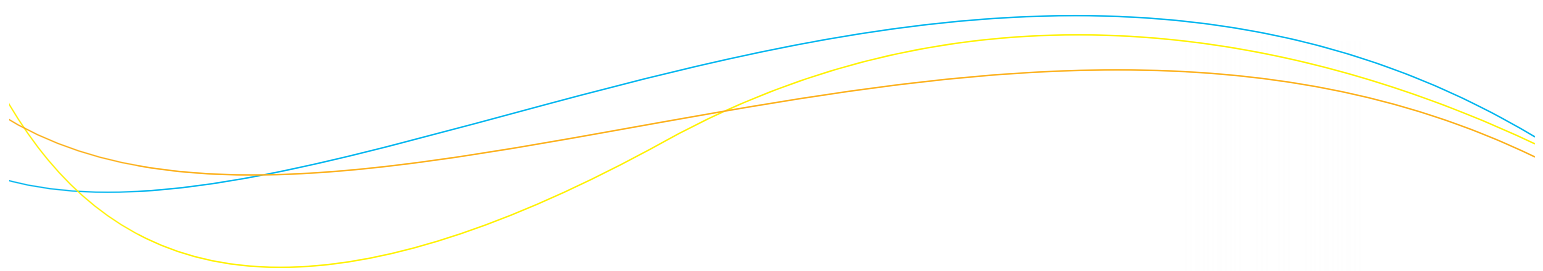
MM2000™ is an intelligent addressable gas detection system designed to provide refrigerant gas detection on ships under MARPOL Annex VI Regulation 12-Ozone Depleting Substances, 5.5 Leak Monitoring Systems.

Refrigerant gases are monitored continuously by fixed gas sensors installed in the vicinity of refrigeration and air conditioning machinery.

Class societies advocate the use of fixed leak detection systems for environmental protection (e.g. Lloyds EP Notation). The MM2000™ system operates on a single 4-core cable having the capacity to monitor from 1 to 32 addressable sensors.

The control system provides local indication of the measured parameters and alarm conditions together with relay contacts to shut down air conditioning or refrigeration plants as necessary.

- Type approved
- Loop sensor cable for low cost installation
- No moving parts
- Continuous monitoring of all sensors



MM2000™

Specifications

MM2000™ Controller

Sensor Points	<ul style="list-style-type: none"> • 1 to 32
Power	<ul style="list-style-type: none"> • 24V dc, 110V/220V ac 50/60Hz
Inputs	<ul style="list-style-type: none"> • Refrigerant sensors: CFC, HCFC, HFC
Display	<ul style="list-style-type: none"> • 4 line alphanumeric LCD
Power	<ul style="list-style-type: none"> • Twin Green LEDs
Alarm	<ul style="list-style-type: none"> • Twin Red LEDs
Fault	<ul style="list-style-type: none"> • Twin Amber LEDs
User Interface	<ul style="list-style-type: none"> • Menu driven via LCD 6No. panel mounted membrane push buttons with security
Outputs	<ul style="list-style-type: none"> • 3 alarm levels per channel; • 16 user programmable volt-free SPCO relays for shutting down air conditioning or other machinery as required N/E or N/DE, latched or unlatched • Common fault relay SPCO N/E or N/DE • Mains fail relay SPCO N/E or N/DE 9way • D-Type connector ASC11RS232 comms
Local Alarm	<ul style="list-style-type: none"> • Internal buzzer for alarm/fault with mute
Cable Details	<ul style="list-style-type: none"> • Main network – 4-core (2 power – 2 comms) • • 1.5mm² screened max < 500m
Environmental Testing	<ul style="list-style-type: none"> • Complies with Class Criteria
Panel Dimensions	<ul style="list-style-type: none"> • 315mm (W) x 260mm (H) x 75mm (D)
Fixing Detail	<ul style="list-style-type: none"> • 4 x M4 on 228mm (H) x 278mm (D) • On rectangular template
Weight	<ul style="list-style-type: none"> • 3.4kg
Cable Entry	<ul style="list-style-type: none"> • Top, bottom or rear
Lloyds Type Approval	<ul style="list-style-type: none"> • Certificate 04/00079

MM1000™ Refrigerant Gas Detectors

Range	<ul style="list-style-type: none"> • Varies between 0-1000ppm (Alarm 300ppm)
SCS Cert No.	<ul style="list-style-type: none"> • EX98EII87X / 03ATEX1176X
Operation	<ul style="list-style-type: none"> • Continuous diffusion
Housing Material	<ul style="list-style-type: none"> • 316 stainless steel/Polymer
Dimensions	<ul style="list-style-type: none"> • 33mm (diameter) x 33mm (L)
Environmental Data	<ul style="list-style-type: none"> • Tested on ENV2 (Lloyds test specification 1)
Weight	<ul style="list-style-type: none"> • 165g
Accessories	<ul style="list-style-type: none"> • Dust and spray protector, duct mount kit
Housing Material	<ul style="list-style-type: none"> • Galvanised cast iron
Dimensions	<ul style="list-style-type: none"> • 126mm (diameter) x 86mm (D)
Fixing Details	<ul style="list-style-type: none"> • 2 x M6 appropriate fasteners
Cable Entry	<ul style="list-style-type: none"> • Top M20 x 1.5P
Weight	<ul style="list-style-type: none"> • 2kg
Sensor Cable	<ul style="list-style-type: none"> • 4-core 1.5mm² screened and unarmoured marine approved