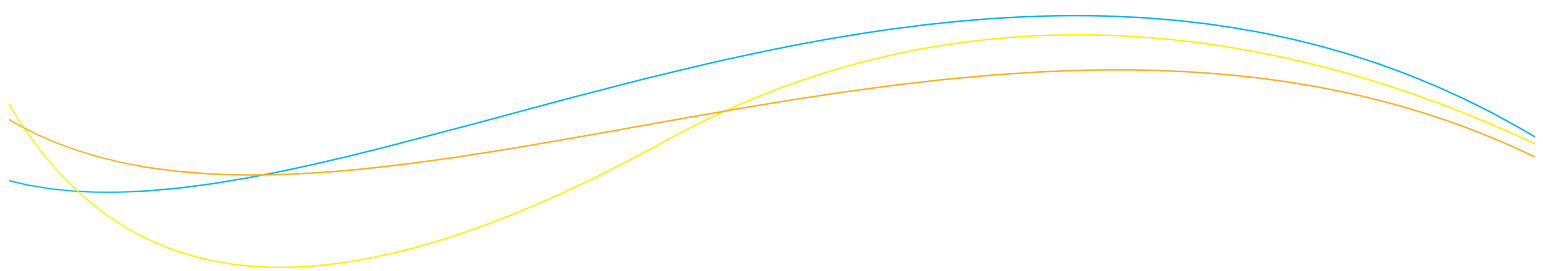# MM2000™

Air Conditioning Inlet Gas Detection System for ISGOTT 5 Guidelines

MM2000™ is an intelligent addressable gas detection system designed to provide flammable gas detection in tanker air conditioning inlets to reflect the guidance in section 24.2 of the newly published 'Fifth Edition of ISGOTT' (International Safety Guide for Oil Tankers and Terminals).

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 on detection of flammable vapours in the air conditioning (A/C) inlets.

- Type approved
- Loop sensor cable for low cost installation
- One man calibration
- Compact panel for the smallest CCR
- No moving parts
- Continuous monitoring of all sensors
- Relay contacts for shutting down A/C

MM2000™

Specifications

MM2000™ Controller

Sensor Points	• 1 to 32
Power	• 24V dc, 110V/220V ac 50/60Hz
Inputs	• Flammable, toxic (e.g. H2S), oxygen
Display	• 4 line alphanumeric LCD indicating: Sensor address; gas type; concentration (rising or falling); peak hold; alarm status; system fault; line fault; line inhibit
Power	• Twin Green LEDs
Alarm	• Twin Red LEDs
Fault	• Twin Amber LEDs
User Interface	• Menu driven via LCD 6No. panel mounted membrane push buttons with security
Outputs	• 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
Ingress Protection	• IP52
Local Alarm	• Internal buzzer for alarm/fault with mute
Cable Details	• Main network – 4-core (2 power – 2 comms) • • 1.5mm² screened max < 500m
Environmental	• Complies with Class Criteria
Panel Dimensions	• 315mm (W) x 260mm (H) x 75mm (D)
Fixing Detail	• 4 x M4 on 228mm (H) x 278mm (D) • On rectangular template
Weight	• 3.4kg
Cable Entry	• Top, bottom or rear
Lloyds Type Approval	• Certificate 04/00079

MM1000™ Flammable Gas Detector

Certification	• EEx d IIC T6 – zones 1 and 2
Range	• 0 - 100% LEL
SCS Cert No.	• EX98EII87X / 03ATEX1176X
Operation	• Continuous diffusion
Housing Material	• 316 stainless steel
Dimensions	• 33mm (diameter) x 33mm (L)
Environmental Data	• Tested on ENV2 (Lloyds test specification 1)
Weight	• 165g
Accessories	• Dust and spray protector, duct mount kit
Sensor Junction Box Certification	• EEx d IIC T6
Housing Material	• Galvanised cast iron
Dimensions	• 126mm (diameter) x 86mm (D)
Fixing Details	• 2 x M6 appropriate fasteners
Cable Entry	• Top M20 x 1.5P
Weight	• 2kg
Sensor Cable	• 4-core 1.5mm² screened and unarmoured marine approved