

AquiTron

AT-MGS-400 Series

AT-MGS-410
AT-MGS-450
AT-MGS-460
Refrigerant Sensor



DATA SHEET



aquilar
leak detection solutions

AT-MGS-400

For Safety Compliance in Mechanical Equipment Rooms, Freezers, and Cold Rooms



Modern refrigeration systems are designed to be efficient and leak free, but improper installation, inadvertent damage or mechanical wear can result in potentially hazardous leaks. With their rapid response time, low-temperature performance (-40° C) and integrated audio & visual alarms, AT-MGS-400 Series gas detectors make compliance with safety regulations simple and easy.

DESCRIPTION

The AT-MGS-400 Gas Detectors makes compliance with mechanical equipment room and refrigeration safety codes simple and easy, saving time and money on equipment and installation. Using the AT-MGS-400 App, users can intuitively use, commission and maintain their gas detection system without the need for specialty training or tools. Pre-calibrated sensor modules simplify maintenance, take minutes to exchange and do not require the use of calibration gas. The AT-MGS-400 sensors can trigger additional audio-visual alarms and act as a standalone gas detection system, or integrate easily into a BMS / BAS or with the optional AT-MGS-408 Gas Detection Controller.

FEATURES & BENEFITS

The AT-MGS-400 is designed for simple installation and maintenance. Design features include:

- **Mobile App Interface** - Quick, easy and intuitive commissioning, configuration and maintenance requires no special training. No tools required to set alarm levels and behavior.
- **Pre-calibrated Sensors** - Fast and easy sensor maintenance. Eliminates need for calibration gas. Plug and play exchangeable replacement sensors and requires no calibration.
- **Semi-automated Calibration** - Easy calibration process with mobile app. Generate calibration certificates for documentation.
- **Remote Sensor Option** - Locate the sensor element in hard-to-reach areas and the base unit where convenient for electrical and communication wiring (AT-MGS-460)
- **Temperature-Compensated Measurement** - Mitigates false alarms and optimizes accuracy in refrigeration applications.
- **Low Temperature Performance** - Suitable for use in cold rooms and freezers down to -40° C.

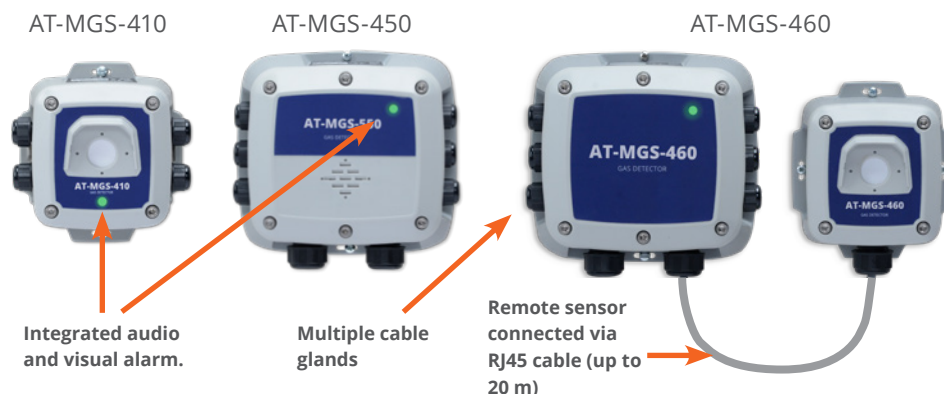
- **Digital Communications** - Integrate with local BMS / BAS via Modbus RTU
- **Analogue Outputs** - For current or voltage output to legacy systems (AT-MGS-450/460)
- **Relay Outputs** - 3 relays available for alarm and fault events to active sounder/ beacons and ventilation (AT-MGS-450, AT-MGS-460)
- **Audio & Visual Alarms** - On-board alarm notification supports compliance with ASHRAE 15 / EN 378
- **Multiple Cable Entries and Terminals** - Quick and easy installation of all wiring daisy-chain power and digital communications.

APPLICATIONS

The AT-MGS-400 series gas detectors are designed for use in refrigeration applications and may be used as a standalone device, connected to a controller (AT-MGS-402, AT-MGS-408), or connected to a facility's BMS / BAS. It enables compliance with refrigerant safety codes (ASHRAE 15, EN 378, CSA-B52) and features audible and visual alarms to alert personnel in the event of a refrigerant leak.

PRODUCT CONFIGURATIONS

	AT-MGS-410	AT-MGS-450	AT-MG-460
Enclosure Rating	IP66	IP41, IP66	IP66
Configurable Relays			
Settings	N/A	SPDT, Low (1), High (2), Fault (3)	
Rating		Rating 1 A @ 30 Vdc	
Digital Communications	Modbus RTU		
Analogue Output Single configurable	N/A	4 to 20mA, 0 to 5 V, 0 to 10 V, 1 to 5 V, 2 to 10 V	
Sensor	Integrated	Integrated	Remote
Size	130 × 130 × 68 mm	IP41: 165 × 165 × 77 mm IP66: 165 × 165 × 87 mm	Base Unit: 165 × 165 × 87 mm Remote Unit: 115 × 136 × 68 mm
Weight (Approx)	260g	480g	758g



SPECIFICATIONS

	AT-MGS-410	AT-MGS-450	AT-MG-460
Gases and Range			
HFC's/HFO	1,000 ppm		
CO ₂	5,000 / 10,000 / 20,000 / 30,000 / 40,000 / 50,000 ppm		
NH ₃	100 / 1,000 / 5,000 / 10,000 / 100% LEL		
O ₂	30 Vol%		
CO	500 ppm		
Combustible - <i>Semiconductor (R-290, R-600, R-50, R-600a, HC-12a, R-717)</i>	5,000 ppm		
Combustible - <i>NDIR (R-600, R-50, R-290)</i>	100% LEL		
Combustible - <i>Catalytic (R-600, R-50, R-290, R-717)</i>	100% LEL		
NO ₂	20 ppm		
Status Indicator	Single Tri-color LED (green, red, orange)		
Audio Alarm	Buzzer, 72db @ 10cm		
Power	24V AC or DC (auto selecting), 4W (max)		

Ambient Conditions	Temperature
Semiconductor	-40 to +50°C
Electrochemical	NH3 100 / 1,000 ppm: -40 to 40°C NH3 5,000 ppm: -20 to 40°C CO 500 ppm: -40 to 50°C NO2 20 ppm: -20 to 40°C O2 30% Volume: -20 to 50°C
Infrared	-40 to +50°C
Catalytic Bead	-40 to +50°C
Humidity	5 to 90 % RH, non-condensing
Pressure	23.6 to 32.5 inch Hg / 800 to 1,100 mbar

APPROVALS



UL / CSA / IEC EN 61010-1

GAS DETECTION LIBRARY

CH ₄	IR	0-100% LEL	R-404A	SC	0-1,000 ppm
CO	EC	0-500 ppm	R-407A	SC	0-1,000 ppm
CO ₂	IR	0-5,000 ppm	R-407C	SC	0-1,000 ppm
CO ₂	IR	0-10,000 ppm	R-407F	SC	0-1,000 ppm
CO ₂	IR	0-20,000 ppm	R-410A	SC	0-1,000 ppm
CO ₂	IR	0-30,000 ppm	R-422A	SC	0-1,000 ppm
CO ₂	IR	0-40,000 ppm	R-422D	SC	0-1,000 ppm
CO ₂	IR	0-50,000 ppm	R-427A	SC	0-1,000 ppm
NH ₃ (-40° F/C)	EC	0-100 ppm	R-434A	SC	0-1,000 ppm
NH ₃ (-40° F/C)	EC	0-1,000 ppm	R-448A	SC	0-1,000 ppm
NH ₃	EC	0-300 ppm	R-449A	SC	0-1,000 ppm
NH ₃	CAT	0-100% LEL	R-450A	SC	0-1,000 ppm
NO ₂	EC	0-20 ppm	R-452A	SC	0-1,000 ppm
O ₂	EC	0-30%	R-452B	SC	0-1,000 ppm
R-1234yf	SC	0-1,000 ppm	R-454A	SC	0-1,000 ppm
R-1234ze	SC	0-1,000 ppm	R-454B	SC	0-1,000 ppm
R-134a	SC	0-1,000 ppm	R-454C	SC	0-1,000 ppm
R-22	SC	0-1,000 ppm	R-455A	SC	0-1,000 ppm
R-290	IR	0-100% LEL	R-507A	SC	0-1,000 ppm
R-290	SC	0-2,500 ppm	R-513A	SC	0-1,000 ppm
R-290	SC	0-5,000 ppm	R-600	IR	0-100% LEL
R-32	SC	0-1,000 ppm			

SC - SEMI CONDUCTOR SENSOR

IR - INFRARED SENSOR

ER - ELECTROCHEMICAL SENSORS

CAT - CATALYTIC BEAD SENSORS

ORDERING INFORMATION

Please contact us when enquiring for a quote or ordering any of the above products.

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