

GLACIÄR MIDI

Refrigerant Gas Detector



OUR FLAGSHIP REFRIGERANT GAS DETECTOR

GLACIÄR MIDI, our award-winning detector for fast, dependable leak detection in commercial and industrial refrigeration. It's built for the places where reliability matters most, from food retail, cold rooms and walk-in freezers to cold storage and food processing. Flexible, future-ready and simply reliable.



IP67

Modbus

Bluetooth™

CO₂

NH₃

HC

HFC

HFO

KEY FEATURES

- Designed with over 35 years of industry experience
- Bluetooth connectivity for configuration and calibration
- Robust IP67 rated enclosure
- Pre-calibrated sensor with certificate
- Broad choice of sensor technologies
- Electrochemical sensors for NH₃ detection
- New IR and IR+ sensors, designed for a long service life and low lifetime cost
- Interface to control systems via Modbus RTU over RS485 & selectable analogue output range
- Built-in or remote sensor options

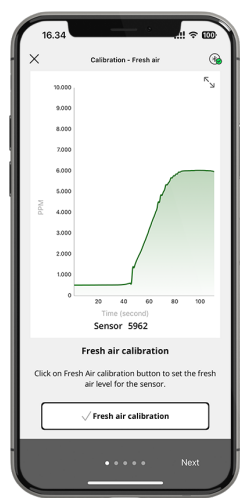
APP-BASED SETUP AND MAINTENANCE

GLACIÄR MIDI connects via Bluetooth to our service app for Android and iOS, so you can configure and calibrate the detector directly from your phone, with no need to open the unit. Prefer a hands-on approach? Maintenance is also possible via the built-in analogue service wheel.



EASY MAINTENANCE

Streamlined gas group-based methodology allows the entire **GLACIÄR MIDI** range to be calibrated with just five gases, enhancing efficiency and minimizing stock requirements.





IR SENSOR COMPARISON

MIDI IR	MIDI IR+
Cost-effective solution for standard commercial applications	Premium solution for demanding and critical applications
Dedicated sensor optimized for each common refrigerant	Broader refrigerant coverage using only a single article number and expandability through cross-reference factors
Detection range 0–5000 ppm; up to 0–10 000 ppm for some gases	Detection range 0–2000 ppm (some ranges lower)
Higher detection range for general monitoring	Lower detection limits for early leak detection
Lower Detectable Limit (LDL): Higher (about 150–300 ppm)	Lower Detectable Limit (LDL): Lower (60-100 ppm depending on the gas)
Operating Temperature Range: –10°C to +50°C	Operating Temperature Range: –40°C to +60°C

SENSOR OPTIONS FOR EVERY NEED

Flexibility is at the heart of **GLACIÄR MIDI**. With a wide choice of sensor technologies, you can match the detector to your refrigerant, your application and your budget. Looking for the lowest lifetime cost? Our new IR and IR+ sensors offer a longer sensor life and less maintenance.

Factor	Infrared (NDIR)	Electrochemical	Semiconductive
Selectivity	■■■ Excellent	■■■ Moderate	■■■ Low
Stability / Drift	■■■ Excellent	■■■ Moderate	■■■ Low
Lifetime	■■■ 5–10+ years	■■■ 2–3 years	■■■ 3–5 years
Cross-sensitivity	■■■ Minimal	■■■ Medium	■■■ High
Oxygen dependence	■■■ None	■■■ Yes	■■■ High
Maintenance need	■■■ Low	■■■ Moderate	■■■ High
Cost (lifecycle)	■■■ Lowest	■■■ Medium	■■■ Low (upfront only)
Suitability for HFOs / new blends	■■■ Excellent	■■■ Limited	■■■ Limited

THE MIDI RANGE

GLACIÄR MIDI is built to give you options. Choose between low-voltage 24 VAC/VDC or 110–240 VAC power, and between a built-in sensor or a remote sensor for hard-to-reach or harsh locations.

Add to that a wide range of sensor technologies and types, and you can put together a detector that fits your refrigerant, your application and your budget. One product family, configured exactly the way you need it.



GLACIÄR MIDI

Built-in or remote sensor

24 VDC/VAC



GLACIÄR MIDI+

Built-in or remote sensor

110-240 VAC

SMART AND EASY CALIBRATION

Calibrate the entire GLACIÄR MIDI range with just five gases and ensures they comply with the European Standards EN 378 and EN 14624, as well as local legislations.

To ensure correct gas concentration during the calibration, always use the SAMON original calibration kit.



APPLICABLE STANDARDS

Directives			
(EMC) 2014/30/EU	(RED) 2022/30/EU	(RED) 2014/53/EU	
(LVD) 2014/35/EU	F-Gas Regulation (EU) 2024/573		
Standards			
EN 61010-1	EN 14624	FCC	ASHRAE 15
EN 378	EN 50270	UL 61010-1/CSA C22.2 No. 61010-1	

TECHNICAL DATA

Analogue Output	
Selectable analogue output range	1...5V; 0...10V; 2...10V; 4...20mA (default)
Modbus RTU over RS-485	
Connection	Galvanically isolated (optocoupler)
Baud rate	9,600 or 19,200 (default)
Data bits	8
Parity	None (default), odd, even
Stop bits	1 or 2 (default)
Other Interfaces	
Visible indicator	Multi-color Status LED
Bluetooth®	BLE (Service app)
Relays	2 SPDT 1 A at 24 VAC/VDC, resistive load
Switches	Service wheel (x1) and Magnetic (x1)
Analogue service output	0-10VDC
Power Supply MIDI	
Operating voltage	24 VDC/VAC +/-20%, 50/60 Hz (Selected automatically)
Operating effect and current, max.	5W, 170mA @ 24VDC
Power Supply MIDI+	
Operating voltage	110-240 VAC +/-20%, 50/60 Hz (Selected automatically)
Operating effect and current, max.	10W, 85-305Vin 24Vout/420mA
Wiring	
Power supply	28 to16 AWG / 0.75 mm² to 1.5 mm²
Analogue signals and relays	28 to16 AWG / 0.75 mm² to 1.5 mm²
Modbus network	3-core, 2 twisted pair + ground, shielded cable with 120 Ω characteristic impedance, 24 to16 AWG / 0.25 mm² to 1.5 mm², maximum length 300 meters / 985 ft.
Cable gland	4 x M16, 4-8mm cable outer diameter
Cable rating	UL 2556 VW-1 or equivalent
Dimensions MIDI	
Enclosure Size (W×H×D)	Built-In: 134x102x54 mm / 5.28x4.02x2.13 in. Remote, main enclosure: 134x102x54 mm / 5.28x4.02x2.13 in. Remote, sensor enclosure: 103x50 mm / 4.06x1.97in
Weight	Built-In: 430 g / 15.16 oz Remote: 660 g / 23.28 oz
Dimensions MIDI+	
Enclosure Size (W×H×D)	Built-In: 197x114x67 mm/ 7.76x4.49x2.64 in. Remote, main enclosure: 197x114x67 mm/ 7.76x4.49x2.64 in. Remote, sensor enclosure: 103x50 mm/ 4.06x1.97in
Weight	Built-In: 690 g / 24.34 oz Remote: 920 g / 32.45 oz
Environmental	
Operating temperature	-40°C to 50°C / -40°F to 122°F
Storage temperature	-40°C to 50°C / -40°F to 122°F
Humidity	5 to 90% RH, non-condensing
Enclosure protection	IP67
Enclosure material	Polycarbonate
Allowed air pressure range	75 kPa to 106 kPa

PRODUCT LIBRARY

Model	Details	MIDI	MIDI+	MIDI+ AVK*
HFO/HFC	Group 1	R32 / R407A / R407C / R407F / R410A / R448A / R449A / R452A / R452B / R454A / R454B / R454C / R455A / R464A / R465A / R466A / R468A / R507A		
GLACIÄR MIDI SC HFC/HFO Group 1 1000 ppm	Semiconductive Detector, 0-1000 ppm	31-220-12	3103-0100	3104-0100
GLACIÄR MIDI Remote SC HFC/HFO Group 1 1000 ppm	Semiconductive Detector, 0-1000 ppm	31-520-12	3103-0100-5M	3104-0100-5M
HFO/HFC	Group 2	R134a / R404A / R450A / R513A / R1234yf / R1234ze / R1233zde		
GLACIÄR MIDI SC HFC/HFO Group 2 1000 ppm	Semiconductive Detector, 0-1000 ppm	31-220-17	3103-0200	3104-0200
GLACIÄR MIDI Remote SC HFC/HFO Group 2 1000 ppm	Semiconductive Detector, 0-1000 ppm	31-520-17	3103-0200-5M	3104-0200-5M
R290	Group 3	R290 / R50 / R600a / R1150 / R1270		
GLACIÄR MIDI SC R290 / Group 3 4000 ppm	Semiconductive Detector, 0-4000 ppm	31-290-13	3103-0300	3104-0300
GLACIÄR MIDI Remote SC R290 HC 4000 ppm	Semiconductive Detector, 0-4000 ppm	31-590-13	3103-0300-5M	3104-0300-5M
CO₂	Group 4	CO₂		
GLACIÄR MIDI IR CO ₂ 10000 ppm	IR Detector, 0-10000 ppm	31-210-32	3103-0400	3104-0400
GLACIÄR MIDI Remote IR CO ₂ 10000 ppm	IR Detector, 0-10000 ppm	31-510-32	3103-0400-5M	3104-0400-5M
NH₃	Group 5	NH₃		
GLACIÄR MIDI EC NH ₃ 100 ppm	Electrochemical Detector, 0-100 ppm	31-250-22	3103-0500	3104-050
GLACIÄR MIDI EC NH ₃ 1000 ppm	Electrochemical Detector, 0-1000 ppm	31-250-23	3103-0501	3104-0501
GLACIÄR MIDI EC NH ₃ 5000 ppm	Electrochemical Detector, 0-5000 ppm	31-250-24	3103-0502	3104-0502
GLACIÄR MIDI Remote EC NH ₃ 100 ppm	Electrochemical Detector, 0-100 ppm	31-550-22	3103-0500-5M	3104-0500-5M
GLACIÄR MIDI Remote EC NH ₃ 1000 ppm	Electrochemical Detector, 0-1000 ppm	31-550-23	3103-0501-5M	3104-0501-5M
GLACIÄR MIDI Remote EC NH ₃ 500 ppm	Electrochemical Detector, 0-5000 ppm	31-550-24	3103-0502-5M	3104-0502-5M
HFC/HFO	Group 6	R1234YF, R1234ZE, R1233ZD, R125, R134A, R22, R227, R32, R404A, R407A, R407F, R410A, R417A, R422D, R448A, R449A, R452B, R507, R513A		
GLACIÄR MIDI IR+ HFC/HFO Group 6 2000 ppm	IR+ Detector, 0-2000 ppm	3101-0600	3103-0600	3104-0600
GLACIÄR MIDI Remote IR+ HFC/HFO Group 6 2000 ppm	IR+ Detector, 0-2000 ppm	3101-0600-5m	3103-0600-5M	3104-0600-5M
Sensor module IR+ HFC/HFO Group 6 2000 ppm	IR+ Sensor module, 0-2000 ppm	3102-0600	3102-0600	3102-0600
HFC/HFO	Group 7	R134A		
GLACIÄR MIDI IR R134a Group 7 5000 ppm	IR Detector, 0-5000 ppm	3101-0700	3103-0700	3104-0700
GLACIÄR MIDI Remote IR R134a Group 7 5000 ppm	IR Detector, 0-5000 ppm	3101-0700-5m	3103-0700-5M	3104-0700-5M
Sensor module IR R134a Group 7 5000 ppm	IR Sensor module, 0-5000 ppm	3102-0700	3102-0700	3102-0700
HFC/HFO	Group 8	R1234YF, R1234ZE, R32, R410A, R449A, R407C		
GLACIÄR MIDI IR R1234yf Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0800	3103-0800	3104-0800
GLACIÄR MIDI Remote IR R1234yf Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0800-5m	3103-0800-5M	3104-0800-5M
GLACIÄR MIDI IR R1234ze Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0801	3103-0801	3104-0801
GLACIÄR MIDI Remote IR R1234ze Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0801-5m	3103-0801-5M	3104-0801-5M
GLACIÄR MIDI IR R32 Group 8 10000 ppm	IR Detector, 0-10000 ppm	3101-0802	3103-0802	3104-0802
GLACIÄR MIDI Remote IR R32 Group 8 10000 ppm	IR Detector, 0-10000 ppm	3101-0802-5m	3103-0802-5M	3104-0802-5M
GLACIÄR MIDI IR R410a Group 8 10000 ppm	IR Detector, 0-10000 ppm	3101-0803	3103-0803	3104-0803
GLACIÄR MIDI Remote IR R410a Group 8 10000 ppm	IR Detector, 0-10000 ppm	3101-0803-5m	3103-0803-5M	3104-0803-5M
GLACIÄR MIDI IR R449a Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0804	3103-0804	3104-0804
GLACIÄR MIDI Remote IR R449a Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0804-5m	3103-0804-5M	3104-0804-5M
GLACIÄR MIDI IR R407c Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0806	3103-0806	3104-0806
GLACIÄR MIDI Remote IR R407c Group 8 5000 ppm	IR Detector, 0-5000 ppm	3101-0806-5m	3103-0806-5M	3104-0806-5M
Sensor module IR R1234yf Group 8 5000 ppm	IR Sensor module, 0-5000 ppm	3102-0800	3102-0800	3102-0800
Sensor module IR R1234ze Group 8 5000 ppm	IR Sensor module, 0-5000 ppm	3102-0801	3102-0801	3102-0801
Sensor module IR R32 Group 8 10000 ppm	IR Sensor module, 0-10000 ppm	3102-0802	3102-0802	3102-0802
Sensor module IR R410a Group 8 1000 ppm	IR Sensor module, 0-10000 ppm	3102-0803	3102-0803	3102-0803
Sensor module IR R449a Group 8 5000 ppm	IR Sensor module, 0-5000 ppm	3102-0804	3102-0804	3102-0804
Sensor module IR R407c Group 8 5000 ppm	IR Sensor module, 0-5000 ppm	3102-0806	3102-0806	3102-0806

* GLACIÄR MIDI+ AVK is a complete stand-alone gas detection package combining a GLACIÄR MIDI+ detector with a dedicated audio-visual alarm.