

GM50 Gas Detector

Stand Alone Detector for Hardwired Control



Product Overview:

The GM50 Gas Detector provides continuous monitoring for hydrogen, carbon dioxide, or oxygen levels in critical spaces. It features bright visual alarms, relay outputs, and analog/BMS integration for simple control of fans, valves, or strobes. Flexible power options (90–250 Vac, 24 Vac, or 18–60 Vdc) and Modbus RTU ensure easy integration with new or existing systems. Compact, durable, and designed for mechanical rooms, labs, and battery spaces; it is built to meet and exceed project requirements.

Compatible Accessories:



GM50-R Repeater:

The GM50-R is a repeater panel for the GM50 detector that powers and displays levels of up to three (3) detectors. It features the same outputs as the GM50 gas detector. It can be used as a control panel or remote display.



AGSAAB:

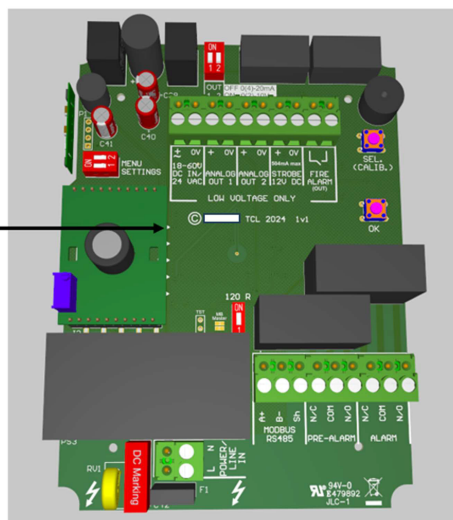
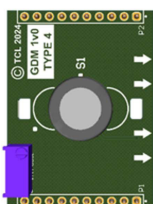
The AGSAAB is a low voltage audible and visual alarm beacon. The GM50 and GM50-R have a built in strobe output that energizes the AGSAAB in alarm.

Model Numbers and Outputs:

MODEL NUMBER	GAS TYPE AND RANGE	Typical Application	COMMUNICATION	Fan Control	DISPLAY
GM50-H2	Hydrogen	Battery Charging	Modbus RTU	Analog or Relay	Traffic Light Display
GM50-O2	Oxygen Depletion	Compressed Gases	Modbus RTU	Analog or Relay	Traffic Light Display
GM50-CO2	Carbon Dioxide	CO2 Cylinders	Modbus RTU	Analog or Relay	Traffic Light Display

Circuit Board Diagram:

Replaceable Hydrogen sensor module
Align the white arrows on the module with the arrows on the main PCB



CONNECTION

Low Voltage Power Input
18-60VDC or 24VAC

Selectable
4-20mA or 0-10V

12VDC Strobe
Output

Modbus Output

10A SPDT Form C Relay

90-250VAC Input

Normally Open 1A Relay

LABEL

+/- 0V

Analog Out

Strobe

RS-485

Pre Alarm / Alarm

Power / Line In

Fire Alarm

Technical Specifications

General					
Model:		GM50			
Target Gases:		Hydrogen H ₂ / Oxygen O ₂ / Carbon Dioxide CO ₂			
Size: (H x W x D)		5.95 x 4.37 x 1.97” (151 x 111 x 50mm)			
Housing Material:		ABS PA765. Flame Retardant UL 94V-1			
Mounting:		Safe Zone - Indoor use - Wall Mounted			
Weight:		212g			
User Interface					
Display:		1.8” TFT			
Screen Brightness:		Non-Adjustable			
Visual Indicators:		Gas Level (Green: Normal; Yellow: Pre-Alarm; Red: Alarm)			
Audible Alarm:		>80dB @ 3.28ft (1m). Quiet conditions.			
Language:		English			
Power Supply					
Rated Power:		3.5W @ 18-60VDC 9VA @ 230VAC 13VA @ 24VAC			
Rated Voltage:		90-250 VAC / 18-60VDC or 24VAC			
Relays					
Fire alarm relay		1A Normally Open			
Pre-alarm and alarm volt-free relay outputs:		10A switching current (resistive load) Form C SPDT			
Environmental					
Operating:		-10~40 °C (14~104°F) / 20 ~ 90% RH (non-condensing)			
Storage:		-10~40 °C (14~104°F) / 20 ~ 90% RH (no condensation)			
Altitude Rating:		2000m			
Wiring					
Typical		Power wiring should apply to all applicable codes. 120VAC & alarm relay outputs 14-16AWG / 24V DC 16-18AWG			
Approvals					
Electrical Safety & EMC		CE / UKCA BS EN 61010-1:2010 +A1:2019. & BS EN 50270 / FCC CRF 47 part 15B			
Sensor Specification					
Catalytic Gas Sensor	Measuring Range % Vol	Response	Pre-Alarm: % Vol	Alarm: % Vol	*EOL (Years)
Hydrogen (H ₂)	0-2%	<60s	1%	2%	10
Carbon Dioxide (CO ₂)	0-4 %	<60s	0.5%	3%	5
Oxygen (O ₂):	0-25%	<60s	19.5%	18% & 23%	5