

D382 Combustible gas detector, 12/24V

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Invented for life



- ▶ 12 VDC/VAC or 24 VDC/VAC operation
- ▶ Self-purging semiconductor sensor requires no maintenance or recalibration
- ▶ SPDT (Form C) alarm Relay and SPST (Form A) trouble relay designed for seamless connection to control panels or other devices
- ▶ Installer selectable self-restoring or latching functionality
- ▶ Red and Green LED status indicators

The D382 Combustible Gas Detector (Macurco GD-2A) detects the presence of combustible gases such as propane and natural gas (methane). It is rated by Underwriters Laboratories (UL) to alarm below 25% of the lower explosion level (LEL) of propane or methane.

Use in non-hazardous locations such as residences, retail stores, office buildings, and institutional buildings. It is usually installed in rooms where gas appliances are located or in rooms that are susceptible to gas seepage.



Notice

Do not use in industrial locations such as factories, refineries and chemical plants.



Notice

The D382 does **not** detect carbon monoxide.

Functions

Input Power

The detector uses a full-wave bridge rectifier so it is independent of input power polarity. It operates on AC or DC voltages from 12 V to 24V. A switching regulator is used to efficiently match the wide input voltage range to the fixed internal power system.

Status LEDs

The detector has one green and one red status LED on the front of the detector.

The detector has an internal two-minute time delay that prevents alarms during the warm-up of the gas sensor. During the warm-up period, the green LED light flashes. Once the delay is over, the continuous green light indicates normal operation.

The detector has a supervisory circuit of critical functions. A trouble condition, due to a failure of a non-reliable component, results in both lights flashing and the trouble relay activating. A power failure also causes the trouble relay to activate.

The red LED turns on at the same time the alarm relay activates to indicate the alarm condition.

Certifications and approvals

3M (Macurco) holds the following Listings and Approvals:

Region	Regulatory compliance/quality marks	
USA	UL	UL Certification Requirements for Gas and Vapor Detectors and Sensors (September 18, 2007)
	CSFM	California State Fire Marshal

Installation/configuration notes

Compatibility Information

The combustible gas detector is compatible with all UL Listed control panels that have four-wire power and alarm initiating circuits.

Mounting Considerations

The detector is capable of supervising an area of up to 900 ft² (83.6 m²). In larger areas, space the detectors on 30 ft (10 m) centers.

Natural gas (methane) is lighter than air and collects at the ceiling. Bottle gas (propane) is heavier than air and collects on the floor. Mount the detector 1 ft. (0.3 m) from the floor, or 1 ft. (0.3 m) from the ceiling, depending on the targeted gas. Mount the detector at least 6 in. (15.2 cm) from corners to avoid dead air space.

The detector mounts on a standard four-inch square back box or a double-gang box.

Wiring Considerations

The combustible gas detector must be installed on a separate circuit or zone reserved for combustible gas detectors and cannot be combined with smoke, heat, or intrusion detectors. Alarms for this circuit or zone must activate audible notification appliances of at least 85 dB with a distinctive sound for gas detection. Use the indicated wire size for the detector loop:

Length of Wire Run	Recommended Wire Size
200 ft (61 m) or less	22 AWG (0.8 mm)
Up to 575 ft (175 m)	20 AWG (1.0 mm)
Up to 686 ft (209 m)	18 AWG (1.2 mm)
Up to 1300 ft (396 m)	16 AWG (1.5 mm)
Up to 2100 ft (640 m)	14 AWG (1.8 mm)
Up to 3200 ft (975 m)	12 AWG (2.3 mm)

Parts included

Quantity	Component
1	Combustible gas detector
1	Hardware pack
1	Literature pack

Technical specifications

Electrical

Current

Alarm:	At 12 VDC: 70 mA; at 24 VDC: 35 mA At 12 VAC: 100 mA; at 24 VAC: 65 mA
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Standby:	At 12 VDC: 45 mA; at 24 VDC: 22 mA At 12 VAC: 65 mA; at 24 VAC: 45 mA
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Voltage

VDC input:	12 VDC to 24 VDC
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VAC input:	12 VAC to 24 VAC, 50 Hz or 60 Hz
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Environmental

Temperature (operating):	+32°F to +120°F (0°C to +49°C); <i>For UL installations, +40°F to +120°F (+4.4°C to +49°C)</i>
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Mechanical

Color:	White
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Dimensions (H x W x D):	4.5 in. x 5.0 in. x 1.625 in. (11.4 cm x 12.7 cm x 4.1 cm)
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Weight (shipping):	0.54 lb (0.25 kg)
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Outputs

Alarm

Relay Configuration:	one SPDT (Form C)
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Relay Rating:	0.125 A, 40 V, 3 VA
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Set Point:	25% of LEL for propane or methane
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Trouble

Relay Configuration:	one SPST (Form A)
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Relay Rating:	0.25 A, 40 v, 10 VA
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Trademarks

All hardware and software product names used in this document are likely to be registered trademarks and must be treated accordingly.

Ordering information

D382 Combustible gas detector, 12/24V

The D382 is installed in rooms where gas appliances are located or rooms susceptible to gas seepage where it detects the presence of combustible gases such as propane and methane. It is compatible with all UL Listed control panels with four-wire power and alarm initiating circuits.

Order number **D382**

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