# FCC-380 Carbon Monoxide Detector (Macurco CM-E1)

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**BOSCH**
**Invented for life**

▶ Solid state sensor provides maintenance-free operation

▶ Microcomputer control provides virtual automatic operation

▶ 9 VDC to 32 VDC operation is compatible with 12-V and 24-V systems

▶ Can quickly test CO sensor on site

▶ Three-color LED status display

The FCC-380 Carbon Monoxide (CO) Detector (Macurco CM-E1) detects CO concentrations in the air at or below the UL 2034 sensitivity limits for CO exposure and before symptoms of CO exposure appear. It alerts personnel to possible exposure through audible and visual alarms.
Install the detector in rooms **adjacent** to areas where CO concentrations are expected (garages or furnace rooms). Prime application locations include work areas or bedrooms.

ℹ️ **Notice**
Do not install the detector in areas where CO concentrations are expected (garages or furnace rooms).

ℹ️ **Notice**
The detector is **not** designed to detect smoke, fire, heat, or other gases (combustible or non-combustible).

## Functions

**LED Display**
The CO detector's three-color visual LED display indicates status and contamination level. A green display indicates the detector is operating normally. An amber display indicates a system trouble. A red display indicates dangerous CO levels.

**Operation Choices**
**Alarm System Operation**
The CO detector can function as part of an alarm system and connects to an alarm control panel through either a normally-open or normally-closed initiating circuit. If the carbon monoxide detector is connected to an alarm control panel, the control panel must provide an alarm for CO that is distinct from alarms for fire or intrusion.
**Stand-Alone Alarm Operation**
The CO detector can function as a stand-alone device using its internal alarm (repeated loud tone bursts during alarm and chirps if sensor trouble is found). Stand-alone operation was not evaluated by Underwriters Laboratories.

## Certifications and approvals

3M (Macurco) holds these Listings and Approvals.

Meets NFPA 720-2009 standards for CO sensor functionality and sensitivity testing.

| Region | Certification | |
|--------|---------------|---|
| USA | UL | FTAM: Gas and Vapor Detectors and Sensors (UL2075) |
| | CSFM | see our website |

## Installation/configuration notes

**Compatibility Information**
The carbon monoxide detector is compatible with all UL Listed control panels that have 12 VDC to 24 VDC power and alarm initiating circuits. The detector can also be used with a UL Listed Class 2 power supply.

**Mounting Considerations**
There are two usual sources of CO - defective heat sources (furnaces or wood burning stoves) and automobiles running in adjoining garages. The detector can detect CO from these sources, as well as any other sources of CO. For best operation, mount a detector in the hallway near each bedroom or office area. In addition, another detector can be mounted just inside the door from the adjoining garage. Consider placing another detector in a bedroom or office that is adjacent to a furnace room. The detector may be installed on either a ceiling or a wall. If installed on a peaked, gabled, or sloped ceiling, it should be located about 3 ft (1 m) from the highest point. The unit can be placed vertically or horizontally on a wall, so the information on the front of the detector can be read in a normal manner (not upside down). Do **not** mount the detector in a corner. Use the same spacing as for smoke detectors – 30 ft (9 m) centers, 900 ft$^2$ (84 m$^2$) per detector.

**Wiring Considerations**
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) |

Terminate each loop with an end-of-line resistor as specified by the control panel's installation instructions.

## Parts included

| Quant. | Component |
|--------|-----------|
| 1 | Carbon monoxide detector |
| 1 | Literature pack |

## Technical specifications

### Electrical

**Current**

| | |
|---|---|
| Alarm: | 35 mA at 9 VDC to 32 VDC |
| Normal: | 15 mA at 9 VDC to 32 VDC |

**Voltage**

| | |
|---|---|
| VDC input: | 9 VDC to 32 VDC |

### Environmental

| | |
|---|---|
| Temperature (operating): | +40°F to +100°F (+4.4°C to +37.8°C) |

### Mechanical

| | |
|---|---|
| Color: | White |
| Dimensions (H x W x D): | 5.125 in. x 3.125 in. x 1. 5 in. (13 cm x 8 cm x 3.8 cm) |
| Weight (shipping): | 1 lb (0.45 kg) |

### Outputs

**Alarm**

| | |
|---|---|
| Relay Configuration: | one NO or NC SPST (no polarity) |
| Relay Rating: | 100 mA, 40 VDC |
| Sound Level: | 85 dBA at 10 ft (3 m) |

**Trouble**

| | |
|---|---|
| Relay Configuration: | one NC SPST (no polarity) |
| Relay Rating: | 100 mA, 40 VDC |

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

## Ordering information

**FCC-380 Carbon Monoxide Detector (Macurco CM-E1)**
Carbon monoxide detector
Order number **FCC-380**

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