
CARBON MONOXIDE MONITOR

MODEL CM200 SERIES

TYPICAL APPLICATIONS:

- Parking Garages
- Vehicle Maintenance Shops
- Car Dealers
- Warehouses
- Fire Stations
- Police Stations
- Post Offices
- Ice Arenas

GENERAL DESCRIPTION:

TOXALERT'S Model CM200 Series monitors are compact, solid-state, low maintenance, cost effective carbon monoxide monitors designed for fixed installation, continuous monitoring.

The Model CM200 Series consists of three separate monitors. Model CM201 has a single stage audible alarm; Model CM202 has two stages of relay outputs, and Model CM203 has a first stage relay output and a second stage audible alarm. All models are microprocessor based with temperature and humidity compensation for stability. The solid state semiconductor-type sensor and associated electronics ensure trouble-free, long-term operation, for there are no pumps, filters or chemical cells to replace or maintain.



CM202

FEATURES:

- Self-Checking feature for sensor failure
- Sensor LED indication
 - Operation Normal - Power ON
 - Warning Stage - Alarm Stage
- Completely solid state for long life
- Relay outputs for control and alarming
- User adjustable Warning Level
- User adjustable Alarm Level
- Operating range meets OSHA std. 1910.1000
- Compact Nema 1 enclosure
- No maintenance except periodic calibration checks

OPERATION:

The Model CM200 series has a two color LED (light-emitting diode) to indicate its operating status. When the LED is flashing green, operation is normal and unit is not in alarm. When the LED is flashing red, the unit is sensing CO above its setting. A continuous red or green indicates failure; and LED off indicates power failure.

Model CM201 is a single stage carbon monoxide monitor with audible alarm. A red LED and audible alarm activate when the concentration of CO exceeds the factory-set (user-adjustable) level.

Model CM202 is a two stage carbon monoxide monitor with a relay output for each stage. If the CO concentration rises and stays above the warning stage setpoint (field adjustable) for a delay period of thirty seconds continuously, the warning relay, amber warning LED, and a three minute minimum on timer shall activate. The warning stage shall be activated for a minimum of three minutes and then deactivate if the CO concentration is below the warning stage setpoint. Should the CO concentration remain above the warning stage setpoint for longer than three minutes, the warning stage shall remain activated until the CO concentration falls below the warning stage setpoint. If the CO concentration should continue to rise above the alarm stage setpoint (field adjustable) and remain above the alarm setpoint for a period of ten minutes, then the alarm stage relay and red alarm LED shall activate.

Model CM203 is a two stage carbon monoxide monitor with a warning stage relay and an audible alarm with silence switch that is activated by the alarm stage. The operation is the same as the Model CM202 except that the audible alarm replaces the alarm relay.

SPECIFICATIONS:

- Sensor Type: Solid State Metal Oxide Semiconductor
- Indicators:
 - Amber LED for Warning
 - Red LED for Alarm
 - Flashing Green/Red LED
 - Power on - Microprocessor Operating
- Audible Alarm:
 - Model 201 - Sustained alarm tone for as long as gas is present
 - Model 203 - Alarm horn with silence push button
- Warning Stage Delay: 30 Seconds
- Minimum Fan On Time:
 - Model 202 - 3 Minutes
 - Model 203 - 3 Minutes
- Alarm Horn Delay:
 - Model 201 - 10 Minutes
 - Model 203 - 10 Minutes
- Range: 0-250 ppm
- Response Time: Less than 30 Seconds
- Input Power: 12 VDC, 300 mA regulated
- Relay Contracts: 120VAC, 2A resistive
- Factory Setpoints:
 - Model 201 - Alarm 50 ppm
 - Model 202 - Warning 50 ppm, Alarm 100 ppm
 - Model 203 - Warning 50 ppm, Alarm 100 ppm
 - Other Setpoints available
- Maintenance: None other than routine calibration check
- Operating:
 - Temperature: 20° F to 122° F (-29 C to 50C)
 - Relative Humidity: 5 to 95% non-condensing
- Enclosure:
 - Dimensions - 7.5"H x 5"W x 3-3/8" (19.05 x 12.7 x 8.57 cm)
 - Weight: - 3 lbs. (1.3 kg)
 - Type - Nema 12
 - Finish - Gray Enamel
 - Material - Steel

INSTALLATION INSTRUCTIONS:

1. INSTALLATION:

Refer to Figure 1 and 2 to install and wire the Toxalert monitor as follows:

- 1.) Locate a mounting location away from direct fresh air intakes, and mount vertically on wall or support column approximately five to six feet above floor.
- 2.) Open door and remove circuit board and sensor from enclosure.
- 3.) Mount enclosure with hinge along left side by using mounting holes (4 are available).
- 4.) A wiring access hole must be added to the enclosure anywhere along the bottom or right side. Do not place an access hole on the hinged side of the enclosure, since, if conduit is used, this may restrict the opening of the door. If conduit is to be used, use a chassis punch to match the required fitting size.
- 5.) Remove any metal chips and burrs from enclosure.
- 6.) Reinstall the sensor and circuit board.

2. WIRING UNIT:

Refer to Figure 1

WARNING: To prevent fire or shock hazard turn off supply power and fan power sources before making connections. Comply with all local building codes and ordinances.

- 1.) Connect power to T3 as follows:
T3-1 (+12VDC)
T3-5 (Ground)

**CM200 SERIES
CO CONTROL UNIT
Field Wiring Diagram**

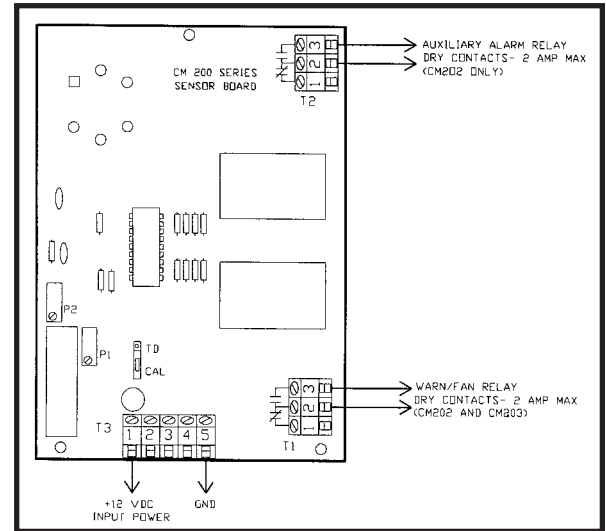


Figure 1

CAUTION: Relays R1 and R2 are rated for 2.0 amps resistive load. If a higher rated load is being controlled, add a remote relay between R1 or R2 and the load.

- 2.) Model CM202 and CM203-Connect control (i.e. fan) to R1 relay contacts. Terminals T1-C (common) and T1-NO (normally open) or T1-NC (normally closed). Normally open contacts T1-C and T1-NO close on a rise in CO concentration above fan on setpoint.
- 3.) Model CM202-Connect load (i.e. remote alarm) to R2 relay contacts. Terminals T2-C (common) and T2-NO (normally open) or T2-NC (normally closed).
- 4.) Turn on monitor power source, but do not apply power to remote devices at this time.

3. BURN-IN:

Burn-In period allows sensor to stabilize before applying power to remote device(s) connected to models CM202 & CM203.

- 1.) Be sure power is off to remote devices and monitor supply power is turned on.
- 2.) Allow sensor to burn-in for a minimum of 72 hours with power turned on to monitor. Monitor may go in and out of alarm during burn-in.
- 3.) When 72 hours have elapsed, confirm remote device(s) wiring and turn power on to remote devices.
- 4.) Status LED flashes on and off to indicate normal operation. If LED is on solid green or red; please contact your local representative or TOXALERT INTERNATIONAL, INC. for servicing.

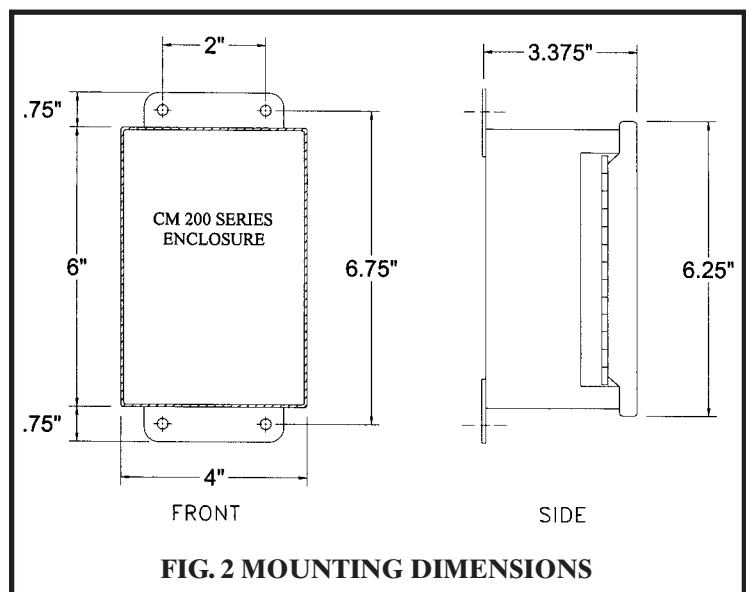
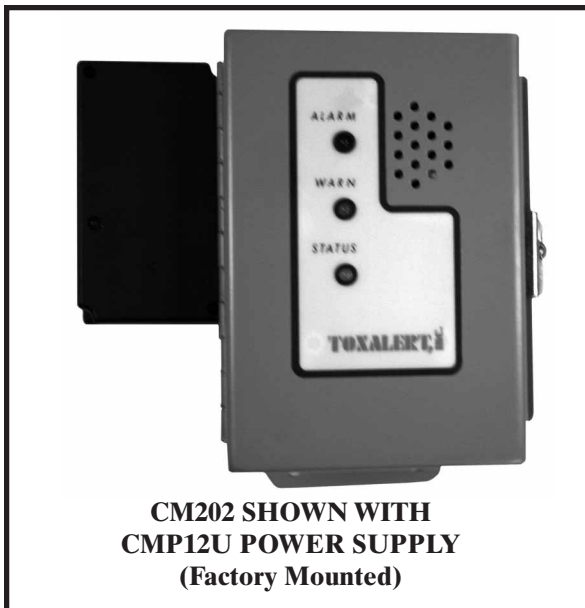
ORDERING INFORMATION:

CM SERIES CARBON MONOXIDE MONITOR:

<u>Model No.</u>	<u>Description</u>
CM 201	Carbon Monoxide Monitor with single stage audible alarm.
CM 202	Carbon Monoxide Monitor with warning output relay and alarm output relay.
CM203	Carbon Monoxide Monitor with warning output relay and alarm stage audible alarm with silence switch.

OPTIONAL POWER SUPPLIES FOR CM200 SERIES:

<u>Model No.</u>	<u>Description</u>
CMP12U	Power Supply, 120 VAC to 12 VDC, @ 300mA (Regulated) Unit Mounted.
CMP12M	Power Supply, 120 VAC to 12 VDC @ 1.7 A (Regulated), Nema 1 Enclosure (for up to five units).



CM 200 2/10 TMK