GREYSTONE

ACCURACY BY DESIGN

CARBON MONOXIDE (CO) DETECTORS

CMD Series

Precision gas control/sensing

FEATURES:

- Surface or Duct mount models
- Long-life, replaceable electrochemical sensor
- Optional LCD display
- Optional relay outputs & audible alarm

Peace of mind through reliable gas monitoring

GREYSTONE HAS AN **ISO 9001** REGISTERED QUALITY SYSTEM

CO DETECTOR

Environmental, industrial and commercial indoor Carbon Monoxide (CO) gas detector. Available in both a space and duct mount version.

ABS Duct Enclosure for CO

APPLICATION:

To sense and transmit carbon monoxide levels to any compatible electronic analog control, DDC/PLC controller or automation system for the control of ventilation equipment.

FEATURES:

- Superior Electrochemical sensing elements
- Set up/calibration fully menu driven (requires LCD option)
- 0-300 PPM standard (5%), other ranges available (contact Greystone)
- 0-500 PPM for (3%)
- Optional on board relays with field adjustable trip point.
- Optional LCD for displaying PPM level and menu options.
- Powered by either AC or DC source with no change to circuit required.
- Choice of three field adjustable analog output signals, linearized over full range.
- Modbus communictions option.
- Field replaceable calibrated sensor module.

SPECIFICATIONS	CO DETECTOR - Product # CMD
Gas Detected	Carbon Monoxide (CO)
Range	0-300 PPM (5%), 0-500 PPM (3%)
Standard Accuracy at 0-50˚C (32-122˚F), 15-90%RH	±5 PPM or 5% of reading for 0-300 PPM (whichever is greater) ±5 PPM or 3% of reading for 0-500 PPM (whichever is greater)
Sensing Element Life Expentancy	Electrochemical 5-7 years in air
Operation Conditions	-20-50˚C (-4-122˚F) for 5%, 0-50˚C (32-122˚F) for 3%, 15-95% RH non-condensing
Sample Method	Diffusion or flow through, sample tube for duct mounted units
Stability	< 5% signal loss/year
Manufacturing Process	ISO 9001 certified
Output Signal	4-20 mA active (sourcing), 0-5 Vdc or 0-10 Vdc jumper selectable
Output Drive Capability	Current output - 500 ohms max 10 Kohm min for voltage output
Output Resolution	10 bit PWM (±0.4 ppm)
LCD Display (optional)	LCD for displaying PPM and menu parameters 1 PPM resolution, 28mm W X 13mm H (1.1" X 0.5") alpha-numeric 2 line X 8 characters
Field Calibration	By applying calibration gas standards (Contact Greystone for calibration kit)
External Dimensions	ABS Space - 124.5mm W X 183.5mm H X 43mm D (7.2" X 4.9" X 1.7") Duct ABS - 124.5mm X 183.5mm X 250.5mm (7.2" X 4.9" X 9.9") includes duct insertion tube

CO DETECTOR

SPECIFICATIONS cont'd	CO DETECTOR - Product # CMD
Agency Approvals	Sensor is UL Recognized Component for ANSI/UL-2034 and UL-2075, E240671
Typical Coverage Area	700 m^2 (7500 ft^2) or 15m (50ft) radius
Response Time	< 35 seconds for 90% step change
Warm-up Time	200 seconds
Power Supply	15-30 Vac/dc (non-isolated half-wave rectified)
Consumption	80 mA max @ 24 Vdc with all options on 150 mA max @ 24 Vac with all options on
Input Voltage Effect	Negligible over specified operating range
Protection Circuitry	Reverse voltage protected and output limited Transient protection
Optional Relay Output	One or two Form C contact (N.O. and N.C.) 5 amps @ 250 Vac, 5 amps @ 30 Vdc, p.f. = 1 Relay 1 Trip Point - Programmable 25, 40-350 PPM in 10 PPM increments Relay 2 Trip Point - Programmable 100-400 PPM in 10 PPM increments Relay Hysteresis - Programmable 10, 15, 25, 50 or 75 PPM Relay Delay - Programmable 0, 1, 2, 3, 4, or 5 minutes
Programming and Selection	Via internal push-buttons and jumpers or optional Modbus communication (LCD rquired)
Wiring Connections	Screw terminal block (14 to 22 AWG)

CARBON MONOXIDE (CO): PRODUCT ORDERING INFORMATION

MODEL	Description
CMD	Carbon Monoxide Detector (CO)

CODE	Sensing Element and Accuracy	CO
3	Electrochemical	3%
5	Electrochemical	5%

CODE	Gas Type
B	CO - Carbon Monoxide Detector (CMD)

CODE	Enclosure
2	Space ABS
6	Duct ABS
9	Space ABS, weather proof

CODE	Circuit Board Relay (s)
00	No Relay
10	One Relay, Form C contact (N.O. and N.C.), 5 amps @ 250 Vac, 5 amps @ 30 Vdc, p.f. = 1
11	Two Relays, Form C contact (N.O. and N.C.), 5 amps @ 250 Vac, 5 amps @ 30 Vdc, p.f. = 1

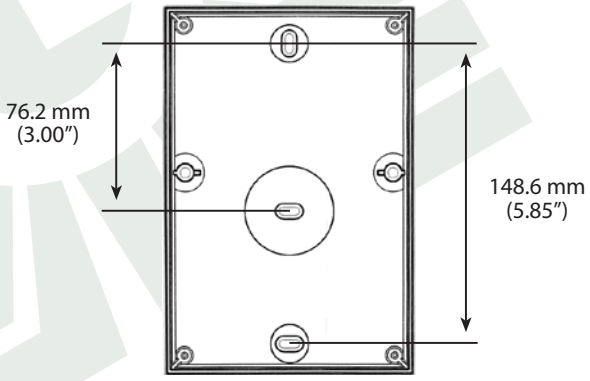
CODE	Options
0	No Options
1	LCD (Not to be used in temperatures below 5˚C / 32˚F)
2	Audible Alarm
MOD	Modbus Communications
TS	Test Switch (if pressed, puts output to 100% and activates relays for 5 minutes) **CMD5 only**

CMD	5	B	2	00	0	← Typical Model Number

Example:	Electro chemical	CO	Space ABS	No Relay	No Options

Greystone Energy Systems Inc. reserves the right to make design modifications without prior notice.

DIMENSIONS nts



Other GREYSTONE *Accuracy by Design* Products for the HVAC Professional

- **Temperature Sensors and Transducers**
- **Humidity Transducers**
- **Pressure Transducers**
- **Current Switches and Sensors**
- **KW and KWH Transducers**
- **Electronic to Pneumatic (IP)**
- **Transducers**
- **Power Supplies**

GREYSTONE
ACCURACY BY DESIGN

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RoHS COMPLIANT

Greystone Energy Systems Inc. is one of North America's largest ISO registered manufacturers of HVAC sensors and transducers for Building Automation Management Systems. We have conscientiously established a worldwide reputation as an industry leader by maintaining leading-edge design technology, prompt technical support, and a commitment to on-time deliveries. We take pride in our Quality Management System which is ISO 9001 certified, assuring our customers of consistent product reliability.

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