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

GREYSTONE HAS AN ISO 9001 REGISTERED QUALITY SYSTEM
DESCRIPTION:
The CMD series of Carbon Monoxide monitors are designed for use in environmental monitoring and control systems where high performance and stability are demanded. It’s state-of-the-art design combines digital linearization with a superior electrochemical sensor for reliability and accuracy in even the most critical applications. Various models cover many aspects of CO measurement and several optional features are available to meet virtually all HVAC applications.

SPECIFICATION:
Sensor Type: Electrochemical (Field replaceable)
Sensor Agency Approvals: Sensor is UL Recognized Component for ANSI/UL-2034, UL-2075, E240671
Measurement Range: 0-300 PPM
Accuracy: ±5 PPM or 5% of reading for 0-300 PPM (whichever is greater)
Accuracy rated: 0˚ to 50˚C (-4˚ to 122˚F), 10-90%
Typical Coverage Area: 700 m² (7500 ft²) or 15m (50ft) radius
Operating Temperature: -20˚ to 50˚C (-4˚ to 122˚F)
Operating Humidity: 15 to 95% RH non-condensing
Sample Method: Diffusion or flow through sample tube for duct mounted models
Stability: <5% signal loss/year
Response Time: <35 seconds for 90% step change
Warmup Time: 200 seconds

Power Supply: CMD5B1: 24 Vdc ±20% or 24 Vac ±10% (non-isolated, half-waved rectified)
              All other models: 15 to 30 Vac/dc (non-isolated, half-waved rectified)
Consumption: CMD5B1: 20 mA max. with Relay option: 50 mA max.
              All other models: 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
Output Signal: CMD5B1: 4-20 mA loop-powered, 4-20 mA sourcing with relay option
              All other models: 4-20 mA active (sourcing), 0-5 or 0-10 Vdc, jumper selectable
Output Drive at Capability: 550 ohms max for current output
Output Resolution: 10K ohms min for voltage output
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
                      CMD5B1: 25, 60 or 150 ppm, jumper selectable
                      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
                      CMD5B1: 3% or 9 ppm
                      Relay Delay - Programmable 0, 1, 2, 3, 4, or 5 minutes
Optional LCD Display: Displays PPM and menu parameters Not available on CMD5B1
                      1 PPM resolution, 28 mmW x 13 mm H (1.1” x 0.5”)
                      Alpha-numeric 2 line X 8 character
Programming and Selection: Via internal push-buttons and jumpers or optional Modbus communicaitions (LCD required)
Wiring Connections: Screw terminal block (14 to 22 AWG)
External Dimensions: Mini-Space, 71 x 104 x 46 mm (2.8” w x 4.1” h x 1.8”d)
                      Space, 124.5 x 183.5 x 43mm (7.2”w x 4.9”h x 1.7”d)
                      Duct, 124.5 x 183.5 x 250.5mm, (7.2”w x 4.9”h x 9.9”d) includes probe
Enclosure Ratings: Mini-Space (1) - IP64, NEMA4X
                  Space (2) - IP21, NEMA 1
                  Duct (6) - IP64 NEMA 12
                  Space weatherproof (9) - IP54, NEMA 3R
Field Calibration: By applying calibration gas standards (Contact Greystone for calibration kit)
Accessories: Calibration kit, model# CMD-CALKIT-CO
FEATURES:

• Superior Electrochemical sensing element
• Set up/calibration fully menu driven (requires LCD option)
• 0-300 PPM standard, other ranges available
• Optional on board relays with field adjustable trip point.
• Optional LCD for displaying PPM level and menu options.
• Modbus communications option.

• 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.
• Field replaceable calibrated sensor module.

APPLICATION:

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

PRODUCT ORDERING INFORMATION:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Description</th>
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<tbody>
<tr>
<td>CMD5B</td>
<td>Carbon Monoxide Detector (CO), Electrochemical - 5%</td>
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</table>

<table>
<thead>
<tr>
<th>CODE</th>
<th>Enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No Options</td>
</tr>
<tr>
<td>1</td>
<td>Mini-Space Gray ABS</td>
</tr>
<tr>
<td>2</td>
<td>Space Black ABS</td>
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<tr>
<td>6</td>
<td>Duct Black ABS</td>
</tr>
<tr>
<td>9</td>
<td>Space Black ABS, weather proof</td>
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</table>

<table>
<thead>
<tr>
<th>CODE</th>
<th>Circuit Board Relay (s)</th>
</tr>
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<tbody>
<tr>
<td>00</td>
<td>No Relay</td>
</tr>
<tr>
<td>10</td>
<td>One Relay, Form C contact (N.O. and N.C.), 5 amps @ 250 Vac, 5 amps @ 30 Vdc, p.f. = 1</td>
</tr>
<tr>
<td>11</td>
<td>Two Relays, Form C contact (N.O. and N.C.), 5 amps @ 250 Vac, 5 amps @ 30 Vdc, p.f. = 1</td>
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<table>
<thead>
<tr>
<th>CODE</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>No Options</td>
</tr>
<tr>
<td>1</td>
<td>LCD (Not to be used in temperatures below 5°C / 32°F) - Not available on CMD5B1</td>
</tr>
<tr>
<td>2</td>
<td>Audible Alarm - Not available on CMD5B1</td>
</tr>
<tr>
<td>MOD</td>
<td>Modbus Communications</td>
</tr>
<tr>
<td>TS</td>
<td>Test Switch (if pressed, puts output to 100% and activates relays for 5 minutes) - Not available on CMD5B1</td>
</tr>
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</table>

CMD5B 2 00 0 Typical Model Number

Example: Space ABS No Relay No Options

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

ACCESSORIES:

CMD-CALKIT-CO
CO Sensor field calibration kit
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.