

# C2 Protector Controller

## 2 / 4 Channel Display & Alarm Controller

- ◆ Large LCD display and flashing LEDs show values, bargraph and trend
- ◆ CSA certified to C22.2 No 152 for combustible gas detection and approved for Class 1, Div 2 Groups A, B, C, D
- ◆ Accepts one or two local or remote-mount Toxic / O<sub>2</sub> / LEL sensors
- ◆ Cal Mode offers pushbutton Zero & Span cal for direct sensors
- ◆ Two standard SPDT common alarm relays configurable for HORN, HIGH, WARN or FAULT
- ◆ Optional relays, MODBUS® or RS-232 interface, data logging, 4-20mA outputs and more
- ◆ Touch and magnetic keys for non-intrusive calibration in hazardous area
- ◆ NEMA 4X and XP wall mount options available

The C2 *Protector* 2 / 4 Channel Display & Alarm Controller is designed to provide display and alarm functions for monitored gas variables. A large graphic LCD displays input data as bargraphs, 30-minute trend and engineering units. Three adjustable alarm levels are provided per channel. Relay outputs with voting logic allows control of beacons, horns and other alarm events.

Versatile input signal conditioning options in the two-channel unit allow combustible or toxic / oxygen sensors to attach directly to the C2 or be mounted remotely. Both channels can be configured to accept 4-20mA inputs from sensor transmitters such as the GDS-49 Sensor Transmitter or GDS-IR Point Infrared Gas Detector. Seven watts of 24 VDC power is available for auxiliary devices or transmitters.

The new C2 Quad option provides four independent analog input channels. Outputs include three common relays and six optional relays (9 total) and a MODBUS slave interface. Direct sensor signal conditioning is not available on the C2 Quad controller.

Measurement ranges in engineering units, adjustable alarm set-points, optional serial interfaces, and many other features offer flexibility to meet the most demanding applications. One popular application for the C2 is as a dual gas detector equipped with one local combustible sensor and one local toxic sensor. Alternatively, two combustible locations may be monitored with one sensor local and another remote.

An optional RS-485 MODBUS® slave port allows multiple C2s to be multi-dropped on a single data highway. Additional C2 options include 5A SPDT discrete relays, 4-20mA outputs, light stacks and audible annunciators. Nonvolatile memory retains all configuration data indefinitely.



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GDS CORP

<b>Operating</b>	24VDC (12 Watt MAX) 85-240 VAC
<b>Display</b>	Backlit 128x64 pixel LCD shows trend, bargraph and engineering units
<b>Input</b>	Inputs available for dual catalytic bead LEL, dual toxic / O <sub>2</sub> , one each catalytic bead & toxic / O <sub>2</sub> , and dual 4-20mA
<b>Output</b>	Two common output relays configurable for A1, A2, FAIL & HORN ; 5A @ 30VDC / 240VAC resistive load  <b>Optional</b> discrete relay board with six additional relays  <b>Optional</b> slave mode RS-232 or RS-485 MODBUS half or full duplex port  <b>Optional</b> dual channel 4-20mA current loop. Max loop R is 800 ohms with nominal 24VDC  <b>Optional</b> 100db alarm (NEMA 4X only)
<b>Temp Range</b>	-30°C to +65°C operating
<b>Housing</b>	NEMA 4X / IP66 wall-mount approved for Class 1 Div 2 Groups A, B, C, D  NEMA 7 wall-mount approved for Class 1 Div 1 Groups B, C, D
<b>Dimensions</b>	NEMA 4X: Width 8.9" (226 mm); Height 10.3" (262 mm); Depth 3.2" (81 mm)
<b>Approvals</b>	CSA C22.2 No. 1010.1 & 152 for combustibles & ISA S82.02; UL 1604 / C22.2 No 213 (NEMA 4X = Div 2 Groups A, B, C, D; NEMA 7 = Div 1 Groups B, C, D) EN55011 & EN61000 (CE Mark)
<b>Warranty</b>	2 years from date of purchase



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## C2 Order Guide

C2 A - B - C / D - E - F / G - H - I - J - K / L

C2 Quad G - I - J - K / L (option H not available)

### Suffix "A" & "D" - Sensor Head Type

- 1 Local DELRIN head for Div 2 (disposable sensor)
- 2 Remote sensor head for Div 1
- 3 Remote sensor head for Div 1 with splash guard
- 10 Remote mount for GDS-IR Point Infrared

### Suffix "B" & "E" - Gas Types

- |                            |                        |
|----------------------------|------------------------|
| 10 Oxygen                  | 21 Ozone               |
| 11 Carbon Monoxide         | 22 Ethylene Oxide      |
| 12 Chlorine                | 23 Arsine              |
| 13 Chlorine Dioxide        | 24 Silane              |
| 14 Hydrogen                | 25 Fluorine            |
| 15 Hydrogen Sulfide        | 26 Phosgene            |
| 16 Hydrogen Cyanide        | 27 Hydrazine           |
| 17 Hydrogen Chloride       | 28 Nitric Oxide        |
| 18 Hydrogen Fluoride       | 29 Nitrogen Dioxide    |
| 19 Sulfur Dioxide          | 30 Mercaptane TBM      |
| 20 Ammonia NH <sub>3</sub> | 31 Tetrahydrothiophene |
- 50 SmartIR 0-100% LEL (Methane)
  - 51 SmartIR 0-100% LEL (Propane)
  - 52 SmartIR 0-100% By Volume (Methane)
  - 53 SmartIR 0-5% Volume Carbon Dioxide
  - 60 Photoionization Detector for VOCs (0-2000ppm)
  - 61 Photoionization Detector for VOCs (0-20ppm)
  - 70 Catalytic Bead for LEL
  - 80 Metal Oxide Semiconductor H<sub>2</sub>S 0-50 ppm
  - 90 Channel configured for 4-20mA Input
  - 95 GDS-IR 0-100% LEL (Methane)
  - 96 GDS-IR 0-100% LEL (Other)

### Suffix "C" & "F" - Measurement Range

- |          |         |          |
|----------|---------|----------|
| 1 0-1.00 | 4 0-25  | 7 0-500  |
| 2 0-5.00 | 5 0-50  | 8 0-1000 |
| 3 0-10.0 | 6 0-100 | 9 Other  |

### Suffix "G" - Discrete Relay Board

- 1 Add discrete relay board with six 5A relays

### Suffix "H" - 4-20mA Output Board

- 1 Add dual channel 4-20mA analog output board

### Suffix "I" - RS-232 / RS-485 Output Board

- 1 Add RS-485 / RS-232 MODBUS serial interface

### Suffix "J" - Audible Output

- 1 Add piezo-electric audible alarm (NEMA 4X only)

### Suffix "K" - Flashing Red Strobe Light

- 1 Install Class 1 Division 2 Red Xenon Strobe (as shown)

### Suffix "L" - Enclosure

- 1 Replace NEMA 4X enclosure with NEMA 7

Represented by: