C1 *Protector* Alarm Controller

Eight or Sixteen Channel Alarm & Display Controller for Critical Monitoring Applications

✱ 8/16 channels of analog, digital, wireless or bridge-type input

✱ Large LCD display shows values, bar-graph and 24 hr trend data

✱ Built-in support for GASMAX wireless gas monitors

✱ Individual alarm LEDS for each channel and alarm (total of 48)

✱ Standard 5A SPDT common relays for HORN, A2, A1 & FAULT

✱ Up to 48 discrete relays for easy interface to existing circuitry

✱ Relay voting logic reduces need for external hardware

✱ One or two optional 8-channel 4-20mA analog outputs

✱ ACK button silences HORN without affecting alarm relays

✱ Pushbutton zero and span calibration for directly connected sensors

✱ Operates on 10-30VDC or 110/220V 50/60 Hz AC

✱ MODBUS® master and slave ports for maximum flexibility

✱ CSA C22.2 No. 1010.1 & 152 for combustibles & ISA S82.02; UL 1604 / C22.2 No 213 (Div 2 Groups A, B, C, D); EN55011 & EN61000 (CE Mark).

✱ Manufactured in USA

Available in panel mount, rack mount (2x), NEMA 4X fiberglass or stainless steel or NEMA 7 explosion proof enclosures

The C1 *Protector* Controller is an ideal solution for monitoring up to 16 critical input variables.

Flexibility
Built around 'plug and play' input and output modules, the C1 Protector controller can accept signals from wireless monitors, analog sensors, digital sensors, discrete inputs or even direct connection to bridge-style combustible or VOC sensors. Built-in calibration mode, three programmable alarm levels per channel and four common relays (A1, A2, FAULT and HORN) are included in the base configuration. Up to sixteen 4-20mA analog outputs, 48 discrete relays and an Ethernet interface are available as options.

Status "At A Glance"
The high resolution graphic LCD displays data as trends, bargraphs and calibrated engineering units; a 24-hour trend graph for each channel is always available. Forty-eight high intensity LEDs show channel status in real-time. In addition to touch-sensitive buttons, a standard magnetic keypad allows non-intrusive operation in potentially hazardous locations.

Digitally Connected, Wireless Enabled
The C1 *Protector* controller includes both master and slave RS-485 serial MODBUS interfaces for maximum flexibility. The C1's master port reads data from remote RS-485 serial or wireless sensors, while the slave port enables remote MODBUS masters to access the C1's channel and configuration data in real time. Built-in support for GDS Corp GASMAX wireless gas monitors makes it easy to install and manage a wireless system. Using GDS Corp's *Protector*View software and MODBUS / TCP interface, a remote display of the controller's real-time status and stored configuration is available across any Ethernet network.
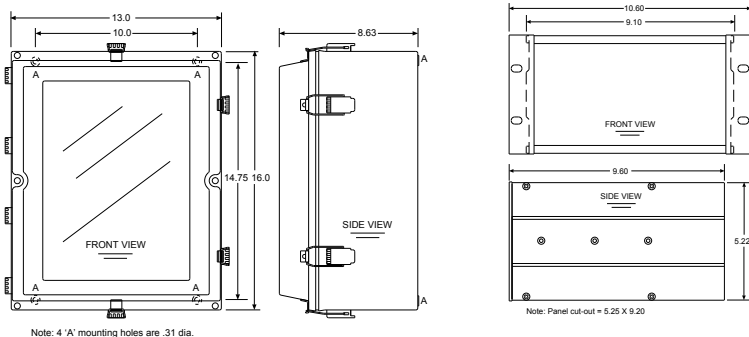
Reliability
The C1 *Protector* is designed from the ground up for critical alarm monitoring and is CSA certified for use in Class I Division 2 hazardous areas. In addition to gas detection, the C1 *Protector* controller is widely used in flow measurement, tank level monitoring and other critical alarm applications. The C1 *Protector* is available in panel mount, single or dual rack mount, NEMA 4X fiberglass and stainless steel, and NEMA 7 explosion proof enclosures.

Toxic & Combustible Gas Detection • Controllers • Process Monitors • Calibration Supplies

C1 *Protector* SPECIFICATIONS

Power Input	10-30VDC or 110/220 V 50/60Hz AC; 150W AC power supply included; 12 Watts MAX for electronics
Display	Backlit 240x128 pixel LCD shows trend, bargraph and engineering units; 52 discrete LEDs show channel status in real time
Wireless Input	Up to 16 remote GASMAX wireless gas monitors. Select option "M" or add external radio module.
Analog Input	Optional 8 or 16 4-20mA source into 100 ohms; includes excitation for easy connection to 2 or 3 wire transmitters
MODBUS I/O [1]	MODBUS master RS-485 half or full duplex port capable of reading remote GASMAX sensors, other compatible slave devices or wireless MODBUS slave RS-485 half or full duplex port capable of being read by remote MODBUS master device
Relay Output	Standard common output relays: A1, A2, FAIL & HORN; SPDT rated 5A@ 30DC/240AC Optional auxiliary relay board with secondary A1, A2 and HORN; SPDT rated 5A Optional 8 channel discrete relay board (up to 6x)
Analog Output	Optional 8 or 16 channel 4-20mA output (10 bit D/A). Max loop R is 800 ohms with nominal 24VDC supply
Digital Output	Optional printer output or MODBUS / TCP interface
Temp	-25°C to +65°C
Mounting	Panel mount for 19" rack; NEMA 4X wall-mount suitable for Class 1 Div 2 Groups B, C, D; NEMA 7 wall-mount suitable for Class 1 Div 1 Groups B, C, D
Dimensions	NEMA 4X fiberglass: Width 13" (330 mm); Height 16" (406 mm); Depth 8.63" (220 mm); Panel Mount: 5.25" x 9.20" cutout
Approvals	CSA C22.2 No. 1010.1 & 152 for combustibles & ISA S82.02; UL 1604 / C22.2 No 213 (Div 2 Groups A, B, C, D); EN55011 & EN61000 (CE Mark).
Warranty	2 years from date of purchase

C1 *Protector* Order Guide

C1 / A / B-C / D-E-F-G-H / J-K-L-M-N

"A"	ENCLOSURE SM = Surface mount PM = Panel / rack mount for 19" rack N4 = NEMA 4X non-metallic SS = NEMA 4X stainless steel XP = NEMA 7 wall-mount BP = Backplane only (no enclosure)
"B" & "C"	INPUT OPTIONS 00 = MODBUS or WIRELESS input 10 = 8 channel analog input 21 = 2 channels of bridge sensor input 22 = 4 channels of bridge sensor input 23 = 6 channels of bridge sensor input 24 = 8 channels of bridge sensor input
"D"	AUXILIARY RELAY BOARD (0 = none) 1 = Add one aux common relay board with additional 3x 5A SPDT relays
"E"	ANALOG OUTPUT (0 = none) 1 = Add one 8-channel analog output 2 = Add two 8-channel analog output
"F"	DISCRETE RELAYS (0 = none) 1 - 6 = Add up to six 8-channel relay output boards
"G"	DIGITAL INTERFACE (0 = none) 1 = Add one parallel printer interface 2 = Add MODBUS / TCP interface
"H"	AUDIBLE ALARMS (0 = none) 1 = Add 100db alarm (NEMA 4x)
"J"	EXPANSION OPTIONS (0 = none) 1 = Add expansion plate for NEMA 4X for 4 additional option locations 2 = Add expansion plate for NEMA 7 for three additional option locations
"K"	EXPANSION ENCLOSURE (0 = none) 1 = Add one NEMA 4X wall mount enclosure for eight additional options
"L"	ALARM ACK 0 = Local alarm ACK on controller 1 = Local alarm ACK on NEMA 4X enclosure 2 = Remote Alarm ACK on XP j-box
"M"	WIRELESS EXPANSION (0 = none) 1 = 900Mhz internal wireless radio 2 = 2.4GHz internal wireless radio 3 = 900Mhz external wireless radio 4 = 2.4Ghz external wireless radio
"N"	VISUAL ALARMS (0 = none) 1 - 4 Class I Div 2 (red, amber, blue, purple) 5 - 8 Non-rated (red, amber, blue, purple)

NEMA 4X Fiberglass

Panel Mount

GDS Corp
Gas and Flame Detection

1245 Butler Road
League City, Texas 77573
409-927-2980 • 409-927-4180 (fax)
www.gdscorp.com • info@gdscorp.com

NOTES

Note 1: Wireless modem replaces MODBUS master channel interface (wireless & MODBUS master cannot operate simultaneously