



BRASCH
ENVIRONMENTAL TECHNOLOGIES

Submittal Form

GDACP-A & TRA



Key Features

- Microprocessor Controlled
- Electrically Isolated
- LCD Readout
- Tactile Feedback Keypad
- Electrochemical Sensors
- Static Discharge Protection
- Low Voltage Wiring for Daisy Chaining Sensors
- Power Loss Fail-Safe
- Battery Backup for Memory and Clock
- Corrosion Resistant Locking Enclosure with Keys
- 4-20 mA, 0-1 VDC, 0-5 VDC, or 0-10 VDC Output
- Full Factory Calibration

SAMPLE SPECIFICATION

GDCP-A Digital Control Panel & GSE-xx-TRA Transmitters

GDCP-A Control Panel Specifications

Electrical

Power requirements	
Voltage	120 VAC, +/- 10 %
Frequency	50/60 Hz.
Inductive power	120 VA
Installation category	II (Local level, over-voltage transients below 1500 volts.)

Environmental

Temperature	
Operating	-15° C to 40° C, (5° F to 104° F)
Storage	-50° C to 120° C, (-58° F to 248° F)
Humidity	
Operating	10% to 90%, (non-condensing)
Storage	10% to 90%, (non-condensing)

General

Size	14 in. W. x 10 ¼ in. H. x 5 in. D. 35.6 cm. W. x 26.0 cm. H. x 12.7 cm. D.
Weight	14 lbs. (6.36 kgs)
Housing	Heavy gauge, painted steel, NEMA 1 classification.

Recognition

Agency	ETL listed to U.L. Standard 61010B-1 and Canadian CSA C22.2, NO 1010-1
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System, Electrical

Display	20 char. X 4 line LCD with LED backlight
Keypad	5 embossed keys with tactile feedback
Timing	Real-time clock with output for minutes, hours, day-of-week, day, month and year.
Circuit	Microprocessor controlled digital circuitry with battery backup, (up to 10 year lifetime).
Input channels	
Number	20 inputs, (max.)
Type	Model GSE-CM-TRA, Model GSE-ND-TRA transmitters
Input signal	8-bit digital word, RS-485 transceiver
Connection	Inputs are true daisy-chain, both power and communication.
Maximum distance	1000 feet between most remote input transmitter and panel.
Output channel	
Number	6 outputs, (std.)
Type of output	Two each, dry-contact, mechanical relays per channel, fused at 5 Amps.
Maximum voltage rating	125 VAC, 50/60 Hz.
Current capacity	5 Amps, resistive at 30 VDC.
Power (inductive)	250 VA, (1/8 H.P.)

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Alarm channel

Number	One internal and one external, common to all output channels.
External, (for optional, remote-mounted horn/strobe.)	
Type	One each, dry-contact, mechanical relay, fused at 5 Amps.
Maximum voltage	125 VAC, 50/60 Hz.
Current capacity	5 Amps, (resistive) at 30 VDC
Power, (inductive)	250 VA, (1/8 H.P.)
Internal	
Type	Piezoelectric ceramic element
Frequency	3.7 KHz.
Sound level	110 dB @ 10 cm.

Model GSE-xx-TRA Transmitter Specifications

Type

Transmitters shall be available for monitoring two types of target gases.

Model GSE-CM-TRA:	Monitors for Carbon Monoxide, 0-200 ppm full scale
Model GSE-ND-TRA:	Monitors for Nitrogen Dioxide, (Diesel exhaust), 0-10 ppm full scale

Electrical

Power requirements	
Voltage	25-28 VDC, (supplied by the GDCP-A panel)

Environmental

Temperature	
Operating	-15° C to 40° C, (5° F to 104° F)
Storage	-50° C to 120° C, (-58° F to 248° F)
Humidity	
Operating	10% to 90%, (non-condensing)
Storage	10% to 90%, (non-condensing)

General

Size	3 ¼ in. W. x 5 in. H. x 2 ¾ in. D. 8.3 cm. W. x 12.7 cm. H. x 7.0 cm. D.
Weight	1 lb. (2.2 kgs)
Housing	Heavy gauge, painted steel, NEMA 1 classification.

Recognition

Agency	ETL listed to U.L. Standard 61010B-1 and Canadian CSA C22.2, NO 1010-1
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Sensors

Accuracy	Transmitters shall be accurate to within +/- 5% of the full scale value.
	GSE-CM-TRA +/- 10 PPM carbon monoxide
	GSE-ND-TRA +/- 0.5 PPM nitrogen dioxide
Expected Useful lifetime	GSE-CM-TRA 2 years or greater*
	GSE-ND-TRA 2 years or greater*

*Useful lifetimes will vary according to total exposure to target gas.

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GDCP-A Digital Control Panel & GSE-xx-TRA Transmitters

Mounting Location

The ability of the unit to efficiently sense the target gas depends greatly upon proper selection of the mounting location. This unit monitors the area around it by sampling the air that passes by the sensor. Therefore, the unit should be positioned where it can sample air that contains a target gas concentration representative of the average value in that area.

When determining the mounting location of remote transmitters, give special consideration to the following guidelines.

- Use one sensor for each 7000 to 9000 square feet of area to be monitored.
- Do not locate any remote transmitters farther than 1000 feet from the main unit.
- The types of gases the unit is designed to monitor have densities approximately equal to that of air. For maximum safety, mount the unit at the average breathing height.
- Avoid mounting locations that would not be representative of the average gas value in that area. Locations near doorways, fans, ventilation inlets and outlets and areas with high volume of air flow should be avoided.
- Avoid locations that would allow direct contact with water. Mounting the unit near outside garage doors may allow rain to hit the unit when the door is open.
- Avoid locations that are directly in the outlet air vents of heaters or air conditioners.
- Do not allow exhaust from engines to flow directly on the unit. This unit is designed to sense gas concentrations that are 300 to 1000 times less concentrated than the gas levels found in engine exhaust. Also, engine exhaust contains high levels of other components. These components can shorten the useful life of the sensor if they contact the sensor before being diluted by the room air volume.
- Avoid mounting locations where the unit may be hit by passing vehicles. If the unit must be mounted in these locations, provide a shielding cage around the unit for protection.
- Do not restrict the air flow to the unit housing.
- Do not mount the unit near containers of chemicals such as gasoline, kerosene, alcohol or other cleaning fluids. High level concentrations of these chemicals may be mistaken as the target gas by the sensor and cause false readings. Also, some welding gases may cause false readings.

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GDCP-A Digital Control Panel & GSE-xx-TRA Transmitters

Setpoints

List of Low Alert values for CO and NO₂ transmitters

Transmitter	Range of Values
CO:	20, 25, 30, 35, 40, 45, 50, 55 PPM
NO ₂ :	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5 PPM

High Alert values for CO and NO₂ transmitters

Transmitter	Value
CO:	100 PPM
NO ₂ :	5.0 PPM

List of Delay values for entrance and exit delays

	Value in minutes
All Zones:	0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0

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Wiring Diagram

