

SAMPLE SPECIFICATION

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

**The Control Panel shall be as manufactured by
Brasch Manufacturing Company, Inc.
Input and Output ratings shall be as indicated.**

General:

1. The control panel shall be ETL listed containing a digital control board and power supply/relay board and shall conform completely to the UL 61010B-1 and certified to CAN/CSA STD. C22.2, No. 1010.1.
2. The NEMA 1 enclosure shall be constructed of heavy gauge, bonderized steel with gray, painted finish and conforms to the UL 61010B-1 standard. The cover shall close flush with the sides of the box and be secured with a keyed lock that protects the front panel controls when locked.
3. The enclosure shall have 6, ½" knockouts and 6, ¾" knockouts, pre-punched for connection of field conduit.
4. The unit shall be protected against static discharge, excessive electrical noise, and tested for safety in accordance with the UL 61010B-1 standard.
5. The unit shall have a four line, 20 characters per line, LC display that will continually indicate the present date and time on the top two lines and user instructions on the bottom two lines.
6. Programming and current status of the unit and all sensors shall be controlled from a front panel 5 key keypad. Factory programming to the user's specifications is available.
7. Front panel lamps shall indicate the status of the power, output zone relays and the alarm.

Overcurrent Protection:

1. The control panel shall contain a supply fuse rated for 1 Amp at 250 VAC. Each output relay shall have a fuse rated for 5 Amps at 250 Vac. The fuses shall be of the time-lag type similar to Wickmann Series 374.

Switches and Controls:

1. Each sensor connected to the control panel shall provide an 8-bit, digital signal in direct relationship to the concentration of the type of gas being monitored. Sensors are connected in "daisy chain" fashion for both power and signal.
2. The control panel shall have the capability of assigning each sensor to a specific output ventilation control zone, or to multiple control zones. Sensors may control zones individually or in combination with other sensors.
3. A key on the keypad shall be provided to silence the internal alarm. The alarm circuit will automatically be reset once the current alarm condition ceases to exist.
4. Output relays providing a normally closed set of contacts for low alert and the alarm shall be provided. These relays shall provide a fail-safe situation and will automatically operate ventilation equipment upon power loss to the control panel or sensor. The low and high alert relays shall have a field selectable configuration for 2-speed or 50%/100% fan control. Relays shall be suitable for the connection of 24 VAC, 24 VA inductive circuits.
5. Field adjustment of the low-alert detection level shall be available for each sensor. The range of the detection level shall depend upon the type of gas being monitored. An on/off time delay range of 0 to 10 minutes in increments of 1 minute shall be available for all sensors.
6. The control panel shall come standard with the capability to accept up to 20 transmitters/sensors and control up to 6 output zones.
7. The control panel shall have a battery backup feature capable of retaining the programmed parameters in case of a power loss.

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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 5 years or greater*
	GSE-ND-TRA 2 years or greater*

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