

Brasch GDCP-A Control Panel Operating Sequence and Programming Specification

- Normal Operation

If the monitored gas concentration level is below the programmable, field adjustable LOW ALERT setting, the control panel will be in the NORMAL mode. In this mode the front panel liquid crystal display will indicate the time and date on the top two lines and the bottom two lines will display "PRESS MENU KEY FOR OPTIONS". The panel output control relays will be in the inactive state and no front panel lamps will be illuminated.

- Low Alert Operation

If the monitored gas concentration level of any transmitter rises above the LOW ALERT setting, the panel will activate an entrance zone delay timer for that zone. If the concentration level remains above the LOW ALERT level for the duration of the entrance zone delay period, the Low Alert Relay contacts for the affected zone(s) will close and the associated low alert front panel lamp(s) will illuminate. This contact closure can be used to actuate exhaust fans.

Once the monitored gas concentration level drops below the LOW ALERT setting, the panel will activate an exit zone delay timer. The length of a zone's exit time delay is the same as its entrance time delay. If the concentration level remains below the LOW ALERT level for the duration of the exit zone delay period, the panel will revert to the Normal Operation state.

Entrance/exit zone delays are field programmable from 0 to 10 minutes.

- High Alert Operation

If the panel is in a Low Alert status and the monitored gas concentration continues to rise, reaching a factory set high alert concentration, the panel will actuate that zone's High Alert Relay contacts and front panel lamp. If configured for 50%-100% operation, these contacts may be used to activate additional stages of ventilation. If configured for 2 speed operation, the Low Alert Relay contacts will open. Once the concentration falls below the high alert concentration level, the panel will return to the Low Alert Operation mode.

If the Low Alert Relay is actuated, High Alert Operation will be immediate. If the panel is processing a low alert entrance zone delay period, the panel will enter the High Alert Operation mode upon its completion.

- Alarm Mode Operation

If a zone's monitored gas concentration remains above the factory set high alert level longer than 15 minutes, a set of Alarm Relay contacts will close and an internal buzzer will sound. This set of contacts can be used to actuate an external alarm. The buzzer will stay on and the contacts will remain closed until the monitored gas concentration falls below the factory set high alert level. The internal buzzer may be silenced by pressing a front panel mounted push-button switch.

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- Fail-Safe Operation

If any sensor fails, the zone(s) to which it is assigned will enter a Fail-Safe operating mode. The Low Alert Relay contacts will close, actuating the ventilation equipment controlled by that relay; the internal buzzer will sound and the Alarm Relay contacts will activate. The bottom two lines of the panel LCD will read "FAILED SENSOR", "CHECK SYSTEM STATUS".

If the panel loses power, the Low Alert Relay contacts will close and allow controlled ventilating equipment with power to operate. The panel has a battery that will retain programmed settings. When power is restored, the panel will reset. This Power Back process will take approximately 2 ½ minutes at the end of which, the panel will again monitor the transmitters and respond based upon the program parameters. The panel can be programmed to leave all fans off or operate selected fans during the Power Back process.

- Automatic Override Operation

The panel may be programmed to close all Alert Relay contacts or selected Alert Relay contacts for 10 minutes at the beginning of each hour or actuate specific Alert Relay contacts for one hour increments for up to three periods per day. If daily selection is made, timed periods must begin and end on the hour, be a minimum of one hour and may not overlap. Periods for weekdays may be different than periods for weekends.

The GDCP-A Control Panel can be programmed at the factory with the customer's requested operating parameters. The panel will retain the settings, allowing the panel to be delivered and installed without losing the program placed in its memory prior to shipment. Once power is applied after installation, the panel will operate without the need for on-site programming. However, the panel's program can still be altered in the field as desired.

If you wish to have the Factory custom program your GDCP-A system, please provide the following information. Default factory settings are indicated in **bold** type. Upon completion, please retain a copy of the document and submit the original to your Brasch representative for inclusion with your purchase order to Brasch Manufacturing Company.

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Output Zones:

Place a check mark by each ventilation zone that is to be active or used.

Zone 1: **Zone 2:** **Zone 3:** **Zone 4:** **Zone 5:** **Zone 6:**

Circle the type of fan control for each active zone. (Choose only one type per zone.)

2-Speed: Zone: 1 2 3 4 5 6

50% / 100%: Zone: **1** **2** **3** **4** **5** **6**

Circle the entrance/exit zone delay for each active zone. (Entrance and exit times are identical.)

Zone 1: 0 1 2 **3** 4 5 6 7 8 9 10 Minutes

Zone 2: 0 1 2 **3** 4 5 6 7 8 9 10 Minutes

Zone 3: 0 1 2 **3** 4 5 6 7 8 9 10 Minutes

Zone 4: 0 1 2 **3** 4 5 6 7 8 9 10 Minutes

Zone 5: 0 1 2 **3** 4 5 6 7 8 9 10 Minutes

Zone 6: 0 1 2 **3** 4 5 6 7 8 9 10 Minutes

Transmitters (Sensors):

Circle the type of gas being monitored by each transmitter; carbon monoxide (CO) or nitrogen dioxide (NO2).

Transmitter 1: CO NO2 Transmitter 2: CO NO2 Transmitter 3: CO NO2

Transmitter 4: CO NO2 Transmitter 5: CO NO2 Transmitter 6: CO NO2

Transmitter 7: CO NO2 Transmitter 8: CO NO2 Transmitter 9: CO NO2

Transmitter 10: CO NO2 Transmitter 11: CO NO2 Transmitter 12: CO NO2

Transmitter 13: CO NO2 Transmitter 14: CO NO2 Transmitter 15: CO NO2

Transmitter 16: CO NO2 Transmitter 17: CO NO2 Transmitter 18: CO NO2

Transmitter 19: CO NO2 Transmitter 20: CO NO2

Circle the number of each transmitter assigned to each active zone. (Zones may share assigned transmitters.)

Transmitter number

Zone 1: **1** **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13** **14** **15** **16** **17** **18** **19** **20**

Zone 2: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Zone 3: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Zone 4: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Zone 5: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Zone 6: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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Indicate the Low Alert trigger concentration for each active transmitter. Choose from the following values.

CO: 20, 25, 30, **35**, 40, 45, 50 and 55 PPM

NO2: **1.0**, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0 and 4.5 PPM

Transmitter 1: _____ Transmitter 2: _____ Transmitter 3: _____
 Transmitter 4: _____ Transmitter 5: _____ Transmitter 6: _____
 Transmitter 7: _____ Transmitter 8: _____ Transmitter 9: _____
 Transmitter 10: _____ Transmitter 11: _____ Transmitter 12: _____
 Transmitter 13: _____ Transmitter 14: _____ Transmitter 15: _____
 Transmitter 16: _____ Transmitter 17: _____ Transmitter 18: _____
 Transmitter 19: _____ Transmitter 20: _____

Auto Override Features:

Specify the type of Auto Override programming. You may choose to actuate all fans, or specific fans, for 10 minutes at the beginning of each hour, (choose "EACH HOUR"), or actuate specific fans for up to three periods each day, (choose "BY DAY"). If you choose "BY DAY", the timed periods must begin and end on the hour. The minimum time is one hour. Timed periods may not overlap. Periods for weekdays can be different than periods for weekends.

(Place a check mark by the selected type of Auto Override, if desired.)

Each Hour _____ Circle active zones **None** 1 2 3 4 5 6

By Day _____ Circle active zones **None** 1 2 3 4 5 6

Specify ON/OFF times

Weekdays: Time 1 ON ____:00 AM PM OFF ____:00 AM PM

Time 2 ON ____:00 AM PM OFF ____:00 AM PM

Time 3 ON ____:00 AM PM OFF ____:00 AM PM

Weekends: Time 1 ON ____:00 AM PM OFF ____:00 AM PM

Time 2 ON ____:00 AM PM OFF ____:00 AM PM

Time 3 ON ____:00 AM PM OFF ____:00 AM PM

Power Back programming:

You may choose to have specific zones turn on fans immediately after a power interruption. These fans will operate for a period of approximately 2 ½ minutes after the power is restored.

Circle active zones: **None** 1 2 3 4 5 6