



**BRASCH**  
ENVIRONMENTAL TECHNOLOGIES

NO.	DATE	REVISION	BY

see www.brz.com Submitted Information

OWNER	CHECKED BY
CUSTOMER	DRAWN BY
SCALE	DATE
NO.	No Scale
GDCP – Touch	
SHEET NO	
1 OF 1	

**RELAY CONNECTIONS**

- LEVEL 1: (Default)**
- NC = Closes when gas exceeds setpoint (or fail-safe condition)
  - NO = Opens when gas exceeds setpoint (or fail-safe condition)
- LEVEL 2-4:**
- NC = Opens when gas exceeds setpoint
  - NO = Closes when gas exceeds setpoint

**NOTES**

**DESCRIPTION**

This system incorporates ( ) control panel, ( ) expansion packs, and ( ) CO/NO<sub>2</sub> remote transmitters. Remote transmitters are field-connected on a 4-wire daisy chain as shown above. A strict daisy chain is strongly recommended, although the sensors may be connected in any order. The total length of each run should not exceed 4000 ft.

The CO sensors are electrochemical type with a life expectancy of up to 10 years and a detection range of 0-200 PPM.

The NO<sub>2</sub> sensors are electrochemical type with a life expectancy of up to 10 years and a detection range of 0-10 PPM.

The control panel polls each transmitter in a sequential and continuous manner, acquiring data using the RS-485 communication protocol.

A 7-inch LCD touchscreen provides a digital read-out of gas concentrations and operational status of each transmitter.

**SEQUENCE OF OPERATION**

The system shall serve zone(s) as indicated above.

Whenever a "LOW" level condition is detected at any sensor, respective zoned dry contact(s) for the low level shall close after a user-adjustable delay time to activate the associated ventilation equipment, interlocked louver(s), and damper(s) (if any).

Whenever a "MEDIUM" level condition is detected at any sensor, respective zoned dry contact(s) for the medium level shall close.

Whenever a "HIGH" level condition is detected at any sensor, respective zoned dry contact(s) for the high level shall close.

Upon an "ALARM" level condition at any sensor, dry contact(s) for the alarm level shall close. The internal buzzer will sound and any external strobe/horn(s) (if any) shall be activated.

Once the gas concentration drops below the user-adjustable setpoint for each level, the respective zoned dry contact(s) will open and the panel will return to the next lowest level.

The control panel shall be equipped with an override to manually energize the ventilation regardless of gas concentrations.

The panel will output zoned proportional analog signal(s) for the VFD (if any) to ramp the speed of the fan(s) based on the gas concentration. The signals represent the detection range of sensors (0-200 PPM CO / 0-10PPM NO<sub>2</sub>) and will be based on the sensor with higher concentration.

Pressing the silence button on the home screen will cancel the internal buzzer while allowing the external circuit(s) to continue operating as long as the alarm condition persists. The silence button has no effect on the dry contact(s).

Should data transmission between the control panel and a sensor fail, an on-screen message will appear and the control panel will enter fail-safe mode.

When a sensor's calibration expires, an on-screen message will appear to prompt calibration. This message may be dismissed for a period of six months if calibration is deemed not necessary.

When a sensor reaches end-of-life, an on-screen message will appear and the control panel will enter fail-safe mode.

The on-screen status indicator for the respective zone will turn from green to yellow for a LOW, MEDIUM, or HIGH level, and from yellow to red for an ALARM level.

**INSTALLATION NOTES**

It is highly recommended that the installing contractor of these products contact Brasch technical support with any questions prior to installation at 314-291-0440.

A strict daisy chain is strongly recommended. T-Taps are permitted to facilitate sensor wiring but should be kept to a minimum. Wiring runs should be kept as short as possible. Power and communication may be run in the same conduit, but should always be separated and shielded to avoid potential interference or damage. Ensure the 4 color-coded wires are connected consistently throughout the system. Failure to do so may cause damage and will void the warranty.

All Brasch detection and control systems are factory calibrated and configured. Each remote transmitter is factory addressed and assigned a corresponding sensor number. Pay attention to these numbers when locating each transmitter. Check the architectural drawing for specific installation locations.

The control panel and transmitters require 24 VAC ± 3 VAC at all times. Upon initial application of power, a period of up to 12 hours is recommended to allow the system sufficient time to warm-up.

Relays are configured for fail-safe operation unless otherwise specified. In this state, the NC contacts will open during normal operation and close when gas concentrations exceed the setpoint. In the event the detection system fails, the NC contacts will default to their closed state in an attempt to run ventilation equipment in undetected spaces.