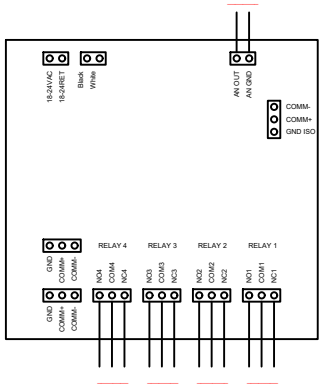
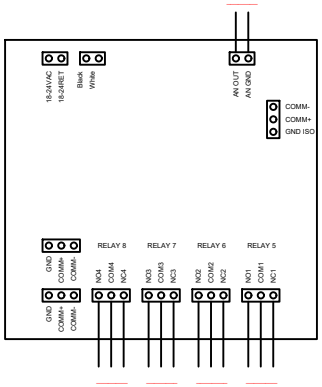
Brasch GDCP-Touch Gas Detector Control Panel



Brasch GDCP-ExpansionPack



Control Panel Relay Configuration

Relay	Location	Zone	Level	Sensors	CO Setpoint (PPM)	NO_2 Setpoint (PPM)	CH_4 Setpoint (% LEL)	C_3H_8 Setpoint (% LEL)	H_2 Setpoint (% LEL)	O_2 Setpoint (% V/V)	ON Delay (minutes)	OFF Delay (minutes)	Analog Output	Equipment
1	GDCP-Touch													
2														
3														
4														
5	GDCP-ExpansionPack #1													
6														
7														
8														
9	GDCP-ExpansionPack #2													
10														
11														
12														
13	GDCP-ExpansionPack #3													
14														
15														
16														
17	GDCP-ExpansionPack #4													
18														
19														
20														
21	GDCP-ExpansionPack #5													
22														
23														
24														
25	GDCP-ExpansionPack #6													
26														
27														
28														
29	GDCP-ExpansionPack #7													
30														
31														
32														

NOTES

DESCRIPTION

This system incorporates (__) control panel, (__) expansion packs, and (__) 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 feet. All gas types may be connected on the same daisy chain.

CO, NO_2, and O_2 sensors are typically mounted at average breathing height. CH_4 and H_2 sensors should be mounted at or near the ceiling. C_3H_8 sensors should be mounted 12 to 18 inches above the floor. Consult the sensor data sheet for more information.

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 analog signal(s) for the VFD (if any) to ramp or step the speed of the fan(s) based on the gas concentration. The signals represent the full-scale detection range of sensors and will be based on the gas type with highest 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

A strict daisy chain is strongly recommended. T-Taps are permitted to facilitate sensor wiring but should be kept to a minimum. Power and communication may be run in the same conduit, but should always be separated and shielded from each other to avoid potential interference or damage. Communication wire must be a shielded twisted pair (STP) serial data cable. All wires are polarity sensitive. Ensure the 4 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. Make sure to enable the end-of-line resistor on the last transmitter in the daisy chain.

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.

Sensors should be tested and calibrated at regularly scheduled intervals. Brasch recommends testing each sensor for accuracy and response every 6 months. CO and O_2 sensors should be calibrated every 2 years. NO_2 sensors should be calibrated every year. CH_4, C_3H_8, and H_2 sensors should be replaced every 2 years. Excessive exposure to target gas or limited exposure to poisons and inhibitors will require more frequent testing and calibration.

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.

BRASCH
ENVIRONMENTAL TECHNOLOGIES

NO.	DATE	REVISION	BY
2	2/24	C	BP
2	8/1	B	BP
1	6/12	A	BP

PROJECT

Submittal Information

ENGINEER | CHECKED BY
CUSTOMER | DRAWN BY BP
SCALE No Scale | DATE
MODEL GDCP—Touch
SHEET NO 2 OF 2