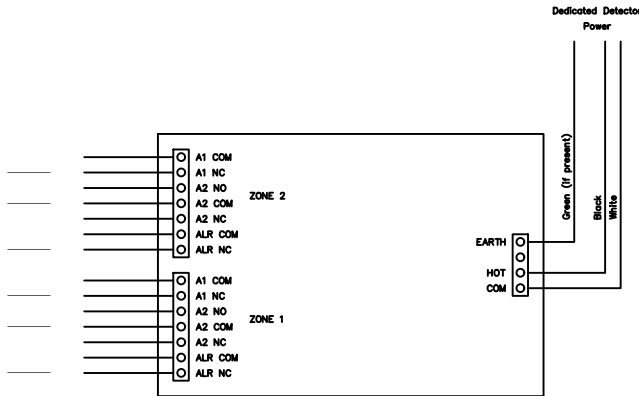
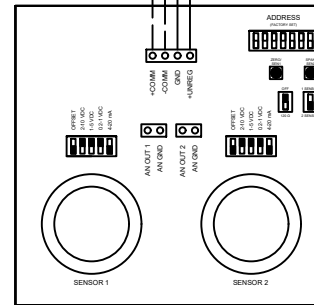


Brasch GSE Generation 2 Standalone Detector  
(Interface Board)

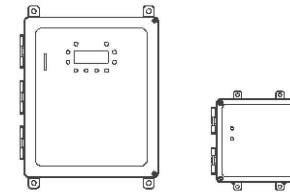
Brasch GEN2-XX-Remote Transmitter (if applicable)



4-Wire Cable  
To Control Board  
(P&I,JP)



GSE Generation 2 and Remote Transmitter



RELAY CONNECTIONS

NOTES

- LOW ALERT:  
A1 NC = Closes when gas exceeds setpoint (or fail-safe condition)
- HIGH ALERT:  
A2 NO = Closes when gas exceeds setpoint  
A2 NC = Opens when gas exceeds setpoint
- ALARM:  
ALR NC = Closes when gas exceeds setpoint (or fail-safe condition)

Relay	Zone	Level	Sensors	CO Setpoint (PPM)	NO <sub>2</sub> Setpoint (PPM)	CH <sub>4</sub> Setpoint (% LEL)	C <sub>2</sub> H <sub>6</sub> Setpoint (% LEL)	H <sub>2</sub> Setpoint (% LEL)	O <sub>2</sub> Setpoint (% VV)	ON Delay (minutes)	OFF Delay (minutes)	Analog Output	Equipment
1	1	Low Alert	1-4	35	1.5	10	10	10	18.5	3	3	4-20 mA	
2		High Alert	1-4	100	5.0	50	50	50	16.0	0	0	4-20 mA	
3		Alarm	1-4	100	5.0	75	75	75	16.0	15	15	4-20 mA	
4	2	Low Alert		35	1.5	10	10	10	18.5	3	3		
5		High Alert		100	5.0	50	50	50	16.0	0	0		
6		Alarm		100	5.0	75	75	75	16.0	15	15		

DESCRIPTION

This system incorporates ( ) standalone detector and ( ) remote transmitters. Remote transmitters are field-connected on a 4-wire daisy chain as shown above.

CO, NO<sub>2</sub>, and O<sub>2</sub> sensors are typically mounted at average breathing height. CH<sub>4</sub> and H<sub>2</sub> sensors should be mounted at or near the ceiling. C<sub>2</sub>H<sub>6</sub> sensors should be mounted 12 to 18 inches above the floor. Consult the sensor data sheet for more information.

The detector polls each transmitter in 5-second intervals in a sequential manner, acquiring data using the RS-485 communication protocol.

A 4x7-segment LCD display provides a digital read-out of gas concentrations and operational status of each sensor.

SEQUENCE OF OPERATION

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

Whenever a "LOW ALERT" condition is detected at any sensor, respective A1 dry contact(s) for the low alert shall close after a user-adjustable delay time to activate the associated ventilation equipment, interlocked louver(s), and damper(s) (if any).

Whenever a "HIGH ALERT" condition is detected at any sensor, respective A2 dry contact(s) for the high alert shall close to activate the associated ventilation equipment, interlocked louver(s), damper(s), and warning equipment (if any).

Upon an "ALARM" condition at any sensor, ALR dry contact(s) for the alarm 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 setpoint for each level, the respective zoned dry contact(s) will open and the detector will return to the next lowest level.

The detector shall be equipped with an override to manually energize the low alert relay regardless of gas concentrations.

The detector will output a proportional analog signal on each sensor for the VFD (if any) to ramp the speed of the fan(s) based on the gas concentration. The signals represent the full-scale detection range of sensors.

Pressing the "ALARM OFF" button on the front cover will cancel the internal buzzer while allowing the external circuit(s) to continue operating as long as the alarm condition persists. The button has no effect on the dry contact(s).

Should data transmission between the detector and a sensor fail, an error code will appear and the detector will enter fail-safe mode.

When a sensor reaches end-of-life, an error code will appear and the detector will enter fail-safe mode.

The alert status indicators will blink short-on-long-off during delay, flash slowly during low alert, and flash quickly during high alert. The alarm status indicator will illuminate during an alarm condition in either zone.

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.

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 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 sensor is factory addressed and assigned a corresponding sensor number. Pay attention to these numbers when locating any remote transmitters. Check the architectural drawing for specific installation locations.

The detector can be configured for 24 VAC or 120 VAC input power at the time of order. Verify the power requirements of each detector prior to applying power. Upon initial application of power, a period of up to 12 hours is recommended to allow the system sufficient time to warm-up.

Low alert and alarm relays are configured for fail-safe operation. 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.



2	8/1	B	EP
1	8/12	A	EP
NO. 1	DATE	REVISION	BY
PROJECT			
ENGINEER		CHECKED BY	
CUSTOMER		DRAWN BY	
SCALE		DATE	
No Scale			
MODEL			
GSE Gen 2			
SHEET NO			
1 OF 1			

see me at Submitted Information