BRASCH
ENVIRONMENTAL TECHNOLOGIES

GDCP-Touch
Installation and Startup

Rev 2.0
August 1, 2024

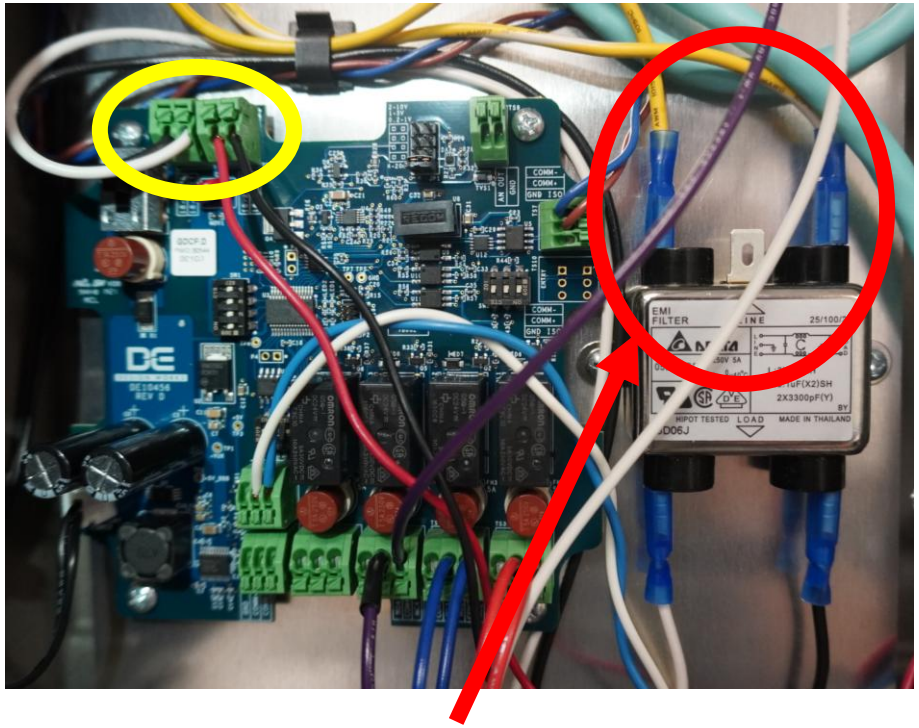
Step 1 – Mounting

- Determine the location for mounting your panel, transmitters, and accessories.
  - The locations should be indicated on the architectural drawing.
  - If not, the owner or designer of the facility may be consulted.
- Full mounting guidelines can be found on page 14 of the IOM.
- General Guidelines
  - Locate the panel in a convenient, easy-to-access location
  - Mount all transmitters 5-7 ft. AFF
  - Use junction boxes if needed and do not modify enclosures
  - Space expansion packs evenly to maximize signal strength

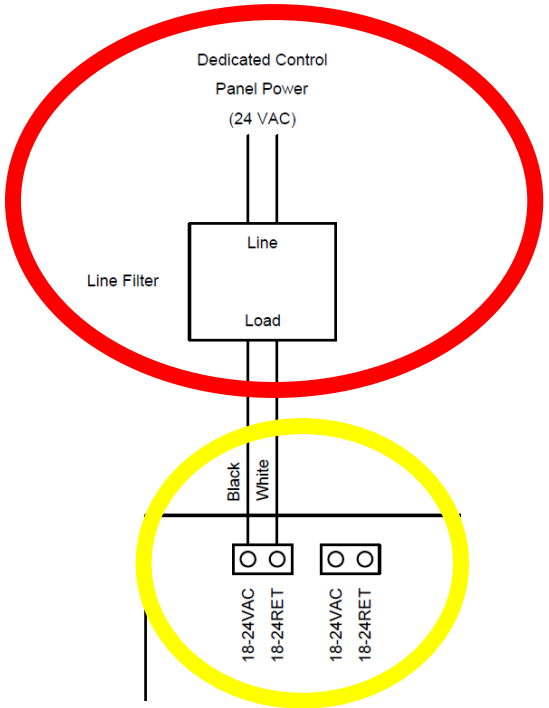
Step 2 – Input Wiring

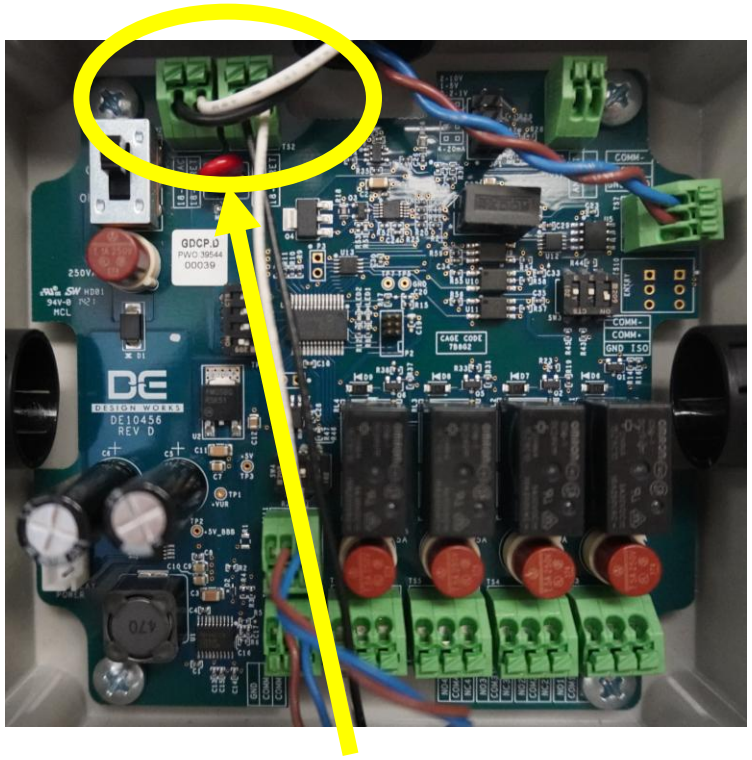
- Provide a dedicated circuit at **24 ± 3 VAC**
  - Power requirements are:
    - GDCP-Touch: 18 VA
    - GDCP-ExpansionPack: 9.6 VA
    - GEN2-XX-Remote (Toxic): 4.8 VA
    - GEN2-XX-Remote (Combustible): 6.8 VA
    - GEN2-NCM-Remote: 8.5 VA
- Include a conductor to Earth ground
- Note: this panel uses an EMI line filter inside the panel

Step 2 – Input Wiring



Power to Control Panel





Power to Expansion Packs

Step 3 – Remote Transmitter Wiring

- This panel does not provide any power to the remote transmitters
  - Power may be daisy chained through the system
- Using a cable with color-coded conductors is highly recommended
  - Brasch Color Code:
    - Black = +24 VAC (+UNREG)
    - White = -24 VAC (COM/GND)
    - Brown = +COMM
    - Blue = -COMM
- Connect each conductor from your cable to the corresponding wire
- Remote transmitters are not to be used as junction boxes

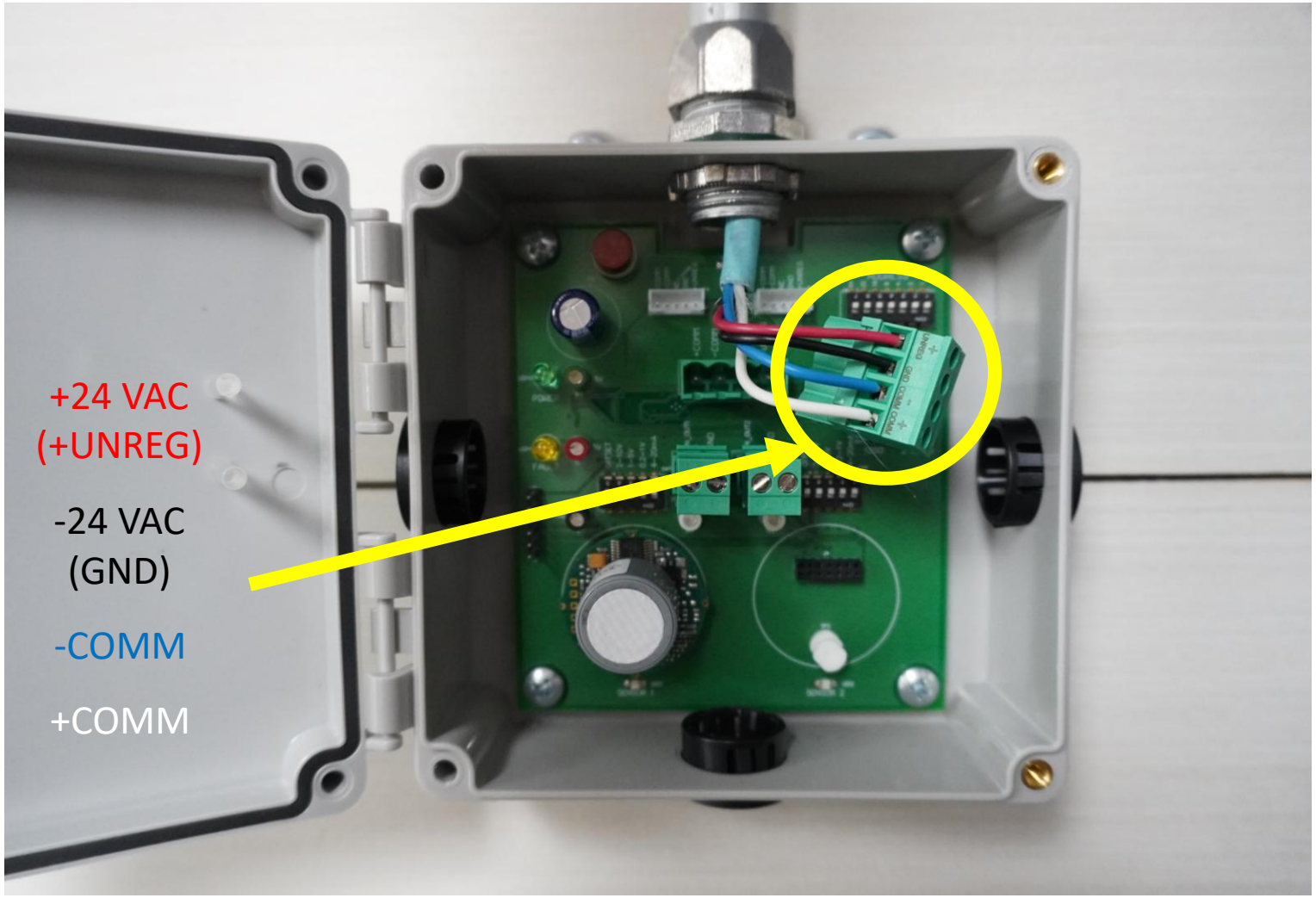
Step 3 – Remote Transmitter Wiring

- Power Wiring
  - See Power Table
- Communication Wiring
  - See Communication Table
  - Use shielded twisted-pair cable of at least 24 AWG
    - Preferably include an overall foil and braid shield
  - Connect components only in a straight daisy chain pattern
  - Enable the 120 Ω termination resistor at the end of the line

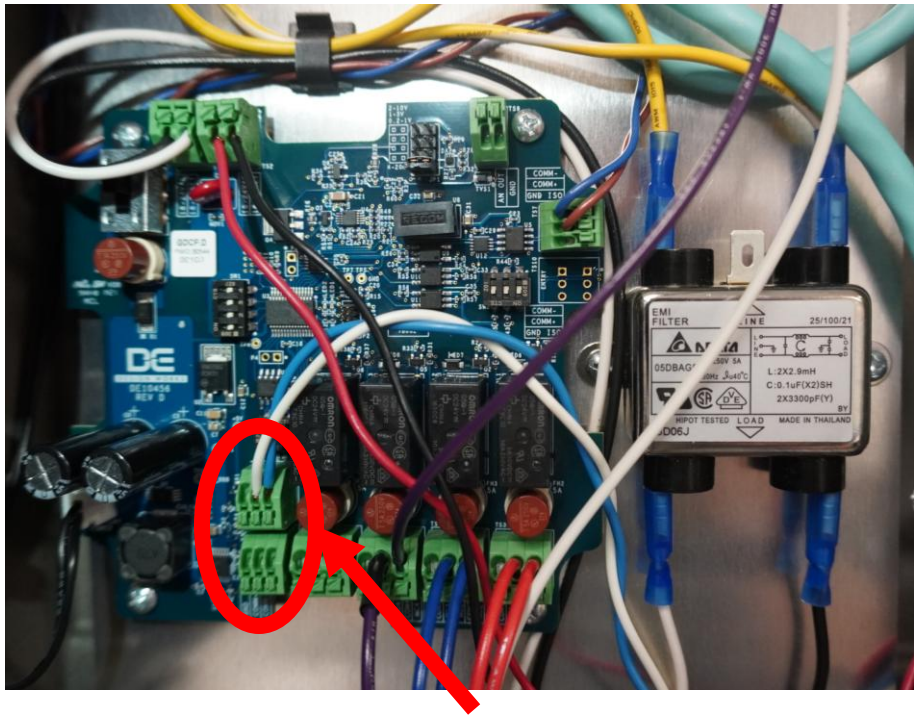
Power		
AWG	Feet	Meters
18	250	80
16	400	125
14	650	200
12	1000	320

Communication		
AWG	Feet	Meters
24	200	60
22	350	100
20	500	150
18	850	215

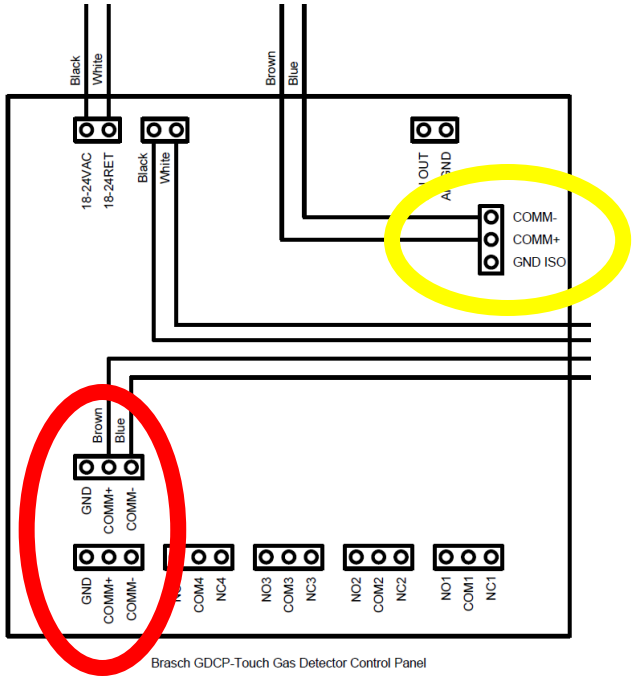
Step 3 – Remote Transmitter Wiring



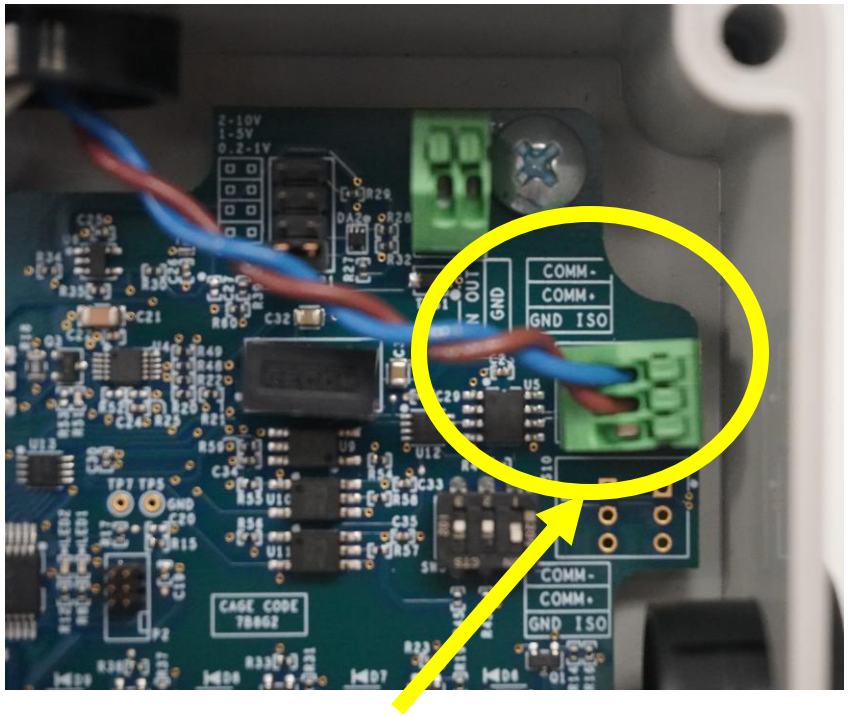
Step 3 – Remote Transmitter Wiring



COMM Output at Control Panel

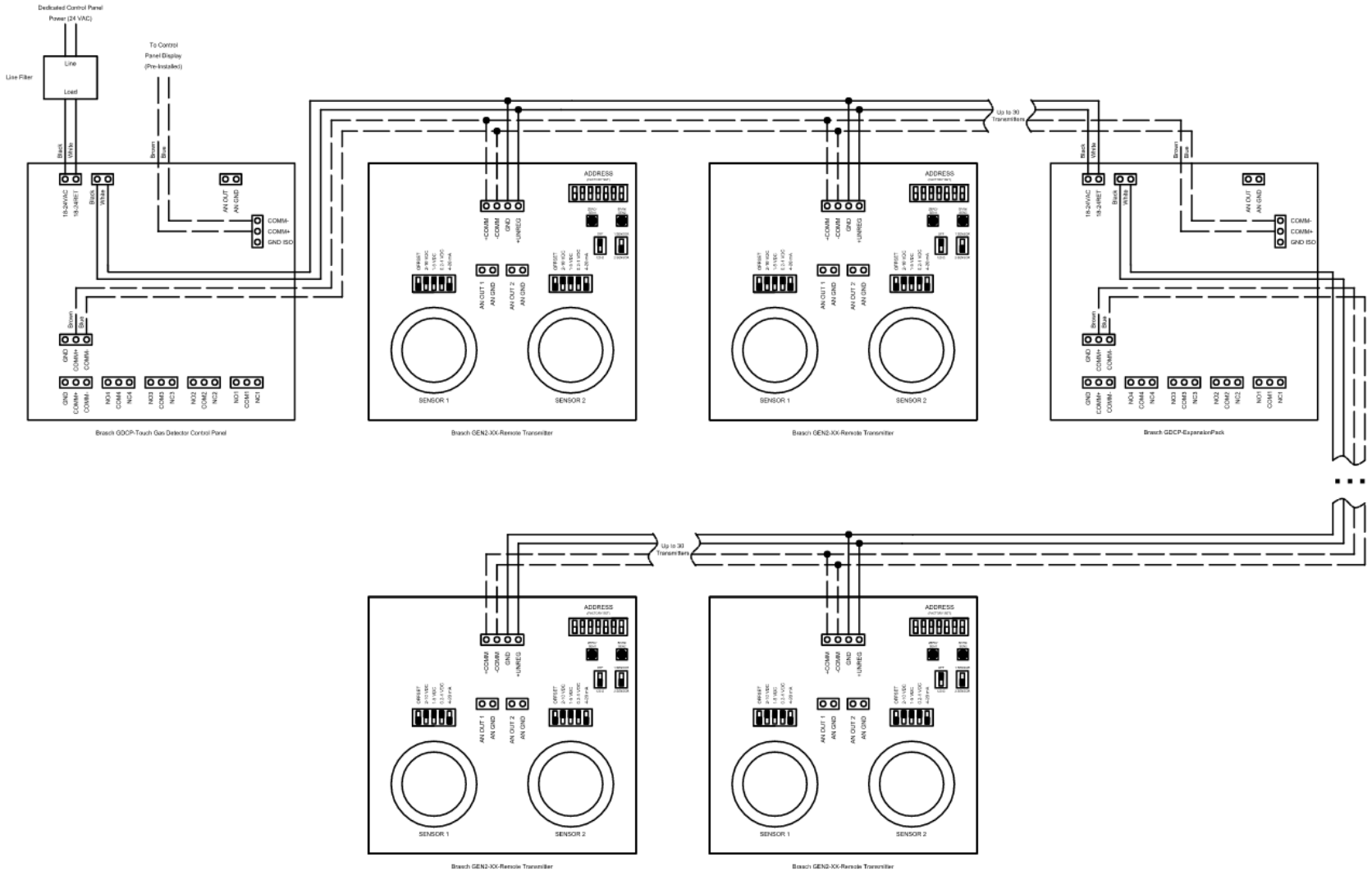


Brasch GDCP-Touch Gas Detector Control Panel



COMM Input at Expansion Pack

Step 3 – Remote Transmitter Wiring



Step 4 – Relay Wiring

- The panel (and expansion packs) have four relays with connections for both NO and NC operation
  - These connections are labeled on the silkscreen
  - Relay 1 is on the far right of the board, Relay 4 is on the left
- The panel is set for fail-safe relay operation by default (Level 1)
  - Level 1 Relays should be wired to NC under most circumstances
  - Relays will close during power loss, error states, or high gas conditions, but open during normal operation
- Level 2-4 relays may be used for multiple speed fan configurations or situations where fail-safe is not desired.
  - Level 2-4 Relays should be wired to NO under most circumstances
  - Relays will close during high gas conditions, but open during power loss, error states, or normal operation

Step 4 – Relay Wiring

RELAY CONNECTIONS

LEVEL 1: (Default)

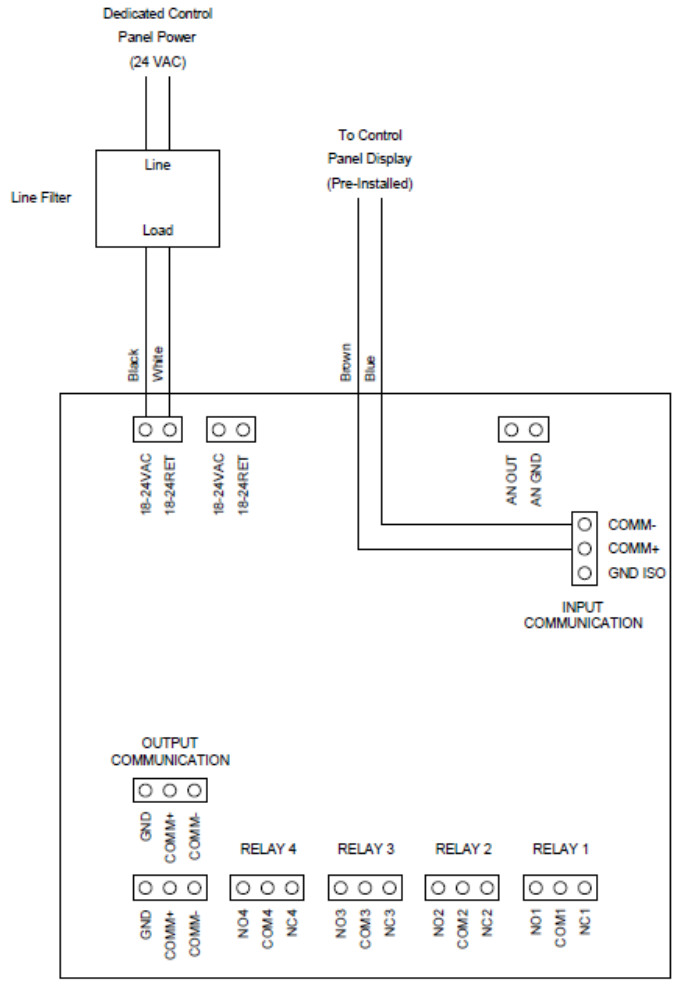
NC = Closes when gas exceeds setpoint (or fail-safe condition)

NO = Opens when gas exceeds setpoint (or fail-safe condition)

LEVEL 2-4:

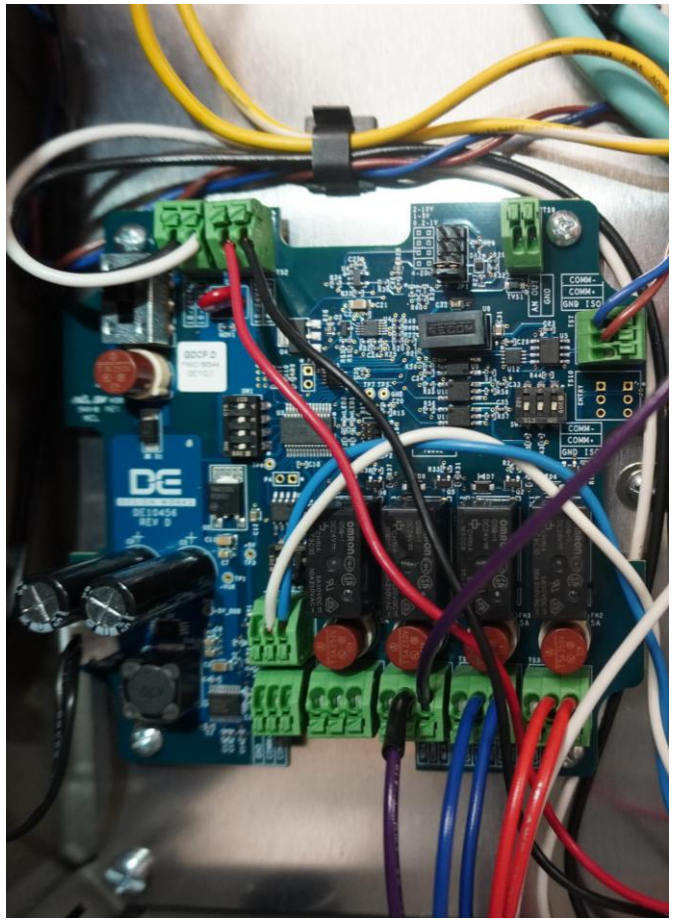
NC = Opens when gas exceeds setpoint

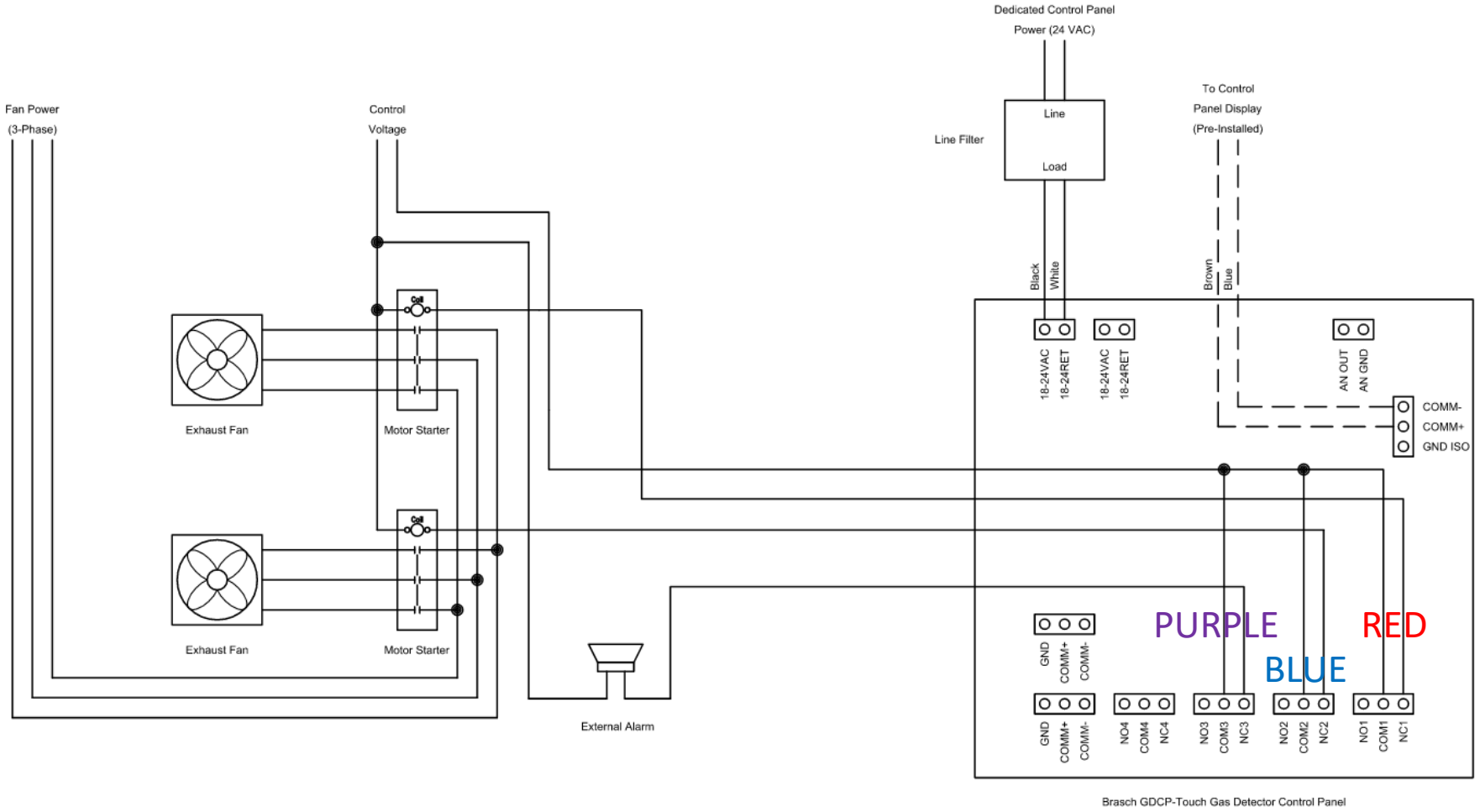
NO = Closes when gas exceeds setpoint



Brasch GDCP-Touch Gas Detector Control Panel

Step 4 – Relay Wiring





Brasch GDCP-Touch Gas Detector Control Panel

Step 5 – External Alarms

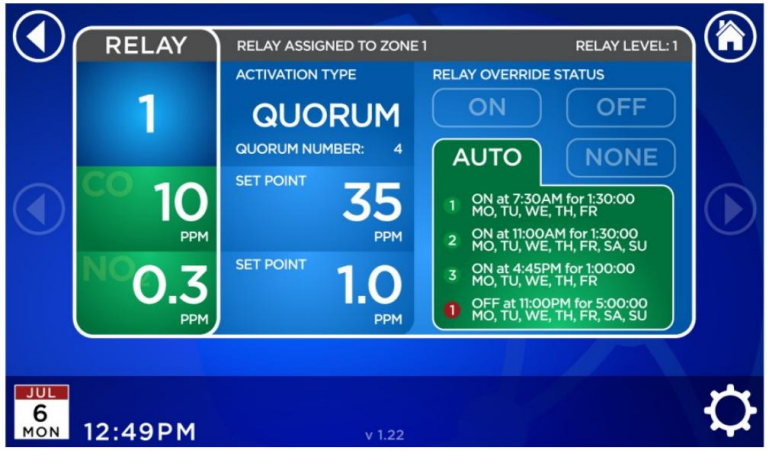
- If this system includes an external alarm, provide the proper wires and voltage source
- Any relay may be used to trigger the alarm
- Brasch horn/strobe combos are available in 12-24 VAC/VDC and 120-240 VAC
  - See manual for additional wiring information

Step 6 – Applying Power

- Verify all wiring connections prior to applying power
- Misconnected or disconnected power wires can cause damage
  - Brasch recommends disconnecting the communication wires at the control panel and each expansion pack to isolate the communication from power
    - If power is properly connected, the panel and all transmitters should illuminate their power LEDs
    - Once power is verified, remove power and connect communication wires
- Do not attempt to service the panel with power applied
- After power is applied, the transmitters will wait 90 seconds prior to sending any gas concentration values to the panel

Step 7 – Testing the System

- Brasch programs, configures, addresses, and partially wires the system
  - Changes can always be made in the field if desired
- To check that ventilation/warning equipment is properly connected, use the manual override function of each relay
  - Once proper function is verified, be sure to set the override to either AUTO or NONE



Troubleshooting

- Ventilation Equipment does not activate at the desired time
  - Check that the relays are wired correctly to either NO or NC, depending on intended function and Relay Level
  - Check that the Relay Level is set appropriately
- Transmitter(s) have lost communication
  - Check all the wiring connections
  - Verify that a straight daisy chain configuration was used for wiring
  - Check that no more than 30 nodes (transmitters or expansion packs) are connected to a single bus line
  - Ensure that a 120 Ω termination resistor is enabled at the ends of each bus line

Resources

- Brasch
  - Website
    - GDCP-Touch Products
    - Downloads
    - Training
  - Customer Service
    - customerservice@braschenvtech.com
    - 314-291-0440
- ARCAT
  - CSI Specification
  - Drawings and Diagrams