

# Q-PAC FAN WIRING GUIDE

## V3.2.0

Use this wiring guide to connect the **Q-PAC Fan** to a third party control panel or other interface. For support connecting to a Q-PAC Control Panel or Disconnect, refer to the corresponding Q-PAC Wiring Guide or contact Q-PAC Support for assistance at 904-863-5300 or support@q-pac.com.

For more information on Modbus communication points and fan features, refer to the Q-PAC User Manual. Basic descriptions of the fan terminals are provided below:

| CN2          |      |                                                                                                                                                                                                                                                               | NOTES                                                            | REQUIRED      |
|--------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------|
| 1            | AI1+ | 0-10V signal proportional to the motor speed                                                                                                                                                                                                                  | 2                                                                | Yes           |
| 2            | AI1- | 0V reference for AI1+                                                                                                                                                                                                                                         | 2                                                                | Yes           |
| CN1          |      |                                                                                                                                                                                                                                                               |                                                                  |               |
| 3            | K1A  | Normally closed (unpowered) contact of the alarm relay. When the controller receives power, the contact opens to indicate the absence of an alarm. If a fault occurs the contact will close again. No connection at this terminal for use of the alarm relay. | 2, 6                                                             | No Connection |
| 4            | K1C  | Common contact of the alarm relay. When a fault is present in the unit, this pin is connected to Alarm relay NC K1A and disconnected from Alarm relay NO K1B.                                                                                                 | 2, 6                                                             |               |
| 5            | K1B  | Normally open (unpowered) contact of the alarm relay. When the controller receives power, this contact closes to indicate the absence of an alarm. If a fault occurs the contact will open again.                                                             | 2, 6                                                             |               |
| 6            | A01+ | 0-10V signal proportional to the calculated airflow                                                                                                                                                                                                           | 2, 6                                                             |               |
| 7            | A01- | 0V reference for A01+                                                                                                                                                                                                                                         | 2, 6                                                             |               |
| CN4          |      |                                                                                                                                                                                                                                                               |                                                                  |               |
| 8            | GND  | Ground/Shield/Common                                                                                                                                                                                                                                          | 3, 6                                                             |               |
| 9            | -    | RS485 negative data terminal                                                                                                                                                                                                                                  | 3, 6                                                             |               |
| 10           | +    | RS485 positive data terminal                                                                                                                                                                                                                                  | 3, 6                                                             |               |
| CN5          |      |                                                                                                                                                                                                                                                               |                                                                  |               |
| 11           | GND  | Ground/Shield/Common                                                                                                                                                                                                                                          | 3, 6                                                             |               |
| 12           | -    | RS485 negative data terminal                                                                                                                                                                                                                                  | 3, 6                                                             |               |
| 13           | +    | RS485 positive data terminal                                                                                                                                                                                                                                  | 3, 6                                                             |               |
| CN3          |      |                                                                                                                                                                                                                                                               |                                                                  |               |
| 14           | 0V   | Connection to power supply, neutral for AC or ground DC                                                                                                                                                                                                       | 2, 6                                                             |               |
| 15           | 24V  | Connection to supply voltage, 24V AC/DC-500mA                                                                                                                                                                                                                 | 2, 6                                                             |               |
| INPUT POWER  |      |                                                                                                                                                                                                                                                               |                                                                  | Yes           |
| L1 / L2 / L3 |      |                                                                                                                                                                                                                                                               | 3 Phase 208V or 480V input voltage, per Fan Controller Nameplate |               |
| EARTH GROUND |      |                                                                                                                                                                                                                                                               |                                                                  | Yes           |

- NOTES:**
- Conductor size to be determined by NEC Article 310.15(B), Table 310.16, and Q-PAC Fan MCA per the Fan Controller Nameplate.
  - Minimum 24 AWG (stranded CU) to CN1, CN2, and CN3.
  - Minimum 24 AWG (stranded CU) shielded twisted pair to CN4 and CN5, if connected.
  - All open-ended lines indicate connections to external devices, to be completed by others in the field.
  - CN3 provides power to the Fan Controller Board (microcontroller) and is only required if using the fan alarm relay (K1A-K1C), airflow signal voltage (AO1), and/or Modbus Communication (CN4 and CN5).

