# Sensor wiring to the Multichannel Controller

PureAire's Multichannel controller is capable of powering and controlling between 4 and 8 gas sensors. The multichannel controller is supplied with an internal 24 VDC regulated power supply and 5ea. +24 volt connections and 4ea. -24 volt, (common) connections. When connecting more than 4 gas sensors you will need to double up in 3ea. of the +24 volt connectors and 4ea. of the -24 volt connections.

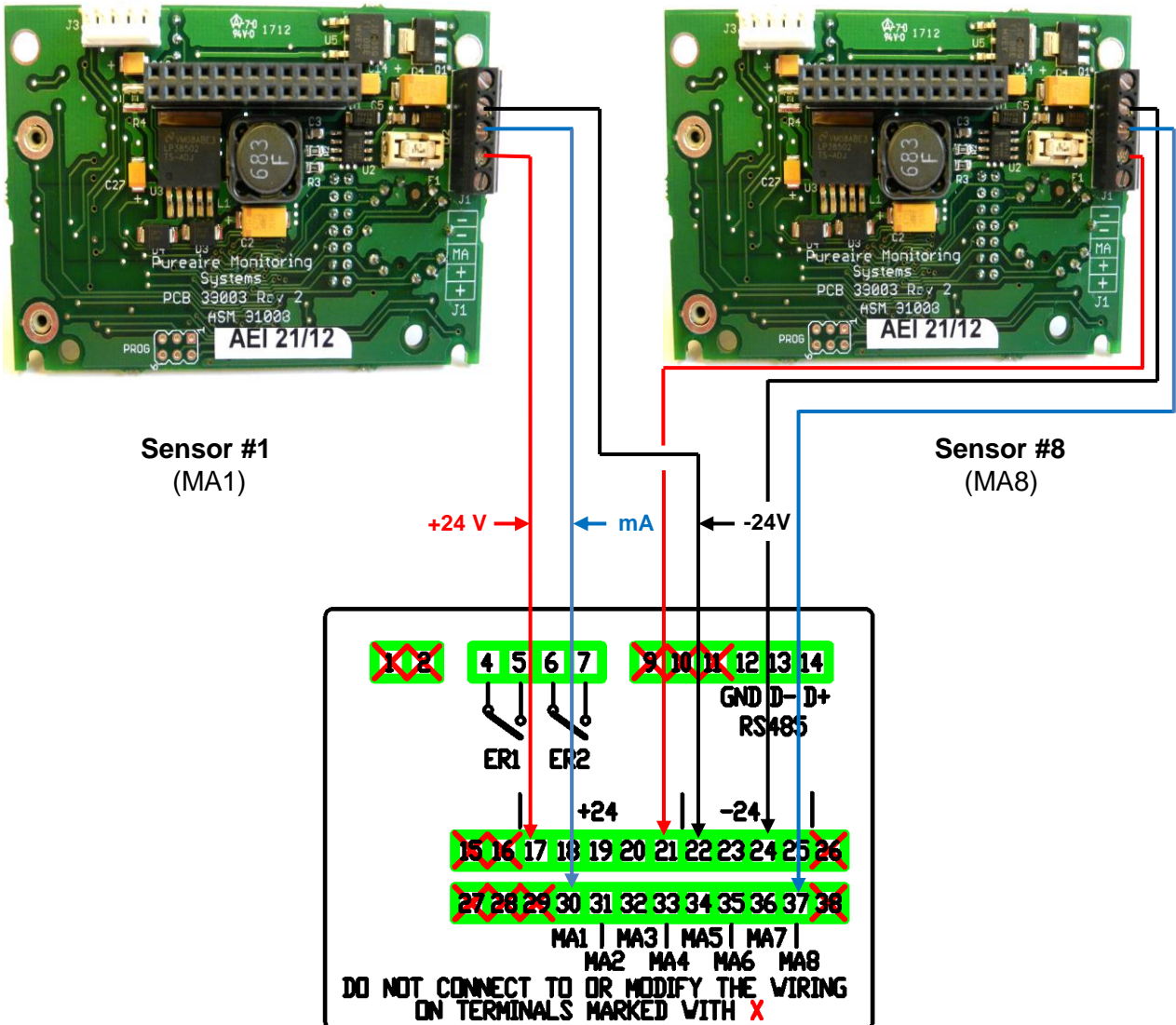**NOTE: There is no specific order for connecting the +24 and -24 volt connections.**

The controller has individual mA connections that match up to the monitoring point, i.e.

MA1 = Point #1, MA2 = Point #2, MA3= Point #3, MA4 = Point #4, MA5= Point #5, etc. This defines the identification for each gas sensor on the controller.

The controller has 2ea. Common Relay contacts for all gas sensors connected to the controller. They can be set up and used to identify gas alarms or instrument faults.

**NOTE: The PureAire factory set up is:  ER1 = Gas Alarm;  ER2 = Gas Alarm**

(Connector locations 12, 13 &14 are only used when connecting to Modbus)



Sensor #1 (MA1)   Sensor #8 (MA8)

+24 V →   ← mA   ← -24V

ER1   ER2
+24   −24
MA1 | MA3 | MA5 | MA7 |
MA2   MA4   MA6   MA8
GND D− D+
RS485

DO NOT CONNECT TO OR MODIFY THE WIRING ON TERMINALS MARKED WITH X

# Remote Horn wiring to the Multichannel Controller

PureAire's Multichannel controller is capable of powering and controlling a Federal Signal 24-VDC horn and strobe. The multichannel controller is supplied with an internal 24 VDC regulated power supply and 5ea. +24 volt connections to use to power the horn and strobe.

The controller has 2ea. Common Relay contacts for all gas sensors connected to the controller. They can be set up and used to identify gas alarms or instrument faults. They're configured as normally open only and will close in an alarm condition.

**NOTE: The PureAire factory set up is:  ER1 = Gas Alarm;  ER2 = Gas Alarm**

The following is a diagram for connecting the Horn and strobe to the Multichannel controller.

(Connector locations 12, 13 &14 are only used when connecting to Modbus)

**Federal Signal
Horn & Strobe
LP7-18-30R
p/n 42002**

**18 AWG, two conductor, stranded control and instrumentation cable, Belden 8461 or equivalent can be used**

Terminal Block located inside the Horn and Strobe