

INSTALLATION INSTRUCTIONS

CO₂ SENSOR, WALL MOUNT
MODEL# 2AQ04700324B

**WARNING: BEFORE INSTALLING READ ALL OF THE MANUFACTURERS
INSTALLATION AND MAINTENANCE INSTRUCTIONS**

Shipping and Packing List

- 1 ea. CO₂ Sensor
- 1 ea. CO₂ Sensor Base
- 1 ea. 0-10 VDC Potentiometer Signal Converter (Honeywell Q769C)
- 1 ea. CO₂ Sensor "Splice" Wiring Harness (W7212 Economizer Control)
- 1 ea. 4" Violet Wire
- 1 ea. 4" Red Wire

Application for W7212 Economizer Control

Mount CO₂ Sensor base on wall. Route wires (raw end) through square hole in base and connect per wiring diagrams. Attach CO₂ Sensor.

Use supplied "Splice" harness to obtain power; **See Diagram # 80CO202**. Program the CO₂ sensor per the specifications, provided with the accessory, to suit the application.

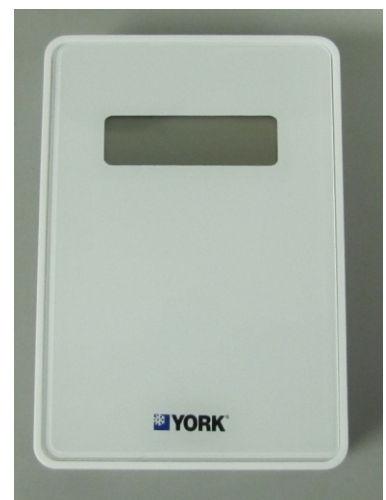
Application for W7459 Economizer Control

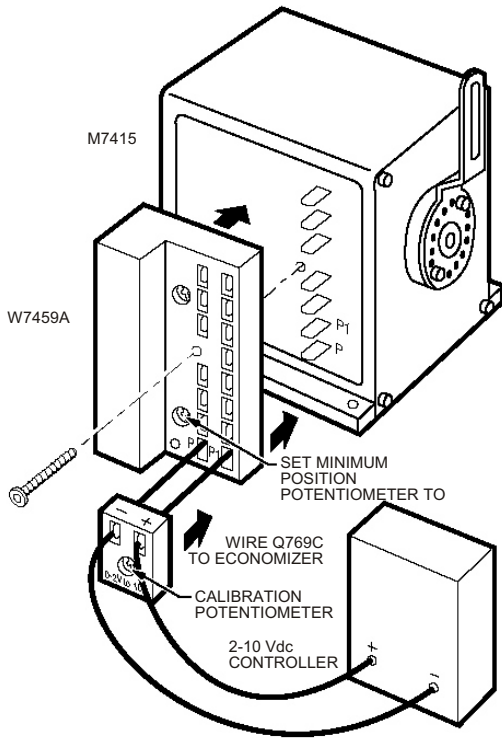
Install the Honeywell Q769C potentiometer signal converter.

Disconnect the (P-P1) jumper from the economizer control located on the actuator and connect the Q769C per wiring **Diagram # 80CO201**. Make sure to secure the Q769C device using the included wire ties.

Power the CO₂ device via a properly protected, field supplied, non-grounded transformer of the appropriate primary and secondary voltage per the attached **Diagram # 80CO201**. Program the CO₂ sensor per the specifications, provided with the accessory, to suit the application.

For recommended settings for adjustments of economizer and programming of CO₂ sensor refer to next few pages.





Q769C Adapter connected to M7415 Actuator and W7459A Economizer for 0-2 to 10 Vdc control.

ADJUSTMENT

Minimum Position Adjustment

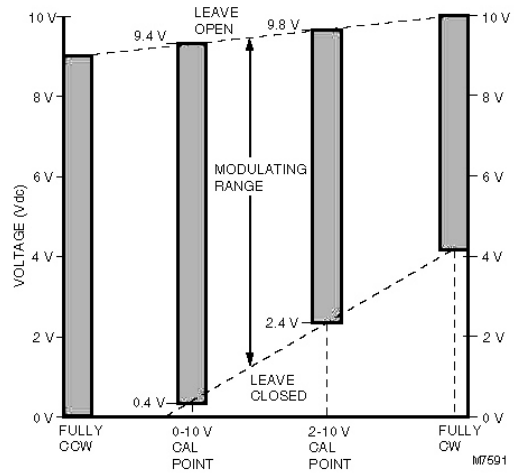
NOTE: When using the Q769 with the M7415, separate transformer must be used to power the M7415 and the controller. TR1, P1 and (+) on the Q769 are all internally connected.

The Q769C Adapter sets the minimum position of an M7405 or M7415 Actuator, based on a 0 to 10 Vdc or 2 to 10 Vdc signal. In an economizer system, the actuator adjusts outdoor air for cooling. The Q769C is used to set the minimum position so that a specified amount of fresh air is admitted. To adjust the Q769C on an M7405 or M7415 Actuator, proceed as follows:

1. Run the actuator to the fully closed position and disconnect 24 Vac from terminals TR and TR1.
2. Connect the Q769C 0-2 to 10 Vdc Adapter to terminals P and P1.
3. Reconnect 24 Vac to terminals TR and TR1 and adjust the input signal (0 to 10 Vdc or 2 to 10 Vdc) for the desired minimum position.

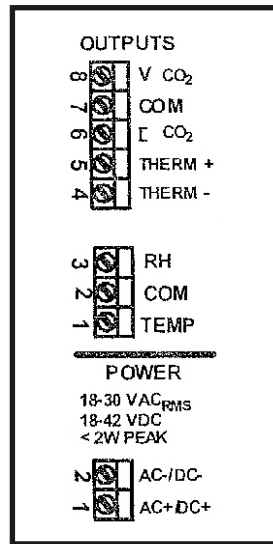
The Q769C calibration potentiometer is factory adjusted so that the actuator begins to modulate open from the closed position at 2.4 Vdc for the 2 to 10 Vdc controller (0.4 Vdc for the 0 to 10 Vdc controller) with the calibration potentiometer set at the midrange position. As shipped from the factory, an M7405/M7415 Actuator begins to modulate closed from the fully open position at 9.8 Vdc. The exact voltage values depend primarily on the regulated dc voltage of the actuator. Calibration points are shown in calibration chart.

With the calibration potentiometer turned fully ccw or fully cw, the actuator leaves the closed or open positions at lower or higher voltages, respectively, than at the calibration points. With the calibration potentiometer in the fully counterclockwise position, the actuator leaves the closed position even without an input signal.



Calibration chart.

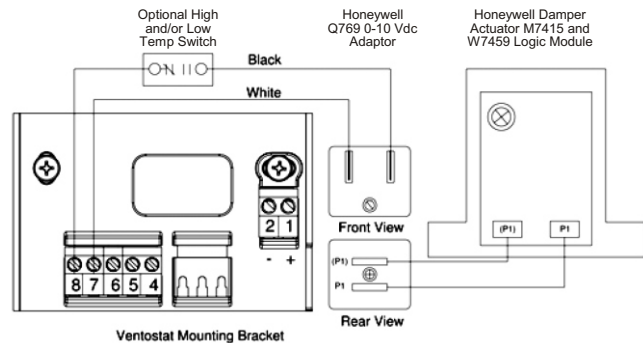
8-Pin and 2-Pin Terminal Block Pin Designations on the Ventostat Mounting Bracket



+ Signal from Q769C adapter is to connect to #8
- Signal connects to #7

NOTE: 24V- Do not use HVAC unit transformer. Provide 24V by non-grounding transformer.

Honeywell Damper Actuator M7415 and W7459 Logic Module



Set minimum POSITION potentiometer to twice the design load. For example, if the space is designed for 30 people at 15 cfm/person, adjust the minimum position potentiometer at the economizer logic to 900 cfm. This will allow the economizer to introduce 450 cfm (1000 ppm CO2 level) at the design load.

Setting No	Type of Equipment	Type of Output	Ventilation Rate (cfm/ Person)	Analog Output	CO2 Control Range (ppm)	Optional Relay Setpoint (ppm)	Relay Hysteresis (ppm)
1	Interface w/Standard Building Control System	Proportional	Any	0-10V, 4-20mA	0-2000	1000	50
2	Interface w/Standard Building Control System	Proportional	Any	2-10V, 7-20mA	0-2000	1000	50
3	Interface w/Standard Building Control System	Exponential	Any	0-10V, 4-20mA	0-2000	1100	50
4	Economizer (Hvac)	Proportional	15	0-10V, 4-20mA	0-1100	1100	50
5	Economizer (Hvac)	Proportional	20	0-10V, 4-20mA	0-900	900	50
6	Economizer (Hvac)	Exponential	15	0-10V, 4-20mA	0-1100	1100	50
7	Economizer (Hvac)	Exponential	20	0-10V, 4-20mA	0-900	900	50
8	Health & Safety	Proportional	NA	0-10V, 4-20mA	0-9999	5000	500
9	Parking/Air Intakes/Loading Docks	Proportional	NA	0-10V, 4-20mA	0-2000	700	50

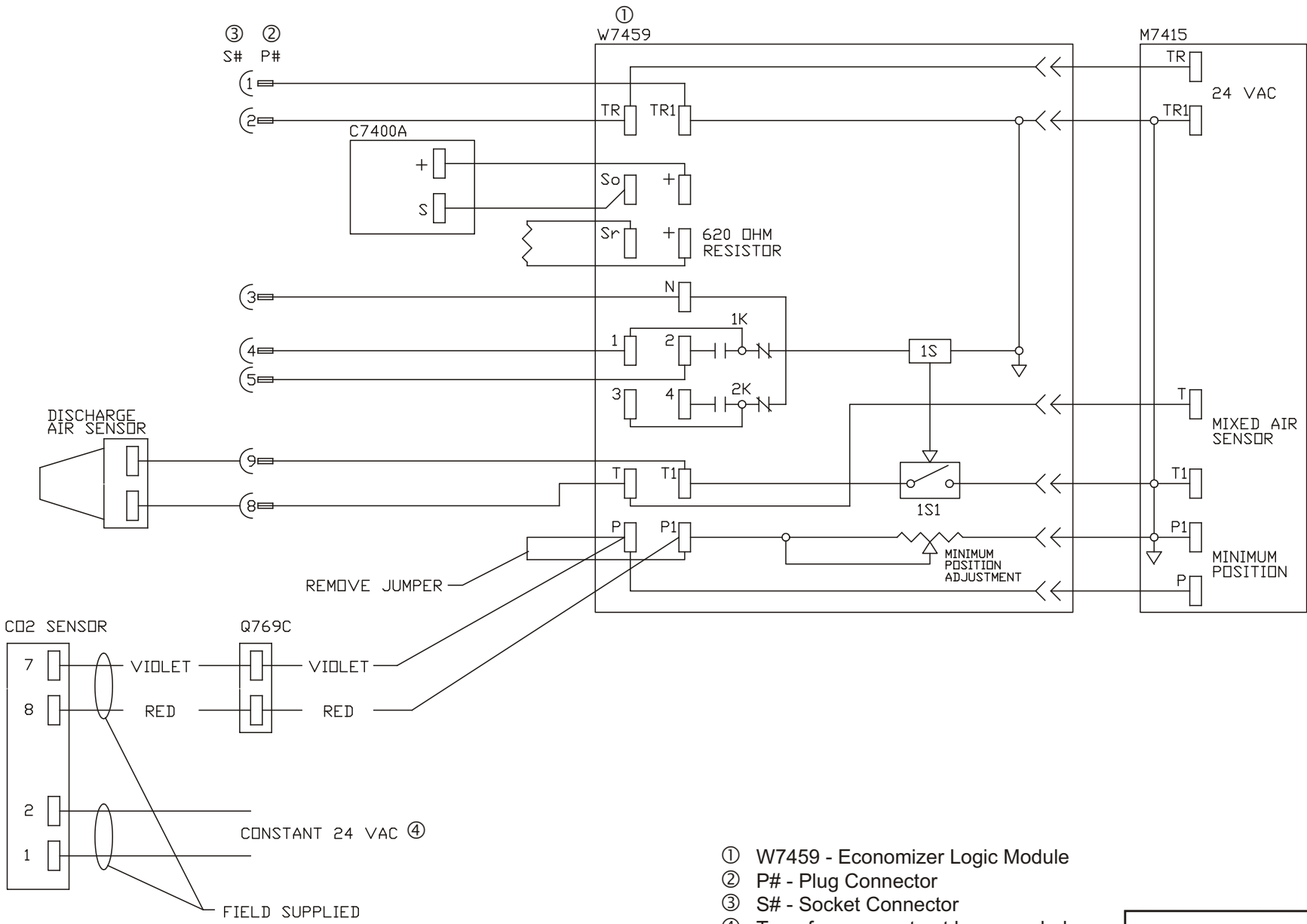
Standard Settings Adjustable via keypad

Settings 4 to 7 are specifically designed for operation with economizer controls and actuators where a 0-10 VDC signal will provide 0-100% outside air modulation. These control settings provide different modulation ranges depending on the target cfm-per-person ventilation rate desired. As described below the exponential setting is best used in applications that have large volumes of air and people such as auditoriums, gyms and large conference areas.

Selecting a Pre-Programmed Setting:

The pre-programmed settings shown in the “Standard Settings” Table are factory set and cannot be changed. These settings can be selected from the Standard Settings (STDSET) menu.

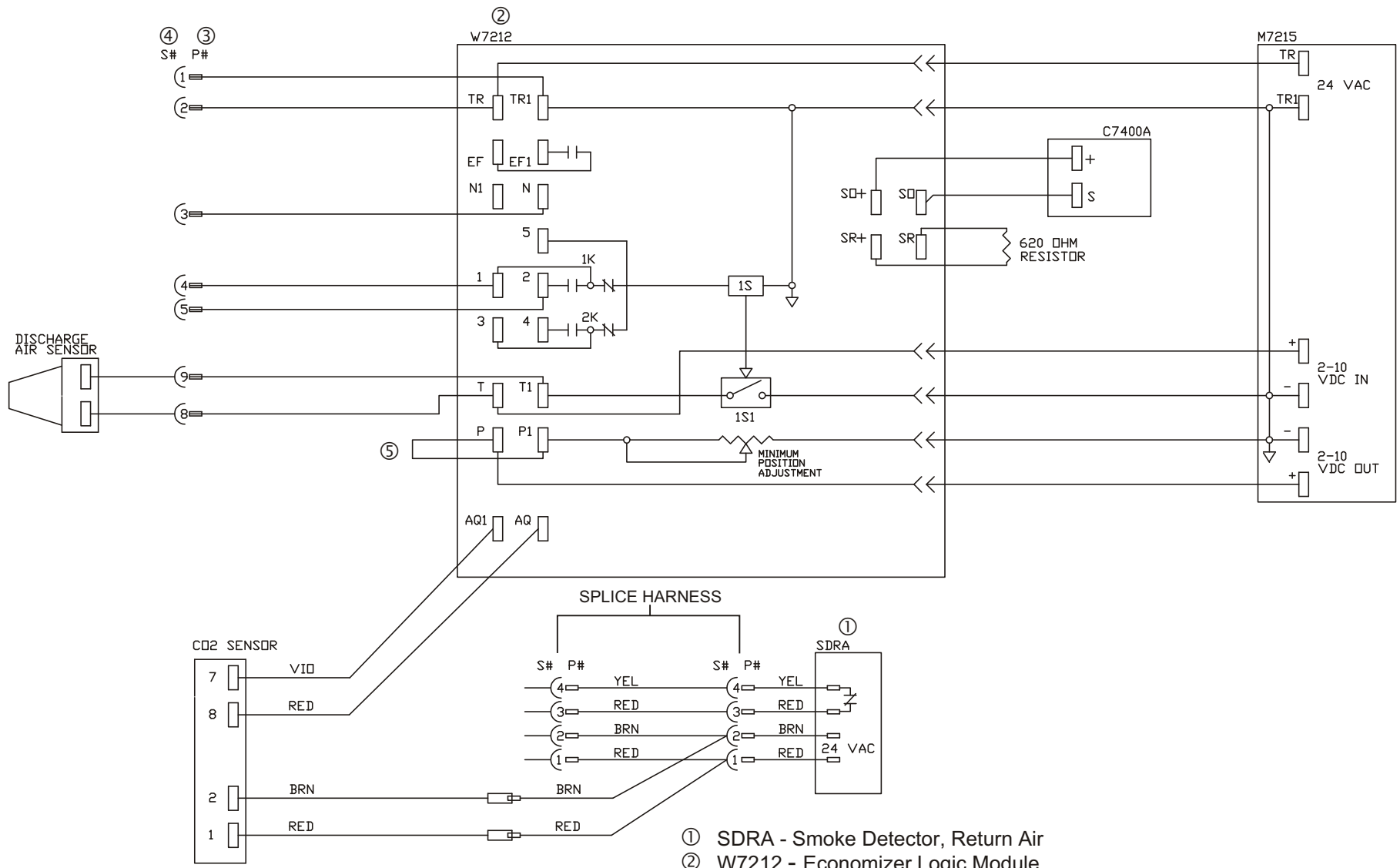
1. After 2 minute warm-up period, press CLEAR + MODE and hold (at least 5 seconds) until the sensor enters the edit mode.
2. Press MODE 2 times. You will enter the STDSET menu.
3. Use the UP/DOWN button to select the desired pre-programmed number.
4. Press ENTER to lock selection, press MODE to return to Normal Mode.



- ① W7459 - Economizer Logic Module
- ② P# - Plug Connector
- ③ S# - Socket Connector
- ④ Transformer must not be grounded

Date: October 10, 2002
Supersedes:
Diagram# 80CO201

Note: The socket and plug numbers change per unit.



- ① SDR - Smoke Detector, Return Air
- ② W7212 - Economizer Logic Module
- ③ P# - Plug Connector
- ④ S# - Socket Connector
- ⑤ Jumper Located on T-stat Interface Board

Date: October 10, 2002
 Supercedes: 09-11-02
 Diagram# 80CO202

Note: The socket and plug numbers change per unit.