



# 393200-1 ECO Connector for the VR8200 Family of Continuous Pilot Combination Gas Controls

## INSTALLATION INSTRUCTIONS

### APPLICATION

The 393200-1 ECO Connector is an optional device for V8200 and VR8200 continuous pilot combination gas controls that allows connecting a high-limit ECO into the thermocouple circuit. It can be used only with the V8200 and VR8200 models.

With an ECO switch in the thermocouple circuit, safety shutoff can be initiated on high-limit action. The ECO switch senses plenum temperature and breaks the thermocouple circuit if plenum temperature rises too high.

Leadwires from the high limit or ECO must be equipped with insulated 1/4-in. female quick-connect terminals. Leadwire lengths must not exceed the lengths shown in Table 1 and 2.

**Table 1. Maximum Length of Supplementary Limit Leadwires when Using Q340A Thermocouple**

Thermocouple Length		Maximum Leadwire Length x 2 (wires)					
		AWG NO. 14		AWG NO. 16		AWG NO. 18	
in.	m	in.	m	in.	m	in.	m
12	0.3	41	1.0	26	0.7	16	0.4
18	0.5	35	0.9	22	0.6	13	0.3
24	0.6	29	0.8	18	0.5	11	0.3
30	0.8	23	0.6	15	0.4	9	0.2
36	0.9	17	0.4	11	0.3	6	0.2
40	1.0	13	0.3	8	0.2		
48	1.2						
54	1.4						
60	1.5						
72	1.8						

Do Not Use

**Table 2. Maximum Length of Supplementary Limit Leadwires when Using Q309A Thermocouple**

Thermocouple Length		Maximum Leadwire Length x 2 (wires)					
		AWG NO. 14		AWG NO. 16		AWG NO. 18	
in.	m	in.	m	in.	m	in.	m
12	0.3	47	1.2	30	0.8	18	0.5
18	0.5	41	1.0	26	0.7	16	0.4
24	0.6	35	0.9	22	0.6	14	0.4
30	0.8	29	0.8	18	0.5	11	0.3
36	0.9	23	0.6	15	0.4	9	0.2
40	1.0	19	0.5	12	0.3	7	0.2
48	1.2	11	0.3	7	0.2		
54	1.4						
60	1.5						
72	1.8						

Do Not Use



## INSTALLATION

### When Installing This Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

### Install ECO Connector

Install the gas control as described in the instructions provided with the control until you are ready to connect the thermocouple lead, then:

1. Insert the ECO connector as shown in Fig. 1.
2. Hold the connector in place with one hand and insert the thermocouple lead.

**NOTE:** This is an electrical connection and must be clean and dry. Never use pipe compound.

3. Tighten the thermocouple lead until finger tight, then tighten 1/4 turn more. Do not overtighten. Tighten only enough to give good electrical continuity.

### Install Limit

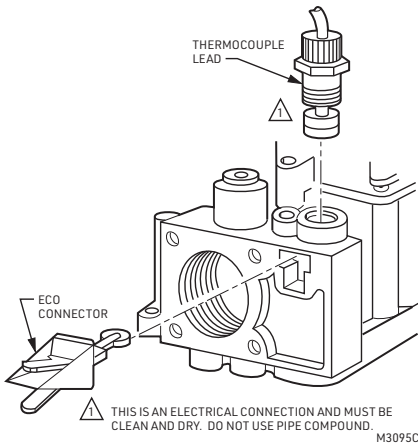
Install ECO as described in the instructions provided with the limit.

## WIRING

Fit limit control leadwires with female 1/4 in. [6.4 mm] quick connects. Run leadwires from the limit and attach them to the male quick-connects on the ECO connector. Do not exceed the leadwire lengths shown in Table 1 and 2.

## CHECKOUT

After completing installation of the gas control, check operation of the limit as described in the instructions provided with the limit. Make certain that when the limit is activated, the pilot safety valve in the control drops out and the pilot burner flame is extinguished.



**Fig. 1. Install ECO connector into gas control at thermocouple terminal location.**



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www.resideo.com 69-0317-05 M.S. Rev. 05-20 | Printed in United States