

## 7800 SERIES S7810A Data ControlBus™ Module

### PRODUCT DATA



### APPLICATION

The S7810A Data ControlBus™ Module supports remote mounting of a Keyboard Display Module, personal computer communications interface, and remote reset.

The 7800 SERIES is programmed to provide a level of safety, functional capability and features beyond the capacity of conventional controls. Functions provided by the 7800 SERIES include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.

### FEATURES

- **Communications bus interface.**
- **Remote reset.**
- **Ability to remotely mount a Keyboard Display Module.**

NOTE: Many jurisdictions restrict remote resetting of an appliance and require a location with line-of-sight viewing of the appliance. Install the S7810A Data ControlBus™ Module in accordance with local requirements.

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## SPECIFICATIONS

### Electrical Ratings::

Voltage and Frequency: 13 Vdc peak full-wave rectified (+20/-15%).

Power Dissipation: 2W maximum, 2 VA maximum.

### Terminal Ratings:

Power: 13 Vdc peak full-wave rectified.

Earth ground.

ControlBus (1(a), 2(b), 3(c)) 5 Vdc at 1 mA maximum.

### Electrical Connectors (included):

ControlBus; 5-Wire Electrical Connector part no. 203541.

### Environmental Ratings:

Ambient Temperature:

Operating: -40° F to 140° F (-40° C to 60° C).

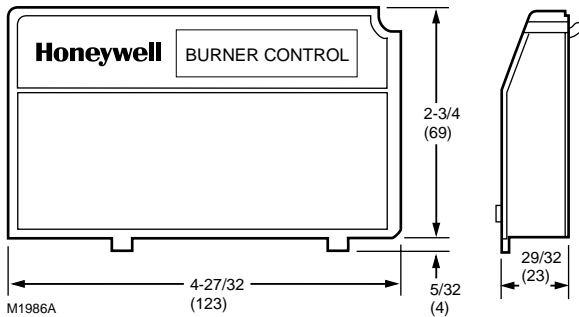
Storage: -40° F to 150° F (-40° C to 66° C).

Humidity: 85% RH continuous, noncondensing.

Vibration: 0.5G environment.

**Dimensions:** Refer to Fig. 1.

**Weight:** 4 ounces unpacked.



**Fig. 1. Mounting dimensions of the S7810A Data ControlBus™ Module in in. (mm).**

## 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 marked on the product to make sure the product is suitable for the application.
3. The installer must be a trained, experienced Flame Safeguard service technician.
4. Disconnect the power supply before beginning installation to prevent electrical shock and equipment damage. More than one power supply disconnect may be involved.
5. Wiring must comply with all applicable codes, ordinances and regulations.
6. After installation is complete, check out the product operation as provided in these Instructions.

### IMPORTANT

1. *This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the Instructions can cause interference to radio communications. It has been tested and found to comply with the limits for a Class B computing device of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference; in which case, users at their own expense may be required to take whatever measures are required to correct this interference.*
2. *This digital apparatus does not exceed the Class B limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications.*

### Humidity

Install the S7810 where the relative humidity never reaches the saturation point. The S7810 is designed to operate in a maximum 85% RH continuous, noncondensing, moisture environment.



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## Vibration

Do not install the S7810 where it could be subjected to vibration in excess of 0.5G continuous maximum vibration.

## Weather

The S7810 is not designed to be weather tight. If installed outdoors, the S7810 must be protected by an approved weather-tight enclosure.

## Mounting the Data ControlBus™ Module (See Fig. 2)

1. Align the two interlocking ears of the Data ControlBus™ Module with the two mating slots on the 7800 SERIES Relay Module.
2. Insert the two interlocking ears into the two mating slots and, with a hinge action, push on the lower corners of the Data ControlBus™ Module to secure it to the 7800 SERIES Relay Module.

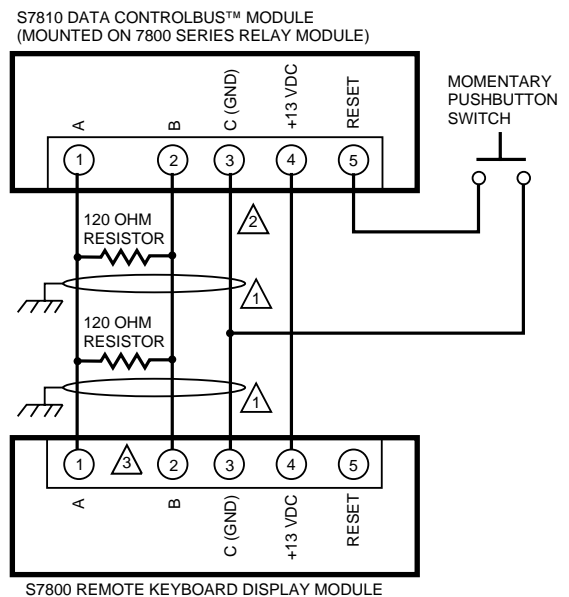


Fig. 2. Data ControlBus™ Module mounting.

## WIRING

1. Disconnect the power supply from the main disconnect before beginning installation to prevent electrical shock and equipment damage. More than one disconnect may be involved.
2. All wiring must comply with all applicable electrical codes, ordinances and regulations.
3. Recommended wire size and type:
  - a. Use an unshielded no. 22 AWG, 2-wire twisted cable and one wire for ground, for communications purposes, if the leadwire run and noise conditions permit; however, some installations may need up to five wires; three for communications and two for remote reset (in either a single cable or separate cables) or Belden 8771 shielded cable or equivalent. The Data ControlBus™ Module (for remote mounting or communications) must be wired in a daisy chain configuration, 1(a)-1(a), 2(b)-2(b), 3(c)-3(c). The order of interconnection of all the devices is not important. Be aware that modules on the closest and farthest end of the daisy chain configuration string require a 120 ohm (1/4 watt

- minimum) resistor termination across terminals 1 and 2 of the electrical connectors for any connections over 100 feet, see Figs. 3 and 4.
  - b. Use no. 22 AWG wire insulated for voltages and temperatures in the application that use the 13 Vdc peak full-wave rectified power supply. Suggested wire types include TW (60C), THW (75C) and THHN (90C).
4. Recommended grounding practice for Data ControlBus™ Module is to connect the shield, if used, to signal ground, terminal 3(c), provided as a part of the 7800 SERIES device ControlBus connection, see Figs. 3 and 4. Connect the shield at both ends to earth ground
  5. Recommended wire routing:
    - a. Do not route the Data ControlBus™ Module cable in conduits with line voltage circuits.
    - b. Avoid routing the Data ControlBus™ Module cable in the same conduit with or close to ignition transformer leadwires.
    - c. Route the Data ControlBus™ Module cable outside of conduit if it is properly supported and protected from mechanical damage.
  6. Maximum wire lengths:
    - a. Use 1000 feet maximum length of all interconnecting wire for Data ControlBus™ Module and Keyboard Display Module leadwires.
    - b. Use 1000 feet maximum length of wire to a Remote Reset Switch for Remote Reset leadwires.
  7. Install all electrical connectors.
  8. Restore power to the panel.



1 THREE-WIRE SHIELDED CABLE MAY BE REQUIRED. TWO 120 OHM TERMINATING RESISTORS ARE REQUIRED FOR CONNECTIONS OVER 100 FEET. CABLE SHIELD MUST BE TERMINATED TO EARTH GROUND AT BOTH ENDS. IF SHIELDED CABLE IS NOT USED, TWISTED PAIR WIRE MUST BE USED.

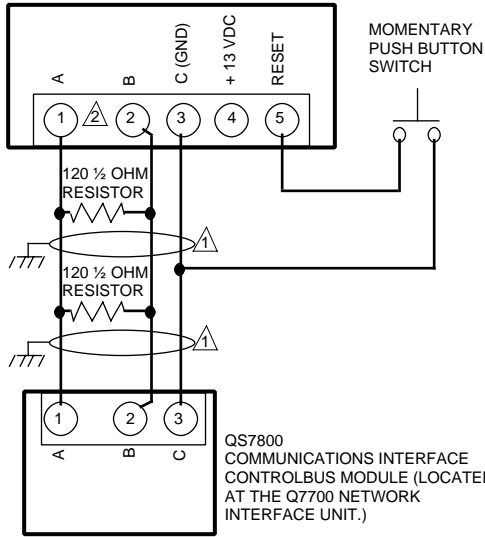
2 WHEN CONNECTING THE KEYBOARD DISPLAY MODULE DATA CONTROLBUS™ MODULE, OR REMOTE RESET MODULE EXTERNAL FROM THE CONTROL CABINET, APPROPRIATE MEASURES MUST BE TAKEN TO MEET EN60730 SAFETY LOW VOLTAGE REQUIREMENTS (SEE APPROVALS).

3 TERMINALS OF 203541 5-WIRE CONNECTOR SUPPLIED WITH MOUNTING BRACKET FOR REMOTE MOUNTING OF S7800 KEYBOARD DISPLAY MODULE.

M1987E

Fig. 3. Wiring the Data ControlBus™ Module.

S7810 DATA CONTROLBUS MODULE<sup>®</sup>  
(MOUNTED ON 7800 SERIES RELAY MODULE)



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⚠ TERMINALS OF 203541 5-WIRE CONNECTOR. M2673B

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**Fig. 4. QS7800 Wiring Data ControlBus™ Module to Communications Interface ControlBus Module.**



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