

## 7800 SERIES S7830 Expanded Annunciator

### SPECIFICATION DATA



### APPLICATION

The S7830 Expanded Annunciator is an enhancement module for use with any 7800 SERIES Relay Module. The S7830 is a microprocessor based device designed to monitor the status of a series string of limit, control, and interlock contacts for a commercial or industrial burner. The S7830 acts as a system monitor and enhances fault and status messages of the 7800 SERIES burner control.

### FEATURES

- 26 status LED.
- Front panel LED array—arranged in a pattern to clearly indicate the flow of line-voltage through the string of limits, controls, and interlocks.
- Selectable current and first-out LED array display status.
- Power and proper operation indicating LED.
- Common Universal Mounting Subbase (Q7800 A or B).
- 21 monitored contact points.
- Access for external electrical voltage checks.
- Communication interface capability.
- S7800 Keyboard Display Module data:
  - Device type.
  - Software revision and version.
  - Expanded Annunciator current status.
  - First-out fault code.
  - Status (on/off) of all line voltage monitored contact points.

**NOTE:** 203541 5-wire Connector (ordered separately) required on S7800 Keyboard Display Module.

- LED operational test.
- 36 additional 7800 SERIES fault and hold messages.

### SPECIFICATIONS

#### Electrical Ratings (See Table 1):

Voltage and Frequency: 120 Vac +10/-15%, 50/60 Hz  $\pm$ 10 %.

Power Dissipation: 4.6W maximum.

#### 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% continuous, noncondensing.

Vibration: 0.5G environment



Table 1. Terminal Ratings.

Terminal	Description	Rating
1	Earth Ground <sup>a</sup>	—
2	Input Line Voltage (Neutral)	120 Vac, +10/-15%
3	Input Line Voltage (Hot)	—
4	Main Valve Proof of Closure	120 Vac, +10/-15%, 2 mA
5	Burner Switch	
6	Operating Control	
7	Auxiliary Limit #1	
8	Auxiliary Limit #2	
9	Low Water Cutoff	
10	High Limit	
11	Auxiliary Limit #3	
12	Oil Select Switch	
13	High Oil Pressure	
14	Low Oil Pressure	
15	High Oil Temperature	
16	Low Oil Temperature	
17	Gas Select Switch	
18	High Gas Pressure	
19	Low Gas Pressure or Atomizing Switch	
20	Air Flow Switch	
21	Auxiliary Interlock #4	
22	Auxiliary Interlock #5	

<sup>a</sup> The S7830 must have an earth ground providing a connection between the subbase and the control panel or the equipment. The earth ground must be capable of conducting the current to blow a 15A fuse (or breaker) in event of an internal short circuit. The S7830 needs a low impedance ground connection to the equipment frame that, in turn, needs a low impedance connection to earth ground. For a ground path to be low impedance at RF frequencies, the connection must be made with minimum length conductors that have maximum surface areas. Wide straps or brackets rather than leadwires are preferred. Be careful to verify that the mechanically tightened joints along the ground path, such as pipe or conduit threads or surfaces held together with fasteners, are free of nonconductive coatings and are protected against mating surface corrosion.

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

**Weight:**

1 pound 6 ounces, unpacked.

**Approvals:**

Underwriters Laboratories Inc. listed; File No. MH17367, Guide No. MJAT.

Canadian Standards Association certified: LR95329.

Factory Mutual approved.

IRI acceptable.

Federal Communications Commission: Part 15, Class B Emissions.

**Mounting:**

Q7800A two-sided subbase for control panel mounting.

Q7800B four-sided subbase for external from control panel mounting.

**Required Components:**

Q7800A or Q7800B Universal Wiring Subbase.

7800 SERIES Primary Safety Control Relay Module.

S7800 Keyboard Display Module (with 203541 5-wire Connector [order separately] installed) or S7810 Data ControlBus Module™.

**Accessories (Optional):**

Communications Interface Base Unit Q7700A.

Communication ControlBus Module QS7800A.

Combustion System Manager Personal Computer Software ZM7850.

## PRINCIPAL TECHNICAL FEATURES

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## ControlBus Communications

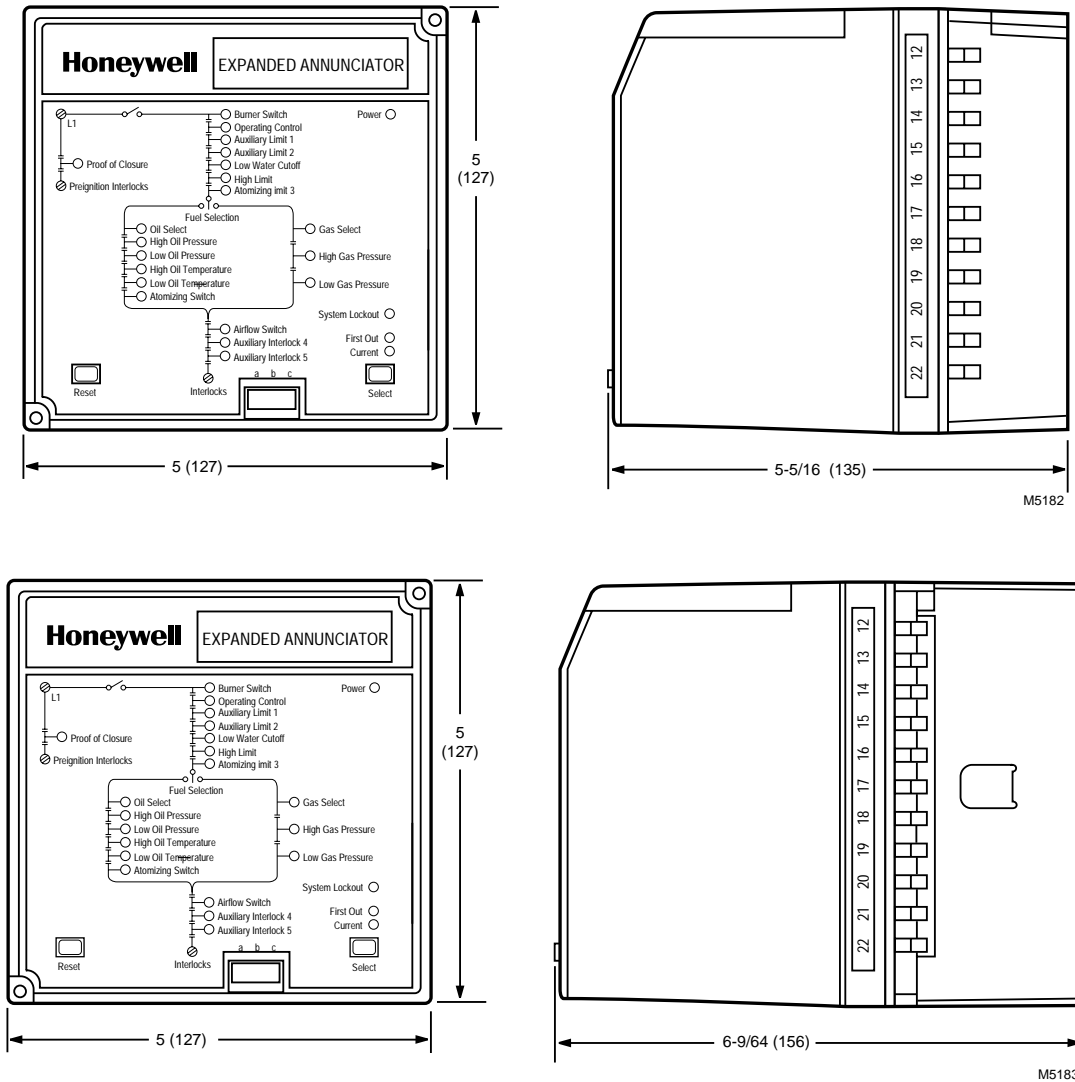
The S7830 provides interfaces with the 7800 SERIES Relay Module through a three wire RS-485 interface. Using this communication bus, the S7830 provides additional first-out annunciation, burner hold, and current status information for the control, limit, and interlock string of the burner equipment.

## LED Array

The S7830 provides visual indication of the status of the burner equipment control, limit, and interlock string. The string of contact and switch points are individually identified with a colored LED. When power is present at the contact point, the LED is illuminated. When the contact point is de-energized, the LED is dark. If the contact or switch is identified as the first-out annunciation point, the LED flashes.

## Opto-Isolator Coupling

The S7830 utilizes opto-isolators to couple the line voltage input to the micro-processor. An opto-isolator allows a microprocessor to determine the status of line voltage at control, limit, or interlock switch points. Using this capability, the micro-processor is able to determine the current as well as first-out status of twenty-three digital points, each representing specific burner control, limit, or interlock switches.



**Fig. 1. Mounting dimensions in in. (mm) of S7830 Expanded Annunciator on Q7800A Subbase (Top) and Q7800B Subbase (Bottom).**

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