

7800 SERIES Q7800A,B 22-Terminal Universal Wiring Subbase

Application

The Q7800A,B is a universal wiring subbase for the 7800 SERIES Relay Modules and Expanded Annunciator (S7830A). The universal wiring subbase provides terminals for field wiring. Knife blade terminals located on the 7800 SERIES Relay Module or S7830A engage the Q7800 bifurcated contacts to make electrical connections.

The Q7800A1005 (2-sided) subbase is available for panel mounting applications. The Q7800B1003 and Q7800B1011 (4-sided) subbases are available for burner or wall mount applications. Knockouts are provided in the back, top and bottom for conduit connections.



Specifications

WEIGHT:

Q7800A: 7 ounces.

Q7800B: 1 pound, 3 ounces.

DIMENSIONS: See Fig. 1, 2 and 3.

ENCLOSURE: NEMA 1.

APPROVAL BODIES:

Underwriter Laboratories Inc. Component Recognized:

File no. MP268, Guide no. MCCZ2 (Q7800A),

Listed: File no. MP268, Guide no. MCCZ (Q7800B).

Canadian Standards Association Certified: LR95329-3.

To meet EN60730 approval, the Q7800 subbase must be mounted in a secured panel which meets IP40 class of protection.

ACCESSORIES:

Electrical Access Slot Covers, part no. 221779 (Q7800B).

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, Flame Safe-guard service technician.

4. Disconnect the power supply before beginning installation to prevent electrical shock and equipment damage. More than one disconnect may be involved.

5. All wiring must comply with applicable local electrical codes, ordinances, and regulations.

6. All wiring must be NEC Class 1 (Line Voltage).

7. After installation is complete, check out product operation as provided in these instructions.



CAUTION

Disconnect power supply before beginning installation to prevent electrical shock and equipment damage. More than one disconnect may be involved.

Follow the equipment manufacturer instructions if available; otherwise, proceed as follows below.

MOUNTING

NOTE: For installation dimensions, see Fig. 1 and 2.

1. Place the subbase in a location within the ambient temperature rating of the 7800 SERIES Relay Module and S7830A being used. Refer to the appropriate Instructions.

2. Mount the subbase in any position except horizontally with the bifurcated contacts pointing down. The standard vertical position is recommended.

3. Select a wall, burner or electrical panel location. Or mount the Q7800 directly in the control cabinet. Be sure to allow adequate clearance for servicing, installation, access or removal of the 7800 SERIES Relay Module, S7830A, Keyboard Display Module, Run/Test switch, flame amplifier signal voltage probes, electrical signal voltage probes and electrical field connections.



IMPORTANT: Do not mount the wiring subbase horizontally with the bifurcated contacts pointing down.

4. For surface mounting, use the back of the subbase as a template to mark the four screw locations. Drill the pilot holes.

5. Insert the mounting screws using four no. 6 screws tightened securely.

Fig. 1—Top and front view of Q7800A1005 Wiring Subbase (2-sided) with dimensions in in. (mm).

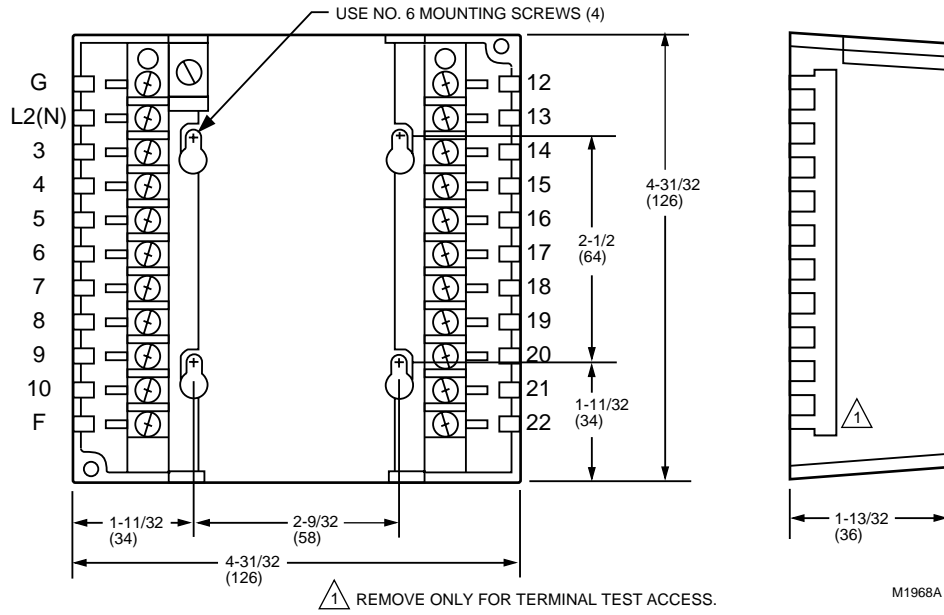


Fig. 2—Top and front view of Q7800B1003 Wiring Subbase (4-sided) with dimensions in in. (mm).

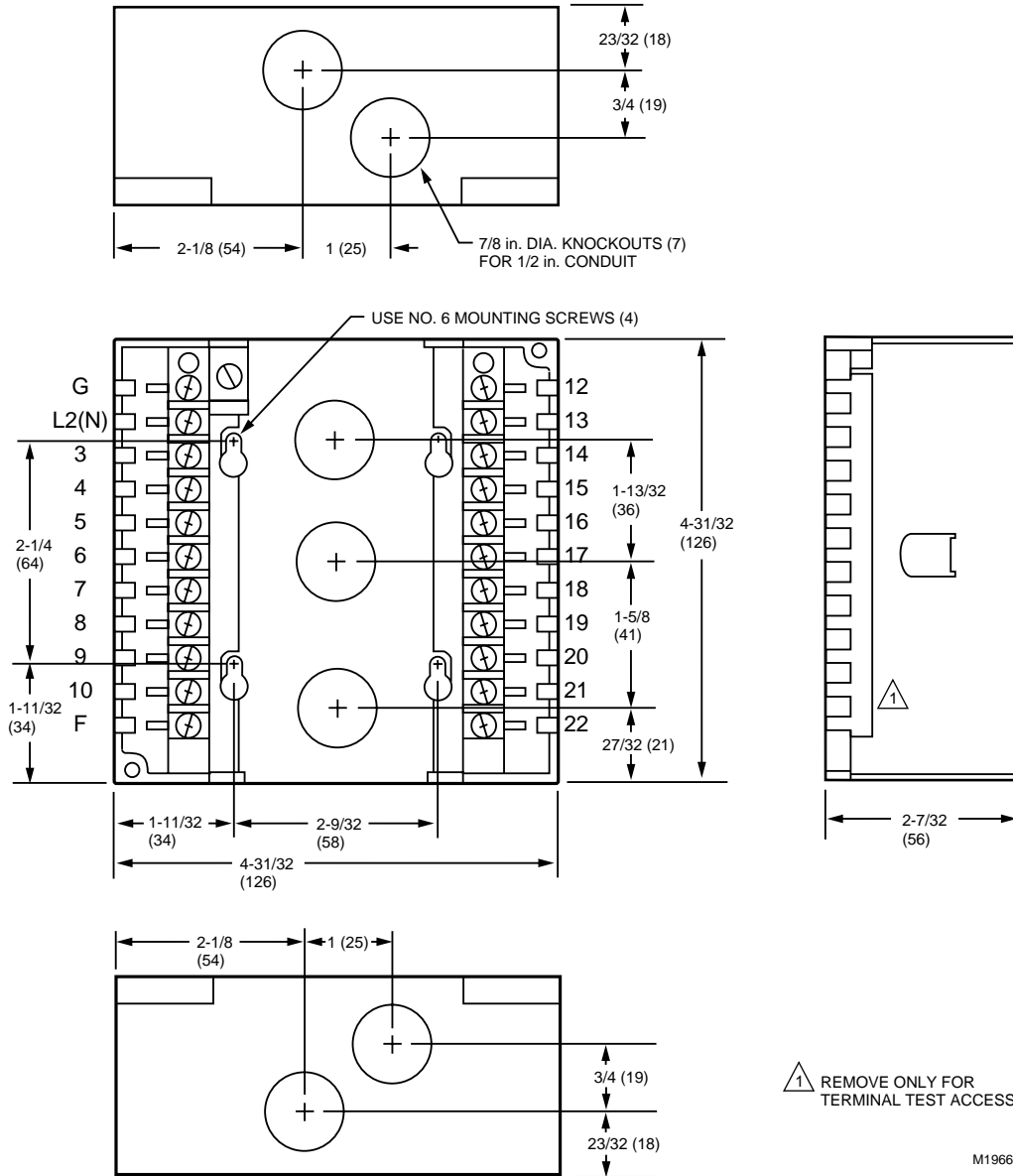
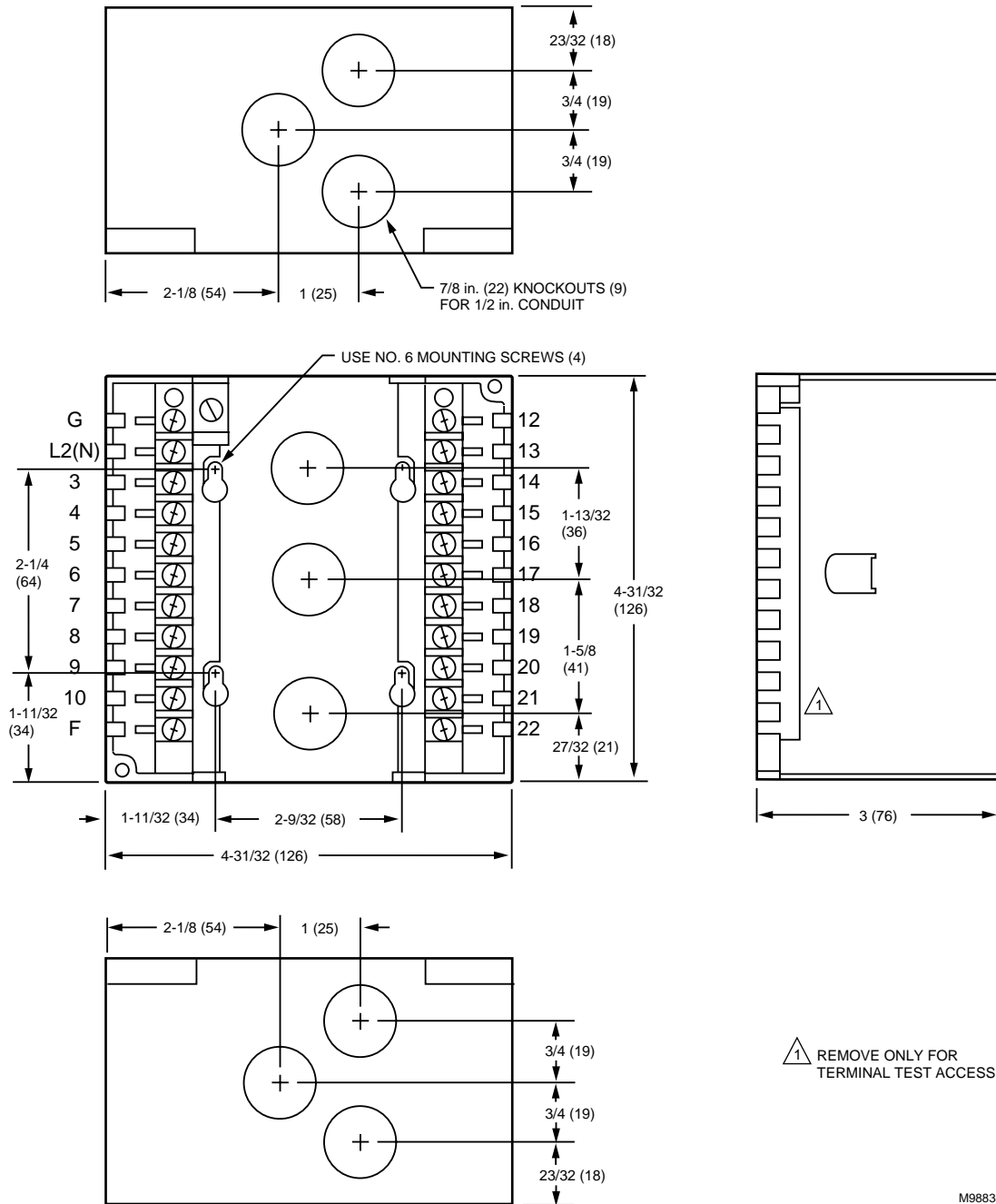


Fig. 3—Top and front view of Q7800B1011 Wiring Subbase (4-sided) with dimensions in in. (mm).



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Wiring

1. Refer to the equipment manufacturer's wiring information and the appropriate 7800 SERIES Relay Module or S7830A Specifications for correct subbase wiring.

2. Provide overload protection and disconnect means as required. 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.

3. All wiring must comply with appropriate electrical codes, ordinances and regulations. Use NEC Class 1 (Line Voltage) wiring.

4. Recommended wire size and type is to use up to two no. 14, 16, or 18 copper conductors TTW60C, THW75C or THHN90C, 600 volt insulation wire for all Line Voltage terminals. For high temperature installations, use wire selected for a temperature rating above the noted maximum operating temperature. The flame detector leadwires should be moisture resistant.

a. For the ignition leadwire, use Honeywell specification no. R1061012 Ignition Cable or equivalent. (This wire is rated at 350°F (177°C) for continuous duty, and up to 500°F (260°C) for intermittent use. It has been tested to 25,000 volts.)

b. For the flame detector F leadwire, use Honeywell specification no. R1298020 or equivalent. (This wire is rated at 400°F (204°C) for continuous duty. It is tested for operation up to 600 volts and breakdown up to 7500 volts.)

c. For ignition installation in a contaminating environment, use Honeywell specification no. R1239001 High Tension Ignition Cable or equivalent. (This wire is resistant to severe conditions of oil, heat and corona, and is tested to withstand high voltages up to 25,000 Vrms in a salt bath for one minute without breakdown. It is rated at 200°F (93°C) for continuous duty, and up to 350°F (177°C) for intermittent use.)

5. Recommended grounding practices:

a. Each 7800 SERIES Relay Module or S7830A will have an earth ground terminal G that must be grounded to the metal control panel with wire as short as practical. Each ground wire must be capable of carrying a fault current equal to the rating of the protective fuse (20 amperes); a number 14 copper conductor is adequate.

b. The earth ground provides a connection between the subbase and the control panel or the equipment. The earth ground wire must be capable of conducting the current to blow the 20A fuse (or breaker) in event of an internal short circuit. The 7800 SERIES Relay Module needs a low impedance ground connection to the equipment frame which, 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 are preferred rather than leadwires. Be careful to ensure that 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 have corrosion-protected mating surfaces.

6. Recommended wire routing for flame detector leadwires:

a. Do not run high voltage ignition transformer wires in the same conduit with the flame detection wiring.

b. Do not route scanner wires in the same conduit with line voltage circuits.

c. Scanner wiring not utilizing armor cable should be enclosed in metal cable or conduit.

d. Follow directions in Flame Detector Instructions.

7. Maximum wire lengths for flame detector leadwires are limited by the flame signal strength.

8. Make sure that loads do not exceed terminal ratings; refer to the labels on the 7800 SERIES Relay Module, or S7830A, or ratings in the 7800 SERIES Relay Module or S7830A Specifications.

9. Check the power supply circuit. The voltage and frequency tolerance must match those of the 7800 SERIES Relay Module or S7830A. Do not connect the 7800 SERIES Relay Module or S7830A to a power supply circuit that is subject to line voltage variations, such as would occur with on-off switching of heavy loads. A separate power supply circuit may be required for the 7800 SERIES Relay Module or S7830A. Add the required disconnect means and overload protection.

10. Check all the wiring circuits and complete a *Static Checkout* according to the 7800 SERIES Relay Module or S7830A Specifications before installing the 7800 SERIES Relay Module or S7830A on the subbase.

11. Install the 7800 SERIES Relay Module or S7830A.

12. Restore power to the panel.

IMPORTANT: *Do not run high voltage ignition transformer wires in the same conduit with the flame detector wiring.*

IMPORTANT: *Make sure no subbase wiring is projecting beyond the terminal blocks. Tuck wiring in against the back of the subbase so it does not interfere with the knife blade terminals or bifurcated contacts.*

Checkout

After installation, perform a complete checkout of the system. Follow information supplied by equipment manufacturer and instructions furnished with the 7800 SERIES Relay Module or S7830A.

SERVICE NOTE: Voltage checks can be accomplished by removing the Electrical Access Slot Covers and using the electrical access slots on the sides of the Q7800A,B.



CAUTION

Replace the Electrical Access Slot Covers after performing voltage checks or anytime they are removed.

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