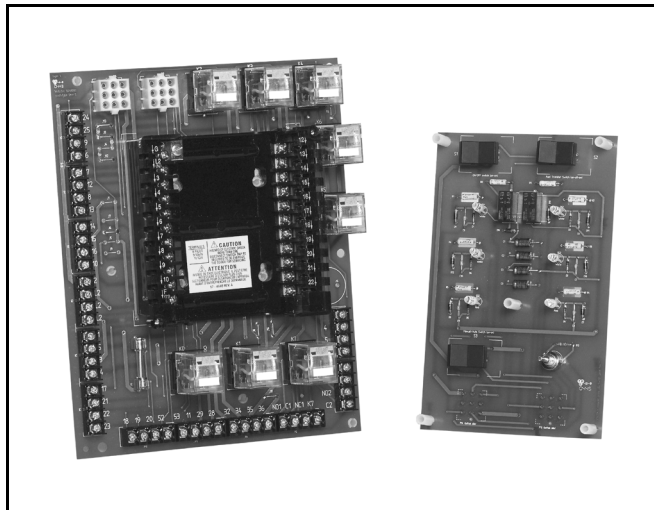


Q7800H Integrated Burner Control Subpanel

WEBSTER™

INSTALLATION INSTRUCTIONS



APPLICATION

The Q7800H Integrated Burner Control Subpanel is designed to eliminate much of the wiring required by the OEM to connect the 7800 SERIES control in their control panel. This should eliminate the potential for wiring errors.

LED switch panel provides visual indication of burner sequence.

The Q7800H has the following unique part numbers, with the application for each number provided:

- Q7800H1018: Single fuel, oil; Programmer Device.
- Q7800H1026: Single fuel, gas; Programmer Device.
- Q7800H1034: Dual fuel; Programmer Device.
- Q7800H1059: Single fuel.
- Q7800H1067: Dual fuel.
- Q7800H1091: Single fuel, oil.
- 50008378-001 LED Switch Assembly, Dual Fuel—Modulation
- 50008378-002 LED Switch Assembly, Dual Fuel—No Modulation
- 50008378-003 LED Switch Assembly, Single Fuel—Modulation
- 50008378-004 LED Switch Assembly, Single Fuel—No Modulation

FEATURES

- Unique subpanel design eliminates extensive wiring in the OEM control panel.
- One subpanel design covers multiple applications.
- Allows panel wiring before installation of relay modules.
- NEMA 1 enclosure.
- Access slots provided for electrical measurements.
- LED switch panel provides visual indication of burner sequence.
- LED switch panel provides auto/manual feature.

SPECIFICATIONS

Electrical Ratings:

Power:
120 Vac (+10%/-15%), 50/60 Hz (±10%).

Environmental Ratings:

Ambient temperature ranges:

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

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

Humidity: 85% relative humidity, continuous, noncondensing.

Vibration: 0.5G.

Weight:

Subbase PWA: 1 lb., 12 oz. (871 grams)

Switch: 4 oz. (124 grams).

Dimensions:

See Fig. 1.

Enclosure:

NEMA 1.

Approvals:

U.S./Canadian Underwriters Laboratories, Inc. (UL) Component Recognized.



Q7800H INTEGRATED BURNER CONTROL SUBPANEL

Accessories Required by OEM:

LED dome covers (number and color will vary):

Suggested part number: Chicago Miniature Lamp, Inc.:

- 4341 Red
- 4343 Amber
- 4345 Green
- 4346 Blue

Replacement Parts:

Relays: The field-replaceable relays on the subbase panel must be replaced with the approved OMRON Part Number MY2-AC110/120S.

Hold-down clip: OMRON Part Number PYC-P.



CAUTION

Equipment Damage Hazard.

Use of the wrong relay can cause the relay to fail, creating a hazardous condition.

Field-replaceable relays must be replaced with the specified part number. Failure to do so can result in a potentially hazardous condition.

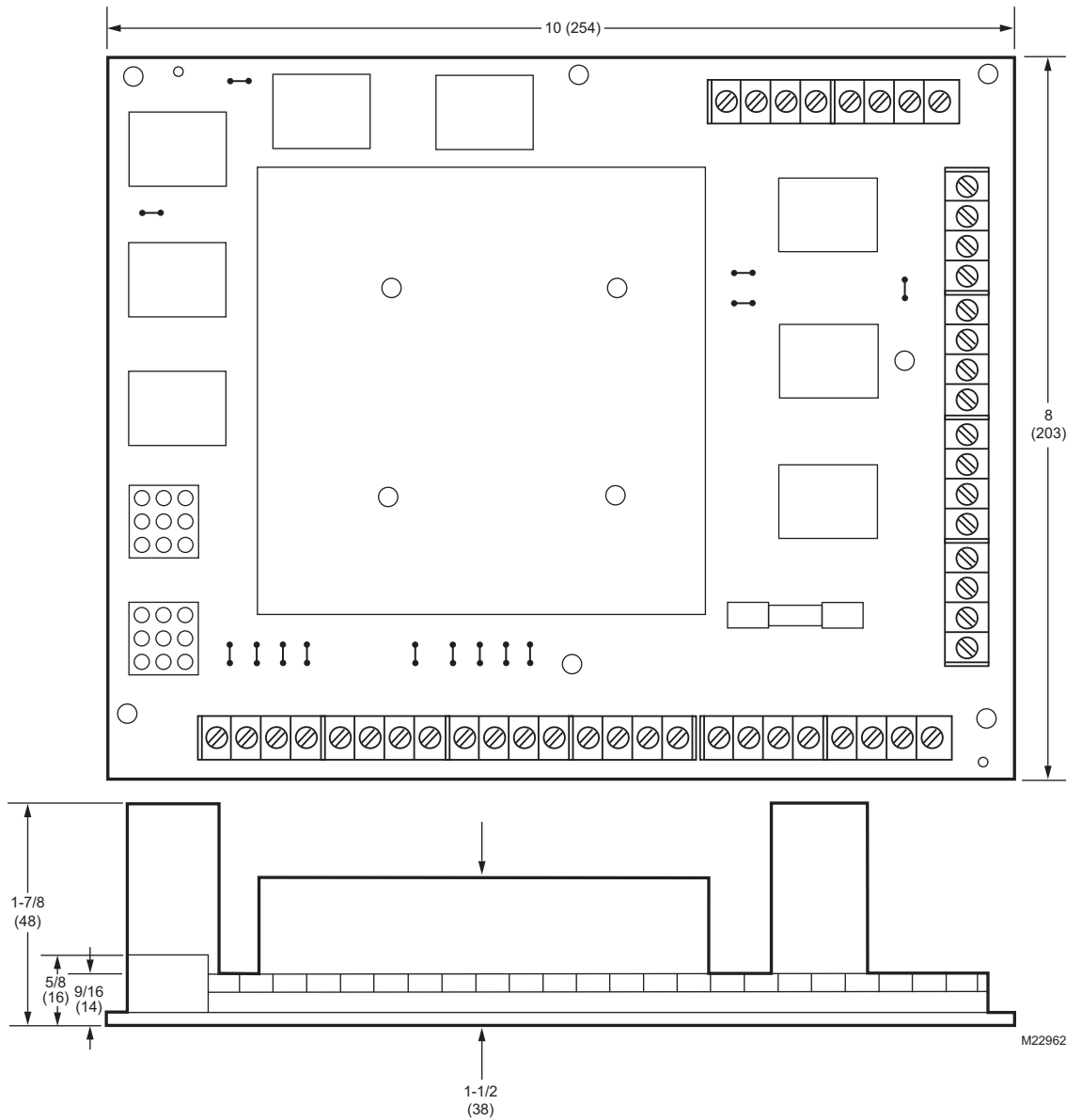


Fig. 1. Q7800H Integrated Burner Control Subpanel, dimensions in in. (mm).

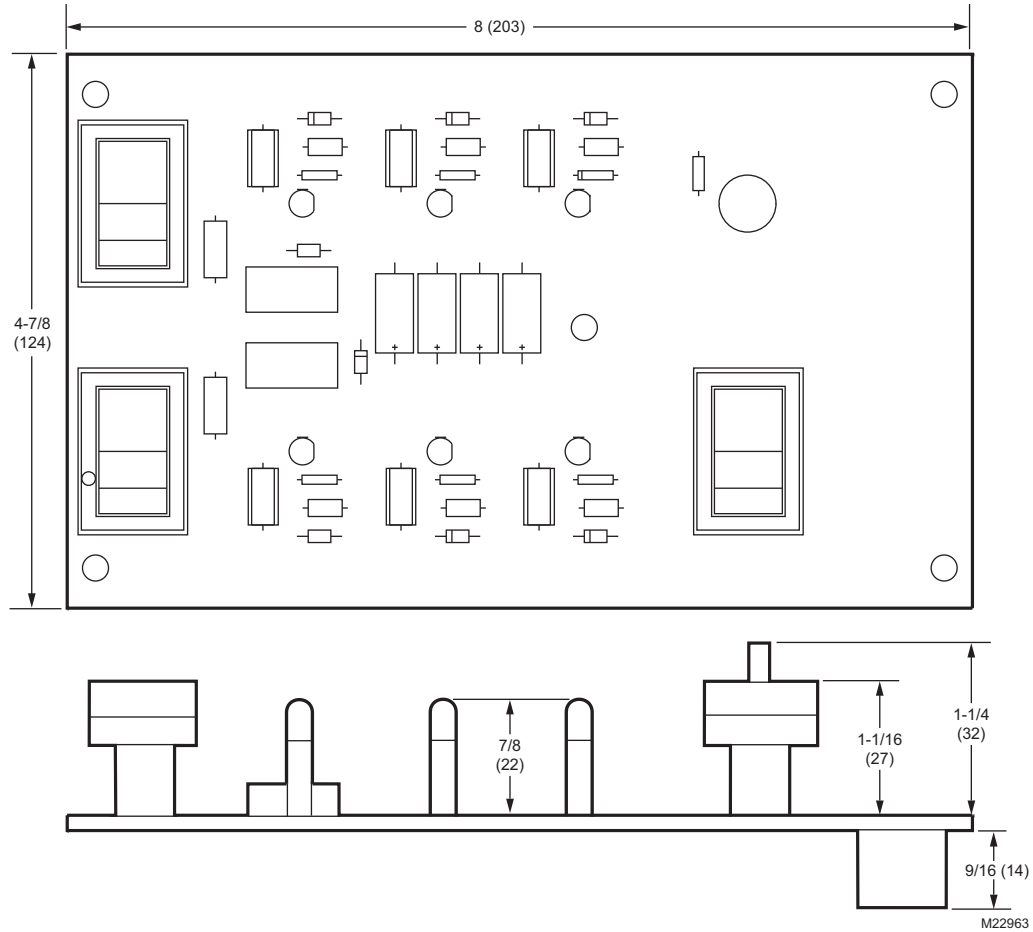


Fig. 2. Integrated Burner Control Subpanel Switch Assembly dimensions in in. (mm).

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 on the product to make sure the product is suitable for your application.
3. 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 disconnect may be involved.
5. All wiring must comply with applicable local codes, ordinances, and regulations.
6. All wiring must be NEC Class 1 (Line Voltage).

! CAUTION

Equipment Damage Hazard.
Improper jumper configuration can result in incorrect operation and/or equipment damage.
 Device must be properly configured for the application by clipping and remove all appropriate jumpers. Improper configuration can result in a hazardous condition.

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

! WARNING

Electrical Shock Hazard.
Can cause serious injury, death or property damage.
 Disconnect power supply before beginning installation to prevent electrical shock and equipment damage. More than one disconnect may be involved.

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

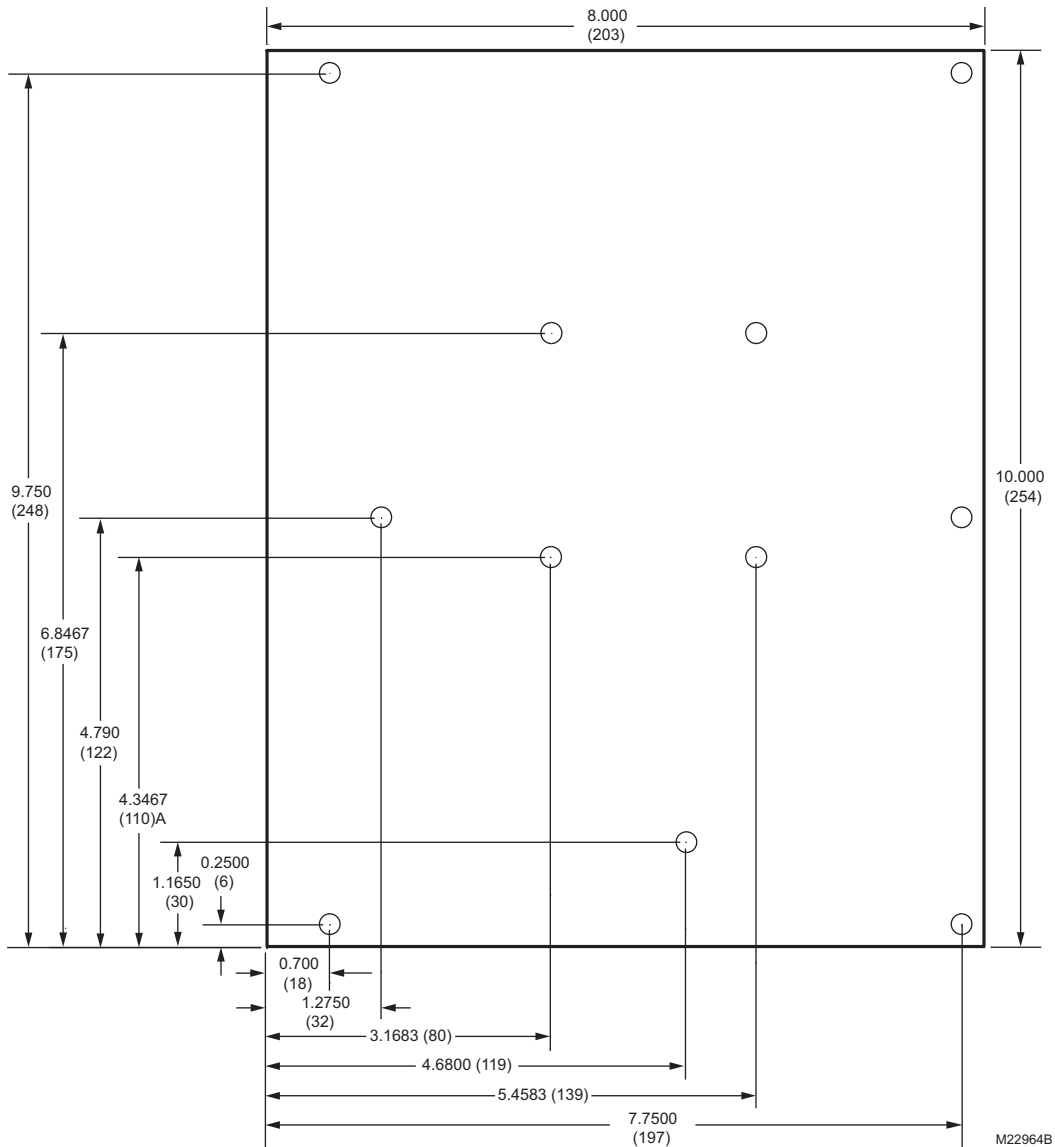


Fig. 3. Enclosure mounting hole locations for the Q7800H1018, 1026, 1034, 1059, 1067, and 1091 Subbase Panel, dimensions in in. (mm).

Mounting

NOTE: For installation dimensions, see Fig. 1 through 4.

1. Place the subpanel in a location within the ambient temperature rating of the 7800 SERIES equipment being used. Refer to the appropriate Instructions.
2. The subpanel must be mounted in an appropriate metal enclosure with a low impedance connection to earth ground. See Fig. 3 and 4 for mounting hole locations.
3. Mount the subpanel in any position except horizontally with the bifurcated contacts pointing down. The standard vertical position is recommended.
4. Insert the mounting screws using recommended hardware, tightened securely.

WIRING

⚠ WARNING

Electrical Shock Hazard.
Can cause severe injury, death or property damage.

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.

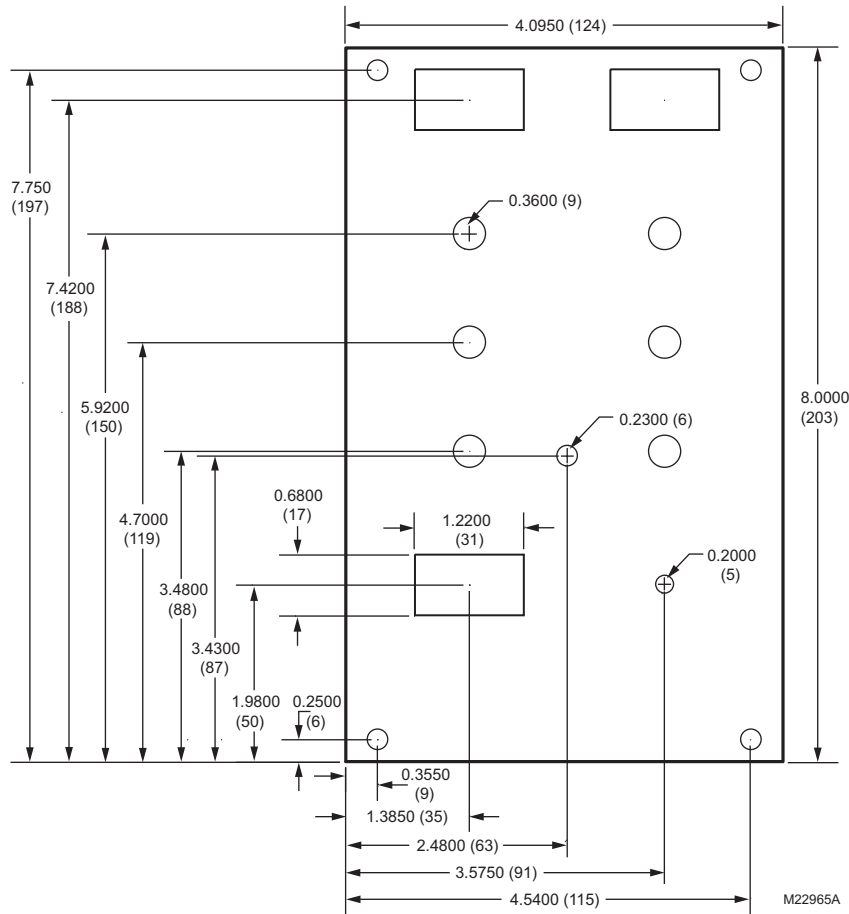


Fig. 4. Enclosure mounting hole and cutout locations for the 50008378 LED/Switch board, all versions, dimensions in in. (mm).

1. 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.
2. All wiring must comply with appropriate electrical codes, ordinances and regulations. Use NEC Class 1 (Line Voltage) wiring. Wire used for main L1 connection to the subbase board must be minimum 14 AWG 90°C wire.
3. Check all the wiring circuits and complete a *Static Checkout* according to the 7800 SERIES Relay Module Specifications before installing the 7800 SERIES Relay Module on the subbase.

4. Install the 7800 SERIES Relay Module.
5. Restore power to the panel.

NOTE: See Fig. 5 for a typical Q7800H installation.

IMPORTANT

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

Q7800H INTEGRATED BURNER CONTROL SUBPANEL

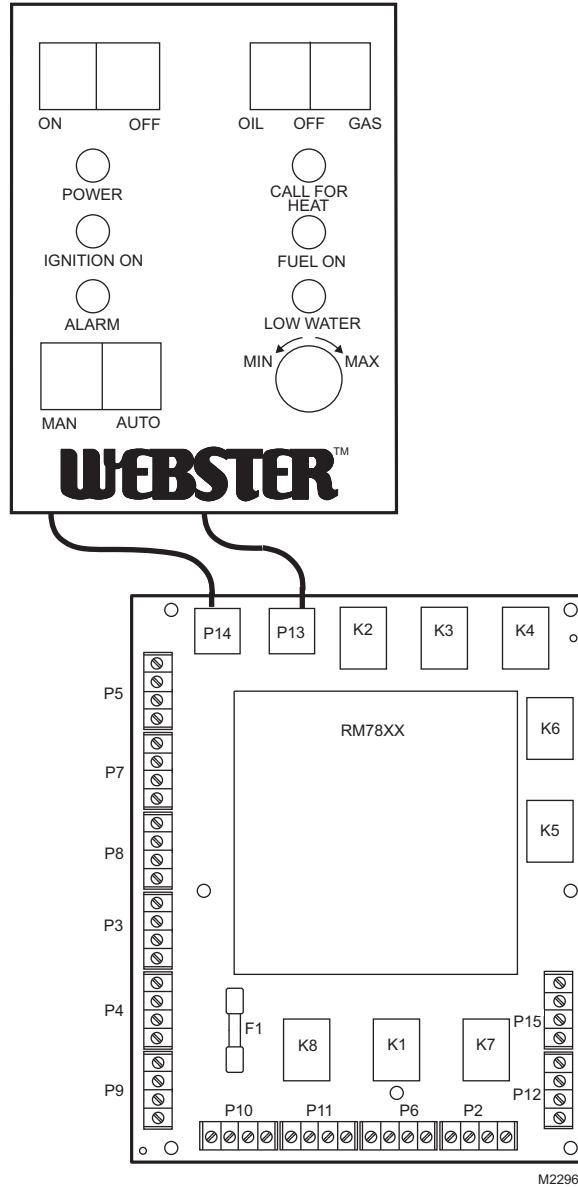


Fig. 5. Q7800H typical hookup.

Table 1. Combinations for Terminals 8, 9, 10, and 21.

Combination Number	Pilot Fuel 8	Int. Pilot Valve 21	Ignition 10	Main 9
1	C	No Load	No Load	F
2	B	No Load	No Load	F
3	No Load	B	No Load	F
4	F	No Load	A	F
5	No Load	F	A	F
6	D	No Load	A	F
7	No Load	D	A	F
8	D	No Load	A	D
9	No Load	D	A	D

Table 2. Explanation of each Combination.

A	B	C	D	F
4.5A ignition	50 VA Pilot Duty plus 4.5A ignition.	180 VA ignition plus motor valves with: 660 VA inrush, 360 VA open, 240 VA hold.	2A Pilot Duty.	65 VA Pilot Duty plus motor valves with: 3850 VA inrush, 700 VA open, 250 VA hold.

Table 3. Q7800H Terminal Ratings (Primary Device).

Terminal Number	Description	Ratings
1	Main power supply input.	120 Vac, (+10%/ -15%), 50 or 60 Hz ($\pm 10\%$) ^a
2	Additional L2 connections	—
3	System control switch connections	120 Vac, 8A run, 43A inrush
4	Operation control/Common limit string connections	120 Vac, 8A run, 43A inrush
5	Additional fused L1 power outputs	120 Vac, limited by selected fuse and overall system load
6 and 7	Air Flow Switch connections	120 Vac, 8A run, 43A inrush
8	Burner motor power output	120 Vac, 9.8 AFL, 58.8 ALR (inrush)
9	Demand signal	120 Vac, 8A run, 43A inrush
10	Main oil valve power output	120 Vac ^b
11	Bypass oil valve output	120 Vac ^b
12	Alarm signal output	120 Vac, 1A pilot duty
13	Ignition output	4.5A ignition
14	Gas pilot valve power output	120 Vac ^b
15	Main gas valve power output	120 Vac ^b
16	7800 SERIES terminal 9 output	120 Vac ^b
17	7800 SERIES terminal 21 output	120 Vac ^b
18, 19, and 20	Modulation controller connections	120 Vac, 75 VA pilot duty
21, 22, and 23	Modulating motor connections	120 Vac, 75 VA pilot duty
24 and 25	Low fire start interlock connections	120 Vac, 8A run, 43A inrush
28	Hi-Lo controller input	120 Vac ^b
29	Auxiliary Gas Valve output	120 Vac ^b
32 and 34	Gas limit pressure connections	120 Vac, 8A run, 43A inrush
35 and 36	Oil pressure interlock connections	120 Vac, 8A run, 43A inrush
52	Oil select signal output	120 Vac, 60 mA
53	Gas select signal output	120 Vac, 60 mA
54	Auxiliary relay coil input	120 Vac, 12.5 mA
55, 56, and 57	Auxiliary relay pole 1: 55-Common, 56-Normally open, 57-Normally closed	120 Vac, 10A
58, 59, and 60	Auxiliary relay pole 2: 58-Common, 59-Normally open, 60-Normally closed	120 Vac, 10A
61	K1 relay coil input	120 Vac, 12.5 mA
62	Tie point-no circuit board connection	120 Vac, 15A

^a 2000 VA maximum connected load to relay module assembly.

^b See Tables 1 and 2. These terminals can be connected to the 7800 SERIES subbase terminals 8, 9, 10, or 21, depending on the configuration.

Table 4. Q7800H Terminal Ratings (Programmer Device).

Terminal Number	Description	Ratings
1	Main power supply input.	120 Vac, (+10%/ -15%), 50 or 60 Hz ($\pm 10\%$) ^a
2	Additional L2 connections	—
3	System control switch connections	120 Vac, 8A run, 43A inrush
4	Operation control/Common limit string connections	120 Vac, 8A run, 43A inrush
5	Additional fused L1 power outputs	120 Vac, limited by selected fuse and overall system load
6 and 7	Air Flow Switch connections	120 Vac, 8A run, 43A inrush
8	Burner motor power output	120 Vac, 9.8 AFL, 58.8 ALR (inrush)
9	Demand signal	120 Vac, 8A run, 43A inrush
10	Main oil valve power output	120 Vac ^b
12	Alarm signal output	120 Vac, 1A pilot duty
13	Ignition output	4.5A ignition
14	Pilot valve power output	120 Vac ^b
15	Safety gas valve power output	120 Vac ^b
16	7800 SERIES terminal 9 output	120 Vac ^b
17	7800 SERIES terminal 21 output	120 Vac ^b
18, 19, and 20	Modulation controller connections	120 Vac, 75 VA pilot duty
21, 22, and 23	Modulating motor connections	120 Vac, 75 VA pilot duty
24 and 25	Low fire start interlock connections	120 Vac, 1 mA
26 and 27	High Fire Purge interlock connections	120 Vac, 1 mA
30	Valve Proving Switch input	120 Vac, 1 mA
31	Valve Proving Demand input	120 Vac, 1 mA
32 and 34	Gas pressure limit connections	120 Vac, 8A run, 43A inrush
35 and 36	Oil pressure interlock connections	120 Vac, 8A run, 43A inrush
37	Pre-Ignition Interlock input	120 Vac, 1 mA
38	Gas Proof of Closure switch connection	120 Vac, 1 mA
39	Oil Proof of Closure switch connection	120 Vac, 1 mA
41	Low Water LED input connection	120 Vac, 20 mA
42	Air Compressor Interlock	120 Vac, 8A run, 43A inrush
43	Blower Interlock	120 Vac, 8A run, 43A inrush
44	Demand	120 Vac, 8A run, 43A inrush
45	Low Fire Hold Aquastat	120 Vac, 75 VA pilot duty
46	Remote Pump Control Output	120 Vac, 9.8 AFL, 58.8 ALR (inrush)
52	Oil select signal output	120 Vac, 60 mA
53	Gas select signal output	120 Vac, 60 mA
54	Auxiliary relay coil input	120 Vac, 12.5 mA
55, 56, and 57	Auxiliary relay pole 1:55-Common, 56-Normally open, 57-Normally closed	120 Vac, 10A

^a 2000 VA maximum connected load to relay module assembly.

^b See Tables 1 and 2. These terminals can be connected to the 7800 SERIES subbase terminals 8, 9, 10, or 21, depending on the configuration.

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