

## Q520A1089 and Q520A1121 20-Terminal Wiring Subbases

### Application

The Q520A Wiring Subbase is for BC7000 and R4140 Flame Safeguard Programmers. It provides terminals for field wiring, and knife-blade contacts, which are engaged by the spring-connectors on the back of the BC7000 or R4140 chassis.

The Q520A is available in a 3-sided model with open bottom for cabinet mounting (Q520A1089), and a 4-sided model (Q520A1121). Knockouts are provided on the back, top, and bottom (Where applicable) for conduit connections.

### Installation



### CAUTION

1. Installer must be a trained, experienced, Flame Safeguard service technician.
2. Disconnect power supply before beginning installation to prevent electrical shock and equipment damage. More than one disconnect may be involved.
3. All wiring must comply with applicable local electrical codes, ordinances, and regulations.
4. All wiring must be NEC Class 1 (line voltage).

Follow the burner manufacturer's instructions if available. Otherwise, proceed as follows.

### MOUNTING

See Figs. 1-4 for installation dimensions.

1. Locate the subbase where it is within the ambient temperature rating of the Flame Safeguard Programmer to be used. Refer to the appropriate Instructions.

2. Mount the subbase in any position except horizontally with the knife-blade contacts pointing down. The standard vertical position is recommended. Any other position decreases the maximum ambient temperature rating.

3. Select the location on a wall or instrument panel. (The Q520A Subbase can be mounted directly in the control cabinet.) Be sure to allow clearances for servicing and removing the BC7000 or R4140.

**IMPORTANT:** Do not mount the wiring subbase horizontally with the knife-blade 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 and tighten them se-

Fig. 1—Top view of Q520A1089 Wiring Subbase (3-sided) with dimensions in inches [millimeters].

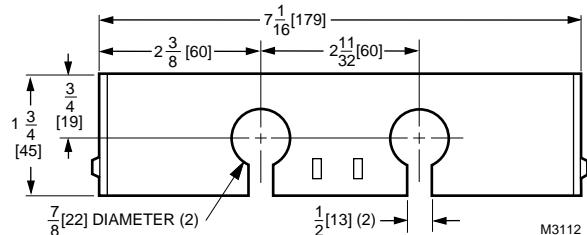


Fig. 2—Top view of Q520A1121 Wiring Subbase (4-sided) with dimensions in inches [millimeters].

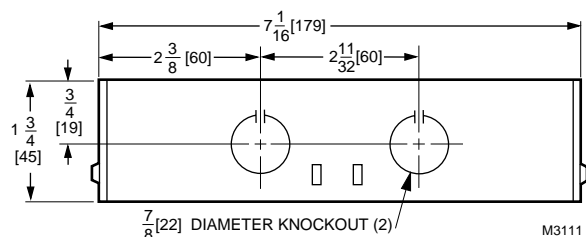
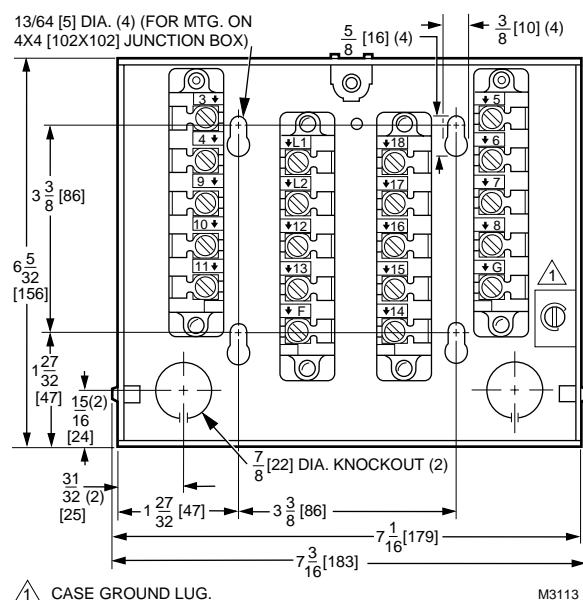


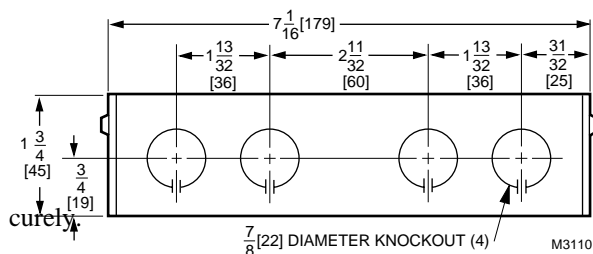
Fig. 3—Front view of Q520A1089 and Q520A1121 Wiring Subbases with dimensions in inches [millimeters].



1 CASE GROUND LUG.

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**Fig. 4—Bottom view of Q520A1121 Wiring Sub-base (4-sided) with dimensions in inches [millimeters].**



## WIRING

All wiring must comply with applicable electrical codes, ordinances, and regulations. Use NEC Class 1 (line voltage) wiring.

For normal installations, use moisture-resistant no. 14 wire suitable for a minimum of 194° F [90° C].

For high temperature installations, use moisture-resistant no. 14 wire, selected for a temperature rating above the maximum operating temperature, for all except the ignition and flame detector F leadwires.

- 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 [177° C] for intermittent use. It has been tested to 25,000 volts.)
- For the flame detector F leadwire, use Honeywell specification no. R1298020 or equivalent. (This wire is rated up to 400° F [204° C] for continuous duty. It has been tested for operation up to 600 volts and breakdown up to 7500 volts.)

For ignition installations in a contaminating environment, use Honeywell specification no. R1239001 High Tension Ignition cable or equivalent. This wire is very resistant to severe conditions of oil, heat, and corona, and

has been tested to withstand high voltages up to 25,000 volts rms in a salt bath for one minute without breakdown. It has been rated at 200° F [93° C] for continuous duty, and up to 250° F [177° C] for intermittent use.

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

Refer to the manufacturer's wiring information and to typical hookups furnished with the Flame Safeguard Programmer. Provide overload protection and disconnect means as required. Check all wiring before installing the BC7000 or R4140.

**IMPORTANT:** Make sure the wiring on the subbase is not projected out beyond the terminal blocks. Tuck wiring in against the back of the subbase so it does not interfere with the contacts.

Fig. 3 shows the location of the wiring terminals on the Q520A1089 and Q520A1121 Wiring Subbases.

**IMPORTANT:** Make sure the subbase is properly grounded. This means earth ground, not only equipment neutral. The ground wire must be a solid copper wire sized to a minimum of no. 15 AWG. Run the separate ground wire from the green ground screw in the Q520A Subbase to an earth ground point. This ground point can be a ground lug on the burner control cabinet, a cold water pipe or a ground rod, and should be as close as possible to the Q520A Subbase and must be earth ground.

## Checkout

After installation, perform a complete checkout of the system. Follow information supplied by the equipment manufacturer and instructions furnished with the BC7000 or R4140 Flame Safeguard Programmer.

### Home and Building Control

Honeywell Inc.  
1985 Douglas Drive North  
Golden Valley, Minnesota 55422

### Home and Building Control

Honeywell Limited—Honeywell Limitée  
740 Ellesmere Road  
Scarborough, Ontario  
M1P 2V9

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