

# Honeywell

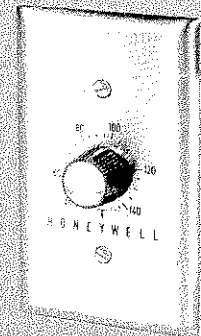
## MANUAL POTENTIOMETERS

S443 AND S963 MANUAL POTENTIOMETERS PROVIDE REMOTE MANUAL CONTROL OF PROPORTIONAL (SERIES 90) AND ELECTRONIC (SERIES 70) MOTORS AND RELAYS.

- S443 mounts on wall, S963 on vertical outlet box.
- S443A, S963B are for use with proportional motors and controllers.
- Dpdt switch on S443A allows manual control from S443A or automatic control from the system controller.
- S963B is for use with series 90 modulating controls.
- S963B is for use with electronic motors and sensors.
- S963B can be used with T7047 to provide set point adjustment remote from the thermostat.



S443A



S963B

## S443A S963B

# SPECIFICATIONS

**MODELS:**

S443A Manual Potentiometer—has dpdt switch to select manual control from the S443A or automatic control from system controller. Used with series 90 equipment.  
 S963B Manual Potentiometer—used with series 70 and series 90 equipment, as follows.

**RESISTANCE ELEMENT RANGE:**

S443A—0 to 135 ohms.  
 S963B—0 to 135, 240, 270, 360, 480, or 600 ohms.

**TERMINAL CONNECTIONS:**

S443A—screw terminals.  
 S963B—leadwires.

**MOUNTING:**

S443A—surface; 2 conduit knockouts for wiring.  
 S963B—2 x 4 in. vertical outlet box.

**S963B MODELS**

| POTENTIOMETER RESISTANCE | RANGE     |          | APPLICATION                           |
|--------------------------|-----------|----------|---------------------------------------|
|                          | F         | C        |                                       |
| 135, 270 ohms            | —         | —        | Used with series 90 equipment         |
| 240 ohms                 | 40 to 140 | 5 to 60  | C7031 Insertion/Immersion Thermostat  |
| 360 ohms                 | 60 to 90  | 16 to 32 | T7022, T7047 Thermostats              |
| 480 ohms                 | 60 to 90  | 16 to 32 | W927A-F, C7031                        |
| 500 ohms                 | 40 to 90  | 5 to 32  | W7100 System                          |
| 600 ohms                 | 40 to 140 | 5 to 60  | W927G,H,J Electronic Sequencer, C7031 |
| 1000 ohms                | 40 to 140 | 5 to 60  | W7100 System                          |

**SETTING SCALE:** Knob adjusts value of resistance element in circuit.

S443A—marked OPEN-CLOSE.

S963B—marked 40 F—140 F [5 C—60 C] or 60 F—90 F [16 C—32 C].

**DIMENSIONS:** See Figs. 1 and 2.

**FINISH:** Gray—S443A; stainless steel—S963B.

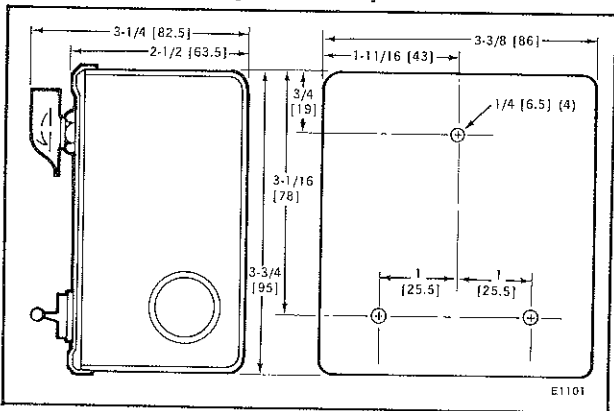


FIG. 1—MOUNTING DIMENSIONS OF S443A IN in. [mm IN BRACKETS].

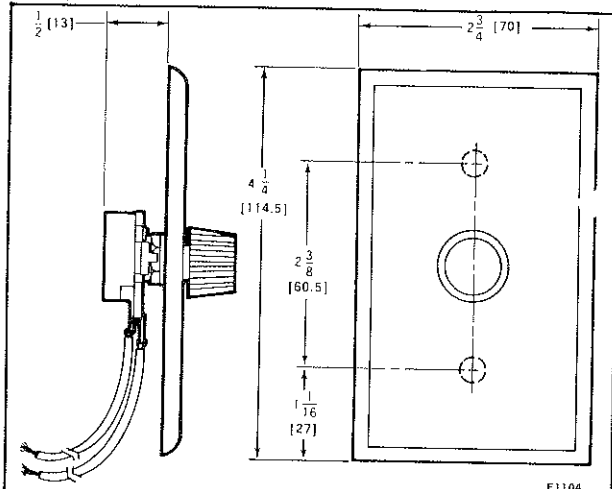


FIG. 2—MOUNTING DIMENSIONS OF THE S963A,B IN in. [mm IN BRACKETS].

## ORDERING INFORMATION

WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR TRADELINE WHOLESALE OR YOUR DISTRIBUTOR, REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING NUMBER, OR SPECIFY—

1. MODEL NUMBER.
2. S963B—135, 240, 270, 360, OR 480 OHM POTENTIOMETER.

IF YOU HAVE ADDITIONAL QUESTIONS, NEED FURTHER INFORMATION, OR WOULD LIKE TO COMMENT ON OUR PRODUCTS OR SERVICES, PLEASE WRITE OR PHONE:

1. YOUR LOCAL HONEYWELL RESIDENTIAL SALES OFFICE (CHECK WHITE PAGES OF YOUR PHONE DIRECTORY).
2. RESIDENTIAL DIVISION CUSTOMER SERVICE  
 HONEYWELL INC., 1885 DOUGLAS DRIVE NORTH  
 MINNEAPOLIS, MINNESOTA 55422-4386 (612) 542-7500

(IN CANADA—HONEYWELL LIMITED/HONEYWELL LIMITEE, 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO M1P 2V9) INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.

# 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 service technician.
4. After installation is complete, check out product operation as provided in these instructions.

## CAUTION

Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage.

## MOUNTING

### S443A MANUAL POTENTIOMETER

1. Select a convenient location for the control.
2. Remove two screws holding cover onto case and mount case on the wall using the three mounting screws provided. Refer to Fig. 1 for location of mounting holes.
3. Run wires through one of the two conduit knockouts provided and wire the S443A. See Wiring section.
4. Replace cover and tighten cover screws.

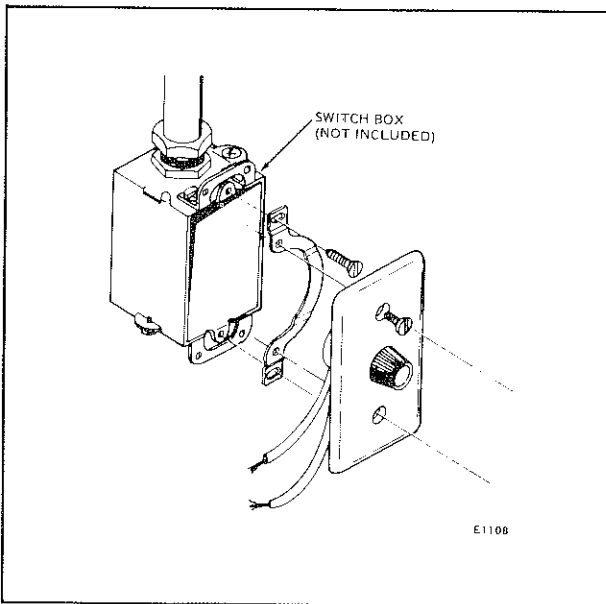


FIG. 3—INSTALLING THE S963A POTENTIOMETER.

### S963B MANUAL POTENTIOMETER

1. Install a standard 2 x 4 in. [51 x 102 mm] outlet box at the location selected for the S963B. The box may be surface mounted or recessed for flush mounting of the control. The box must be at least 1-3/4 in. [45 mm] deep. See Fig. 3.

2. Use the two flat head screws to fasten the mounting bracket to the outlet box. Align the bracket vertically.
3. Use the two oval head stainless steel screws to fasten the potentiometer plate to the mounting bracket.

## WIRING

Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage. All wiring must comply with local codes and ordinances. Refer to information furnished with the motor or relay and other system equipment. Figs. 4 through 7 show internal schematics and typical hookups for the S443A and the S963B.

Wiring instructions and hookup diagrams for systems using the S963B are included in the instruction sheets for the electronic Modutrol motors and electronic reset controls.

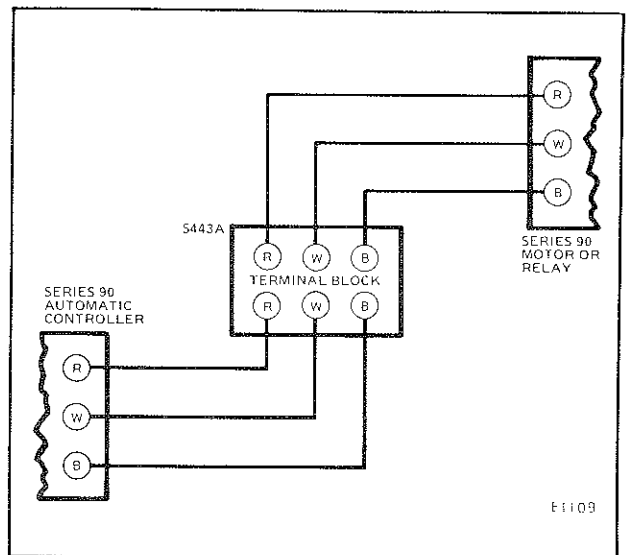


FIG. 4—TYPICAL HOOKUP FOR S443A. NOTE: CONNECT SERIES 90 MOTOR OR RELAY TO TOP ROW OF TERMINALS. IF AUTOMATIC CONTROLLER IS USED, CONNECT IT TO BOTTOM ROW OF TERMINALS.

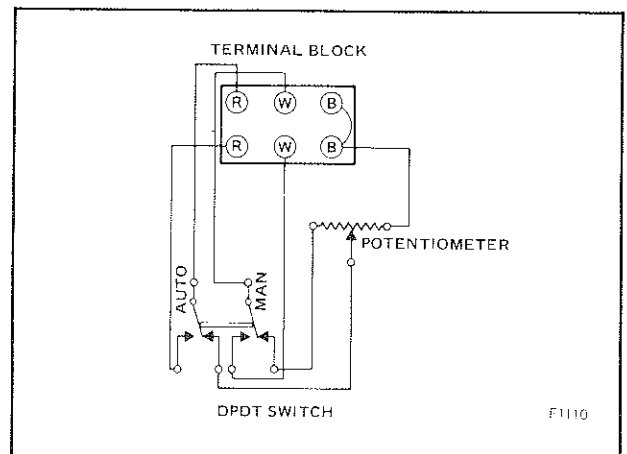


FIG. 5—INTERNAL SCHEMATIC OF S443A.

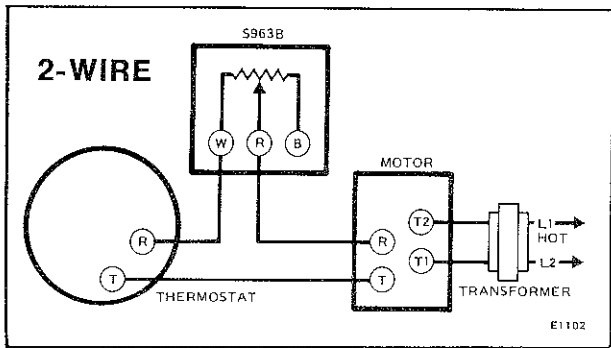


FIG. 6—TYPICAL 2-WIRE HOOKUP FOR S963B MANUAL POTENTIOMETER.

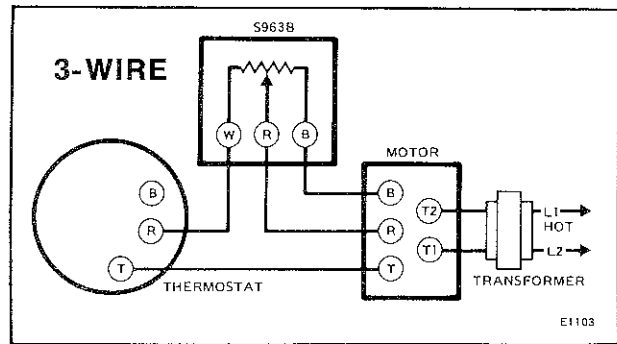


FIG. 7—TYPICAL 3-WIRE HOOKUP FOR S963B MANUAL POTENTIOMETER.

## SETTING AND CHECKOUT

### SETTING (S963B)

When the S963B is used with a thermostat which has its own adjustment means (T7047), the thermostat should be set at the low end of its range. The scale on the S963B will then indicate the thermostat set point.

### CHECKOUT

#### S443A

Refer to installation information furnished with controlled equipment during checkout.

Place S443A MANUAL-AUTOMATIC switch at MANUAL. Turn potentiometer dial toward CLOSED position. Motor should travel in opposite direction, reaching end of its stroke when dial is at fully closed position.

#### S963B

Follow checkout procedures outlined in installation instructions furnished with controlled equipment to check out S963B.

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