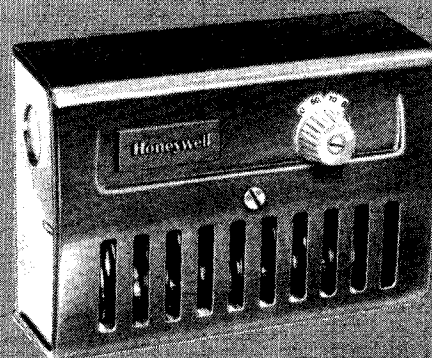


# Honeywell

## FARM-O-STAT AIRSWITCH CONTROLLERS

T631 CONTROLLERS PROVIDE LINE VOLTAGE CONTROL OF HEATING, COOLING, AND VENTILATION SYSTEMS IN FARM BUILDINGS OR STORAGE AREAS.

- Typical applications include barns, brooder houses, poultry houses, hog houses, pump houses, milk houses, and crop storage houses.
- Slots in front and bottom of case provide maximum air circulation over the coiled sensing element.
- Rugged steel case treated to resist corrosion.
- Dependable switching provided by spdt snap switch(es) permanently sealed against contamination.
- Temperature setting knob and scale on front of controller.



## T631A-C

G.P.  
Rev. 7-83•

Form Number 60-2214-6  
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# SPECIFICATIONS

## TRADELINE MODELS

TRADELINE models are selected and packaged to provide ease of stocking, ease of handling, and maximum replacement value. TRADELINE model specifications are the same as those of standard models except as noted below.

TRADELINE MODEL AVAILABLE: T631C Airswitch Controller, with switch rated for 1 hp [0.7 kW].

TEMPERATURE SCALE RANGE: Minus 30 F to plus 100 F [minus 34 C to plus 38 C].

DIFFERENTIAL: 5 F [2.8 C].

ADDITIONAL FEATURES: TRADELINE pack with cross reference label and special instruction sheet.

## STANDARD MODELS

MODELS (also refer to Table 1):

T631A Farm-O-Stat Controller—for control of barn ventilation, red finish, spdt switching.

T631B Farm-O-Stat Controller—for control of barn ventilation, red finish, two spdt switches.

T631C Airswitch Controller—for temperature or ventilation control, gray finish, spdt switching.

For weatherproof Farm-O-Stat Controller in NEMA 4X enclosure, use T631F,G. See specification sheet, form 60-2509.

SENSING ELEMENT: Coiled copper tube.

MAXIMUM AMBIENT TEMPERATURES (tabulated by scale range):

TEMPERATURE SCALE RANGE	MAX. AMBIENT	
	F	C
20 C to 60 C	150	66
35 F to 100 F	120	49
70 F to 140 F	150	66
0 F to 70 F	125	52
20 F to 90 F	125	52
-10 F to 60 F	125	52
-10 C to 30 C	125	52
-10 F to 100 F	125	52
-30 F to 100 F	125	52
70 F to 160 F	175	79
0 C to 40 C	120	49

MOUNTING MEANS: Screws through holes in back of case.

ADJUSTMENT: Knob on front of case.

UNDERWRITERS LABORATORIES INC. LISTED: File No. E4436, Vol. 1, dated 2-27-55; Guide No. XAPX.

CANADIAN STANDARDS ASSOCIATION COMPONENT LISTED: File No. LR1620, Guide No. 400-E-O.

REPLACEMENT PART:  
103774 Spdt Switch.

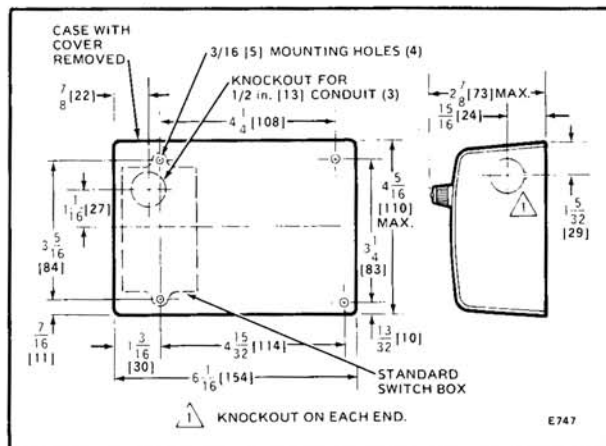


FIG. 1—T631 INSTALLATION DIMENSIONS, IN in. [mm SHOWN IN BRACKETS].

(continued on page 3)

# ORDERING INFORMATION

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

1. Order number (specify T631C with ground screw, if desired).
2. Scale range.
3. Differential (including interstage differential for T631B).
4. One hp [0.7 kW] switch(es) if desired.
5. Accessory, if desired.

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. HOME AND BUILDING CONTROL CUSTOMER RELATIONS  
HONEYWELL, INC., 1885 DOUGLAS DRIVE NORTH  
MINNEAPOLIS, MINNESOTA 55422-4386

(IN CANADA--HONEYWELL LIMITED/HONEYWELL LIMITEE, 35 DYNAMIC DRIVE, SCARBOROUGH, ONTARIO M1V 4Z9) INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.

TABLE 1—MODEL NUMBERS

MODEL NUMBER	TEMPERATURE RANGE		DIFFERENTIAL SWITCH		ADDITIONAL FEATURES
	F	C	F	C	
T631A	35 to 100	2 to 38	2	1.1	—
	70 to 140	21 to 60	2	1.1	—
	0 to 70	-18 to 21	3	1.7	—
	-10 to 100	-23 to 38	3	1.7	—
	0 to 40	32 to 104	1.1	2	—
	70 to 140	21 to 60	8	4.4	—
	70 to 160	21 to 71	3	1.7	—
	35 to 100	2 to 38	3-1/2	1.9	with 1 hp [0.7 kW] rated switch
T631B	35 to 100	2 to 38	2	1.1	3-1/2 F [1.9 C] between switches
	35 to 100	2 to 38	2	1.1	9 F [5 C] between switches
	35 to 100	2 to 38	2	1.1	adjustable interstage differential <sup>a</sup>
	35 to 100	2 to 38	3-1/2	1.9	adjustable interstage differential <sup>a</sup> ; with 1 hp [0.7 kW] rated switches
T631C	-10 to 60	-23 to 16	3	1.7	with 1 hp [0.7 kW] rated switch
	20 to 90	-7 to 32	3	1.7	with 1 hp [0.7 kW] rated switch
	70 to 140	21 to 60	2	1.1	—
	14 to 86	-10 to 30	3	1.7	—
	68 to 140	20 to 60	3	1.1	—
	35 to 100	2 to 38	2	1.1	—
	14 to 86	-10 to 30	3	1.7	with ground screw

<sup>a</sup>Interstage differential is adjustable from 0 F to 7 F [0 C to 4 C]. At 0 differential, both switches make at set point. With differential set above 0, speed change switch closes after fan switch, on temperature rise.

ELECTRICAL RATINGS (Amperes):

T631A,B

VOLTAGE (Vac)	24 <sup>a</sup>	120	240	WITH 1 hp SWITCH	
				120	240
Full Load	2.0	7.4	3.7	16.0	8.0
Locked Rotor	—	44.4	22.2	96.0	48.0

<sup>a</sup>24 Vac rating for T631B.

T631C

VOLTAGE (Vac)	24	120	240	277	WITH 1 hp SWITCH			
					R-B		R-W	
					120	240	120	240
Full Load	2.0	7.4	3.7	3.0	8	5.1	16	8
Locked Rotor	—	44.4	22.2	18.0	48	30.6	80	40
Resistive Load	—	10.0	5.0	—	—	—	—	—

# 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 beginning installation to prevent electrical shock and equipment damage.

## LOCATION

Locate the T631 controller about 5 ft [1.5 m] above the floor in an area with good air circulation and average temperature. The controller mounts on any flat surface or on switch box with screws through back of case. Do not locate T631 on an outside wall, or where the controller will be affected by drafts or radiant heat from the sun.

## MOUNTING ON FLAT SURFACE OR SWITCH BOX

1. Remove cover by unscrewing single screw in cover.
2. Remove appropriate knockout for wiring.
3. Attach controller to mounting surface or switch box.

NOTE: A wooden panel should be placed between the controller and the mounting surface if the surface is brick, metal, or concrete.

4. Run wires through the knockout and into the controller case.

## WIRING

Disconnect power supply before making wiring connections to avoid possible electrical shock or equipment damage. All wiring must agree with local codes and ordinances.

Refer to the wiring diagrams (Figs. 2-8) and to installation information furnished with the system equipment when wiring the T631.

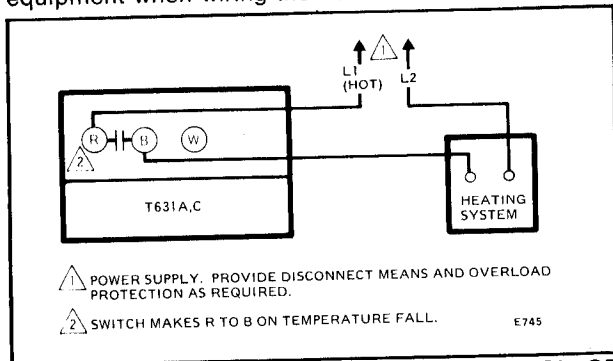


FIG. 2—T631A OR C HOOKUP FOR CONTROL OF HEATING SYSTEM.

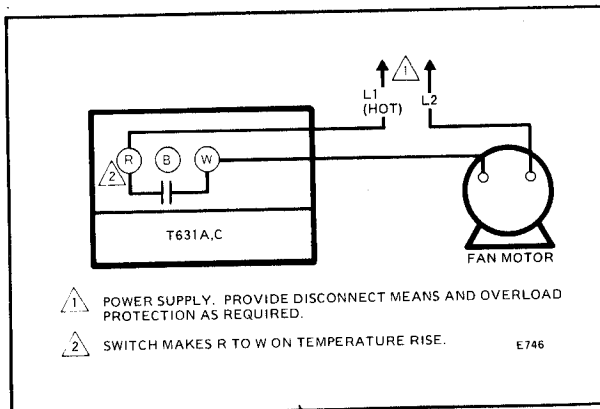


FIG. 3—T631A OR C HOOKUP FOR CONTROLLING FAN.

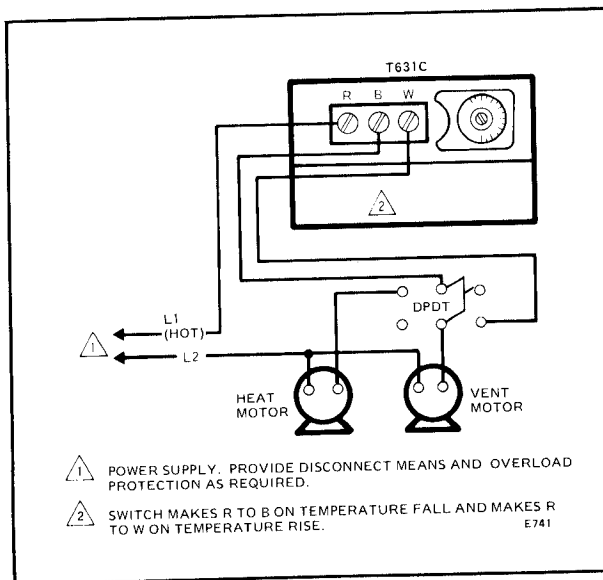


FIG. 4—T631C CONTROLLING HEATING AND VENTILATION.

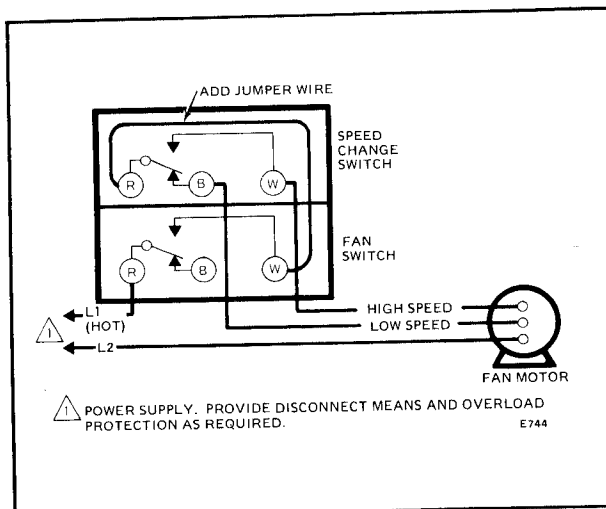
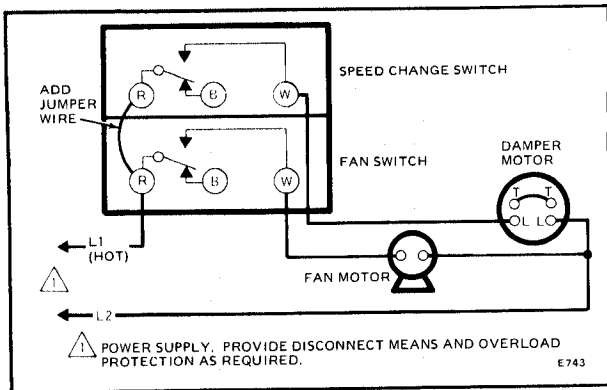
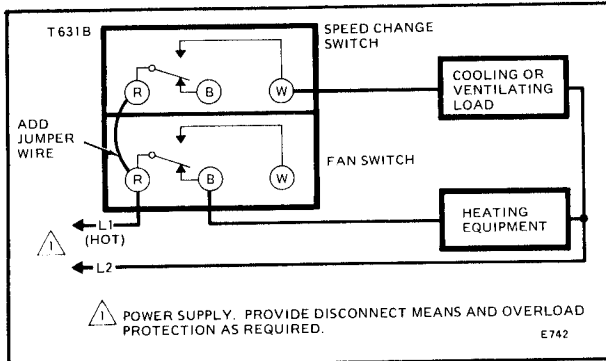


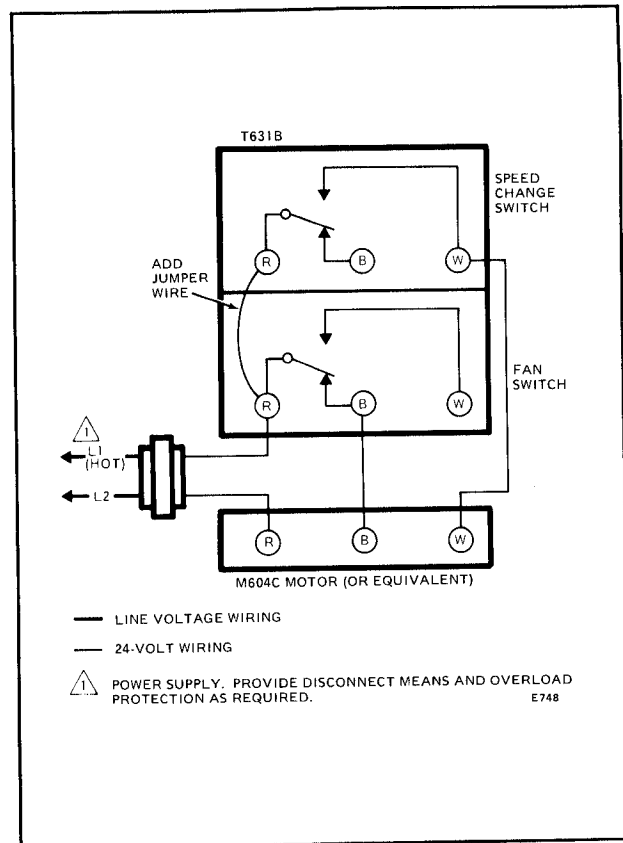
FIG. 5—TYPICAL HOOKUP OF T631B FOR CONTROLLING A 2-SPEED FAN.



**FIG. 6—T631B CONTROLLING SINGLE-SPEED FAN AND DAMPER MOTOR.**





**FIG. 7—TYPICAL T631B CONNECTIONS FOR HEATING AND COOLING (or ventilating) CONTROL.**



**FIG. 8—TYPICAL T631B CONNECTIONS FOR FLOATING CONTROL OF DAMPER MOTOR.**

## CHECKOUT

1. Turn on the power.
2. Turn the temperature adjusting knob and scale across the indicator and back again. See Fig. 9. The controlled equipment should switch on and off.

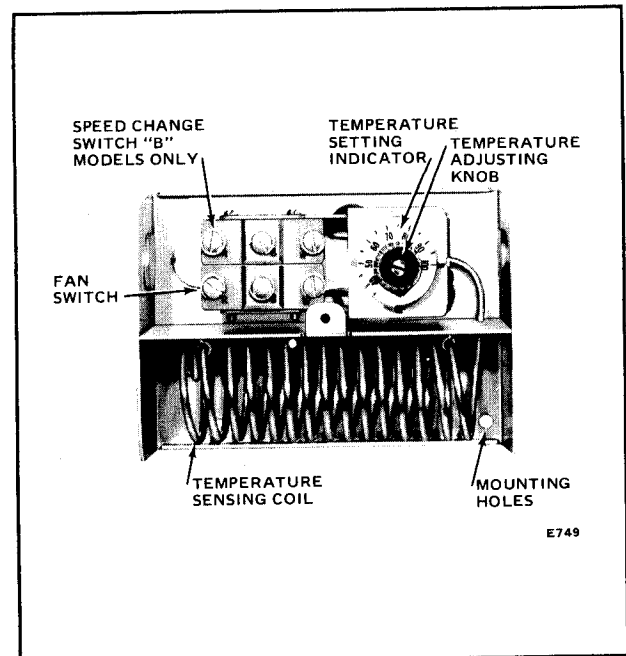
When wired for heating (R to B), turning the dial counterclockwise  to a higher setting simulates a space temperature drop and the heating equipment should come on. When the controller is wired for a cooling or ventilating application (R to W), turning the dial clockwise  to a lower setting simulates a rise in temperature and the cooling or ventilating equipment should come on.

3. If the controlled equipment does not start and stop as indicated in step 2, disconnect the power supply and check the wiring and terminal connections.

4. If the controlled equipment operates opposite to the sequence desired, shut off the power and check for reversed leads on the switch.

### IMPORTANT

If the T631 is mounted in an area where it is subjected to dust or other substances, clean periodically. Wipe the temperature sensing coil to maintain maximum air contact if the surrounding air contains oil or other adhesive substances.



**FIG. 9—T631B WITH COVER REMOVED. T631A AND C HAVE 3 WIRING TERMINALS ONLY.**

If questions arise regarding this product, contact your distributor or local Honeywell representative.

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