

## T7460A,B,C,D,E,F Wall Modules

**EXCEL**5000 OPEN™  
S Y S T E M

### SPECIFICATION DATA



### FEATURES

- Mountable on 2.36 in. (60 mm) wall outlet box or directly on a wall.
- Models with setpoint adjustment.
- Models with bypass (override) button and LED.
- Models with 3-position (auto/0/1) or 5-position (auto/0/1/2/3 speed) fan switch.
- Setpoint dials with Celsius relative or Celsius absolute scale.
- Locking cover on all models.
- Operating range 43 to 104°F (6 to 40°C).
- CE approved.
- IP 30 housing.

### GENERAL

The T7460A through F are a family of direct-wired wall modules for use with Honeywell Excel 10 W7750, W7751, W7752, W7753, W7761, W7762, W7763, and Excel 600, 500, 100, 80, 50, 20 Controllers. All models have a space temperature sensor; some models have setpoint adjustment, bypass button and LED, and fan switch.

The T7460B through F packages include two setpoint dials. By default, the "Celsius Relative" type (-5 to +5) is mounted, but can be easily replaced with the "Celsius Absolute" type (12 to 30°C).

### DESCRIPTION

The T7460A through F are a family of direct-wired wall modules for use with Honeywell Excel 10 W7750, W7751, W7752, W7753, W7761, W7762, W7763, and Excel 600, 500, 100, 80, 50, 20 Controllers. All models have a space temperature sensor; some models have setpoint adjustment, bypass button and LED, and fan switch.



## SPECIFICATIONS

### Models:

**Table 1. T7460 Wall Module models.**

Type no.	Setpoint adjustment	Bypass (override) button and LED	Fan switch 3- or 5-position	Compatible with
T7460A	—	—	—	W7750A,B, W7751B,D,F,H, W7752D,E,F,G, W7753A, W7761A, W7762A,B, W7763C,D,E, and Excel 600, 500, 100, 80, 50, 20
T7460B	12 to 30°C (absolute) ± 5 K (relative)	—	—	W7750A,B, W7751B,D,F,H, W7752D,E,F,G, W7753A, W7762B, W7763E, and Excel 600, 500, 100, 80, 50, 20
T7460C	12 to 30°C (absolute) ± 5 K (relative)	✓	—	W7750A,B, W7751B,D,F,H, W7752D,E,F,G, W7753A, W7762A,B, W7763D,E, and Excel 600, 500, 100, 80, 50, 20
T7460D	12 to 30°C (absolute) ± 5 K (relative)	—	5	W7752D,E,F,G, W7753A, and Excel 600, 500, 100, 80, 50, 20
T7460E	12 to 30°C (absolute) ± 5 K (relative)	✓	3	W7750A,B, W7752D,E,F,G, W7753A, and Excel 600, 500, 100, 80, 50, 20
T7460F	12 to 30°C (absolute) ± 5 K (relative)	✓	5	W7752D,E,F,G, W7753A, and Excel 600, 500, 100, 80, 50, 20

**NOTE:** Not all of the T7460 Wall Modules are compatible with W7751A,C,E,G(VAV1) and W7752D1(FCU1) controllers.

**NOTE:** Refer to T7460A through F Installation Instructions, 95-7610, for wall module settings and wiring diagrams. Some T7460 features may not be available with all controllers (see Table 1).

### Construction:

Two-piece construction, a cover and an internally wired subbase. Field wiring 16 to 22 AWG (1.5 to 0.34 mm<sup>2</sup>) connects to a terminal block on the PCB.

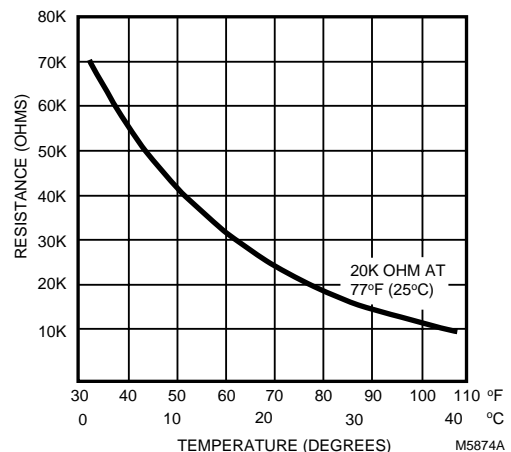
### Temperature Sensor Operating Range:

43 to 104°F (6 to 40°C).

### Temperature Sensor Accuracy

#### T7460A-F 20k ohm Sensor:

All T7460 models are furnished with a 20k ohm NTC temperature sensor that follows a specific temperature-resistance curve. See Fig. 1. Honeywell controllers used with the T7460 employ an algorithm that provides readings close to the actual temperature. Table 2 summarizes the T7460 sensor accuracy for normal operating temperatures. Throughout the range of 43 to 104°F (6 to 40°C), the accuracy is better than ± 0.75°F (±0.42°C).



**Fig. 1. Temperature vs. resistance for 20k ohm sensor.**

**Table 2. Temperature sensor accuracy.**

Ambient temperature °F (°C)	Max. error °F (°C)	Min. error °F (°C)	Nom. resistance (ohms)
60 (15.5)	±0.52 (±0.29)	0 (0)	31543
65 (18.3)	±0.49 (±0.27)	0 (0)	27511
70 (21.1)	±0.48 (±0.27)	0 (0)	24047
80 (26.7)	±0.49 (±0.27)	0 (0)	18490
85 (29.5)	±0.52 (±0.29)	0 (0)	16264

**T7460B,C,D,E,F Setpoint Adjustment:**

For wall modules with a setpoint adjustment, depending on the type of setpoint dial in use, the controller must be set for either the relative or the absolute scale. The relation between setpoint and resistance is given in Table 3. Accuracy of resistance is:

- $\pm 5\%$  in middle position, e.g. 5225 ohms to 5775 ohms
- $\pm 10\%$  in end position, e.g. 9450 ohms to 11550 ohms.

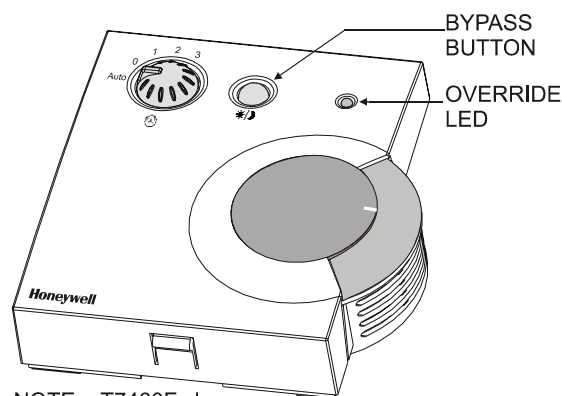
**Table 3. Setpoint values versus resistances.**

Setpoint rel./Kelvin	R Nominal (ohms)	Setpoint absol./°C	R Nominal (ohms)
-5	9574.0	12	9958.0
-4	8759.2	13	9468.7
-3	7944.4	14	8979.3
-2	7129.6	15	8490.0
-1	6314.8	16	8000.7
0	5500.0	17	7511.3
1	4685.2	18	7022.0
2	3870.4	19	6532.7
3	3055.6	20	6043.3
4	2240.8	21	5554.0
5	1426.0	22	5064.7
=814 ohms/Kelvin		23	4575.3
		24	4086.0
		25	3596.7
		26	3107.3
		27	2618.0
		28	2128.7
		29	1639.3
		30	1150.0
		=489.3 ohms/°C	

## T7460C,E,F Wall Module Bypass (Override)/LED Operation

**When Used With Excel 10 Controllers:**

The controller provides timed occupied and unoccupied temperature setpoints for the wall module, see Fig. 2. The bypass button is used to change the controller into the modes shown in Table 4 and Fig. 3. The override LED displays the override status of the controller.



NOTE: T7460F shown.  
T7460C has no fan switch,  
T7460E has 3-position fan switch.

**Fig. 2. LED and bypass button locations on T7460C,E,F.****Table 4. Bypass button/LED operation.**

1 <sup>b</sup> Button held down	Controller mode	LED status
0 to 1 second	No override.	Off
1 to 4 seconds	Timed occupied override.	On
4 to 7 seconds	Unoccupied override.	Single blink per second
Longer than 7 seconds	No override.	Off
—	Continuous occupied override <sup>a</sup> .	Two blinks per second
—	Wink from network <sup>a</sup> .	Four blinks per second
2 <sup>b</sup> Controller mode independent of bypass button		
Effective occupied/Effective bypass		On
Effective Standby		Single blink per second
Effective unoccupied		Off
Wink from network		Four blinks per second

<sup>a</sup>Remote function. Generated from the network.

<sup>b</sup>1=Controller configured for indicating override;

2=Controller configured for indicating occupancy

**When Used With Excel 600/500/100/80/50/20 Controllers:**

All Excel 600/500/100/80/50/20 Controllers are fully programmable. The application engineer-programmer can program the override and LED to operate in any manner desired. The bypass (override) input is a dry contact, normally open, momentary digital input when the wall module does not have a fan switch. When a fan speed switch (basically a series of resistances based on fan switch position) is present, the bypass button is an analog input. See the Table 5 for those resistances.

A software module (XFM) is available to adapt the wall module to the respective controller, making any further configuring obsolete.

Contact your local Honeywell distributor for further details.

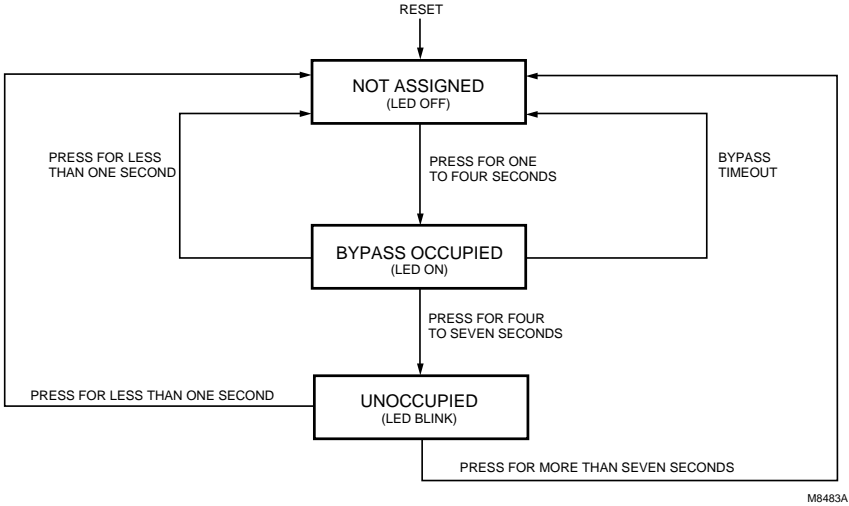
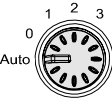
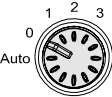
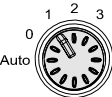
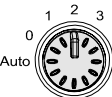
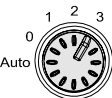


Fig. 3. Bypass button operation (with Excel 10 Controllers).

T7460D,E,F WALL MODULE FAN SWITCH

**When Used With Excel 10 FCU Controller:**  
The T7460D,F have a 5-position fan switch (Auto, 0, 1, 2, 3); the T7460E has a 3-position fan switch (Auto, 0, 1).

-  Fan runs automatically at the speed determined by the controller's temperature control algorithm.
-  Fan is continuously off.
-  Fan is continuously running at speed 1.
-  Fan is continuously running at speed 2. (Not available with T7460E).
-  Fan is continuously running at speed 3. (Not available with T7460E).

**NOTE:** The fan speed switch on the wall module overrides the temperature control algorithm.

**When Used With Excel 600/500/100/80/50/20 Controllers:**  
All the Excel 600/500/100/80/50/20 Controllers are fully programmable and can be programmed so that the fan speed switch and bypass button function the way that the application engineer/programmer wants. The resistances used for programming the controller are shown in Table 5. A software module (XFM) is available to adapt the wall module to the respective controller, making any further configuring obsolete. Contact your local Honeywell distributor for further details.

Table 5. Program settings for wall modules with fan switch.

For switch position	Resistance (ohms)
Auto	1861.4 ±100
0	2686.4 ±100
1	3866.4 ±100
2	3041.4 ±100
3	4601.4 ±100
Bypass button closed	0 to 100

**NOTE:** An additional 10k ohm (±2%) series resistor can be set by jumper (jumper setting: A=1; B=3). See T7460 Installation Instructions, form 95-7610 for jumper settings.

**Mounting Options:**  
The T7460 can be mounted on a 60 mm diameter junction box or directly on a wall.

**Dimensions (H/W/D):**  
4-1/8 x 3-15/16 x 1-3/16 in. (104 x 99 x 30 mm).

**Environmental Ratings:**  
Operating Temperature: 43° to 104°F (6° to 40°C).  
Shipping Temperature: -40° to 150°F (-40° to 65°C).

**Relative Humidity:**  
5% to 95% non-condensing.

**Approvals:**  
CE.

## ACCESSORIES

For mounting the following accessories, please refer to the installation instructions, form 95-7610.

### T7460-LONJACK

The T7460-LONJACK is a small board and allows to easily access LONWORKS via the wall module. Via an additional 3.5 mm jack plug on the board, a PC connection can be established.

Order quantity: set of 5 pieces

### T7460-LIMITER

The T7460-LIMITER can be used to adjust the setpoint dial to particular setpoints.

Order quantity: set of 100 pieces

**Honeywell**

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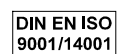
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