T7460A,B,C,D,E,F
WALL MODULES

HONEYWELL EXCEL 5000 OPEN SYSTEM

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…104 °F (6…40 °C).**
- **CE-approved.**
- **IP 30 housing.**

GENERAL

The T7460A,B,C,D,E,F are a family of direct-wired wall modules for use with Honeywell Excel 10 (W7750, W7751, W7752, W7753, W7754, W7761, W7762, and W7763) controllers, Excel 12 (W7704) controllers, Smart I/O (XFC) modules, CPO-FB22344R FCU controllers, and Excel 800, 600, 500, 100, 50, and 20 controllers. All models have a space temperature sensor; some models have setpoint adjustment, bypass button and LED, and fan switch.

The T7460A,B,C,D,E,F packages include two setpoint dials. By default, the "Celsius Relative" type (-5 … +5) is mounted, but can be easily replaced with the "Celsius Absolute" type (12…30°C).

EN0B-0236GE51 R1015

SPECIFICATIONS

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, W7754, W7761A, W7762A,B, W7763C,D,E, W7704, XFC2xxxx/XFC3xxxx, CPO-FB22344R-xxx, and Excel 800, 600, 500, 100, 50, 20
T7460B	12…30 °C (absolute) ± 5 K (relative)	--	--	W7750A,B, W7751B,D,F,H, W7752D,E,F,G, W7753A, W7754, W7762B, W7763E, W7704, XFC2xxxx/XFC3xxxx, CPO-FB22344R-xxx, and Excel 800, 600, 500, 100, 50, 20
T7460C		✓	--	W7750A,B, W7751B,D,F,H, W7752D,E,F,G, W7753A, W7754, W7762A,B, W7763D,E, W7704, XFC2xxxx/XFC3xxxx, CPO-FB22344R-xxx, and Excel 800, 600, 500, 100, 50, 20
T7460D		--	5	W7752D,E,F,G, W7753A, W7754, CPO-FB22344R-xxx, and Excel 800, 600, 500, 100, 50, 20
T7460E		✓	3	W7750A,B, W7752D,E,F,G, W7753A, W7754, CPO-FB22344R-xxx, and Excel 800, 600, 500, 100, 50, 20
T7460F		✓	5	W7752D,E,F,G, W7753A, W7754, CPO-FB22344R-xxx, and Excel 800, 600, 500, 100, 50, 20

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

NOTE: In conjunction with T746D,E,F Wall Modules, CPO-FB22344R-xxx FCU controllers support either setpoint or fan speed adjustment.

NOTE: When used with Smart I/O modules:
1. XFC Smart I/O do not support fan-speed adjustment.
2. For specific CARE application engineering, please refer to the TAC FAQ (http://xl5kfaq.ge51.honeywell.de/)

NOTE: Refer to T7460A,B,C,D,E,F Installation Instructions (product literature no.: EN1B-0291GE51) for wall module settings and wiring diagrams.

Construction

Two-piece construction: cover and internally wired subbase. Field wiring 16 to 22 AWG (1.5 to 0.34 mm^2) connects to a terminal block on the PCB.

Temperature Sensor Operating Range

43…104 °F (6…40 °C).

T7460A,B,C,D,E,F 20kΩ Sensor

All T7460 models are furnished with an NTC 20kΩ temperature sensor following 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…104 °F (6…40 °C), the accuracy is better than ±0.75 °F (±0.42 °C).

Table 2. Temperature sensor accuracy

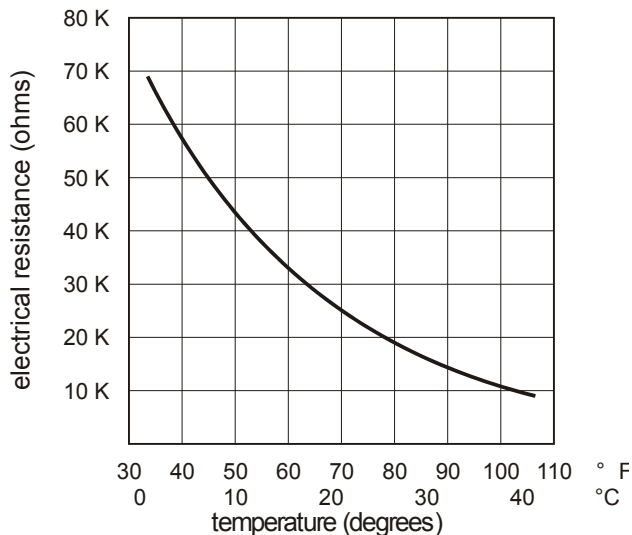| ambient temp. °F (°C)	max. error °F (°C)	nom. resistance (Ω)
60 (15.5)	±0.52 (±0.29)	31543
65 (18.3)	±0.49 (±0.27)	27511
70 (21.1)	±0.48 (±0.27)	24047
80 (26.7)	±0.49 (±0.27)	18490
85 (29.5)	±0.52 (±0.29)	16264

Fig. 1. Temperature vs. resistance for 20kΩ sensor

T7460B,C,D,E,F Setpoint Adjustment

In the case of wall modules equipped with 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:

- For the relative setpoint scale: better than 0.5 K at a setpoint difference of "0";

- For the absolute setpoint scale: better than 0.8 K at a setpoint of 21 °C.

Table 3. Setpoint values versus resistances

relative scale (Kelvin)			absolute scale (°C)	
setpoint	nominal resistance (Ω)		setpoint	nominal resistance (Ω)
-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
			23	4575.3
			24	4086.0
			25	3596.7
			26	3107.3
			27	2618.0
			28	2128.7
			29	1639.3
			30	1150.0

T7460C,E,F Bypass Button / LED
When Used With Excel 10/12 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 effective modes shown in Table 4 and Table 5.
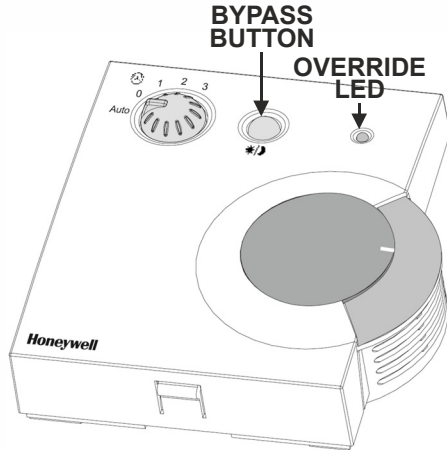
NOTE: T7460F shown.
T7460C has no fan switch.
T7460E has a 3-position fan switch.

Fig. 2. LED and bypass button locations on T7460C,E,F

Table 4. Bypass button / LED behaviors (Excel 10/12)

1[b] button pressed	eff. controller mode	override LED behavior
0…1 sec	no override	OFF
1…4 sec	timed occ. override	ON
4…7 sec	unocc. override	blinking (1 Hz)
>7 sec	no override	OFF
--	contin. occ. override[a]	blinking (2 Hz)
--	wink from network[a]	blinking (4 Hz)
2[b] controller mode independent of bypass button		**LED status**
effective occupied / effective bypass		ON
effective standby		blinking (1 Hz)
effective unoccupied		OFF
wink from network		blinking (4 Hz)
[a]Remote function. Generated from the network. [b]1=Controller configured for indicating override; 2=Controller configured for indicating occupancy		

Table 5. Bypass button / LED behaviors (CPO-Rxxx)

LED configuration: override mode			
current eff. occ. mode of contr.	bypass button pressed	override LED behavior	new eff. occ. mode of controller
occupied	2 sec	OFF → blinking (1 Hz)	unocc. mode (until scheduler changes to unocc. mode or button is pressed for 2 sec)
occupied	4 sec	OFF → blinking (1 Hz)	holiday mode (until button is pressed for 2 sec)
standby	2 sec	OFF → ON	bypass mode (until bypass time expires or scheduler changes to occ. mode or button is pressed for 2 sec)
unoccupied	2 sec	OFF → ON	bypass mode (until bypass time expires or scheduler changes to occ. mode or button is pressed for 2 sec)
LED configuration: occupancy mode			
current eff. occ. mode of contr.	bypass button pressed	override LED behavior	new eff. occ. mode of controller
occupied	2 sec	ON → OFF	unocc. mode (until scheduler changes to unocc. mode or button is pressed for 2 sec)
occupied	4 sec	ON → OFF	holiday mode (until button is pressed for 2 sec)
standby	2 sec	blinking (1 Hz) → ON	bypass mode (until bypass time expires or scheduler changes to occ. mode or button is pressed for 2 sec)
unoccupied	2 sec	OFF → ON	bypass mode (until bypass time expires or scheduler changes to occ. mode or button is pressed for 2 sec)

When Used With Excel 800/600/500/100/50/20 Controllers

All Excel 800, 600, 500, 100, 50, and 20 Controllers are fully programmable. The application engineer-programmer can program the override and LED to operate in any manner desired. In the case of wall modules not equipped with a fan switch, the bypass (override) input is a dry-contact, normally-open, momentary digital input. In the case of wall modules equipped with a fan speed switch (basically a series of resistances based on fan switch position), the bypass button is an analog input. See Table 6 for those resistances.

Every controller includes a software module (XFM GNRSC) enabling you to adapt the wall module to the respective controller, making further configuring unnecessary.
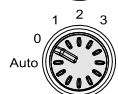
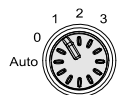Contact your local Honeywell distributor for further details.
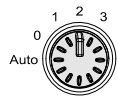
T7460D,E,F Fan Switch
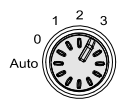### When Used With Excel 10 FCU Controller

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 wall module's fan speed switch overrides the temperature control algorithm.

When Used With Excel 800/600/500/100/50/20 Controllers

All the Excel 800, 600, 500, 100, 50, and 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 6.

Every controller includes a software module (XFM GNRSC) enabling you to adapt the wall module to the respective controller, making further configuring unnecessary.

Contact your local Honeywell distributor for further details.

Table 6. Program settings for wall modules with fan switch

for switch position	resistance (Ω)
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 10kΩ (±2%) series resistor can be set by jumper (jumper setting: A=1; B=3). See T7460A,B,C,D,E,F Installation Instructions (product literature no.: EN1B-0291GE51) 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.

Housing Color
White (RAL 9016)

ACCESSORIES

For mounting the following accessories, see
T7460A,B,C,D,E,F Installation Instructions (product literature
no.: EN1B-0291GE51).

T7460-LONJACK

The T7460-LONJACK is a small board and allows easy
access to LONWORKS or BACnet via the correspondingly
wired wall module (apply appropriate wiring guidelines for
LONWORKS or BACnet networks, as the case may be). The
T7460-LONJACK provides an additional 3.5 mm jack socket
for a 3.5 mm jack plug.

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