

T7460A,B,C,D,E,F

WALL MODULES

HONEYWELL EXCEL 5000 OPEN SYSTEM

SPECIFICATION DATA



FEATURES

- Mountable on 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 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).

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		--	--	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	12...30 °C (abs.)	✓	--	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 K (rel.)	--	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://x15kfaq.ge51.honeywell.de/>)

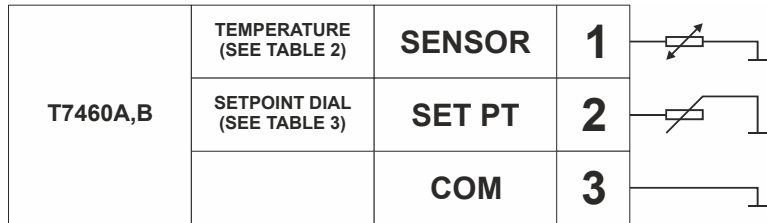


Fig. 1. Wiring of T7460A,B

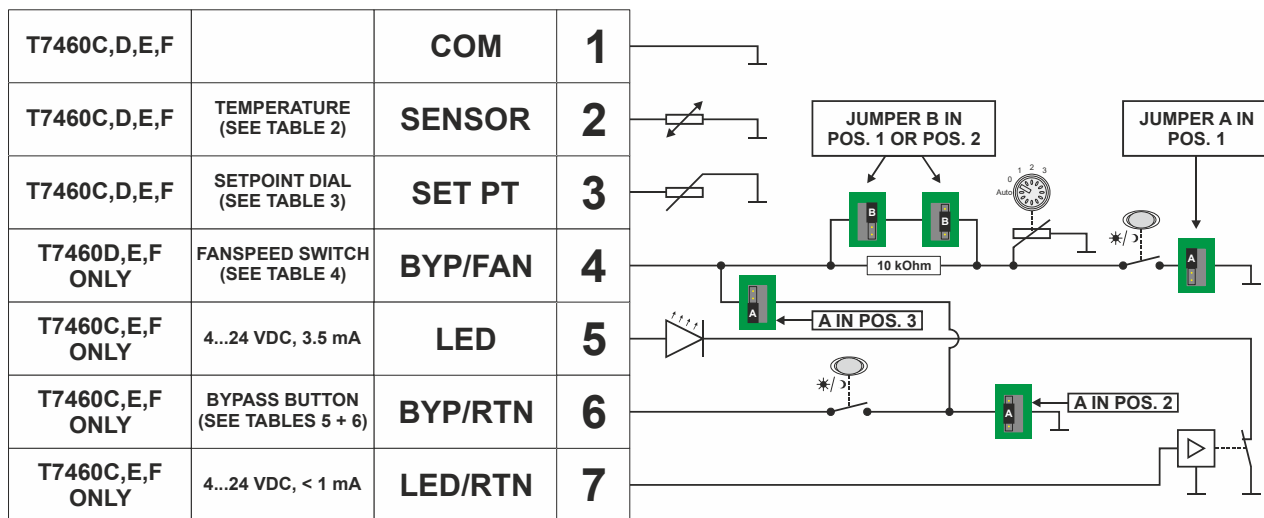


Fig. 2. Wiring of T7460C,D,E,F

Construction

Two-piece construction: cover and internally wired subbase. Field wiring 1.5 to 0.34 mm² connects to a terminal block on the PCB.

Temperature Sensor Operating Range

+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. 3. 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 +6...40 °C, the accuracy is better than ±0.42 °C.

Table 2. Temperature sensor accuracy

ambient temp. °C	max. error °C	nom. resistance (Ω)
15.5	±0.29	31543
18.3	±0.27	27511
21.1	±0.27	24047
26.7	±0.27	18490
29.5	±0.29	16264

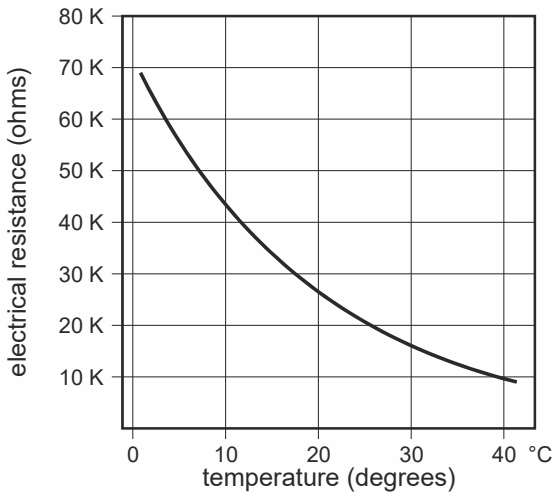


Fig. 3. Temperature vs. resistance for 20kΩ sensor

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

LED, Bypass Button, and Fan Switch

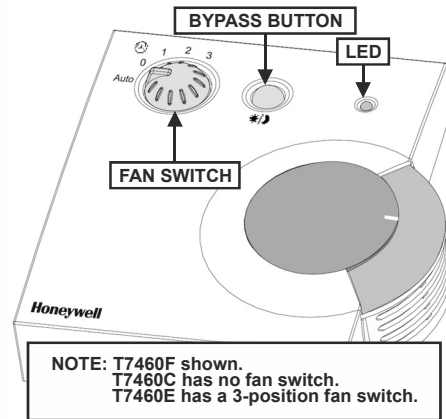


Fig. 4. LED, bypass button, and fan switch locations

Table 4. Program settings for wall modules with fan switch

for fan switch position	resistance (Ω)
Auto	1861.4 ±100
0	2686.4 ±100
1	3866.4 ±100
2	3041.4 ±100
3	4601.4 ±100
Regardless of fan switch position, but with bypass button pressed (jumper A in position 1)	0 to 100

NOTE: An additional 10kΩ (±2%) series resistor can be set by jumper (jumper setting: B = 3).

LED

The T7460C,E, and F feature an LED.

This LED is controlled to a current consumption of 3.5 mA. It can be supplied with power (4...24 VDC or max. 18 VAC) via terminal 5 (LED).

If terminal 5 (LED) is then connected to terminal 7 (LED/RTN), the LED will be switched OFF (the current necessary to keep it switched OFF is < 1 mA).

NOTE: This feature (connection of terminals 5 and 7) can be employed if a 10 V reference voltage is used to power the LED and to switch (i.e., control the state of) the LED via a low-powered analog output. Typical Honeywell analog output modules have sufficient capacity to power the LED directly via terminal 7.

Jumpers A and B have no influence on the LED.

Bypass Button

The T7460C,E, and F feature a bypass button.

This bypass button is a normally-open (N.O.) contact. It can be configured by setting jumper A (see Fig. 5).

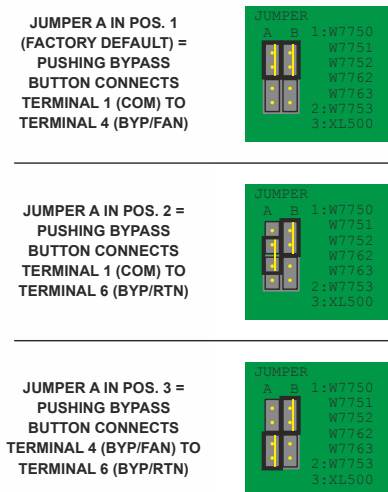


Fig. 5. Configuration of bypass button using jumper A

Fan Switch

The T7460D,E, and F feature a fan switch.

The fan switch can be configured by setting jumper B (see Fig. 6).



Fig. 6. Configuration of fan switch using jumper B

LED and Bypass Button in Conjunction with Excel 10/12 Controllers

The controller provides timed occupied and unoccupied temperature setpoints for the wall module, see Fig. 4. The bypass button is used to change the controller into the effective modes shown in Table 5 and Table 6.

Table 5. Bypass button / LED behaviors (Excel 10/12)

1 ^b button pressed	eff. controller mode	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)

^aRemote function. Generated from the network.
^b1=Controller configured for indicating override;
 2=Controller configured for indicating occupancy

LED and Bypass Button in Conjunction with CPO-Rxxx Controllers

Table 6. Bypass button / LED behaviors (CPO-Rxxx)

LED configuration: override mode			
current eff. occ. mode of contr.	bypass button pressed	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	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)

LED and Bypass Button in Conjunction with Excel 800/600/500/100/50/20 Controllers

All Excel 800, 600, 500, 100, 50, and 20 Controllers can be programmed so that the override and LED function in any desired manner.

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 4 for resistances.

The controllers include a software module (XFM "GNRSC") enabling you to adapt the wall module to the respective controller, making further configuring unnecessary.

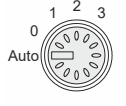
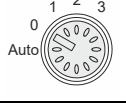
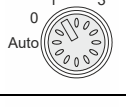
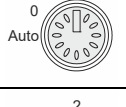
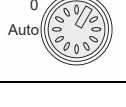
NOTE: The above applies also to the fan switch in conjunction with HAWK 800 and XL Web controllers, which include a corresponding software module (Macro "RSC_T7460", palette "clHVACGeneral", module "RSC_T7460").

Contact your local Honeywell distributor for further details.

Fan Switch in Conjunction 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).

Table 7. Switch settings and resultant fan behavior

Switch setting	Fan behavior
	Fan runs automatically at the speed determined by the controller's temperature control algorithm.
	Fan is continuously OFF.
	Fan runs continuously at speed 1.
	Fan runs continuously at speed 2. (Not available with T7460E).
	Fan runs continuously at speed 3. (Not available with T7460E).

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

Fan Switch in Conjunction with Excel 800/600/500/100/50/20 Controllers

All the Excel 800, 600, 500, 100, 50, and 20 controllers can be programmed so that the fan switch and bypass button function in any desired manner.

See Table 4 for resistances.

The controllers include a software module (XFM "GNRSC") enabling you to adapt the wall module to the respective controller, making further configuring unnecessary.

NOTE: The above applies also to the fan switch in conjunction with HAWK 800 and XL Web controllers, which include a corresponding software module (Macro "RSC_T7460", palette "clHVACGeneral", module "RSC_T7460").

Contact your local Honeywell distributor for further details.

Mounting Options

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

Dimensions (H/W/D)

104 x 99 x 30 mm.

Environmental Ratings

Operating temperature: +6 to 40 °C.

Shipping temperature: -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

SPARE PARTS

WMSPS-1 (blue), WMSPS-2 (white)

Blind cover for setpoint dial. For the T7460A, only.

Order quantity: set of 25 pieces

WMSPS-3 (blue), WMSPS-4 (white)

Round knob.

Order quantity: set of 25 pieces

WMSPS-8 (± 5 K), WMSPS-9 (standard bypack set)

Setpoint dials.

Order quantity: set of 10 pieces

WMSPS-10 (fanspeed knob), WMSPS-11 (occupancy button)

Order quantity: set of 50 pieces



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