

T7560A,B,C Digital Wall Module

HONEYWELL EXCEL 5000 OPEN SYSTEM

INSTALLATION INSTRUCTIONS

BEFORE INSTALLATION

All wiring must comply with local electrical codes and ordinances or as specified on installation wiring diagrams.

Digital Wall Module (DWM) wiring can be sized from 16 to 22 AWG (1.5 to 0.34 mm²), depending on the application. The max. length of wire from a device to a DWM is 164 ft (50 m). Twisted pair wire is recommended for wire runs longer than 100 ft (30.5 m).

⚠ CAUTION

EMI Noise Introduction.

Risk of erratic system operation.

Keep wiring at least one ft (305 mm) away from large inductive loads such as motors, line starters, lighting ballasts and large power distribution panels. During installations, try to avoid areas of high EMI noise.

Run DWM wiring separately from 50 Vac or greater power wiring.

⚠ WARNING / CAUTION

Risk of electric shock or equipment damage!

- ▶ Do not touch any live parts inside the DWM housing.
- ▶ Disconnect the power supply before making connections to or removing connections from the DWM's terminals.
- ▶ Do not reconnect the power supply until you have completed the installation.
- ▶ If the DWM is powered via terminal 8 and connected to earth ground, then the cable must be shielded.

- ▶ Observe precautions for handling electrostatic sensitive devices.



Table 1. Types of DWM

	sensor ¹	setpoint	bypass	fan override
T7560A	Tmp	wheel	button	button
T7560B	Tmp/Hum	wheel	button	button
T7560C	Tmp/Hum	-	-	-

¹Tmp = Temperature sensor; Hum = Humidity sensor

Table 2. Controller SW requirements for powering via terminal 5 and new LCD signaling

VAV W7751H	Fan Coil Unit W7752 W7754		Hydronic W7762	Chilled Ceiling W7763
1.02.15	1.00.04	1.00.02	1.00.03	1.00.03

NOTE: A software module (ModAL module GNRSC02A) is available to adapt the DWM to the respective Excel 20, 50, 100, 500, 600, or 800 controller, making any further configuring obsolete. Contact your local Honeywell distributor for further details.

DWM DISASSEMBLY

The T7560A,B,C comes packed with a sub-base that mounts separately for ease of installation. The cover is fixed by a latch on the underside of the unit. Remove the cover as shown in Fig. 1 (T7560A,B) or Fig. 2 (T7560C):

1. Insert the tip of an awl or a similar narrow, pointed object into the small hole in the latch (T7560A,B) or simply depress the latch by hand (T7560C).
2. Pry off the cover.

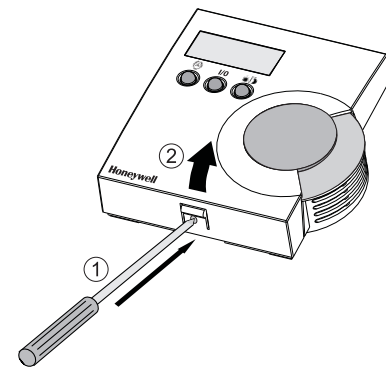


Fig. 1. DWM disassembly (T7560A,B)

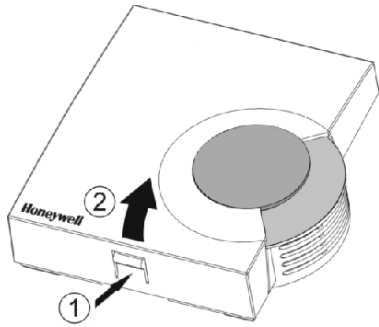


Fig. 2. DWM disassembly (T7560C)

INSTALLATION

Mount the DWM on an inside wall approximately 54 in. (1.3 m) from the floor (or as specified on the installation drawings) to allow exposure to the average zone temperature. Do not mount the DWM on an outside wall, on a wall containing water pipes or near air ducts. Avoid locations that are exposed to discharge air from registers or radiation from lights, appliances, or the sun.

The DWM is furnished with a terminal block; all field wiring connections are made to these eight terminals.

The DWM must be mounted in vertical position with the LCD display to the top.

Mount the subbase directly on a wall (see Fig. 3) using the type of screws appropriate for the wall material.

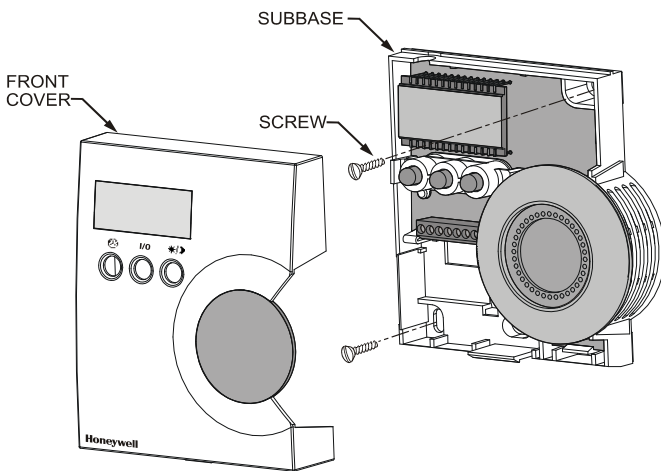


Fig. 3. Mounting of DWM (T7560A,B shown)

See Fig. 6 for T7560A,B,C mounting dimensions.

WIRING

Wire the terminal blocks as follows:

1. Strip 3/16 in. (5 mm) of insulation from the conductor.
2. Insert the wire in the required terminal location and tighten the screw to complete the termination.

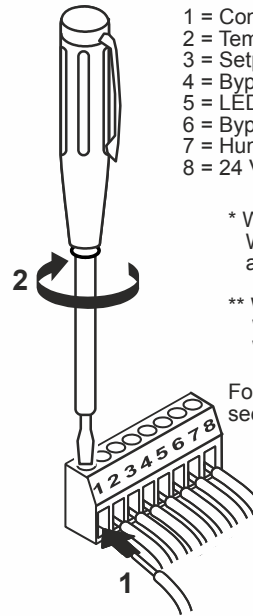
IMPORTANT

Deviation from this rule can result in improper electrical contact. See Fig. 4.

3. Verify DWM is wired according to Fig. 4.

NOTE: For specific wiring requirements, see section “Power” below.

Terminals



- 1 = Common
- 2 = Temperature sensor
- 3 = Setpoint (T7560C: Do not connect!)
- 4 = Bypass/fan* (T7560C: Do not connect!)
- 5 = LED input (T7560C: Do not connect!)
- 6 = Bypass** (T7560C: Do not connect!)
- 7 = Humidity output
- 8 = 24 Vac/dc input

* With Excel 10 Controllers:
W7750 (CVAHU), W7752 (FCU),
and XL12

** With Excel 10 Controllers:
W7751H (VAV), W7762 (HYD), and
W7763 (CHC)

For W7753 (UV) and W7761 (RIO),
see **NOTE** below.

Fig. 4. Wiring of DWM

NOTE: If connected to the W7753 (UV) Controller, both terminals 4 and 6 must be connected.

NOTE: The W7761 Remote I/O Controller supports only terminals 2 (temperature), 7 (humidity), and 1 (common), as well as terminal 8 as voltage supply.

NOTE: Wiring with terminal 8 is not necessary if:
a) an FCU or CHC controller with software is connected (see Table 2); or
b) an Excel 500 with 6V/8V/10V signaling from the controller is used.
The T7560A must then be powered by terminal 5.

Power

The DWM can be powered as follows:

T7560A

Preferably via the 5 V LED input (terminal 5); via terminal 8 is also possible.

T7560B,C

Via the 24 Vac/dc input (terminal 8).

IMPORTANT

In the case of those controllers listed in Table 2, the DWM can be powered only via terminal 5, and only if a SW version listed in Table 2 or higher is installed. If the DWM is powered via terminal 5, the Excel 10 controller must be configured for LCD_DISPLAY (LED output continuously ON).

NOTE: The 24 Vac power supply is needed only with the T7560B,C DWM (for the humidity sensor). Alternatively, a DC voltage source with 5...15 V can be connected to terminal 5 (see **IMPORTANT** note above). Alternatively, a DC voltage source with 18...27 V (e.g., 22 Vdc from W7750 CVAHU) can be connected to terminal 8.

Input Ratings

Terminal 5

- min. 5 Vdc, I_{max} 3 mA,
- max. 15 Vdc, I_{max} 4 mA, or
- the LED output of any Excel 10 controller

Terminal 8

24 Vac from controller, $I_{MAX} < 6$ mA, with a valid range of 18 V ($I_{MAX} < 2.4$ mA) to 27 V ($I_{MAX} < 10$ mA).

Controllers with the following output ratings can be connected to terminal 5 (ratings are met by all Excel 10 controllers):

- 5 V with 389 Ω
- 4.3 V with 100 Ω
- 14.3 V with 1.5k Ω

Use up to 16 AWG (1.5 mm²) with a minimum of 18 AWG (1.0 mm²) wire for connecting 24 Vac power to terminal 8.

CAUTION

Low Voltage Equipment.

Risk of equipment damage.

The 24 Vac power source for the DWM must be a Class II Power Source. To conform to Class II restrictions, transformers must not be larger than 100 VA. A transformer that is CE certified and meets the Low Voltage Device (LVD) requirements must be used in Europe for all installations of this product.

The DWM power usage is < 0.2 VA at 24 Vac. The DWM does not require a dedicated transformer. The DWM can get power from any convenient location in the 24 Vac power circuit.

The 24 Vac power can come from the 24 Vac power terminals on the nearest controller or directly from a 24 Vac transformer, whichever is closer.

When all wiring is complete, attach the cover of the DWM as is shown in Fig. 5.

NOTE: Make sure that the latch on the underside of the DWM engages properly and – in the case of the T7560A,B – that the three control buttons protrude through the holes completely.

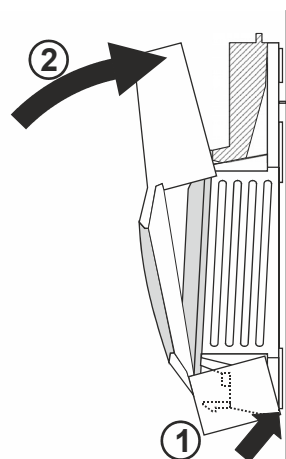


Fig. 5. Mounting cover of T7560A,B DWM

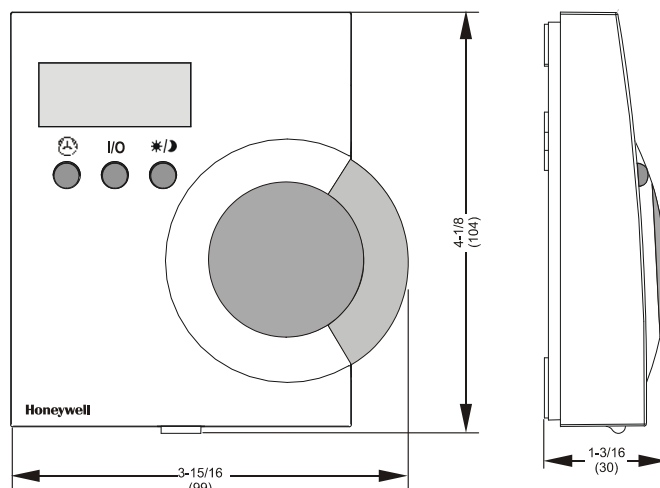
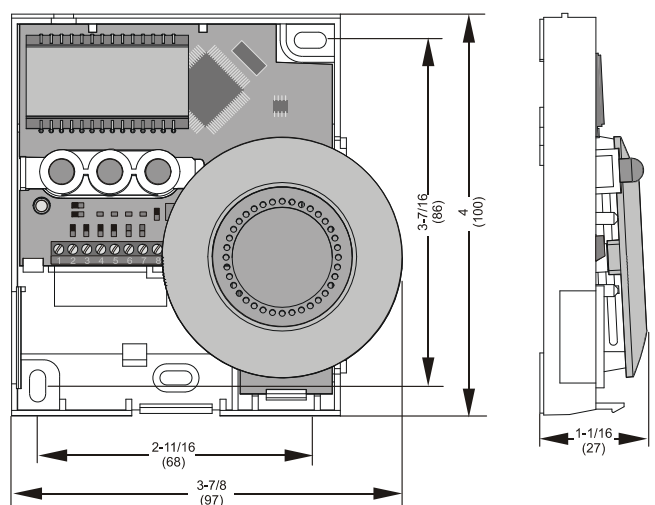


Fig. 6. DWM dimensions in inches (mm)

CONFIGURATION (T7560A,B)

After installation, the T7560A,B DWM must be configured in order to perform as desired. This is done by using the buttons and the setpoint wheel (see Fig. 7).

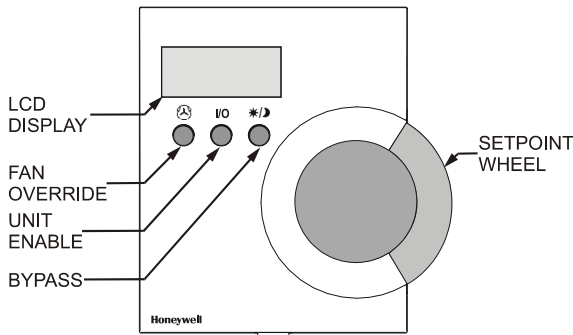


Fig. 7. Control elements of T7560A,B DWM

NORMAL OPERATING MODE

After the DWM is powered up by the controller, it will display the room temperature and will operate as configured by default. In the following, the respective default setting is marked with an asterisk (*).

After power-up, all display segments are switched on for approx. one second (see Fig. 8).

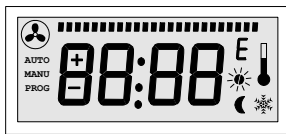


Fig. 8. Display of all segments after power-up

ENTERING CONFIGURATION MODE

1. Press FAN OVERRIDE for at least 5 seconds.
2. Press UNIT ENABLE, then release FAN OVERRIDE, hold UNIT ENABLE for at least 5 seconds.
3. Release UNIT ENABLE.
RESULT: The display shows P--- and the DWM is ready for configuration (see below).
4. Press and hold FAN OVERRIDE while turning the setpoint wheel to select the parameter number.
RESULT: The parameters with their currently set values are displayed; the ≡ behind the value indicates the currently set value (see below for values).
5. Release FAN OVERRIDE and turn the setpoint wheel to select the parameter value.
6. Confirm selection by pressing UNIT ENABLE.
7. Repeat steps 4 to 6 to configure next parameter, or press BYPASS to leave the configuration mode.

NOTE: After approx. 10 seconds without further action, the DWM automatically falls back to normal mode.

P1 Setpoint type setting / scale type setting

- P1:1 Fahrenheit relative
- P1:2 Fahrenheit absolute
- * P1:3 Celsius relative
- P1:4 Celsius absolute

P2 Room temperature setting

- P2:1 Do not display room temperature (setpoint, only)
- * P2:2 Display room temperature
- P2:3 Display room temperature and humidity, alternating every 5 seconds (T7560B, only)

P3 Bargraph use setting

- P3:1 No Fan
- P3:2 Auto, Off, On
- P3:3 Auto, Off, 2 Speeds
- * P3:4 Auto, Off, 3 Speeds

P4 Controller type setting

- * P4:1 New LCD signaling from controller (only for controllers and SW versions as listed in Table 2 or higher, in which case this setting **must** be selected; set Excel 10 controller to LCD_DISPLAY)
- P4:2 LED override mode from controller, US signaling (100 ms pulses); with controllers W7750, W7751, W7753, W7761, and XL12
- P4:3 LED override mode from controller, European signaling (500 ms pulses); with controllers W7752, W7762, W7763, and XL12 (in the case of SW versions listed in Table 2 or higher, select P4:1).
- P4:4 LED occupancy mode from controller, European signaling (500 ms pulses); with controllers W7752, W7762, W7763, and XL12
- P4:5 Same as P4:4
- P4:6 Excel 500 signaling from controller (10 V, 8 V, 6 V)

P5 Pin 4 (Bypass/Fan) grounding

- P5:1 Pin 4 not shorted to GND if override is pressed (UV-controller, W7753)
- * P5:2 Pin 4 shorted to GND if override is pressed

P6 Device type

This item configures different devices.

IMPORTANT:

Keep the setting P6:1 and do **not** change to other configurations.

P7 Temperature offset

- * P7:50 Temperature offset; values of 0 through 99 are valid. 50 = no change (default), 49 = -0.1 °C, 51 = +0.1 °C, etc. This offset varies the LCD display value, only. In order for this offset to have the proper effect, it must be set in the controller, too.

P8 Remote reset of temperature setpoint overrides and fan speed overrides

- * P8:1 disable remote reset of temperature setpoint override and disable remote reset of fan speed override.
- P8:2 enable remote reset of temperature setpoint override and disable remote reset of fan speed override (takes effect **ONLY** if P1:1 or P1:3 has been selected **AND** P4:1 or P4:5 has been selected)
- P8:3 disable remote reset of temperature setpoint override and enable remote reset of fan speed override (takes effect **ONLY** if P4:1 or P4:5 has been selected)
- P8:4 enable remote reset of temperature setpoint override and enable remote reset of fan speed override (takes effect **ONLY** if P1:1 or P1:3 has been selected **AND** P4:1 or P4:5 has been selected)

IMPORTANT

In addition to P8, parameters P1 and P4 must also be set accordingly for the wall module – see above!

Explanation:

The goal of this action is to reset those overrides which a room user has enacted at the wall module.

Thus, in, e.g., hotels and office buildings, a typical requirement is to remotely reset the wall module setpoint override to zero, and to remotely reset the wall module fan speed override to "Auto".

NOTE: If the wall module has been set to OFF by the room user, it cannot be reset to auto.

In the case of Excel 50 controllers, this reset can be done by sending 6 Volt (= "unoccupied") to the LED input of the wall module:

As long as 6V is being sent to the LED input

- the wall module will be in "unoccupied"
- the local setpoint and/or fan speed setting will be reset and disabled.

As long as 10V is being sent to the LED input

- the wall module will be in "occupied"
- the local setpoint and/or fan speed setting will be enabled.

In the case of Excel 10 controllers, this reset can be done by switching from "occupied" to "unoccupied". This will send a specially coded Excel 10 signal to the LED input of the wall module.

"Unoccupied" means:

- Effective Unoccupied (moon on continuously), or
- Override Unoccupied (moon flashing).

"Occupied" means:

- Effective Occupied (sun on continuously), or
- Override Occupied (sun flashing).

P9 Limit setpoint

- P9:0 - P9:9
Limit setpoint to ±0 ... 5 °C (if set to Celsius) or to ±0 ... 9 °F (if set to Fahrenheit).
Default (if set to Celsius): P9:5
Default (if set to Fahrenheit): P9:9
Example (units set to Celsius): A setting of P9:3 means that the setpoint offset is limited to -3 to +3 °C.
Example (units set to Fahrenheit): A setting of P9:8 means that the setpoint offset is limited to -8 to +8 °F.

PA Limit for humidity low limit output value

- P A:1 - P A:3
Limit the output value to 10 ... 20% relative humidity in steps of 5%. This affects the output voltage at pin 7, only, and has no effect upon values appearing in the display. P A:1 = 10%, P A:2 = 15%, P A:3 = 20% (default), P A:4 = not used.

RESETTING TO FACTORY DEFAULTS

Pressing the left, middle, and right button simultaneously while powering the wall module will reset the wall module settings to the factory defaults values.

When the reset has been completed, the display will show *danE*.

HOW TO CHECK THE SOFTWARE VERSION

Press the left and right button for approx. 5 seconds: After a LCD display test, you will see the current SW version of the device.

ACCESSORIES

T7460LONJACK

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 with 5 pieces

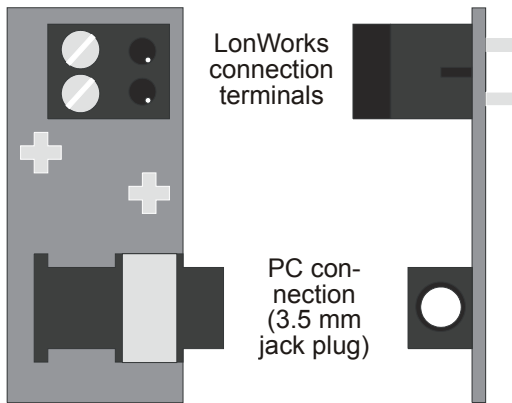


Fig 9. T7460LONJACK

Mounting

Remove the setpoint wheel and put in the LonJack as shown in the following:

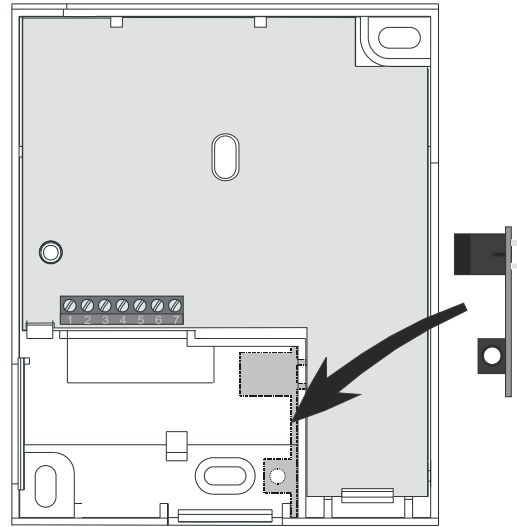


Fig 10. Mounting T7460-LONJACK

T7560 BLINDS

Same material and color as housing; for covering non-operational buttons.

Order quantity: set of 50 pieces.

Honeywell

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Automation and Control Solutions

Honeywell GmbH
Böblinger Strasse 17
71101 Schönaich, Germany
Phone: (49) 7031 63701
Fax: (49) 7031 637493
<http://ecc.emea.honeywell.com>

Subject to change without notice. Printed in Germany
EN1B-0146GE51 R0214F