Honeywell

C7110C1001/D1009
Wall Modules

HONEYWELL EXCEL 5000 OPEN SYSTEM

SPECIFICATION DATA

GENERAL

The C7110C1001 and C7110D1009 are wall modules which can be directly wired to Honeywell Excel 10 W7750, W7751, W7752, W7753, W7761, W7762, W7763, and Excel 600, 500, 100, 80, 50, 20 Controllers.

Please refer to the technical specifications of the individual controllers in order to determine their suitability for use in conjunction with a given wall module application.

FEATURES

- **Mountable on 2.36 in. (60 mm) wall outlet box or directly on a wall.**
- **With setpoint adjustment dial (Celsius relative or Celsius absolute scale) (C7110D1009, only).**
- **With CO_2 sensor and LED indicating either CO_2 level (C7110C1001) or occupancy (C7110D1009).**
- **With space temperature sensor (C7110D1009, only).**
- **With occupancy bypass button (C7110D1009, only).**
- **Locking cover on all models.**
- **Operating range 43 to 104°F (6 to 40°C).**
- **CE approved.**
- **IP 30 housing.**
- **Compact.**
- **Configurable using Honeywell's free UIP software module (see section "Specifications" on page 4).**
- **Self-calibrating.**
- **CO_2 output (pin 2) configurable as an analog or binary output.**
- **Life-span: min. 13 years.**

DESCRIPTION

The C7110C1001 is equipped with a CO_2 sensor. The C7110D1009 is equipped with both a CO_2 sensor and a space temperature sensor.

The C7110D1009 also features a setpoint adjustment dial. 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).

The C7110C1001 features a CO_2 level LED.

The C7110D1009 features an occupancy bypass button and an occupancy LED.

CE

SPECIFICATIONS

Table 1. C71100C1001 and C71100D1009 Wall Module models

model no.	space temp. sensor	CO_2 sensor	setpoint adjustment dial	occupancy bypass button	LED	compatible with the following Honeywell controllers
C7110C1001	--	✓	--	--	CO_2 level	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
C7110D1009	✓	✓	12 to 30°C (absolute) ± 5 K (rel.)	✓	occu-pancy	W7750A,B, W7751B,D,F,H, W7752D,E,F,G, W7753A, W7762A,B, W7763D,E, and Excel 600, 500, 100, 80, 50, 20

NOTE: Not all of the W7751A,C,E,G(VAV1) and W7752D1(FCU1) controllers are compatible with C7110C1001 and C7110D1009 Wall Modules.

NOTE: For wall module settings and wiring diagrams, refer to the C7110C,D Installation Instructions (product literature no.: EN1B-0257GE51). Some features may not be available with all controllers (see Table 1).

Construction:
Two-piece construction, a cover and an internally wired sub-base. 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 to 104°F (6 to 40°C).

Temperature Sensor Accuracy

20 kΩ Sensor:
The C7110D1009 is equipped with a 20 kΩ NTC temperature sensor that follows a specific temperature-resistance curve (see Fig. 1).

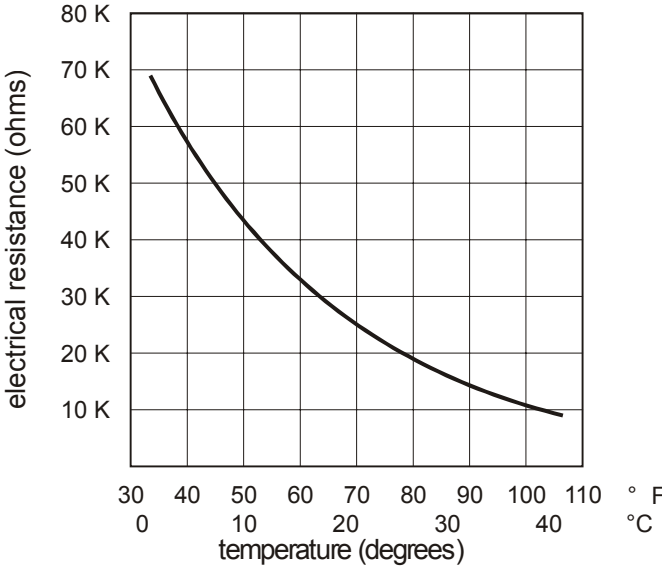

Fig. 1. Temperature vs. resistance for 20 kΩ sensor

Honeywell controllers used with these Wall Modules employ an algorithm that provides readings close to the actual temperature. Table 2 summarizes the sensor accuracy for normal operating temperatures.

Table 2. Temperature sensor accuracy

ambient temperature °F (°C)	max. error °F (°C)	nominal re-sistance (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

C7110D Setpoint Adjustment:
In the case of the C7110D, which is equipped with a setpoint adjustment dial, depending on the type of dial in use, the corresponding 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:

- ±5% in middle position, e.g. 5225 Ω to 5775 Ω
- ±10% in end position, e.g. 9450 Ω to 11550 Ω.

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

Configuration of Pin 2

The CO_2 output (pin 2) of the C7110C/D Wall Modules can be configured (using the UIP software module – see also section "UIP Software Module" on page 4).

In order to use the UIP software module to reconfigure pin 2, you must first connect the Wall Module's four-prong male connector (located to the right of the terminal block on the PCB after removing the cover; see Fig. 2) to one of your PC's serial communication ports; this is done using the HDI 10 Interface Cable, available as an accessory (see section "HDI 10 Interface Cable" on page 4).

Fig. 2. Four-prong male connector

Upon then starting the UIP software program (only one instance of which may be active on your PC at a time), a window will appear in which you must specify to which of your PC's serial communication port you have connected the four-prong male connector.

Following this, a second window (the "configuration window") will appear in which you can configure pin 2 in a variety of fashions (see following sub-sections).

NOTE: If your PC is not equipped with a mouse or track ball, you can navigate forwards by pressing your PC's TAB key, and backwards by pressing SHIFT + TAB. Further, you can check/uncheck selections using the SPACE key

Voltage Output

In the left-hand area (labeled "Voltage Output") of the configuration window, you can select either

- the "Scaled Output" checkbox (this is the default setting) or
- the "Relay Output" checkbox.

Scaled Output (Analog Output)

If you select the "Scaled Output" checkbox, pin 2 will deliver analog output. In this case, you can then configure a measuring range of either

- 0 ppm to 2000 ppm or
- 0 ppm to 3000 ppm.

You can then also configure pin 2 for either

- 0...10 V analog output or
- 2...10 V analog output.

NOTE: After having selected "Scaled Output," the CO2 level LED of the C7110C is disabled.

Relay Output (Digital Output)

If you select the "Relay Output" checkbox, pin 2 will deliver digital output. In this case, you can then configure a "Threshold Level (PPM)" of any value between 0 and 2000 ("600" is the default setting), and a "Hysteresis (PPM)" of any value between 1 ppm and 50% of the "Threshold Level (PPM)" ("100" is the default setting).

See Fig. 3 for the resultant output of pin 2 and (in the case of the C7110C) the corresponding behavior of the CO_2 level LED.

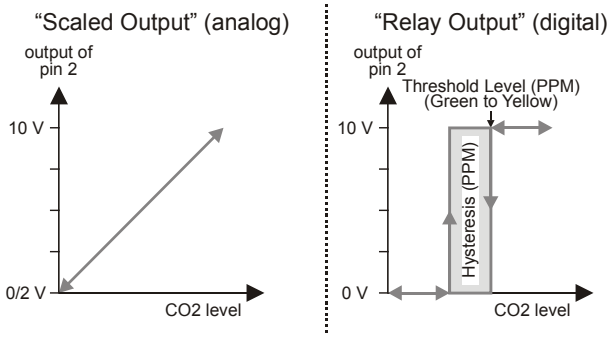

Fig. 3. Configuration of pin 2 and resultant output

In the case of the C7110C, the resultant output is applied to the LED input (pin 6). The CO_2 level LED will thus glow green below and yellow above the threshold level.

Occupancy Bypass Button / Occupancy LED (C7110D1009, only)

Overrides can result e.g. from the controller's own internal programming. In the case of the C7110D1009, overrides can also result from pressing the occupancy bypass button (see also Fig. 4).

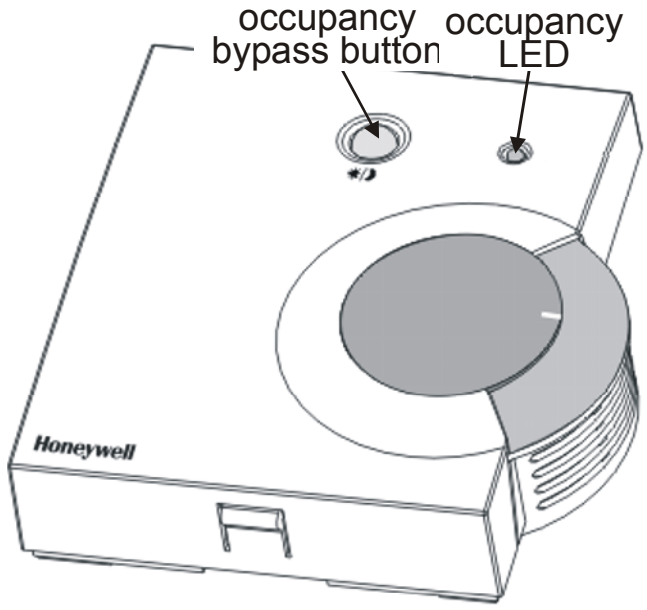

Fig. 4. C7110D1009

The functionality of the occupancy bypass button and the resultant behavior of the occupancy LED are dependent upon the given controller. Please refer to the Technical Literature pertaining to the specific controller

With Excel 10 Controllers
You must configure the controller to write output to the C7110D1009 on the controller's override status; the Wall Module's occupancy LED will then display any override (including overrides resulting from pressing the occupancy bypass button).Specifically: the occupancy LED will glow yellow when the corresponding output is applied to the LED input (pin 6), signifying "occupied" and is dark when the state is "unoccupied".

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 occupancy bypass button and the occupancy LED to operate in any manner desired.

The bypass (override) output pin (pin 7 of the C7110D1009) is a normally-open, digital tactile switch.

Contact your local Honeywell distributor for further details.

SPECIFICATIONS
Mounting options: The wall modules can be mounted on a 60 mm diameter junction box or directly on a wall.

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

Operating Temperature: 43...104°F (6...40°C).

Shipping Temperature: -40...+150°F (-40...+65°C).

Relative Humidity: 5...95%, non-condensing.

Measurement range: 0...2000 ppm (factory default); adjustable to 3000 ppm using UIP software kit

Accuracy: ±100 ppm or 7% (whichever is greater)

Elevation (Pressure) correction: Add 0.13% of reading per mm Hg below 760 mm Hg (on-board correction, user-set using UIP software)

Response time, 0...90%: < 5 min

Warm-up time: < 2 min

Agency certification: FCC Part 15 Class B, CE, California Energy Commission

Power:
- 18...30 Vac rms, 50/60 Hz (half-wave, rectified)
- 18...42 Vdc (polarity protected)
- 1.75 VA max. average power
- 2.75 VA peak power

Analog output (simultaneous): 0...10 Vdc (100 Ω output impedance), 4...20 mA (external RL_{max} = 500 Ω)

ACCESSORIES
For mounting the following accessories, please refer to the C7110C,D Installation Instructions (product literature no.: EN1B-0257GE51; part no.: 7157 685).

T7460-LONJACK
The T7460-LONJACK is a small board and allows easy access to 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 (for the C7110D1009, only) can be used to limit the setpoint dial to within a narrower range.

Order quantity: set of 100 pieces

UIP Software Module
The default settings of the C7110C,D can be reconfigured using the UIP software module, which can be downloaded free of charge from the Honeywell Plug-In Download Area at the following URL:

http://www.honeywell.de/plugin

HDI 10 Interface Cable
Accessory for connecting the C7110C,D Wall Module to your PC for the purpose of configuring the Wall Module using the previously-downloaded UIP Software Module.

Honeywell

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