

# CLCM1C,4C Wall Modules

## Product Data



## GENERAL

The CLCM1C155 and CLCM4C155 are wall modules which can be directly wired to the PANTHER Controller.

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

- Fully compatible with the PANTHER Controller.
- Mountable on 60 mm wall outlet box or directly on a wall.
- With setpoint adjustment dial (Celsius relative or Celsius absolute scale) (CLCM4C155, only).
- With CO<sub>2</sub> sensor and LED indicating either CO<sub>2</sub> level (CLCM1C155) or occupancy (CLCM4C155).
- With space temperature sensor (CLCM4C155, only).
- With occupancy bypass button (CLCM4C155, only).
- Locking cover on all models.
- Operating range 6 to 40°C.
- CE approved.
- IP 30 housing.
- Compact.
- Configurable using CentraLine's free UIP software module (see section "Specifications" on page 4).
- Self-calibrating.
- CO<sub>2</sub> output (pin 2) configurable as an analog or binary output.

## DESCRIPTION

The CLCM1C155 is equipped with a CO<sub>2</sub> sensor. The CLCM4C155 is equipped with both a CO<sub>2</sub> sensor and a space temperature sensor.

The CLCM4C155 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 CLCM1C155 features a CO<sub>2</sub> level LED.

The CLCM4C155 features an occupancy bypass button and an occupancy LED.

# SPECIFICATIONS

**Table 1. CLCM1C155 and CLCM4C155 Wall Module models**

model no.	space temp. sensor	CO <sub>2</sub> sensor	setpoint adjustment dial	occupancy bypass button	LED	compatible with
CLCM1C155	--	✓	--	--	CO <sub>2</sub> level	PANTHER Controller
CLCM4C155	✓	✓	12...30°C (absolute) ± 5 K (rel.)	✓	occupancy	

**NOTE:** For wall module settings and wiring diagrams, refer to the CLCM1C,4C Installation Instructions (product literature no.: EN1Z-0905GE51).

**Construction:**

Two-piece construction, a cover and an internally wired sub-base. Field wiring 1.5 to 0.34 mm<sup>2</sup> connects to a terminal block on the PCB.

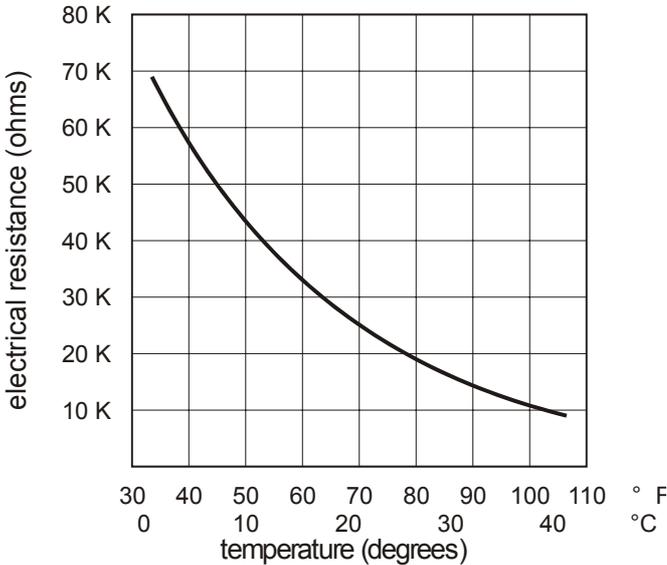
**Temperature Sensor Operating Range:**

6...40°C.

## Temperature Sensor Accuracy

**20 kΩ Sensor:**

The COMMAND Wall Modules CLCM1C,4C are furnished with a 20kΩ NTC temperature sensor that follows a specific temperature-resistance curve. See Fig. 1. The PANTHER Controller used with the CLCM1C,4C employs an algorithm that provides readings close to the actual temperature.



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

Table 2 summarizes the sensor accuracy of the COMMAND Wall Modules CLCM1C,4C 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 temperature (°C)	max. error (°C)	nominal 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

## CLCM4C Setpoint Dial

The CLCM4C can be fitted with either an absolute-scale setpoint dial or a relative-scale setpoint dial; the PANTHER Controller must be configured, accordingly. This can be done using either COACH / COACH ONLINE or (in the case of the CLPA21LC11 and CLPA21LC21) the PANTHER Controller's MMI.

The relation between setpoint and resistance is given in Table 3. Accuracy of resistance is:

- ±5% in middle position, e.g. 5225...5775 Ω
- ±10% in end position, e.g. 9450...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<sub>2</sub> output (pin 2) of the CLCM1C,4C 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).

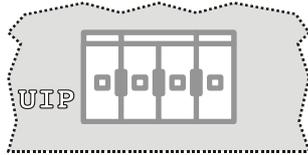


Fig. 2. Four-prong male connector

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 (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...2000 ppm or
- 0...3000 ppm.

You can then also configure pin 2 for either

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

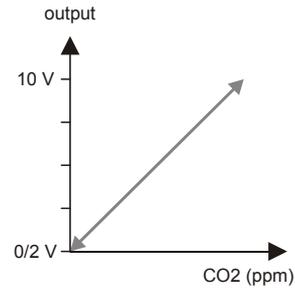


Fig. 3. Scaled output (analog) of pin 2

**NOTE:** After having selected "Scaled Output," the CO<sub>2</sub> level LED of the CLCM1C 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. 4 for the resultant output of pin 2 and (in the case of the CLCM1C) the corresponding behavior of the CO<sub>2</sub> level LED.

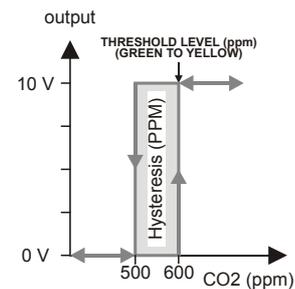


Fig. 4. Configuration of pin 2 and resultant output

In the case of the CLCM1C, the resultant output is applied to the LED input (pin 6). The CO<sub>2</sub> level LED will thus glow green below and yellow above the threshold level.

## Occupancy Bypass Button / Occupancy LED (CLCM4C155, only)

Overrides can result e.g. from the controller's own internal programming. In the case of the CLCM4C155, overrides can also result from pressing the occupancy bypass button (see also Fig. 5).

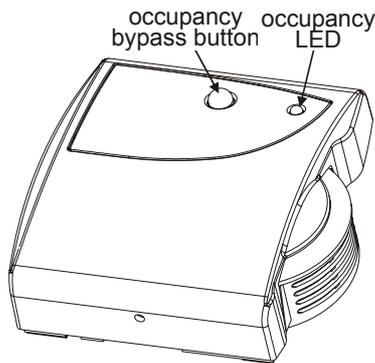


Fig. 5. CLCM4C155

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 PANTHER Controller

With the PANTHER Controller, the application engineer 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 CLCM4C155) is a normally-open, digital tactile switch.

Contact your local Centraline PARTNER 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):** 104 × 104 × 33 mm.

**Operating Temperature:** 6...40°C.

**Shipping Temperature:** -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

**Protection Class:** II as per EN60730-1

**Protection Standard:** IP30 as per EN60529

### 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  $R_{L_{max}} = 500 \Omega$ )

## LIMITERS

The limiters can be used to restrict the range within which the setpoint dial can be varied. After opening the housing, insert the limiters approximately opposite the max. and min. values of the desired temperature adjustment range.

## OPTIONAL ACCESSORIES

### UIP Software Module

The default settings of the CLCM1C,4C can be reconfigured using the UIP software module, which can be downloaded free of charge from the Plug-In Download Area at Centraline PARTNERnet.

### HDI 10 Interface Cable

Accessory for connecting the CLCM1C,4C Wall Module to your PC for the purpose of configuring the Wall Module using the previously-downloaded UIP Software Module.

Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative:

Centraline  
Honeywell GmbH  
Böblinger Straße 17  
D-71101 Schönaich  
Tel +49 7031 637 845  
Fax +49 7031 637 846  
[info@centraline.com](mailto:info@centraline.com)  
[www.centraline.com](http://www.centraline.com)

Centraline  
Honeywell Control Systems Ltd.  
Arlington Business Park  
UK-Bracknell, Berkshire RG12 1EB  
Tel +44 13 44 656 565  
Fax +44 13 44 656 563  
[info-uk@centraline.com](mailto:info-uk@centraline.com)  
[www.centraline.com](http://www.centraline.com)

Printed in Germany.  
Subject to change  
without notice.  
EN0Z-0905GE51 R0309

**CENTRALINE**  
by Honeywell