On/Off Digital Wall Humidistat Installation Instructions

This document covers the operation and installation instructions for the following Condair digital humidistat:

Kit No.	Component No.	Description
2597934	2548731	On/Off Digital Wall Humidistat

1 – Mounting and Installation

Location:

Install the Condair CHR-NA in a protected and easy accessible place at least 1.5 m above the floor to the wall (mounting on flush-mounting or wall-mounting box). Observe the following placement notes:

– Do not place Condair CHR-NA in niches, behind, curtains, etc.
– Do not place the Condair CHR-NA near heat sources, within the area with direct air draft or direct sunlight.

Installation:

Refer to installation overview in section 2.

1. Open the screw of the housing and remove the mounting plate with the connecting unit.
2. Connect wires of the connection cable to the terminals according to the wiring diagram.
3. At the place of location fix mounting plate (plastic screw facing downwards) with two screws to the flush-mounting or wall-mounting box (see dimension drawing).
4. Carefully snap housing onto the mounting plate and fix it with the screw (do not tighten screw too much).

Note: We recommend using 18-gauge wire, and maximum <100 ft distance from the unit.

2 – Installation overview

A   mm (inch)

16(0.6) 32 (1.2)

73 (2.9)

113 (4.5)

B

C

58 (2.3)

50 (2.0)

83 (3.25) +/- 5 (0.2)

58 (2.3)

15 (0.6)

1 2 3 4 5 6 7 8

D

①   ②

E

0V / GND	24V	DO1	DO1	DO2	DO2	RT	RT
1	2	3	4	5	6	7	8
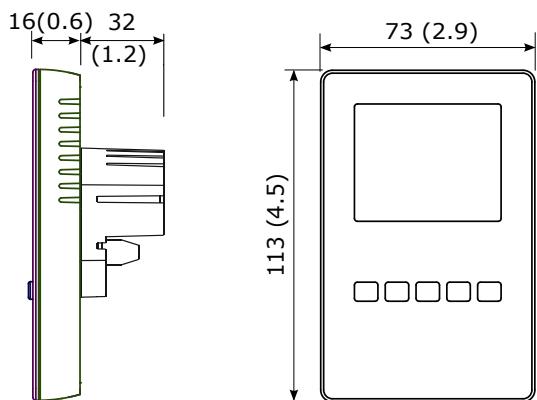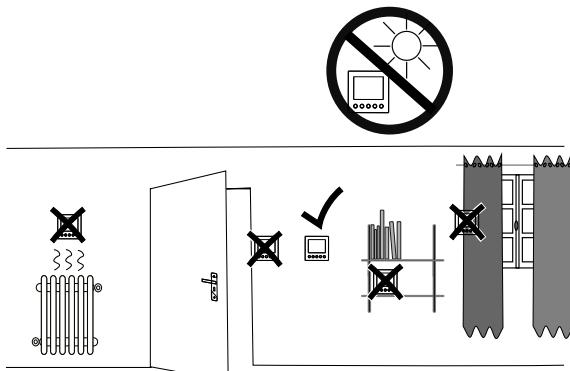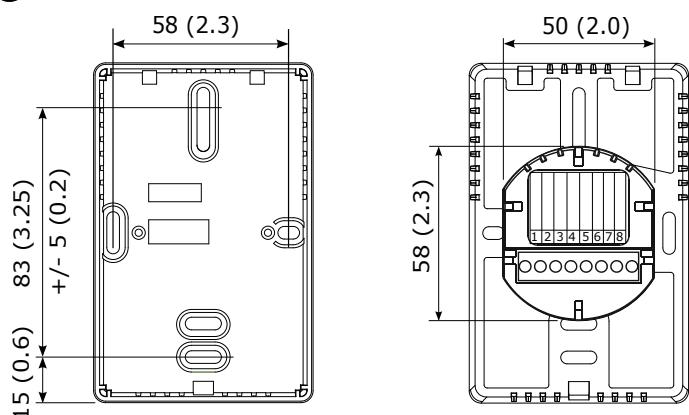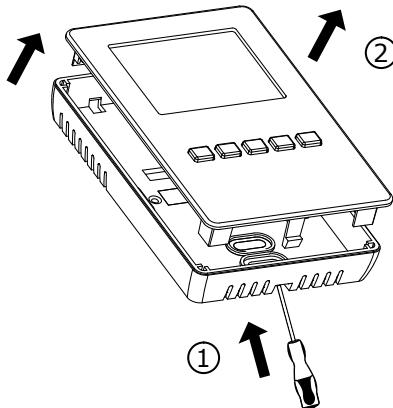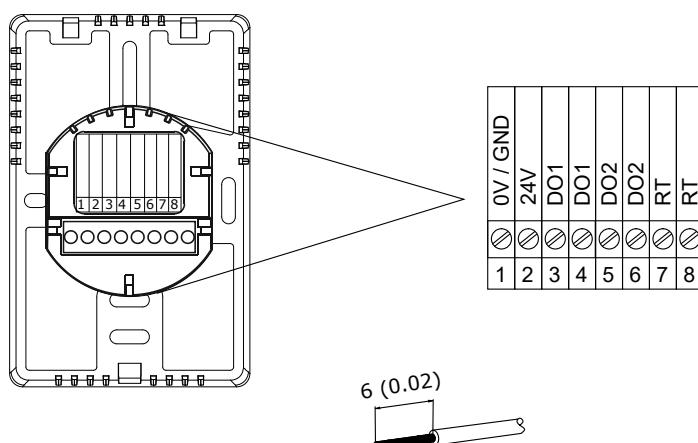
1: 0V / GND

2: 24 V AC/DC ±10%

3: DO1

4: DO1

5: DO2

6: DO2

7: RT

8: RT

6 (0.02)

Download on the **App Store**

GET IT ON **Google Play**

For Wiring Schematic:
Get the Condair
Sensor Connect App

70-000259/20201214

3 – Wall Humidistat LCD Display

Actual humidity in %rH

40.0 %

Set humidity setpoint in %rH

45.0

Output active

Control buttons
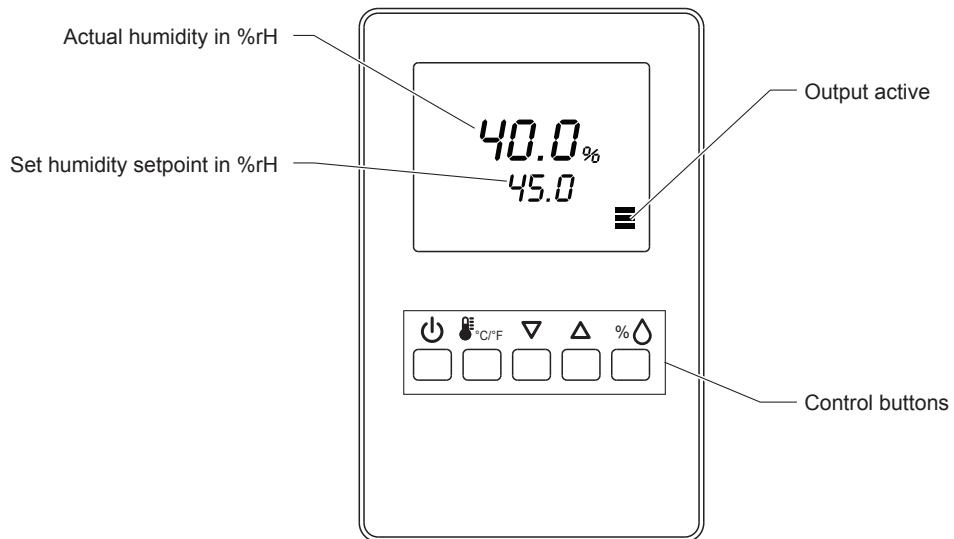
Buttons	Operation	Function
⏻	press long	Switching On and Off
🌡°C/°F	press briefly	——
	press long	Switching between °C and °F
▽ / △	press briefly	Adjusting set point value
%◊	press briefly	Shows %rH value
	press long	Offset settings

Fig. 1: Wall Humidistat LCD Display

4 – Configuration

1. Using keypad, set specified humidity. For general health and comfort, a humidity setting of 50% is recommended.
2. See *Table 3* for outdoor setback configuration if optional outdoor temperature sensor is supplied (P/N 2520263 or 2553858).

5 – Error Messages

Err 1:   Sensor element in the device is not properly inserted or defective. Insert the sensor element correctly or replace it.

Err2, 3 & 4:   Hardware or memory problem. Replace device.

6 – Sensor Calibration

Sensor inputs can be calibrated if needed

Press %◊ > 2 sec. UI and its value is displayed.	75%
Press %◊: Calibration value and tool symbol is displayed, UP/DOWN to calibrate,	UI 1
Press %◊: Save calibration, tool symbol disappears.	
Press UP key again to step through the next active input Note: disable inputs will not be shown	0.0% ..UI 1

7 – Setting Parameters to Configure the Controller

The control operation is defined by parameters set using the standard operation terminal. There are two levels:
– User/display parameters (password 0009)
– Control parameters (password 00241)

How to change the parameters:

1. Press <△>/<▽> button simultaneously for three seconds. The display will show firmware version and revision number.
2. Press the <%◊> button to start login. The small digits show "CODE".
3. Select correct code (password) using <△> and <▽> buttons.
   Note: Code to access user parameters is "0009". The access codes are fixed and cannot be changed.
4. Press the <%◊> button after selecting the correct code.
5. Once logged in with "0009", the user/display parameters are displayed immediately.
6. Select the parameters with the <△> or <▽> button. Change a parameter by pressing the <%◊> button. The symbol ✗ is displayed to indicate that the parameter may be modified. Use <△> or <▽> button to adjust the value.
7. After you are done, press <%◊> button to save the new value and return to the selection level (symbol ✗ disappears after selection is saved). Pressing <⏻> button without pressing <%◊> button will discard the value and return without saving.
8. Press the <⏻> button to leave the menu. The unit will return to normal operation if no button is pressed for more than 5 minutes.

User Parameters (Password 0009)

Table 1: User Parameters

Parameter	Description	Range	Default
UP 00	Enable change of operation modes	ON, OFF	ON (Enabled)
UP 01	Enable change of setpoints	ON, OFF	ON (Enabled)
UP 02	State after power failure: 0 = Switched OFF, 1 = Switched ON, 2 = state before power failure	0, 1, 2	2
UP 03	Celsius or Fahrenheit, Select ON for Fahrenheit, OFF for Celsius	ON, OFF	OFF (Celsius)
UP 04	Select type of content for large digits (00= OFF): 01 = Setpoint 02 = Humidity Sensor 03 = External Temperature Sensor	00…03	01

Control Parameters (Password 0241)

Note: Only experts should change these settings! See user parameter for login procedure!

Table 2: Output Configuration

Parameter	Description	Range	Default
CP 00	Minimum setpoint limit in humidification mode	0..100%	10%
CP 01	Maximum setpoint limit in humidification mode	0..100%	90%
CP 02	Start delay for fans (Time the fan runs before control output starts)	0…255 s	10 s
CP 03	Stop delay for fan (Time the fan keeps running after control output stops)	0…255 s	90 s

*Table 3: Temperature Setback Configuration – *For humidity control only*

Parameter	Description	Range	Default
CP 04	Enable temperature setback OFF = Temperature set back is disabled ON =Temperature setback is enabled	ON, OFF	OFF
CP 05	Setpoint limit at full setback	0..100 %	20 %
CP 06	Lower temperature limit: Outside temperature with maximum setback The setback will be equal to the minimum setpoint limit	-40…60°C -40…160°F	-30 °C (-22°F)
CP 07	Upper temperature limit: Outside temperature at begin of setback	-40…60°C 40…160°F	0 °C (32°F)
CP 08	Number of seconds taken into account to calculate the average input signal Low value = fast response High value = slow response	0…100	30

8 – Product Specification

Power Voltage	Operating voltage Power consumption Terminal connections	24 V AC/DC ± 10 %, 50/60 Hz Max. 2 VA For wires 0.34…2.5 mm2 (AWG 24…12)
Signal input	Measuring element Measuring range Hysteresis	Capacitive measuring element 0…100 % rH ± 1 % rH
Signal Output	Digital signal output Switching type Switching power Admissible switching voltage	DO1 Relay, normally open 2(1.2) A 0..250 VAC / 0…24 VDC
Environment	Operation: Climatic Conditions Temperature Humidity	IEC 721-3-3 Class 3 K5 0…50°C (32…122°F) <95 % rH not condensing
General	Housing material Mounting plate Weight (including packing)	PC and ABS Galvanized steel 260 g (9.2 oz)

9 – Wiring Diagrams

Wiring diagram CHR-NA for RS, EL, GS, US and SE

CHR-NA
On/Off Wall Humidistat
2548731

0V / GND	24V AC/DC	DO1	DO1	DO2	DO2	RT	RT
1	2	3	4	5	6	7	8

EL / RS / GS / US / SE

24VAC	Safety Loop	GND	CH1	CH2		GND					
1	2	3	4	5	6	7	8	9	10	11	12
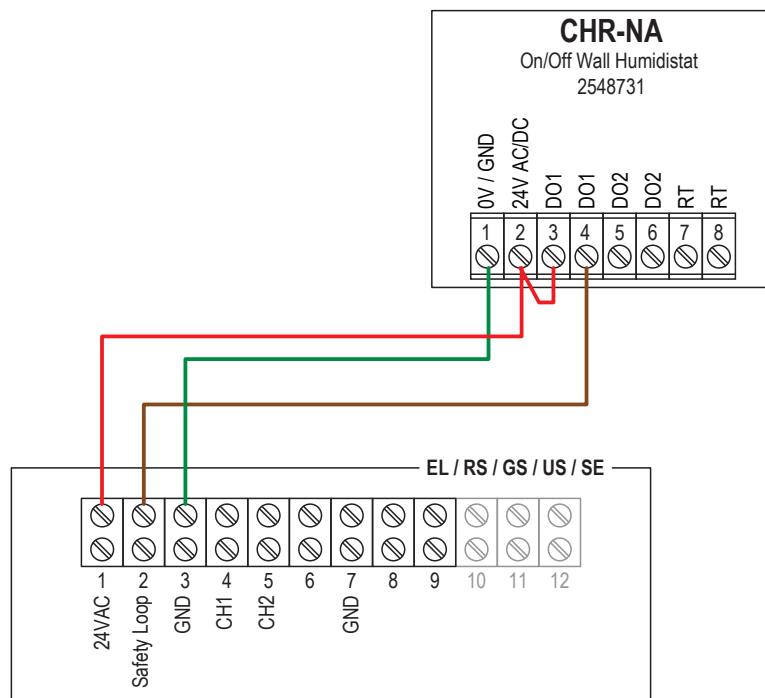
Wiring diagram CHR-NA for DL and ME

CHR-NA
On/Off Wall Humidistat
2548731

0V / GND	24V AC/DC	DO1	DO1	DO2	DO2	RT	RT
1	2	3	4	5	6	7	8

ME / DL

Driver board
ME / DL

JP5: 10V
JP4: 24V

X1

SC1
SC2

24/10 V
TMP
HUM
GND
24V E
Enable

X16
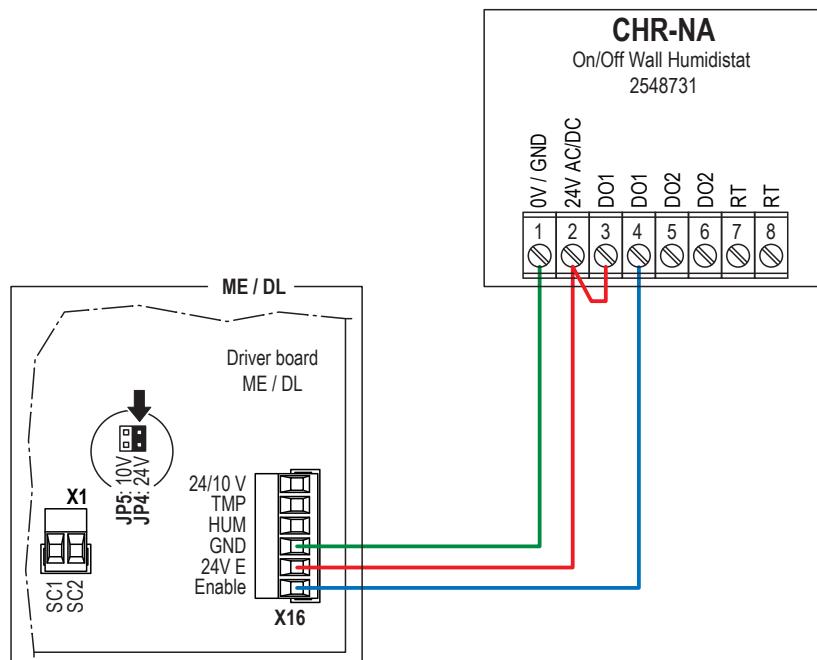
Wiring diagram CHR-NA with CHD-NA and APS for RS, EL, GS, US and SE

APS
Air Proofing
2598427

Com NO NC

CHD-NA
On/Off Duct Humidistat / High Limit
2548732

0V / GND 24V AC/DC DO1 DO1 DO2 DO2 RT RT
1 2 3 4 5 6 7 8

CHR-NA
On/Off Wall Humidistat
2548731

0V / GND 24V AC/DC DO1 DO1 DO2 DO2 RT RT
1 2 3 4 5 6 7 8

EL / RS / GS / US / SE

1 2 3 4 5 6 7 8 9 10 11 12

24VAC Safety Loop GND CH1 CH2 GND