

0-10V Digital Duct Humidistat Package Installation Instructions

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

Kit No.	Component No.	Part No.	Description
2597929	2520266 *	1509857	2-10V Duct Sensor
		2520261	Wall Humidistat without sensor

* Component No. 2520266 consist of two parts.

1 – Mounting and Installation

1509857 – Duct Sensor Installation

Location

Refer to installation overviews in section 2.

The duct sensor should be installed directly on the duct in an area where the air is well mixed with uniform flow.

- Used as supply air humidity sensor: If the sensor is used as a supply air humidity sensor it should be mounted downstream of the steam distribution at a distance 1.5 times the absorption distance (typically 10-12 ft or 3-3.7m).
- Used as return air humidity sensor: If the sensor is used as a return air humidity sensor it should be mounted close to the air inlet but downstream from a return fan if one is present.

Installation

1. At the place of location drill a hole with a diameter of 16 mm (5/8") as well as 4 holes for the self-tapping screws into the duct.
2. Loosen the screw on the housing cover and open cover.
3. Lead connecting cable through the cable gland and connect wires to the terminate according to the wiring diagram.
4. Stick gasket on the sensor side centrally on the housing (self-adhesive).
5. Insert the probe into the hole in the duct, then fix the housing to the duct using the 4 self-tapping screws provided.
6. Close the cover and fix it with the screw (do not tighten the screw too much).

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

2520261 – Humidistat w/o Sensor Installation

Location

Install the digital wall humidity controller in a protected and easily accessible place at least 1.5 m above the floor to the wall (mounting on flush-mounting or surface-mounting box).

Installation

Refer to installation overviews in section 2.

1. Open the screw of the housing and remove 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 dimensional drawing).
4. Carefully snap housing onto the mounting plate and fix it with the screw (do not tighten screw too much).

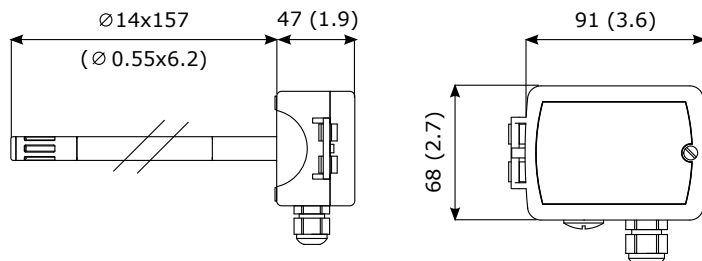
Note: We recommend using 18-gauge wire, and maximum <100 ft distance from the unit.

2 – Installation overviews

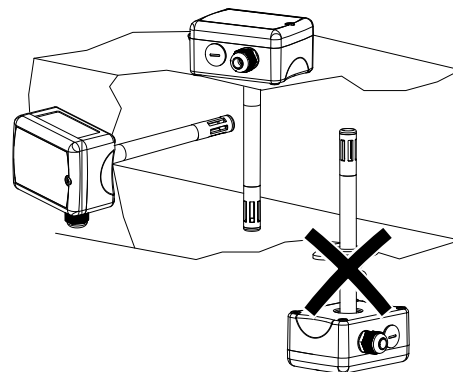


CDC-NA
2597929/1509857

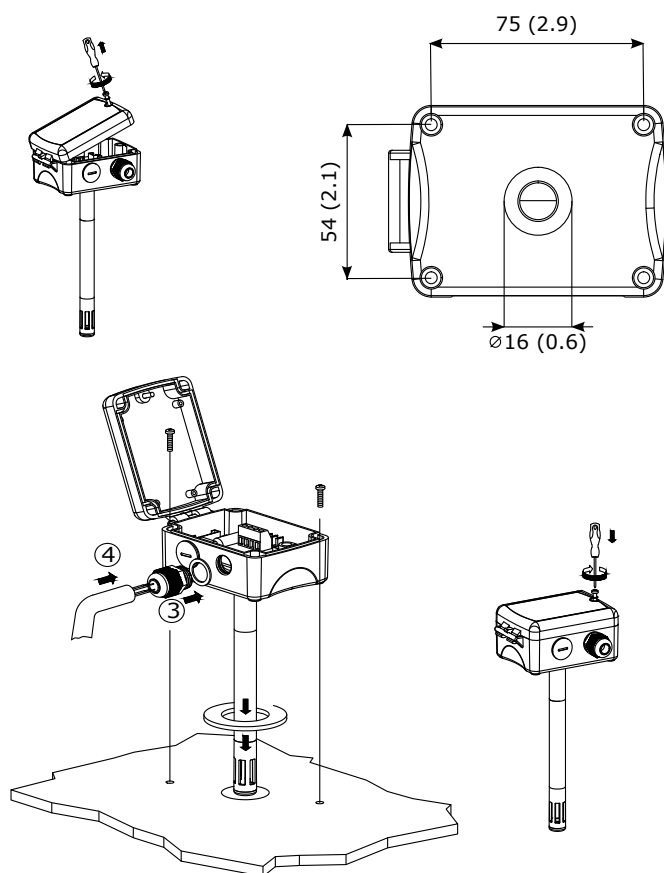
A mm (inch)



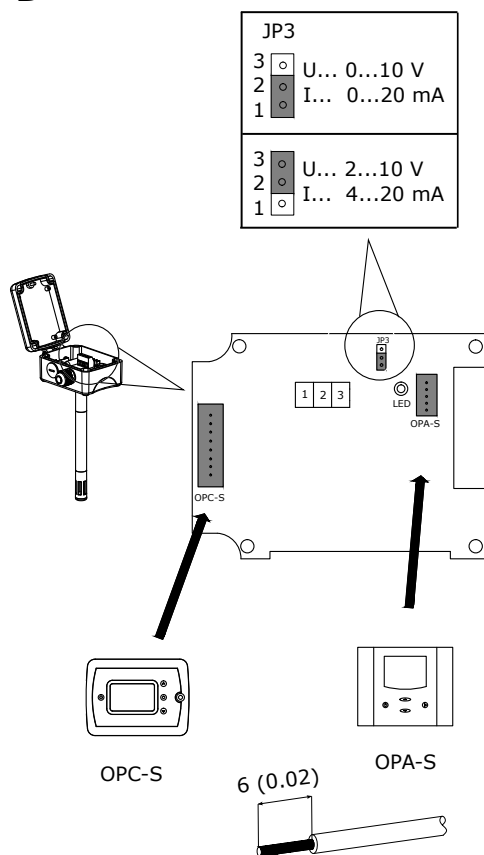
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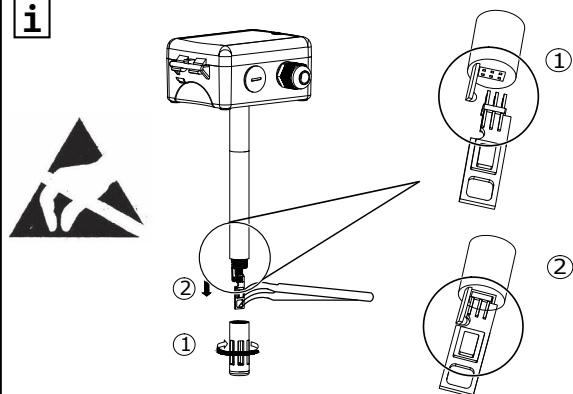
C



D



i



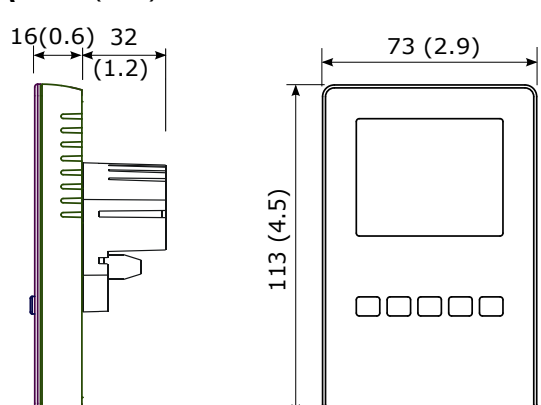
- 1: 0V GND
- 2: 24V AC 24 V 50-60 Hz, 24 VDC ±10%
- 3: RH 0(2)...10VDC, 0(4)...20mA



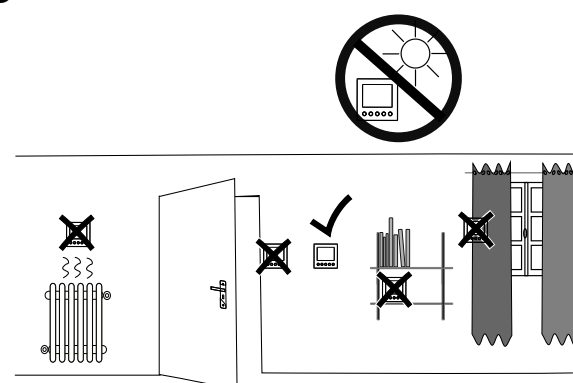
For Wiring Schematic:
Get the Condair
Sensor Connect App



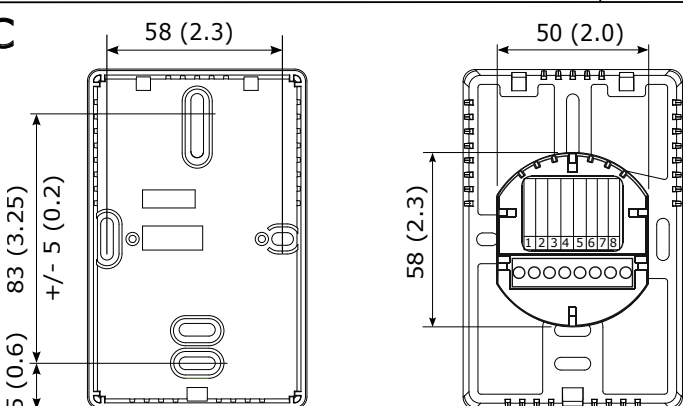
A mm (inch)



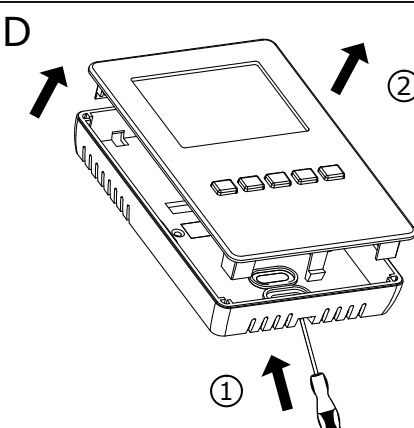
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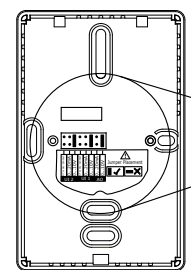
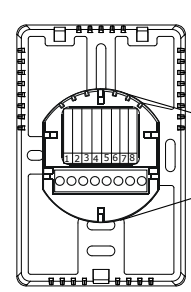
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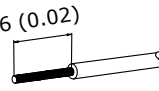
Jumper Placement

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AO	UI 1	UI 2
0...10V	0...10V	0...10V
0...20mA	0...20mA	0...20mA
RT or Dry-Contact	RT or Dry-Contact	RT or Dry-Contact

0V / GND	24V	N/A	N/A	N/A	AO 0-10V	Ext. Sens In	Temp. Reset

6 (0.02)



- 1: 0V / GND
- 2: 24 V AC/DC ±10%
- 3: Do not connect
- 4: Do not connect
- 5: Do not connect
- 6: 0...10VDC
- 7: External Sensor Input
- 8: Temperature Reset

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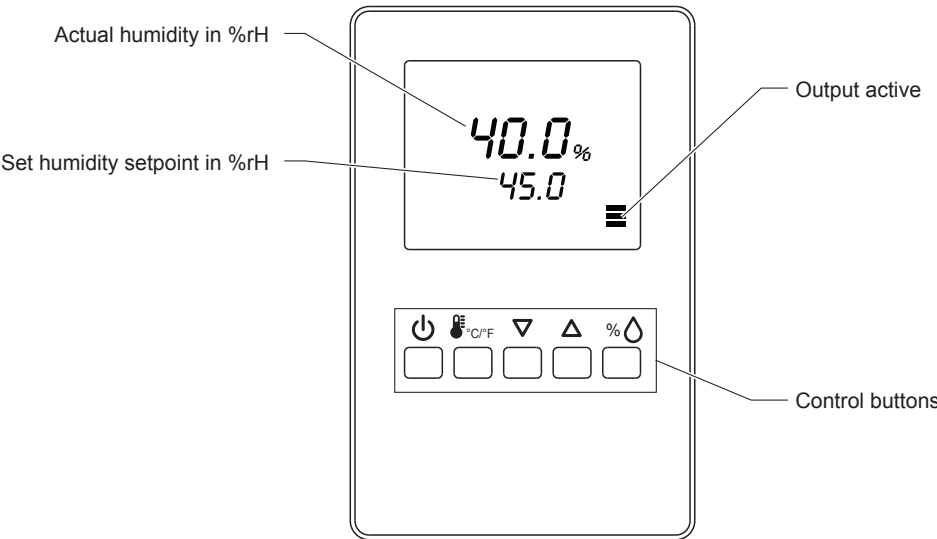


For Wiring Schematic:
Get the Condair
Sensor Connect App

GET IT ON
Google Play



3 – Wall Humidistat LCD Display



Buttons	Operation	Function
	press long	Switching On and Off
	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

Using keypad, set specified humidity. For general health and comfort, a humidity setting of 50% is recommended.

5 – Error Messages

- AL5 & AL7: Measured value of the external sensor fell below the lower limit of 5% RH. Check the cabling of the DCC and CDC. After eliminating the fault, acknowledge the alarm with the < %RH >.
- Err2, 3 & 4: Hardware or memory problem. Replace device.

6 – Sensor Calibration

Sensor inputs can be calibrated if needed

Press %RH > 2 sec. UI and its value is displayed.	75%
Press %RH: Calibration value and tool symbol is displayed, UP/DOWN to calibrate,	UI 1
Press %RH: Save calibration, tool symbol disappears.	
Press UP key again to step through the next active input	0.0%
Note: disable inputs will not be shown	..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 <Δ>/<∇> 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 <Δ> 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 <Δ> or <∇> button. Change a parameter by pressing the <◀▶> button. The symbol ✕ is displayed to indicate that the parameter may be modified. Use <Δ> 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: ON = Fahrenheit, OFF = Celsius	ON, OFF	OFF (Celsius)
UP 04	Select type of content for large digits (00= OFF): 01 = Input 02 = Setpoint 03 = Humidity Sensor 04 = External Temperature Sensor	00...04	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

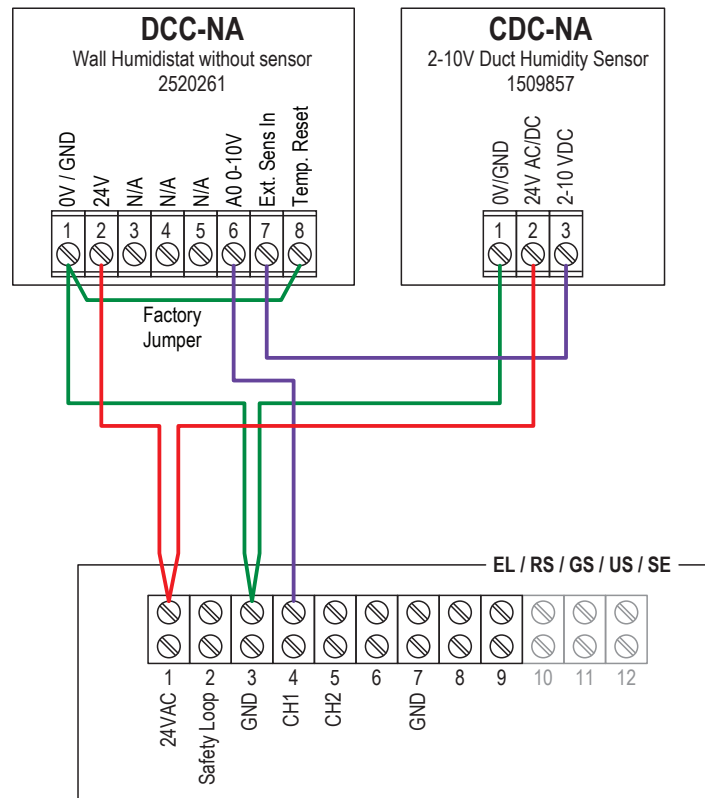
Parameter	Description	Range	Default
CP 04	Enable temperature setback OFF = Temperature set back is disabled ON =Temperature setback is enabled	ON, OFF	OFF
CP 05	Setpoint limit at full setback	0..100 %	20 %
CP 06	Lower temperature limit: Outside temperature with maximum setback The setback will be equal 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

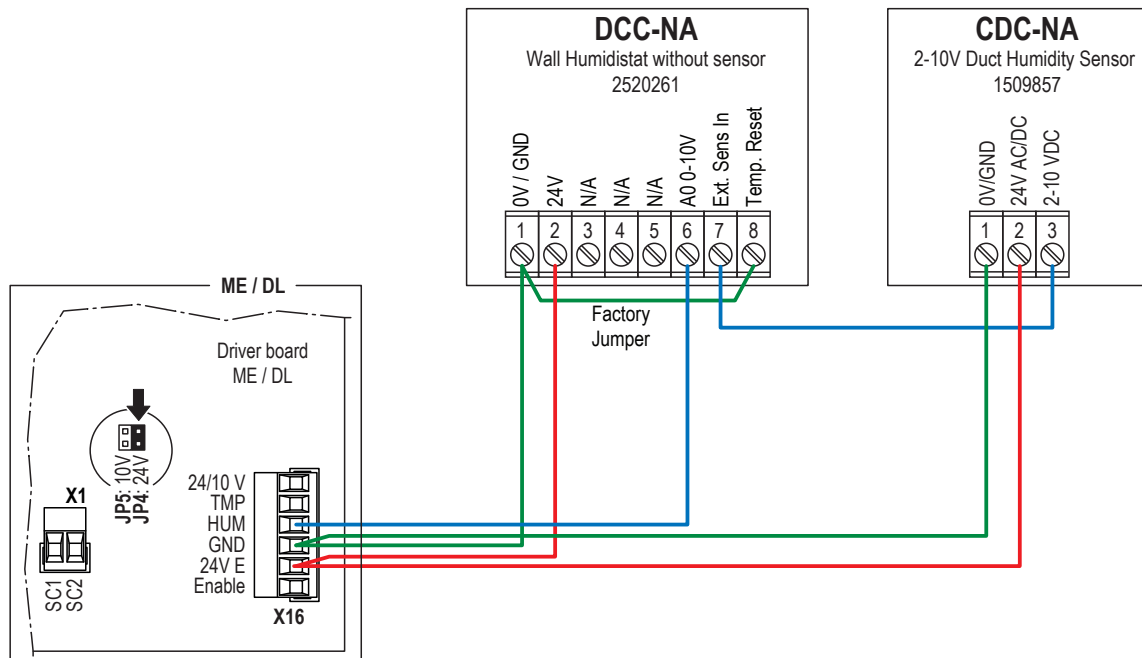
Power Voltage	Operating voltage Power consumption Terminal connection	24 V AC 50/60 Hz ± 10 %, 24 VDC ± 10 % Max. 3 VA For wires 0.34...2.5 mm ² (AWG 24...12)
Signal input	Humidity sensor input	UI1
Signal Output	Analog Outputs Output Signal Resolution Maximum Load	A01 DC 0...10 VDC 39 mV, 0.078 mA 10 Ma (at 0...10 VDC) 20 Ma (at 0...20mA)
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 Condair CRC (including packing)	ABS Galvanized steel 260 g (9.2 oz)

9 – Wiring Diagrams

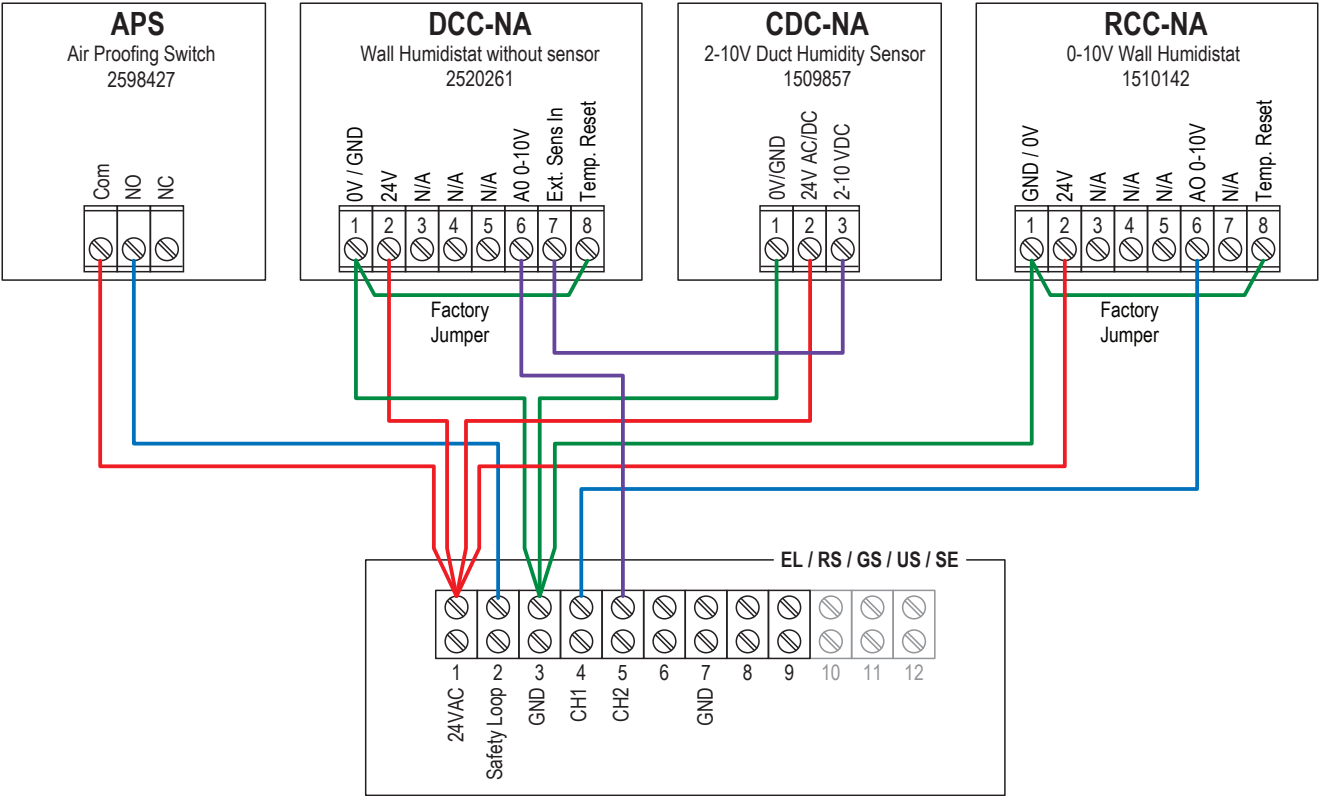
Wiring diagram DCC-NA with CDC-NA for RS, EL, GS, US and SE



Wiring diagram DCC-NA with CDC-NA for DL and ME



Wiring diagram DCC-NA with CDC-NA, RCC-NA and APS for RS, EL, GS, US and SE



Wiring diagram DCC-NA with CDC-NA, CHD-NA and APS for RS, EL, GS, US and SE

