

**NOTE:**  
For the BUS connection Use a shielded pair cable twisted like BELDEN 8762 (max 500 m).

SW: 28162100F

| RIF. | COM. N° | DESCRIZIONE      | ESEGUITO | DATA     |
|------|---------|------------------|----------|----------|
| ①    | AD 7527 | PRIMA ESECUZIONE | MC       | 19.03.15 |
|      |         |                  |          |          |
|      |         |                  |          |          |
|      |         |                  |          |          |

|  |  |               |                    |
|--|--|---------------|--------------------|
| <b>EMMET</b> S.P.A.<br><small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small> | DENOMINAZIONE<br>ELECT DIAGRAM PCDC 44_10T/2H BUS SENSOR |               |                    |
|  | CODICE<br>E60001820                                      | FOGLIO<br>1/6 | NOTE<br>PCDC board |

## Key for electric diagram 44. 10T/2H for PCOC board

|         |  |          |   |
|---------|--|----------|---|
| ID1     | = External input: high temperature mixing line A | CC       | = Boiler interlock  |
| ID2     | = External input: low temperature mixing line A  | CF       | = Chiller interlock   |
| B5      | = remote ON/OFF                                  | RP A     | = Pump A relay  |
| B6      | = Boiler alarm                                   | RP B     | = Pump B relay  |
| B7      | = Chiller alarm                                  | RS       | = Summer/Winter relay                                       |
| B8      | = Summer/Winter selector                         | R_AG/AUX | = Frost protection relay/ Periodic auxiliary function relay |
| Text    | = Outdoor temperature sensor                     | Y/Y2     | = 0-10V signal for the mixing valve proportional servomotor |
| T man A | = Flow temperature sensor mixing line A          | BUS      | = Bus for connection with expansion board MOD_Z1            |
| T man B | = Flow temperature sensor mixing line B          |          |   |

### NOTES:

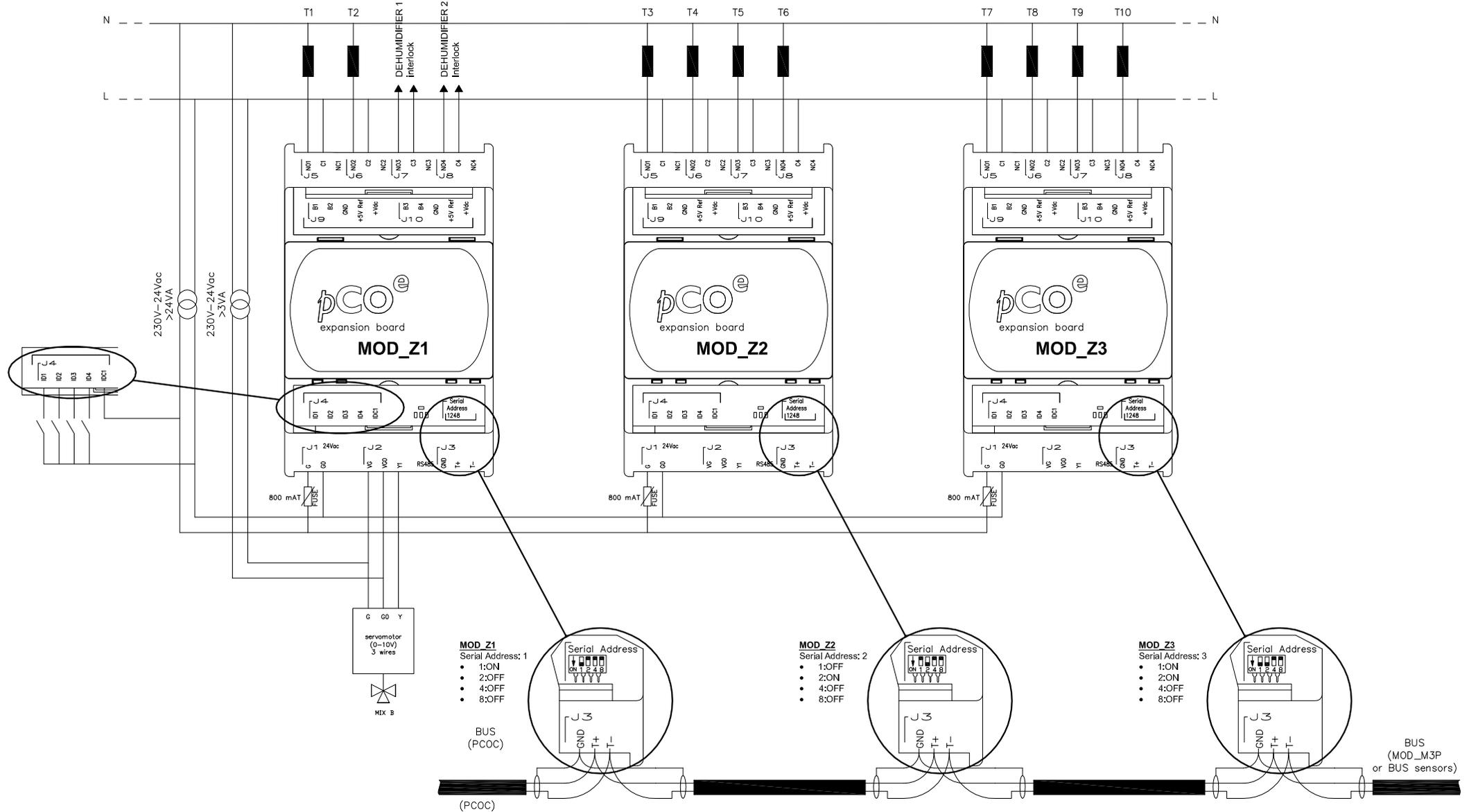
- If there is only one mixing line take into consideration mixing line A
- Output J3 - Boiler interlock - Contact rating 8 A - 250 Vac -  $\cos\phi = 1$
- Output J4 - PGD1 Large remote terminal connection via 6-wire telephone cable
- Output J10 - Chiller interlock - Contact rating 8 A - 250 Vac -  $\cos\phi = 1$
- Output J11 - Contact rating 5 A - 250 V AC -  $\cos\phi = 1$
- Output NO3 - Frost protection digital output, closed contact: frost protection function in progress. If the digital output is enabled from the advanced menu it is used for the periodic auxiliary function, closed contact: auxiliary function in progress. (The logic is invertible from the advanced menu)
- Output NO7 - Summer/Winter digital output, closed contact: Winter. (The logic is invertible from the advanced menu)
- Back-up relay always recommended. Also use change-over relays if you are using commons with different voltages
- Digital input ID1 - When the contact closes it requests high temperature from the thermostat for mixing line A
- Digital input ID2 - When the contact closes while the function is in progress, it requests low temperature from the thermostat for mixing line A (if enabled)
- Digital input B5 - Allows the system to be switched on or off remotely, when selected in the PCOC menu
- Digital input B6 - For connection of a boiler alarm circuit, where fitted by the boiler manufacturer
- Digital input B7 - For connection of a chiller alarm circuit, where fitted by the chiller manufacturer
- Digital input B8 - Allows the system to be switched in heating or cooling mode remotely, when selected in the PCOC menu
- The logic of the inputs can be inverted from the advanced menu
- For PCOC regulator input and output connections, use cables with a section that is proportional to the load (1.5 mm<sup>2</sup>)
- The current supply for the regulator and the supply for the 0-10V servomotor must be galvanically isolated, using either two transformers or one with two independent secondary circuits.

### WARNING!

For simplicity the common terminals of the sensors are shown schematically connected at the most convenient points. When wiring, run all leads of the probes to the terminals of the device and make the common connections at that point. This measure prevents electromagnetic disturbances which compromise correct signal transmission.

Avoid running the cables of the sensors and of the digital inputs together with the power cables. It is advisable to use shielded cables for the connection of the sensors.

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| <br><small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small> | DENOMINAZIONE                           |            |  |
|  | ELECT DIAGRAM PCOC 44_10T/2H BUS SENSOR |            |  |
| CODICE   | FOGLIO                                  | NOTE       |  |
| E60001820  | 2/6                                     | PCOC board |  |



**NOTE:**

For the BUS connection Use a shielded pair cable twisted like BELDEN 8762 (max 500 m). Connecting chain, in-out mode, between the boards according to the polarity.

| RIF.   | COM. N° | DESCRIZIONE   | ESEGUITO             | DATA                           |
|--|---------|---|----------------------|--------------------------------|
| ①  | AD 7527 | PRIMA ESECUZIONE  | MC                   | 19.03.15                       |
|  |         |   |                      |                                |
|  |         |   |                      |                                |
|  |         |   |                      |                                |
|  |         | <b>DENOMINAZIONE</b><br>ELECT DIAGRAM PCOC 44_10T/2H BUS SENSOR |                      |                                |
| A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata. |         | <b>CODICE</b><br>E60001820                                      | <b>FOGLIO</b><br>3/6 | <b>NOTE</b><br>PCOE Expansions |

## Key for electric diagram 44. 10T/2H for EXPANSIONS boards

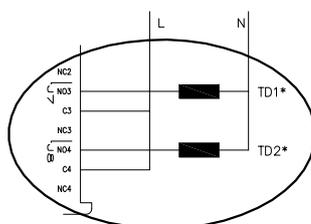
To configure the PCOE module as: expansion MOD\_Z1 set 1 as the serial address, expansion MOD\_Z2 set 2 as the serial address, expansion MOD\_Z3 set 3 as the serial address. See diagram on how to set the DIP switches.

|  |                                   |
|--|-----------------------------------|
| ID1 = Dehumidifier 1 Alarm                           | T4 = Zone 4 electrothermic head   |
| ID2 = Dehumidifier 2 Alarm                           | T5 = Zone 5 electrothermic head   |
| ID3 = External input: high temperature mixing line B | T6 = Zone 6 electrothermic head   |
| ID4 = External input: low temperature mixing line B  | T7 = Zone 7 electrothermic head   |
| T1 = Zone 1 electrothermic head                      | T8 = Zone 8 electrothermic head   |
| T2 = Zone 2 electrothermic head                      | T9 = Zone 9 electrothermic head   |
| T3 = Zone 3 electrothermic head                      | T10 = Zone 10 electrothermic head |

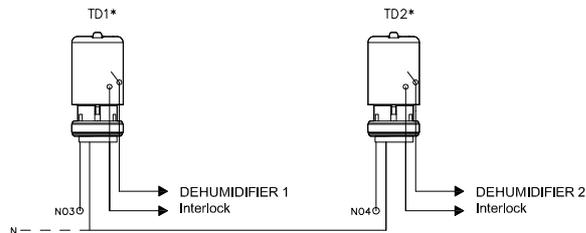
BUS = Bus for the connection from PCOC to expansions boards MOD\_Z1, MOD\_Z2, MOD\_Z3. Then the BUS must be connected to the expansion module MOD\_M3P, if provided, or directly to the BUS sensors.

### NOTES:

- If there is only one mixing line take into consideration mixing line A
- Output J5, J6, J7, J8 - Contact rating 8 A - 250 V AC -  $\cos\phi = 1$
- Digital input ID1 - A closed contact indicates the alarm for dehumidifier 1
- Digital input ID2 - A closed contact indicates the alarm for dehumidifier 2
- Digital input ID3 - When the contact closes it requests high temperature from the thermostat for mixing line B
- Digital input ID4 - If the contact closes while the function is in progress, low temperature will be requested from the thermostat for mixing line B (if enabled)
- The PCOC controller of the inputs can be inverted from the advanced menu
- For regulator input and output connections, use cables with a section that is proportional to the load (1.5 mm<sup>2</sup>)
- The current supply for the regulator and the supply for the 0-10V servomotor must be galvanically isolated, using either two transformers or one with two independent secondary circuits
- If dehumidification is only carried out during the summer season every dehumidifier should be switched on from a corresponding electrothermic head equipped with a micro switch. When there is a request for dehumidification the electrothermic head is powered. When it opens the micro switch closes, in this way the dehumidifier switch on. (See the following diagram by way of example)



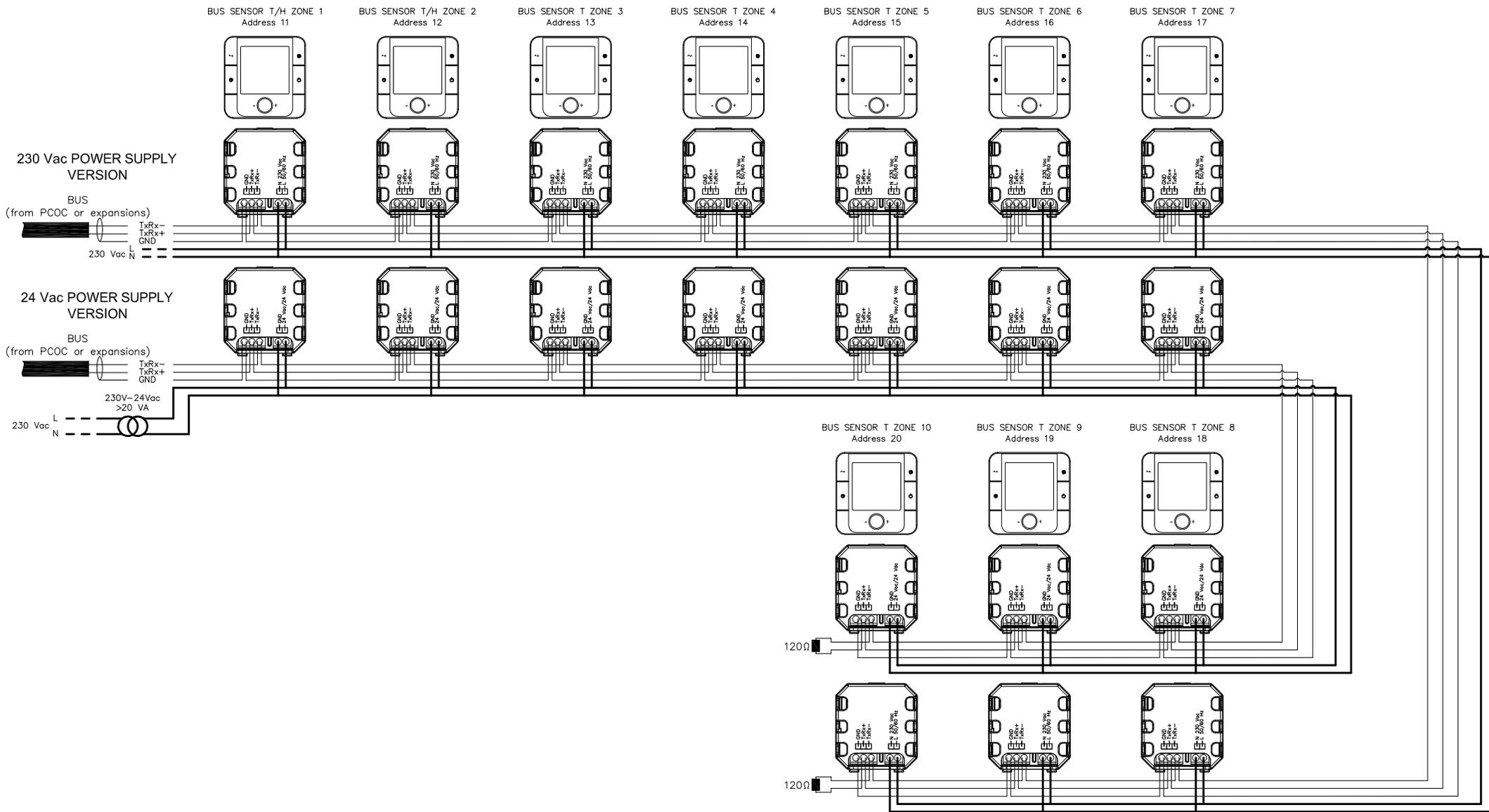
Notes: TD1\* =Dehumidifier 1 electrothermic head;  
TD2\* =Dehumidifier 2 electrothermic head.



### WARNING!

Avoid running the cables of the digital inputs together with the power cables.

|   |   |        |                 |
|---|---|--------|-----------------|
|   | DENOMINAZIONE                           |        |                 |
|   | ELECT DIAGRAM PCOC 44_10T/2H BUS SENSOR |        |                 |
| <small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small> | CODICE                                  | FOGLIO | NOTE            |
|   | E60001820                               | 4/6    | PCOE Expansions |



**NOTE:**

For the BUS connection Use a shielded pair cable twisted like BELDEN 8762 (max 500 m). Connecting chain, in-out mode, between the BUS sensors according to the polarity. The BUS sensor that occupies the last position on the supervision serial line it must be connected to a line closing resistance, with a value of 120Ω - 1/4W

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|   |         |   |                      |                            |
|   |         |   |                      |                            |
|   |         |   |                      |                            |
|   |         | <b>DENOMINAZIONE</b><br>ELECT DIAGRAM PCOC 44_10T/2H BUS SENSOR |                      |                            |
| <small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small> |         | <b>CODICE</b><br>E60001820                                      | <b>FOGLIO</b><br>5/6 | <b>NOTE</b><br>BUS Sensors |

## Key for electric diagram 44. 10T/2H for BUS Sensors

For each BUS sensor set, during configuration, the serial address corresponding to the zone in which it is installed, see references on the diagram.

BUS SENSOR T/H = Room temp./humidity BUS sensor

BUS SENSOR T = Room temperature BUS sensor

### GENERAL NOTES ON THE POWER SUPPLY

It is possible to power all of the boards (PCOC, MOD\_Z1, MOD\_Z2, MOD\_Z3) with a single transformer providing a power supply of 24 Vac +10/-15% 50/60 Hz and a power of at least 58 VA. Alternatively, it is possible to use a transformer that provides a power supply of 28Vdc +10/-20% and a power of at least 49 W. Use the same polarity (G, G0) for the power supply for all the boards and similarly the same polarity (GND, 24 V) for all probes BUS.

The power supply for PCOC and PCOE controls must be separate from the power supply of the 0-10V servomotor(s).

*IMPORTANT:* The power supply of the BUS sensors must come from the same PCOC regulator power supply, switch on or switch off the PCOC regulator must, respectively, switch on or switch off, at the same time, all the BUS sensors.

|  |   |             |  |
|--|---|-------------|--|
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|  | ELECT DIAGRAM PCOC 44_10T/2H BUS SENSOR |             |  |
| CODICE   | FOGLIO                                  | NOTE        |  |
| E60001820  | 6/6                                     | BUS Sensors |  |