

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

SW: 28162100B

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

<b>EMMETT</b> S.P.A. <small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small>	DENOMINAZIONE ELECT DIAGRAM PCDC 20_09T/2H		
	CODICE E60001340	FOGLIO 1/8	NOTE PCDC board

## Key for electric diagram 20. 09T/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:

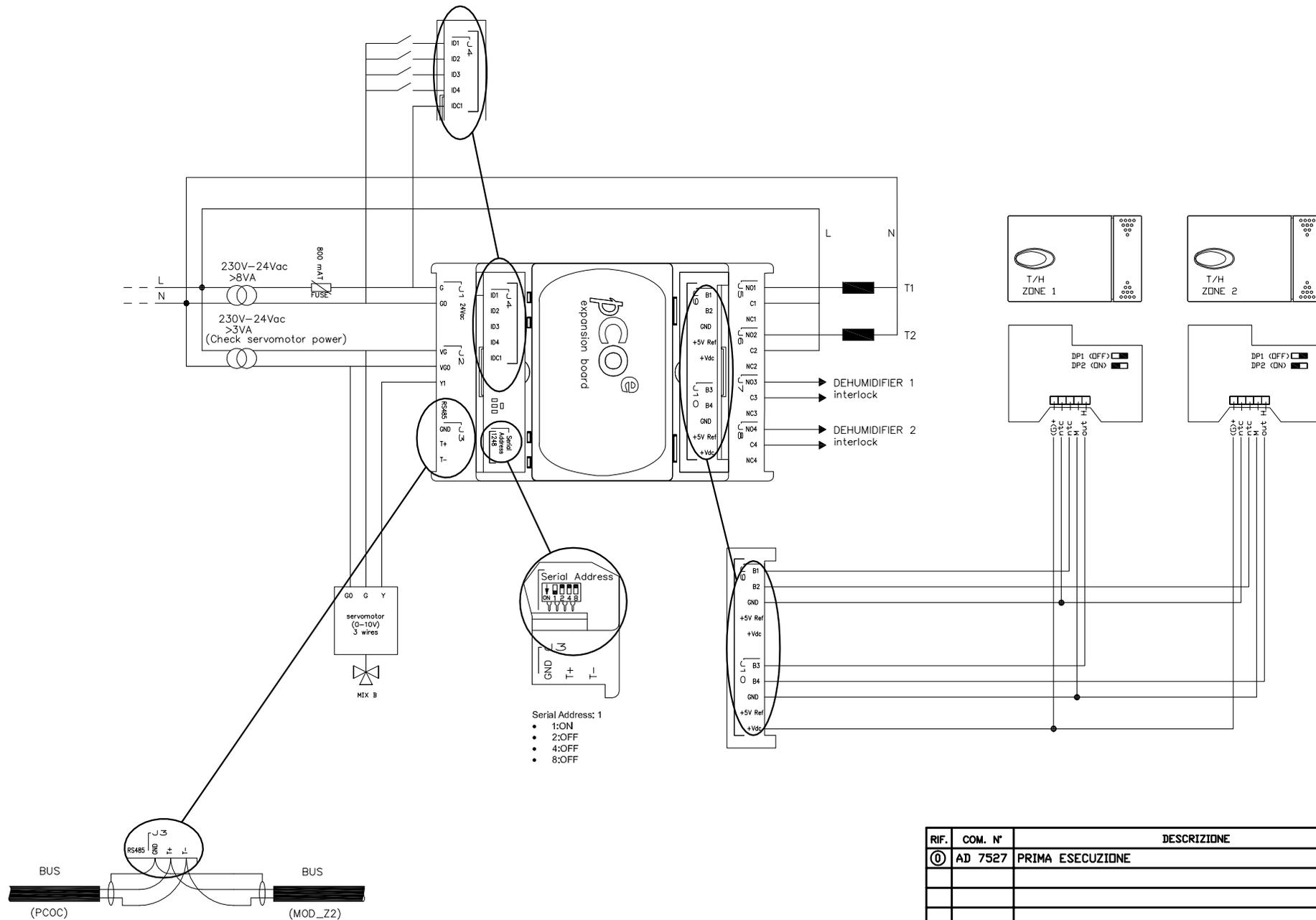
- If there is only one mixing line take into consideration mixing line A
- Output J3 - Boiler interlock - Contact rating 8 A - 250 Vac -  $\cos\phi = 1$
- Output J4 - PGD1 Large remote terminal connection via 6-wire telephone cable
- Output J10 - Chiller interlock - Contact rating 8 A - 250 Vac -  $\cos\phi = 1$
- 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.

 <small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small>	DENOMINAZIONE		
	ELECT DIAGRAM PCOC 20_09T/2H		
CODICE	FOGLIO	NOTE	
E60001340	2/8	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.

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①	AD 7527	PRIMA ESECUZIONE	MC	19.03.15
		DENOMINAZIONE		
<small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small>		ELECT DIAGRAM PCOC 20_09T/2H		
CODICE		FOGLIO	NOTE	
E60001340		3/8	MOD_Z1 board	

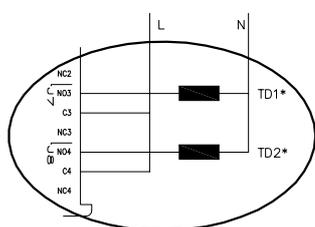
## Key for electric diagram 20. 09T/2H for EXPANSION board MOD\_Z1

To configure the PCOE module as expansion MOD\_Z1 set 1 as the serial address, see diagram on how to set the DIP switches

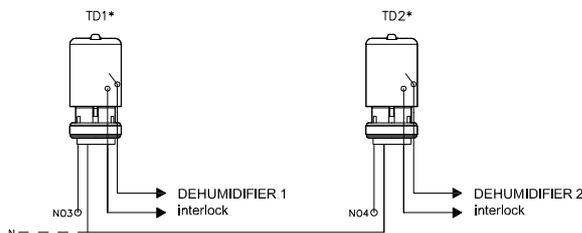
ID1 = Dehumidifier 1 Alarm	T/H 1 = Room temp./humidity sensor ZONE 1
ID2 = Dehumidifier 2 Alarm	T/H 2 = Room temp./humidity sensor ZONE 2
ID3 = External input: high temperature mixing line B	T1 = Zone 1 electrothermic head
ID4 = External input: low temperature mixing line B	T2 = Zone 2 electrothermic head
	BUS = Bus for the connection from PCOC to expansion board MOD_Z2

### 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.



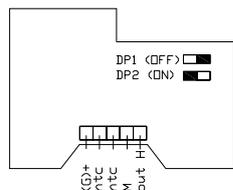
### WARNING!

For graphic 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 adjustment 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.

### IMPORTANT!

T/H temperature and humidity sensors: before closing the T/H probes, check that jumpers DP1 - DP2 are positioned as in the figure.

This operation enables output "out H" of the probe with signal 4/20 mA for correct measurement of humidity.



**out H** = humidity output (0/1 Vdc o 4/20 mA)  
**M** = reference for both power supply and outputs  
**+ (G)** = power supply (12/24 V AC or 9/30 V DC)  
**ntc** = NTC resistive output  
**DP1** = OFF  
**DP2** = ON

	DENOMINAZIONE		
	ELECT DIAGRAM PCOC 20_09T/2H		
A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.	CODICE	FOGLIO	NOTE
	E60001340	4/8	MOD_Z1 board



## Key for electric diagram 20. 09T/2H for EXPANSION board MOD\_Z2

To configure the PCOE module as expansion MOD\_Z2 set 2 as the serial address, see diagram on how to set the DIP switches

T	= Room temperature sensors	T3	= Zone 3 electrothermic head
		T4	= Zone 4 electrothermic head
BUS	= Bus for connections from expansion board MOD_Z1 to expansion board MOD_Z3	T5	= Zone 5 electrothermic head
		T6	= Zone 6 electrothermic head

### NOTES:

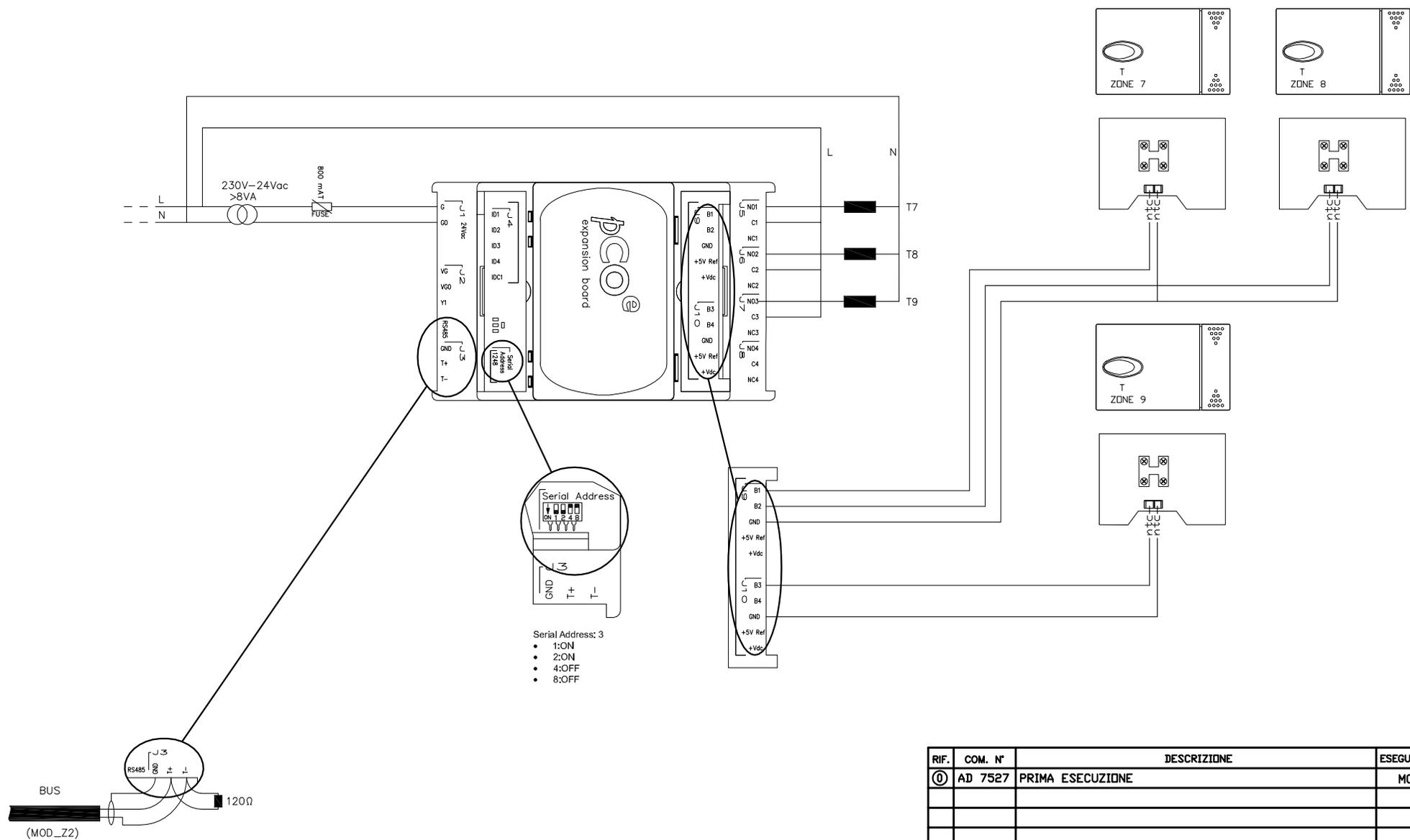
- Output J5, J6, J7, J8 - Contact rating 8 A - 250 V AC -  $\cos\phi = 1$
- For regulator input and output connections, use cables with a section that is proportional to the load (1.5 mm<sup>2</sup>)

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

 <small>A termini di legge e' vietato riprodurre o comunicare a terzi il contenuto del presente disegno. Proprieta' riservata.</small>	DENOMINAZIONE ELECT DIAGRAM PCDC 20_09T/2H		
	CODICE E60001340	FOGLIO 6/8	NOTE MOD_Z2 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. Then the BUS must be connected to the expansion module MOD\_M3P, if provided, otherwise the MOD\_Z3 board 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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	CODICE E60001340	FOGLIO 7/8	NOTE MOD_Z3 board

## Key for electric diagram 20. 09T/2H for EXPANSION board MOD\_Z3

To configure the PCOE module as expansion MOD\_Z3 set 3 as the serial address, see diagram on how to set the DIP switches

T = Room temperature sensors  
T7 = Zone 7 electrothermic head  
T8 = Zone 8 electrothermic head  
T9 = Zone 9 electrothermic head  
BUS = Bus for connections from expansion board MOD\_Z2

### NOTES:

- Output J5, J6, J7, J8 - Contact rating 8 A - 250 V AC -  $\cos\phi = 1$
- For regulator input and output connections, use cables with a section that is proportional to the load (1.5 mm<sup>2</sup>)

### WARNING!

For simplicity the common terminals of the probes are shown schematically connected at the most convenient points. When wiring, run all leads of the probes to the terminals of the adjustment 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.

### 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 38 VA. Alternatively, it is possible to use a transformer that provides a power supply of 28Vdc +10/-20% and a power of at least 29 W. Use the same polarity (G, G0) for the power supply for all the boards.

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

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	CODICE E60001340	FOGLIO 8/8	NOTE MOD_Z3 board