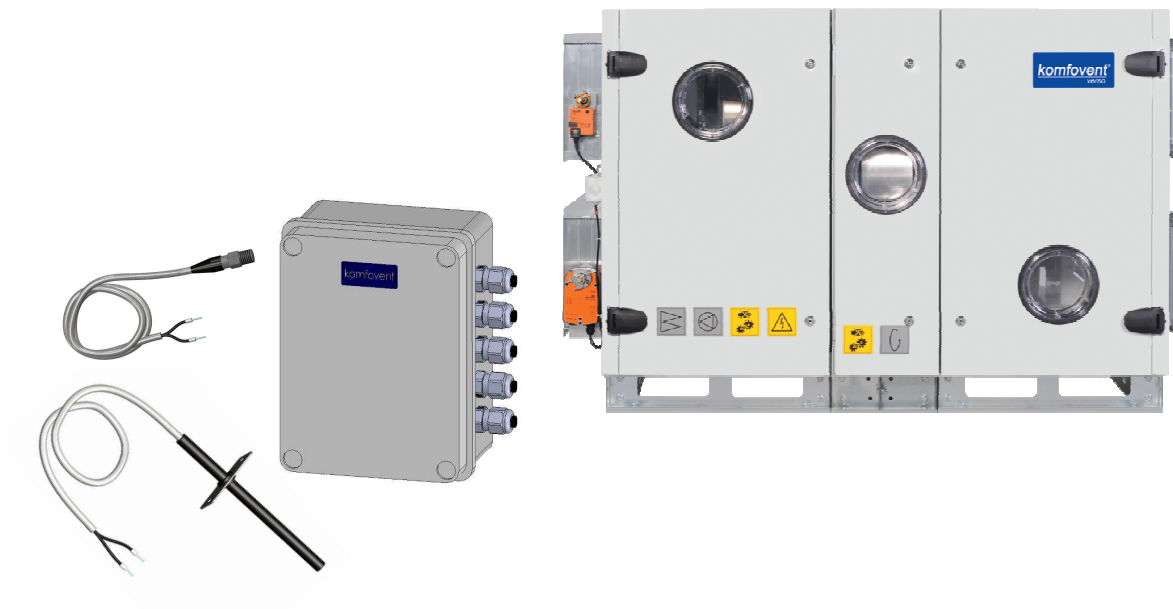


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# ADDITIONAL ZONE CONTROL INSTALLATION MANUAL

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# CONTENT

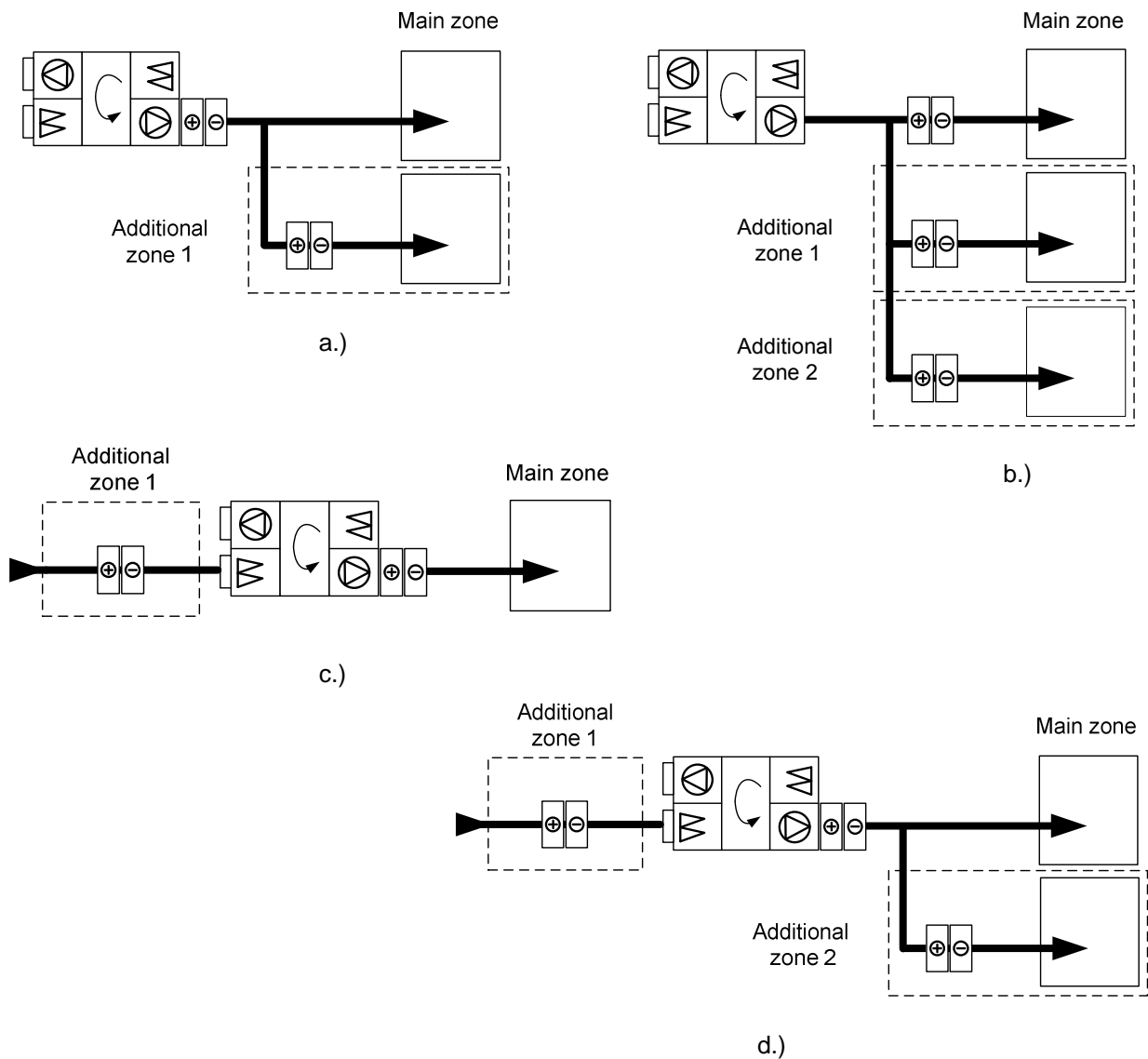
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# 1. INTRODUCTION

Additional zone control function which ensures independent temperature maintenance in separate ventilation areas is available for VERSO air handling units with C5 controller. Up to two additional zones could be controlled. For each additional zone control, additional extension module and temperature sensors (if needed) must be connected. For separate zone maintained temperature setpoint is provided in the control panel (see Operation manual).

In case of non-standard air handling unit configuration for required control demand ensuring extension module can be used for additional heater and cooler control (if several are provided in the same time). For this application temperature setpoints are not available.

## 2. APPLICATION EXAMPLES



- a.) Temperature control in main zone and extra control of temperature in additional zone.
- b.) Three independent temperature zones control
- c.) Additional temperature zone control for preheater application.
- d.) One additional zone for preheating, other for afterheating/cooling

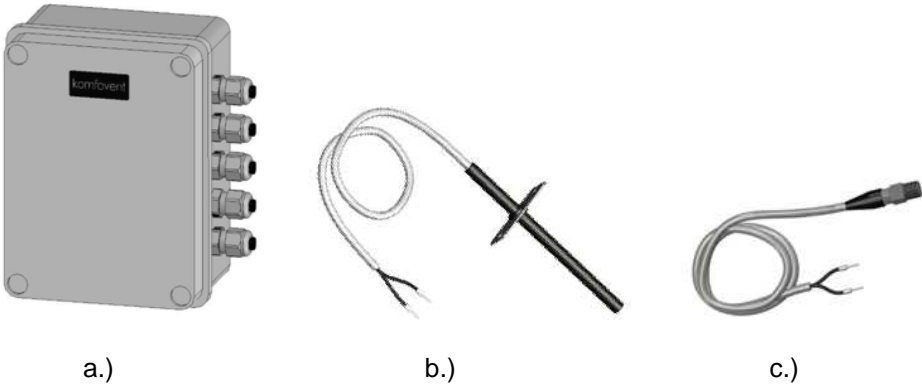
### 3. INSTALLATION REQUIREMENTS

Extension module (Picture 3a) can be installed in any place near additional heaters or/and coolers of air handling unit. All cable connections should be made through the sealing to ensure protection from humidity and dust.

Supply air temperature sensor (Picture 3b) is mounted in the duct after heater or cooler section (min. distance not less than a diagonal of duct).

Water temperature sensor (Picture 3c) (if provided) is mounted on the water pipe by screwing it into the provided hole. The sensor must be thermally insulated!

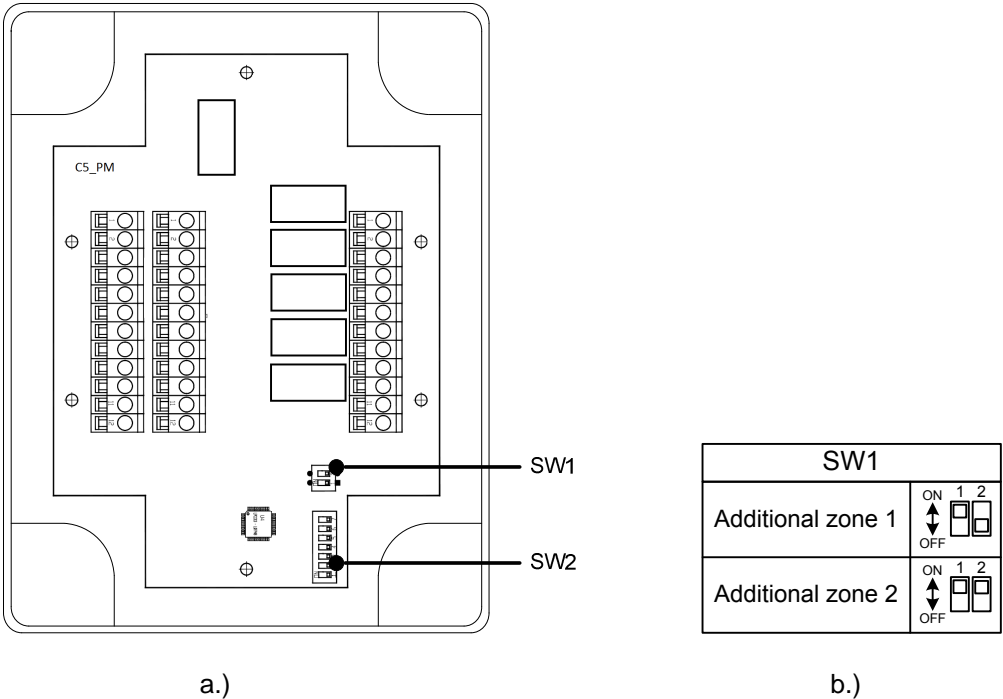
Picture 3



### 4. MODULE CONFIGURATION

Depending on the applications different module configuration is available. Configuration is made by DIP-switches, which are placed on board inside the module (Picture 4a). SW1 switch is intended for number of zone configuration: 1 or 2 (Picture 4b). SW2 switch is for heater/cooler configuration according typical application (see 6 chapter "Application selection").

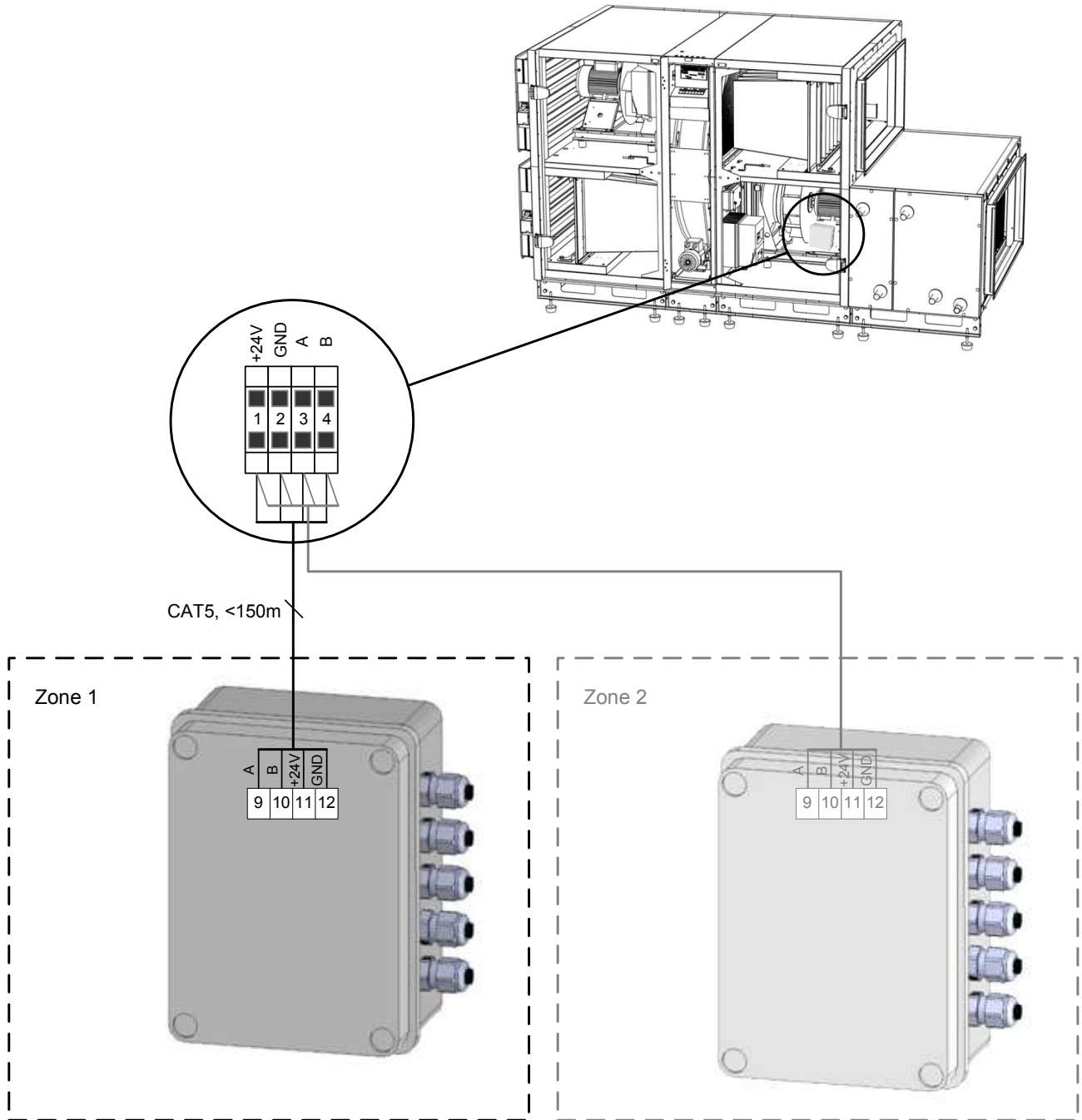
Picture 4



## 5. EXTENSION MODULE CONNECTION

Extension module must be connected to the provided terminal box, which is located inside VERSO air handling unit near supply air fan (Picture 5). Twisted pair cable should be used for wiring (example, CAT 5). Maximum length of connection cable between air handling unit and module may not exceed **150 m**. In case of two additional zones both modules are connected in parallel.

Picture 5

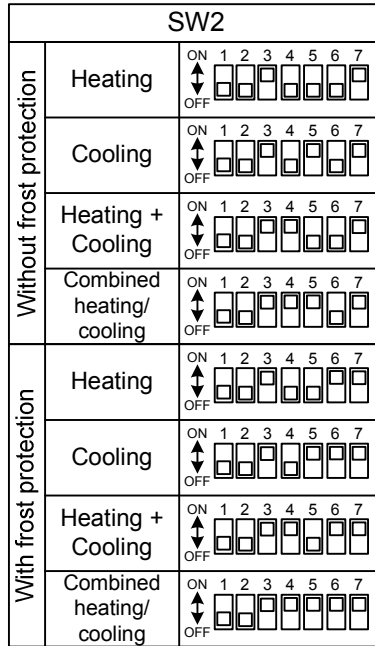


## 6. APPLICATION SELECTION

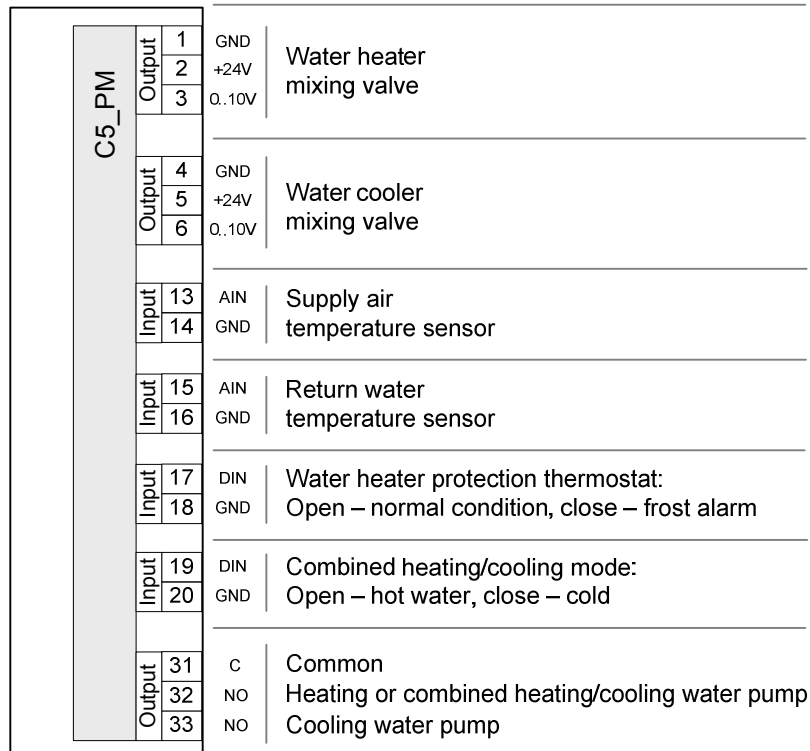
### 6.1. ADDITIONAL ZONE WITH WATER HEATER/COOLER CONTROL

Depending on the type and quantity of system elements (heaters/coolers), located in additional zone, the application is selected by SW2 switch (Picture 6.1a). All provided external elements are connected to the board terminals (Picture 6.1b).

Picture 6.1



a.)



b.)

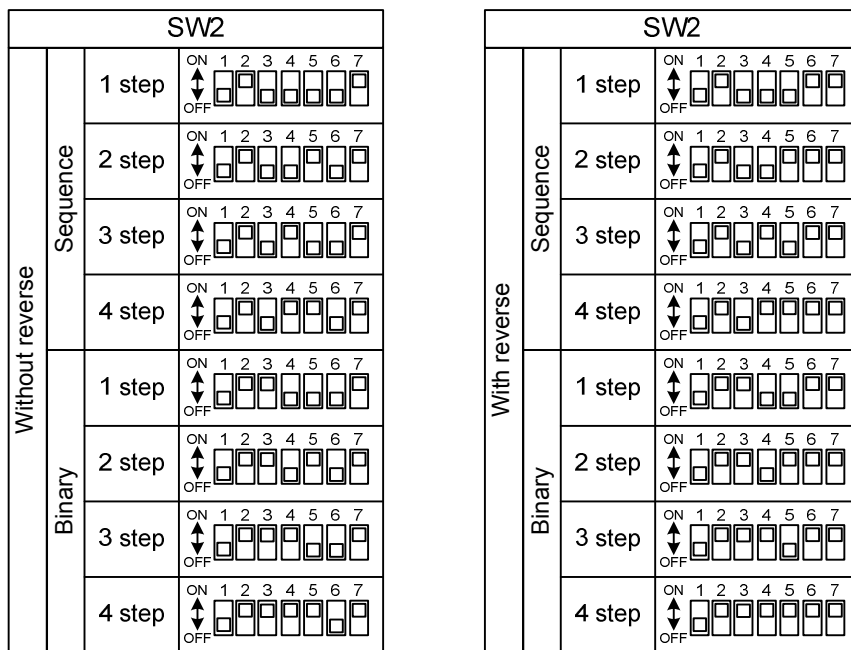
## 6.2. ADDITIONAL ZONE WITH DX UNIT CONTROL

Depending on the type and quantity of DX units located in additional zone, the application is selected by SW2 switch (Picture 6.2a).

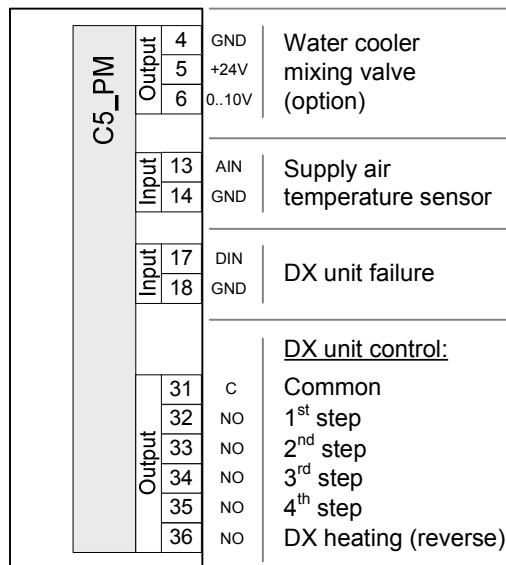
- “Reverse” – DX unit can operate in both modes: cooling and heating.
- “Sequence” – control of DX steps one by one. Recommended in case if capacities of DX units are equal.
- “Binary” – control of DX steps by binary code. Recommended in case if capacities of DX units are close to ratio 1-2-4 (the capacity of each of the following steps is double the previous). Example: DX1 is 1kW cooler, DX2 – 2kW and DX3 cooler with 4kW capacity. Control will be in 7 steps:  
1: 1kW; 2: 2kW; 3: 1kW+2kW; 4: 4kW; 5: 1kW+4kW; 6: 2kW+4kW; 7: 1kW+2kW+4kW.

All provided external elements are connected to the board terminals (Picture 6.2b).

Picture 6.2



a.)



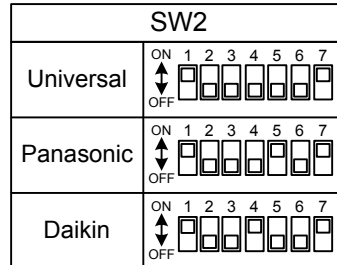
b.)

### 6.3. ADDITIONAL ZONE WITH INVERTER-TYPE DX UNIT CONTROL

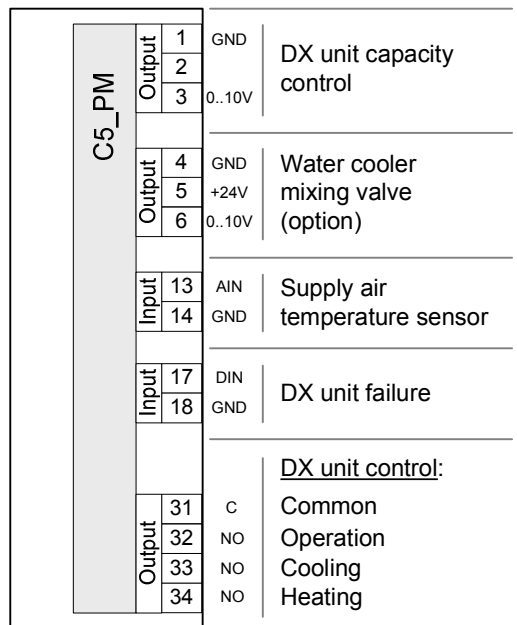
Depending on the type of DX units located in additional zone, the application is selected by SW2 switch (Picture 6.3a).

All provided external elements are connected to the board terminals (Picture 6.3b).

Picture 6.3



a.)



b.)

### 6.4. ADDITIONAL ZONE WITH ELECTRIC HEATER CONTROL

For temperature control of additional zone standard VERSO electric heater can be used. In such case, electric heater is connected to the same terminals (Picture 5) instead of extension module. Additional zone supply air temperature sensor must be connected to the electric heater board (C5\_PM) terminals 13,14.