

# WIRING DIAGRAMS FOR SERENITY AIR HANDLING UNITS



This wiring diagram is only an addition to our installation and operation manuals, available on our website for download.



All internal components (fans, controls, sensors, actuators...) to the control board are pre-wired. The power supply must be connected to the safety isolating switch by a qualified electrician. Earthing is obligatory.



All electrical connections must be made by a qualified electrician and in accordance with local rules and regulations.



Residual current circuit breaker 300mA type B

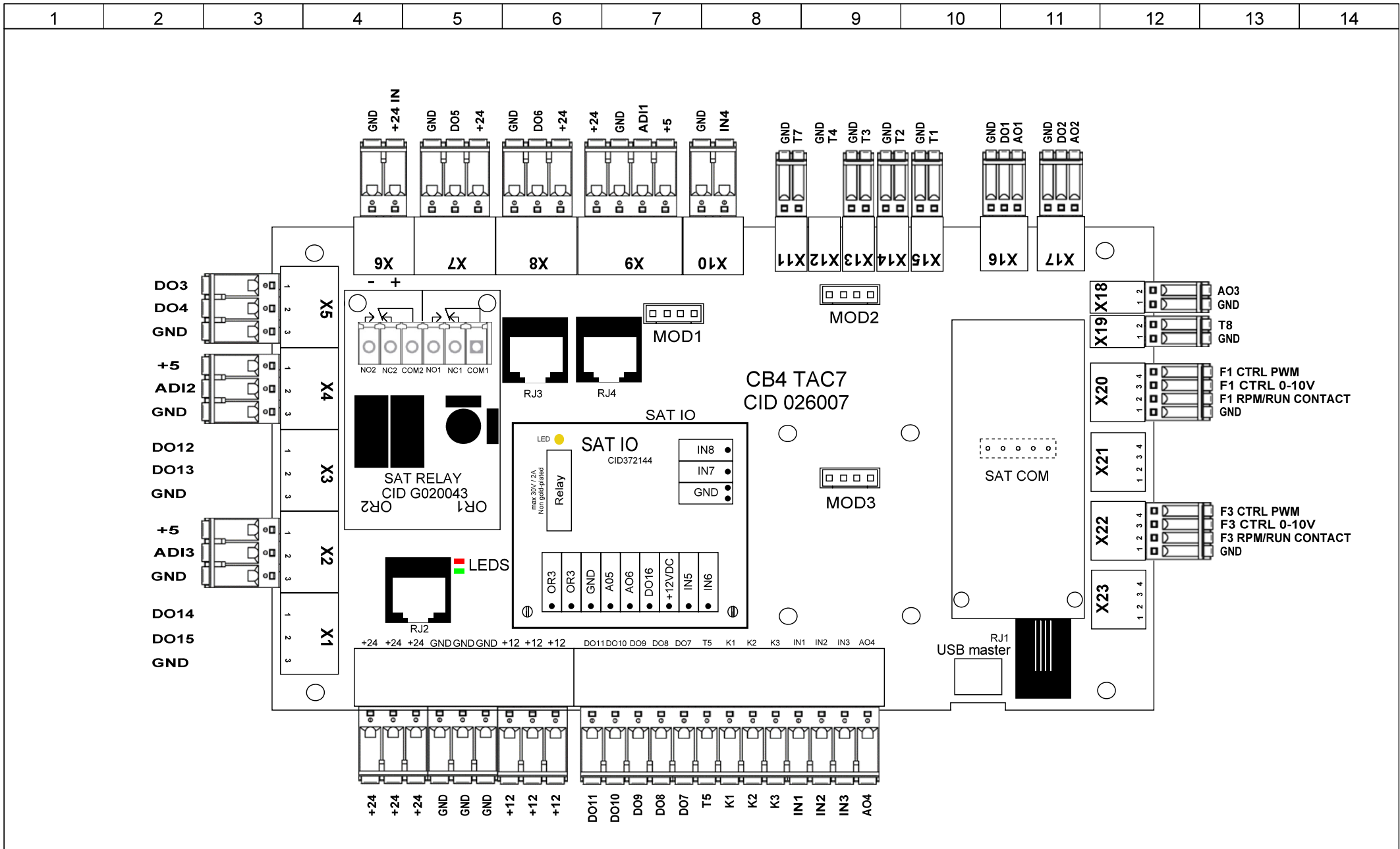


Fuse protection (D-type, "slow")  
D – 10.000 A – AC3



Electronic boards contains ESD sensitive components. Use antistatic bracket connected to protective earth in case it is necessary to manipulate them. In alternative, loose charges by touching the unit and handle boards at corners only.

| Changes  |                           | Name       | Date                    | Page     |
|----------|---------------------------|------------|-------------------------|----------|
| Name     | Date                      | Draw.: msg | 17/10/2024              | 1        |
|          |                           | check.:    |                         |          |
|          |                           | Norm:      |                         |          |
| Subject: | SERENITY_Wiring TAC7.spl7 |            | Application:<br>General | of<br>38 |



| Changes  |                           | Name       | Date       | TAC7 | Page                       |    |
|----------|---------------------------|------------|------------|------|----------------------------|----|
| Name     | Date                      | Draw.: msg | 17/10/2024 |      | Application:<br>Controller | 2  |
|          |                           | check.:    |            |      |                            | of |
|          |                           | Norm.:     |            |      |                            | 38 |
| Subject: | SERENITY_Wiring TAC7.spl7 |            |            |      |                            |    |

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|

AO1 - BA+ = output 0-10V for external waterborne reheater (option)  
 DO1 - KWout = output PWM for electric reheater power regulation (option - prewired)  
 DO2 - KWIn- PX = output PWM for electric preheater power regulation (option - prewired)  
 AO2 - NOT USED  
 AO3 - BA- = output 0-10V for external waterborne recoler or reversible Heat/Cool (option)  
 AO4 - NV = output 0-10V for internal hydraulic postheater or reversible battery (option - prewired)  
 DO3 - BYPASS OPEN- PX (prewired)  
 DO4 - BYPASS CLOSE - PX (prewired)  
 DO5 - DAMPER 1 (with or without spring return, I<sub>max</sub> = 0,5 A DC) (option - prewired)  
 DO6 - DAMPER 2 (with or without spring return, I<sub>max</sub> = 0,5 A DC) (option - prewired)  
 DO7 - HEAT CONTACT (open collector; V<sub>max</sub>=24 VDC; I<sub>max</sub>=0,1 A)  
 DO8 - COOL CONTACT (open collector; V<sub>max</sub>=24 VDC; I<sub>max</sub>=0,1 A)  
 DO9 - ALARM CONTACT (open collector; V<sub>max</sub>=24 VDC; I<sub>max</sub>=0,1 A)  
 DO10 - AL dPACONTACT (open collector; V<sub>max</sub>=24 VDC; I<sub>max</sub>=0,1 A)  
 DO11 - FAN ON CONTACT (open collector; V<sub>max</sub>=24 VDC; I<sub>max</sub>=0,1 A)  
 ADI1 - BYPASS POS - PX | RX SPEED FEEDBACK - RX (prewired)  
 ADI2 - NOT USED  
 ADI3 - NOT USED  
 T1 - outdoor air T° sensor (prewired)  
 T2 - extract air T° sensor (prewired)  
 T3 - exhaust T° sensor (prewired)  
 T4 - BAin T° sensor  
 T5 - supply air T° (option)  
 T7 - BA+ frost protection T° sensor (option - prewired for internal battery)  
 T8 - BA- frost protection T° sensor (option)

IN1 + 12/24V - FIRE ALARM  
 IN2 + 12/24V - BOOST  
 IN3 + 12/24V - BYPASS ACTIVATION OVERRIDE  
 IN4 + GND - Drain pan full contact

K1+ 12/24V - CA MODE: External speed 1 (N.O.)  
 LS / CP MODE: External start (N.O.)  
 K2+ 12/24V - CA MODE: External speed 2 (N.O.)  
 LS / CP MODE: 0-10V (Max. impedance: 1.500 Ohms)  
 K3+ 12/24V - CA MODE: External speed 3 (N.O.)  
 LS / CP MODE: 0-10V (Max. impedance: 1.500 Ohms)

F1 - FAN 1 (SUPPLY)  
 F2 - FAN 2 (NOT USED)  
 F3 - FAN 3 (EXHAUST)  
 F4 - FAN 4 ((NOT USED)

RJ1: RJ12 connector for TACtouch  
 RJ2: NOT USED  
 RJ3: RJ12 connector for Modbus Pressure sensors kit CA + filters monitoring, prewired, on supply flow  
 RJ4: RJ12 connector for Modbus Pressure sensors kit CA + filters monitoring, prewired, on extract flow and defrost detecting (option - prewired on another sensor)

SAT IO OR3-OR3:BYPASS STATUS - (option)  
 SAT IO AO5: 0-10V OUTPUT (airflow / pressure) - (option)  
 SAT IO AO6: 0-10V OUTPUT (airflow / pressure) - (option)  
 SAT IO IN5: MASTER SELECTION - (option)  
 SAT IO IN6: HEAT OFF - (option)  
 SAT IO IN7: SUPPLY RUN IN FIRE ALARM (open) | dPa ALARM INPUT - (option)  
 SAT IO IN8: EXHAUST RUN IN FIRE ALARM (open) - (option)

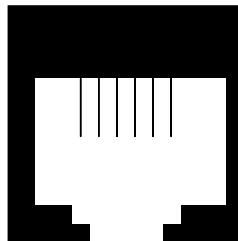
SAT COM - SAT MODBUS or SAT KNX or SAT SAT WIFI-ETHERNET or SAT WIFI-ETHERNET-MQTT - (option)

SAT RELAY:  
 SAT RELAY OR1 : Enable Heat Pump - (option)  
 SAT RELAY OR2 : Heat/Cool selection for Heat Pump/Chiller - (option)  
 relais SPDT (COM + NC/NO) – max 0,5A 30V AC/DC  
 In absence of a heat pump, these outputs can be configured as alternative for a function assigned by default to DO7...DO11 thanks to dedicated function "IO mapping" on TACtouch.

GREEN LED ON: POWERED ON  
 RED LED ON: ALARM

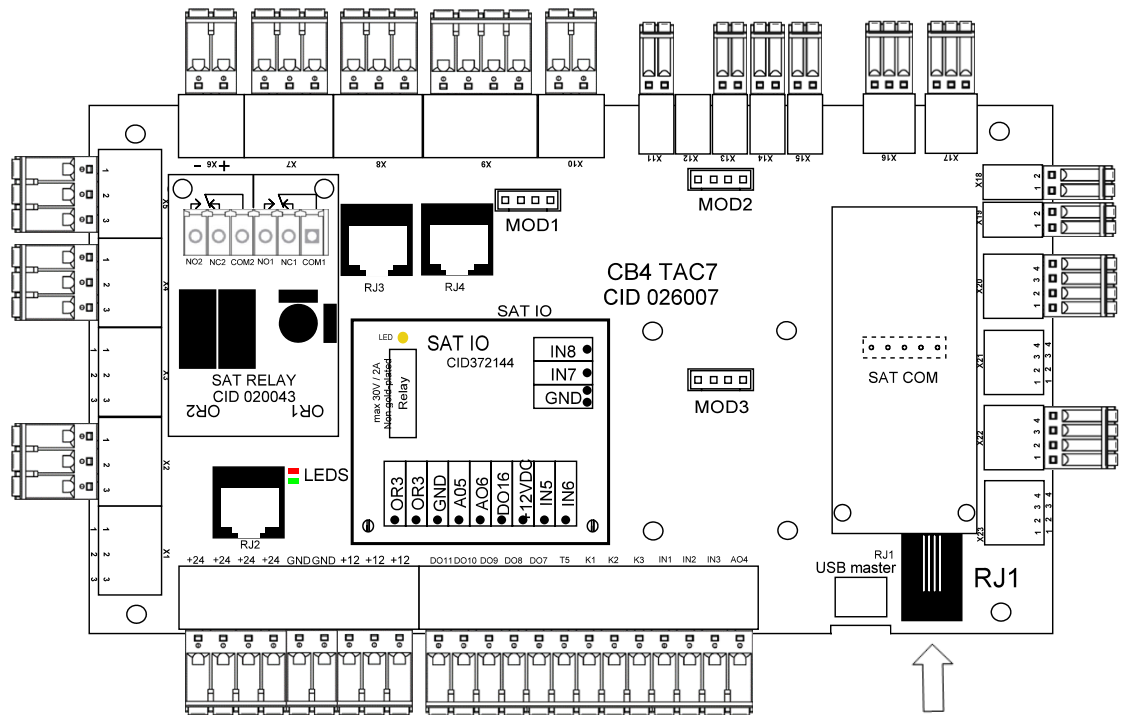
+24 : +24V DC (min: +22V DC; max: +26V DC). 0,8 A max  
 +12 : +12V DC (min: +11,49V DC; max: +12,81V DC). 0,3 A max

NOT USED  
 GND  
 B-  
 A+  
 +24V DC  
 NOT USED  
 1 2 3 4 5 6



RJ12 PINOUT

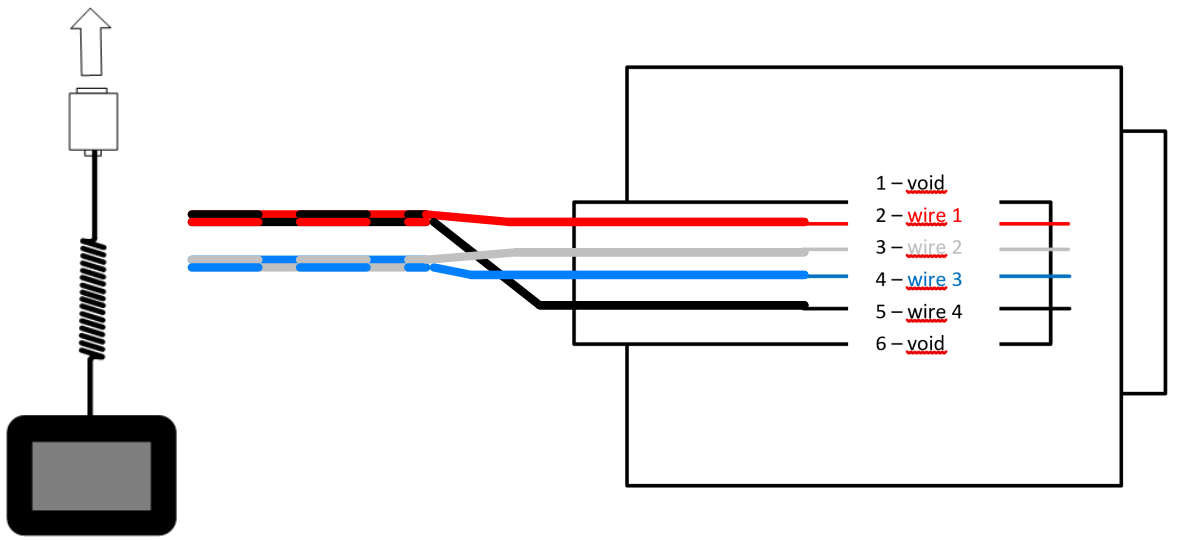
|          |                           |         |            |                         |       |
|----------|---------------------------|---------|------------|-------------------------|-------|
| Changes  |                           | Name    | Date       | Application:<br>IO TAC7 | Page  |
| Name     | Date                      | Draw.:  | 11/05/2026 |                         | 3     |
|          |                           | check.: |            |                         |       |
|          |                           | Norm.:  |            |                         |       |
| Subject: | SERENITY_Wiring TAC7.spl7 |         |            |                         | of 38 |



### Extender cable Wiring

In installation where an extender cable is necessary, this last one must conform to the RS-485 Standard with twisted pair conductors. The cable must be shielded. Conductor Area min 0.2 mm<sup>2</sup>. The total length must not exceed 100 meters. Maximum DC resistance on single wire: 8 Ohms straight wired, 2 pairs connected to RJ12 connectors at cable extremities. 1 pair to the middle pins, the other pair to the extremity pins:

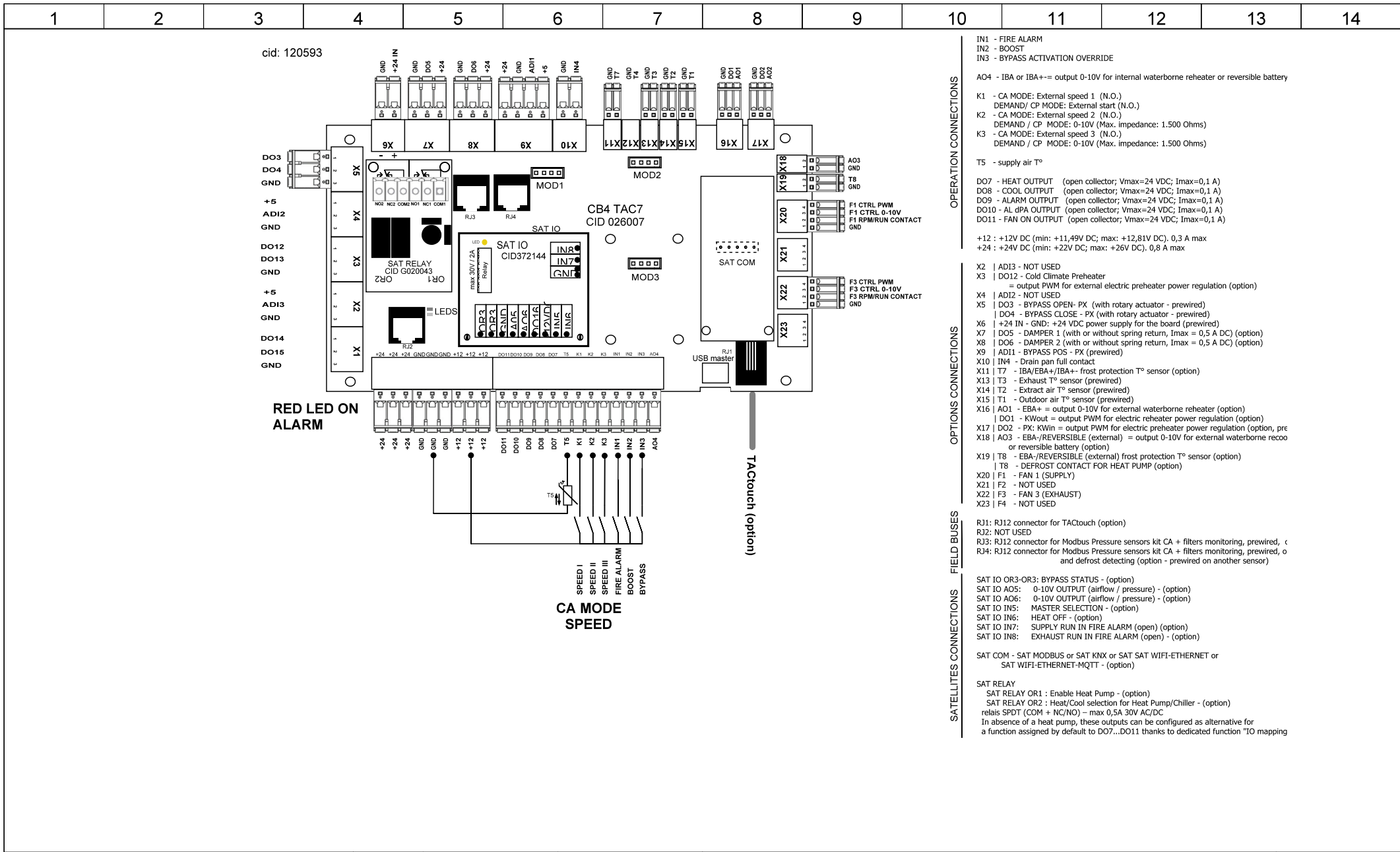
Pinout for each connector as in figure below (colors are indicative for the wires of the extender cable):



Standard cable

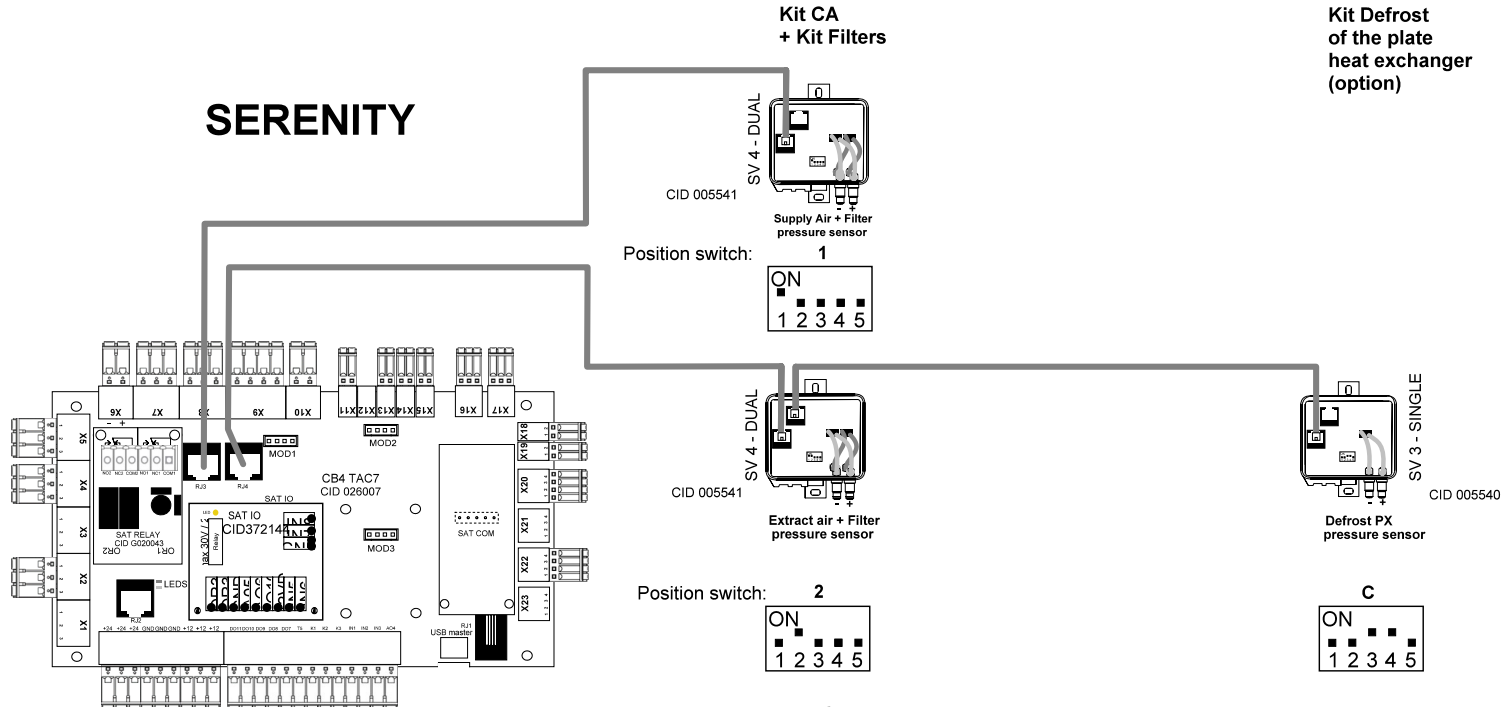
TACtouch

|          |                           |         |      |                                 |            |   |
|----------|---------------------------|---------|------|---------------------------------|------------|---|
| Changes  |                           | Name    | Date | Application:<br><b>TACtouch</b> | Page       |   |
| Name     | Date                      | Draw.:  | msg  |                                 | 17/10/2024 | 4 |
|          |                           | check.: |      |                                 |            |   |
|          |                           | Norm:   |      |                                 |            |   |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |      |                                 | of 38      |   |



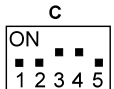
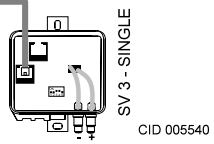
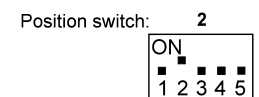
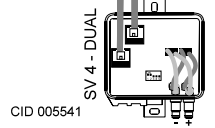
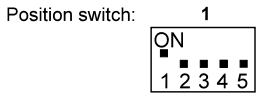
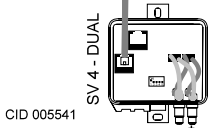
| Changes                       |                           | Name    | Date | Page       |
|-------------------------------|---------------------------|---------|------|------------|
| Name                          | Date                      | Draw.:  | msg  | 17/10/2024 |
|                               |                           | check.: |      | 5          |
|                               |                           | Norm:   |      |            |
| Subject:                      | SERENITY_Wiring TAC7.sp17 |         |      | of 38      |
| Application:<br>Product Label |                           |         |      |            |

# SERENITY



**Kit CA  
+ Kit Filters**

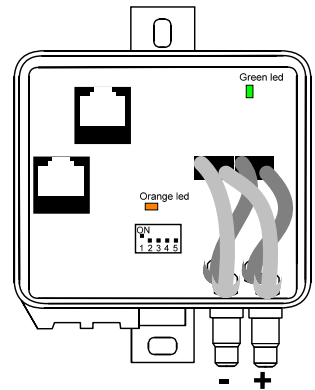
**Kit Defrost  
of the plate  
heat exchanger  
(option)**



Tubes for kit CA on top row 'A'  
Tubes for kit Filters on bottom row 'B'



Bottom view  
'A' row is the nearest to the front cover

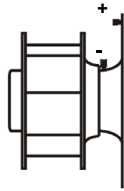


GREEN LED Power ON  
GREEN LED Power OFF

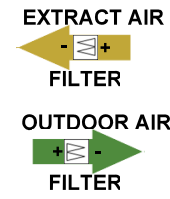
CID 005540: SV-3 SINGLE SENSOR  
CID 005541: SV-4 DUAL SENSOR

DARK GRAY TUBES  
PRESENT ONLY ON SV-4  
CONNECTED TO BOTTOM  
'B' ROW

Tubes connection for  
kit CA at fan extremity



Tubes connection for kit F  
at filter extremity



| Changes  |                           | Name       | Date       | Configuration of function:                 | Page |
|----------|---------------------------|------------|------------|--|------|
| Name     | Date                      | Draw.: msg | 28/05/2026 | Refer to sheet "Modbus Pa Sensors - Setup" | 6    |
|          |                           | check.:    |            |  |      |
|          |                           | Norm.:     |            | Application:                               | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | <b>Modbus Pa Sensors - Wiring</b>          | 38   |

### SENSORS CONFIGURATION KIT CA

|   |                   |                |                 |                     |
|---|-------------------|----------------|-----------------|---------------------|
| Section Airflow/ Fan with backward curved blades / Parameters:                            |                   |                |                 |                     |
| Advanced settings for pressure sensors of kit CA  |                   | Yes            |                 |                     |
| Type - Supply   |                   | MODBUS INPUT   |                 |                     |
| Type - Extract  |                   | MODBUS INPUT   |                 |                     |
| Section Airflow / Settings - Constant Airflow Sensor - Type - Modbus / Serial Parameters: |                   |                |                 |                     |
|   | <b>BUS</b>        | <b>ADDRESS</b> | <b>REGISTER</b> | <b>SCALE FACTOR</b> |
| 1   | BUS#3: INT2 (RJ3) | 86             | 4               | 0,1                 |
| 2   | BUS#2: INT1 (RJ4) | 80             | 4               | 0,1                 |

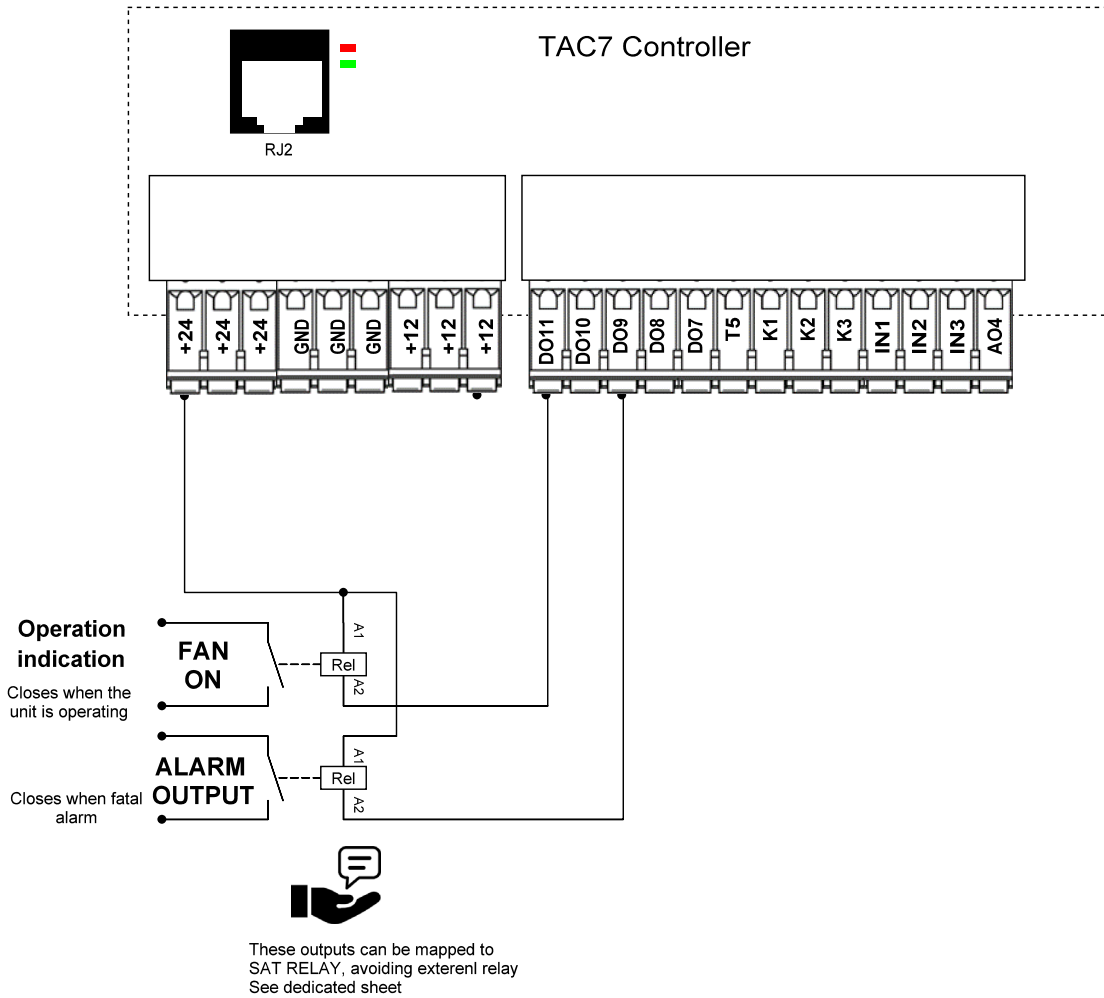
### SENSORS CONFIGURATION KIT DEFROST

|  |                   |                |                 |                     |
|--|-------------------|----------------|-----------------|---------------------|
| Section Heat / Cool recovery / Anti-freeze / Parameters:             |                   |                |                 |                     |
| Defrost pressure sensor  |                   | Yes            |                 |                     |
| Section Heat / Cool recovery / Defrost pressure sensor / Parameters: |                   |                |                 |                     |
|  | <b>BUS</b>        | <b>ADDRESS</b> | <b>REGISTER</b> | <b>SCALE FACTOR</b> |
| 1  | BUS#2: INT1 (RJ4) | 92             | 4               | 0,1                 |

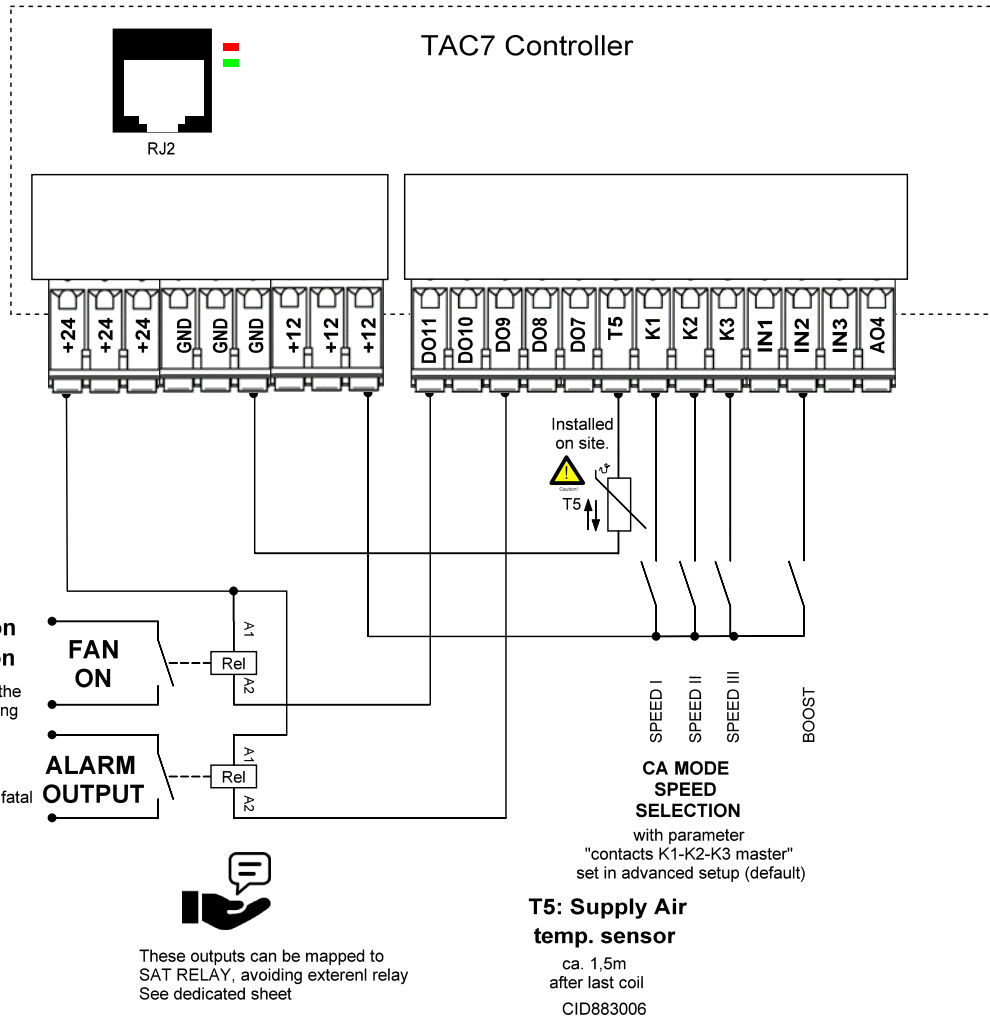
### SENSORS CONFIGURATION KIT FILTERS

|   |                   |                |                 |                     |
|---|-------------------|----------------|-----------------|---------------------|
| Section Filters/ Pressure alarm/ Parameters:                            |                   |                |                 |                     |
| Filter pressure monitoring with sensor                                  |                   | Yes            |                 |                     |
| Advanced settings for pressure sensors of kit FILTERS                   |                   | Yes            |                 |                     |
| Section Filters/ Filters pressure sensors - Modbus / Serial Parameters: |                   |                |                 |                     |
|   | <b>BUS</b>        | <b>ADDRESS</b> | <b>REGISTER</b> | <b>SCALE FACTOR</b> |
| 1   | BUS#3: INT2 (RJ3) | 86             | 24              | 0,1                 |
| 2   | BUS#2: INT1 (RJ4) | 80             | 24              | 0,1                 |

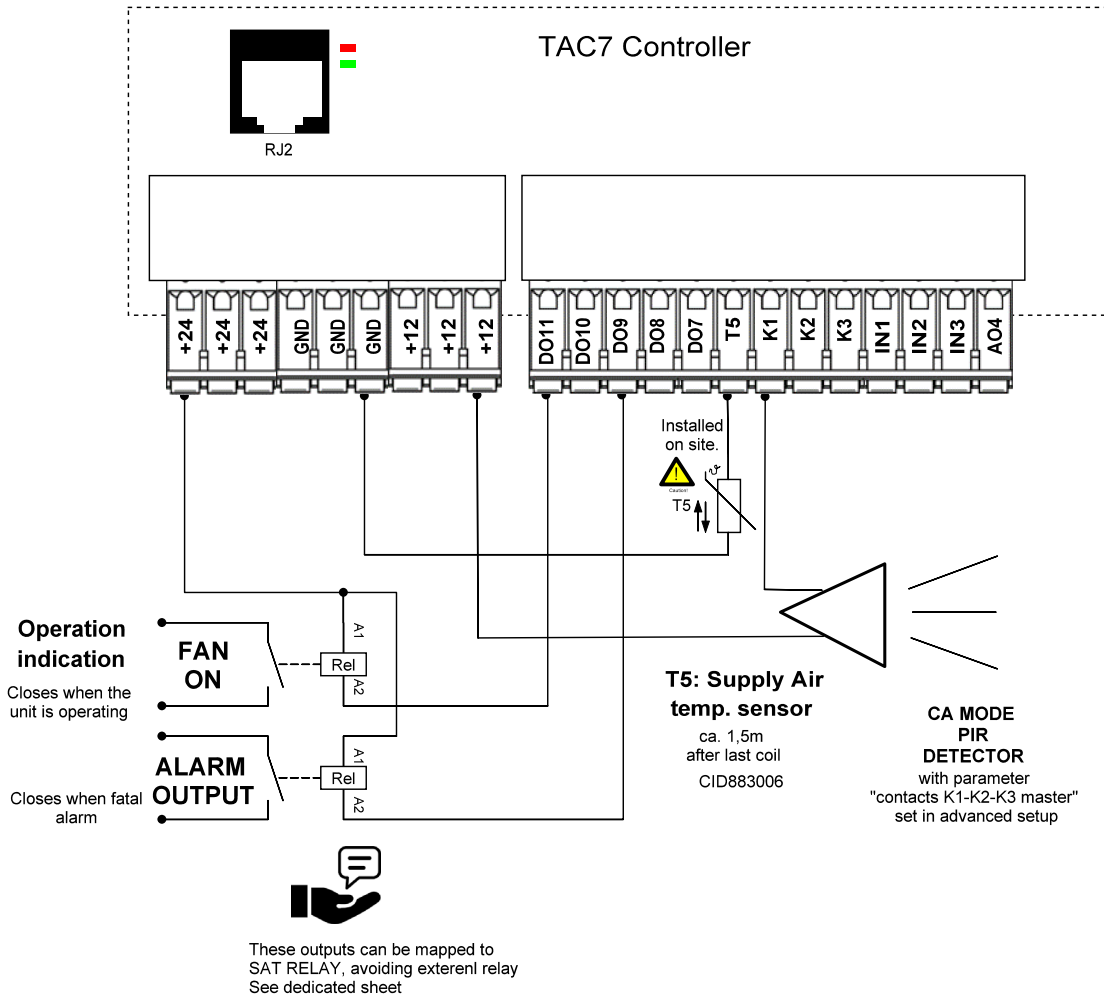
|                                    |      |            |            |   |       |
|------------------------------------|------|------------|------------|---|-------|
| Changes                            |      | Name       | Date       | Configuration of function:<br>Setup of Modbus Pressure sensors for SERENITY | Page  |
| Name                               | Date | Draw.: msg | 28/05/2026 |   | 7     |
|                                    |      | check.:    |            | Application:<br>Modbus Pa Sensors - Setup                                   | of 38 |
| Subject: SERENITY_Wiring TAC7.spl7 |      | Norm:      |            |   |       |



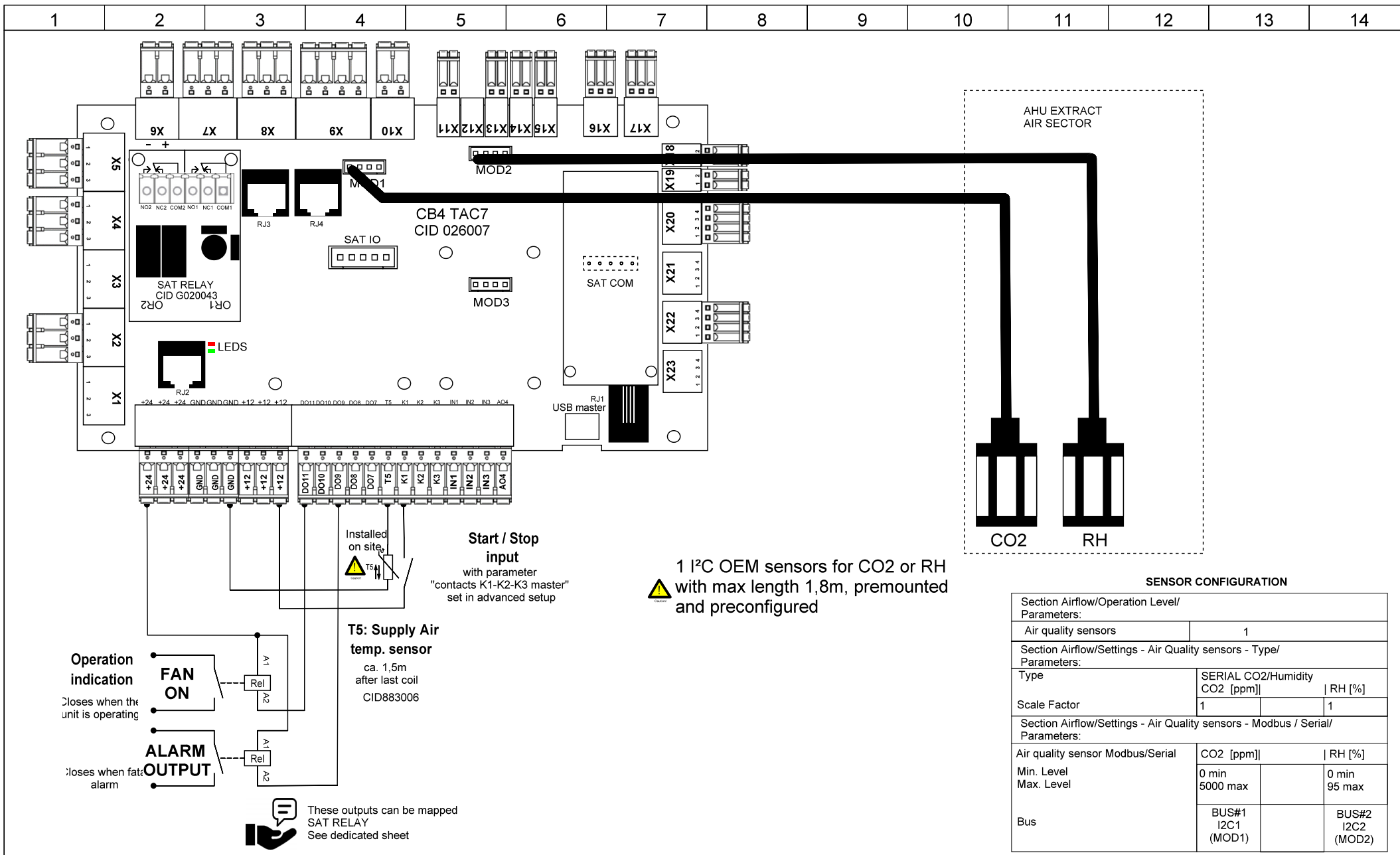
|          |                           |            |            |  |      |
|----------|---------------------------|------------|------------|--|------|
| Changes  |                           | Name       | Date       | Configuration of function:<br><b>Function Alarms</b> | Page |
| Name     | Date                      | Draw.: msg | 27/11/2024 |  | 8    |
|          |                           | check.:    |            | Application:<br><b>ALARM OUTPUT</b>                  | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            |  | 38   |



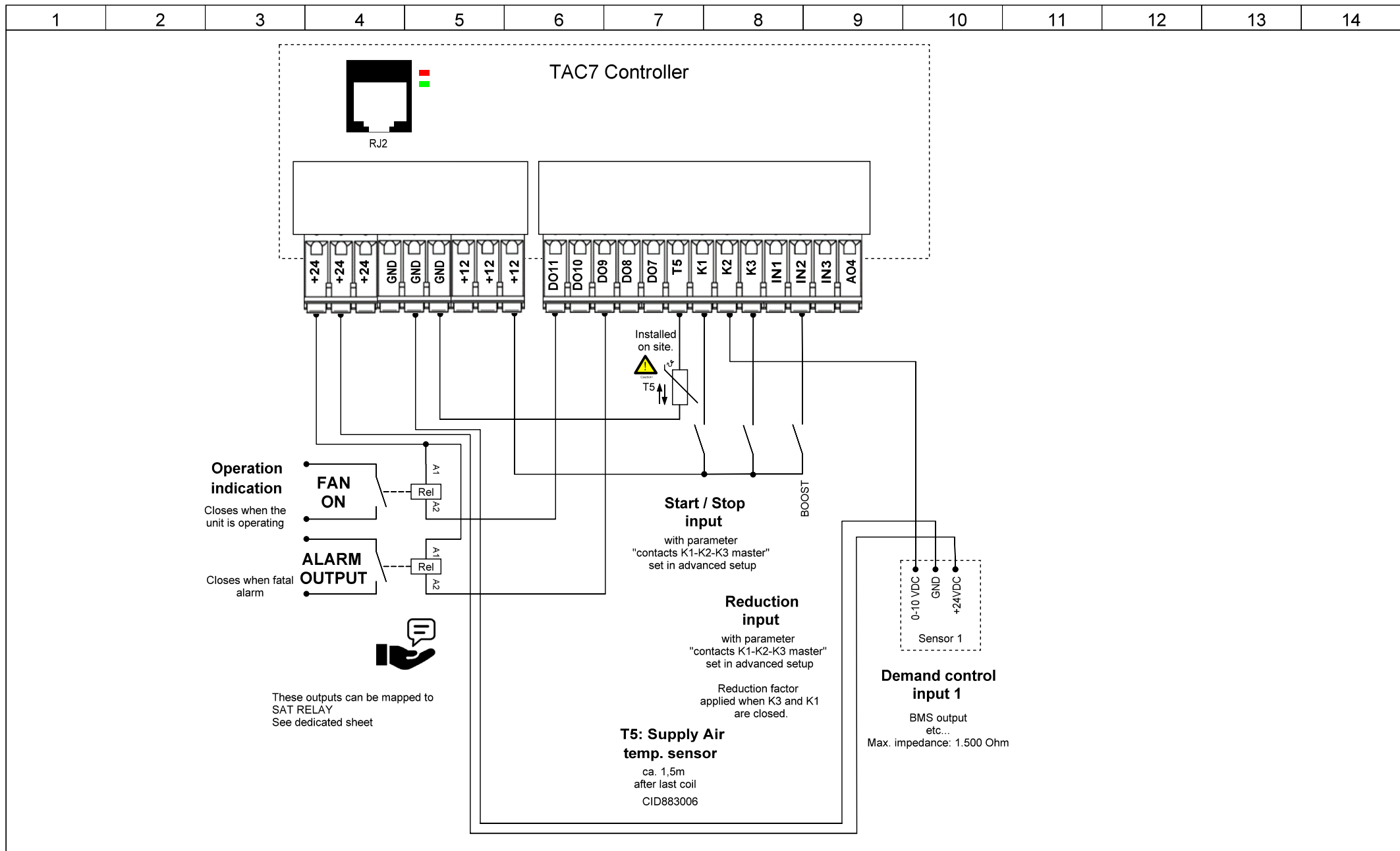
| Changes  |                           | Name       | Date       | Configuration of function:<br><b>Function Regulation mode/ Constant Airflow</b> | Page  |
|----------|---------------------------|------------|------------|---|-------|
| Name     | Date                      | Draw.: ola | 27/09/2024 |   | 9     |
|          |                           | check.:    |            |   |       |
|          |                           | Norm:      |            | Application:<br><b>Constant airflow</b>   | of 38 |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            |   |       |



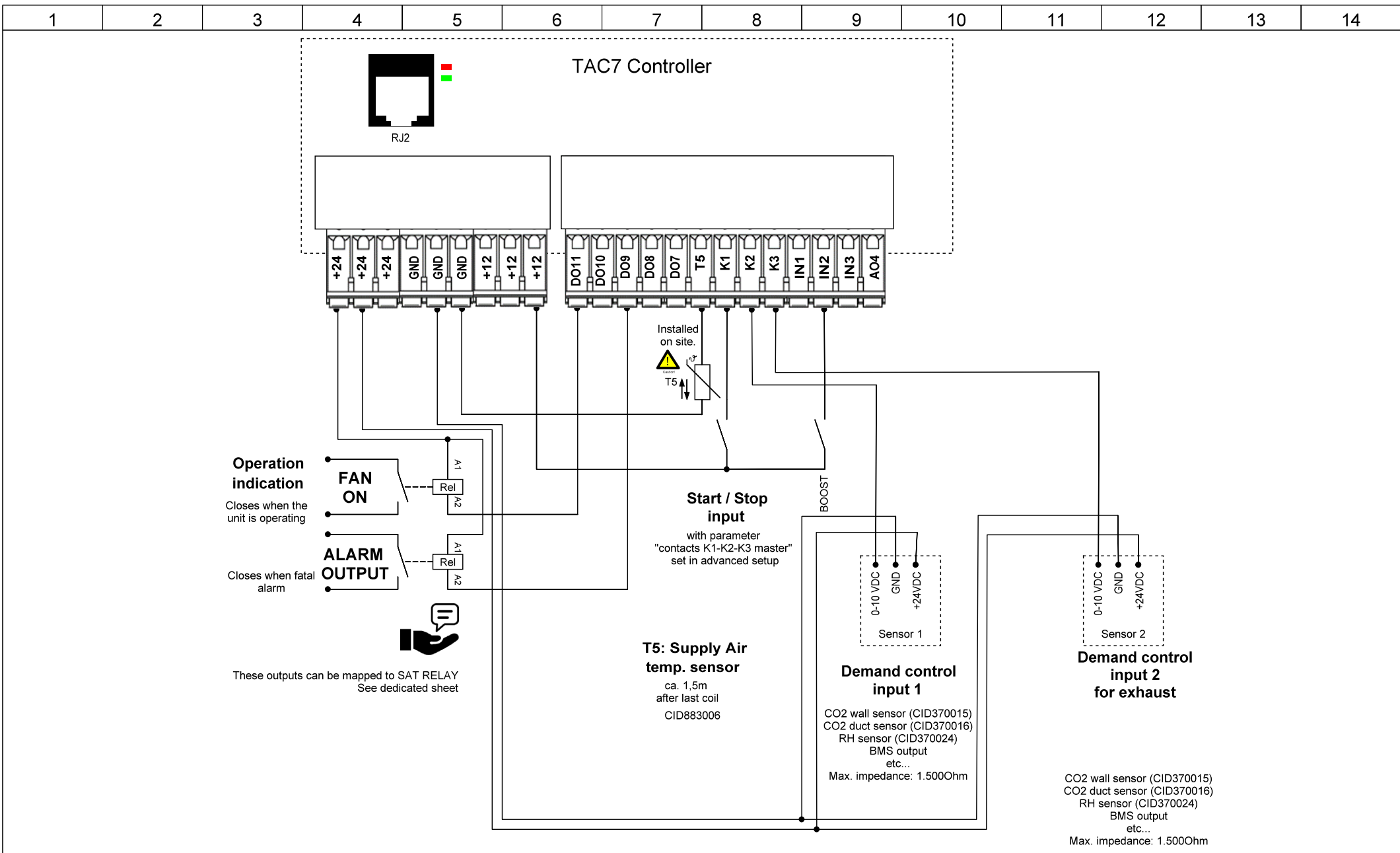
| Changes  |                           | Name       | Date       | Configuration of function:                 | Page |
|----------|---------------------------|------------|------------|--|------|
| Name     | Date                      | Draw.: ola | 27/09/2024 | Function Regulation mode/ Constant Airflow | 10   |
|          |                           | check.:    |            |  |      |
|          |                           | Norm:      |            | Application:                               | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | Constant airflow - PIR                     | 38   |



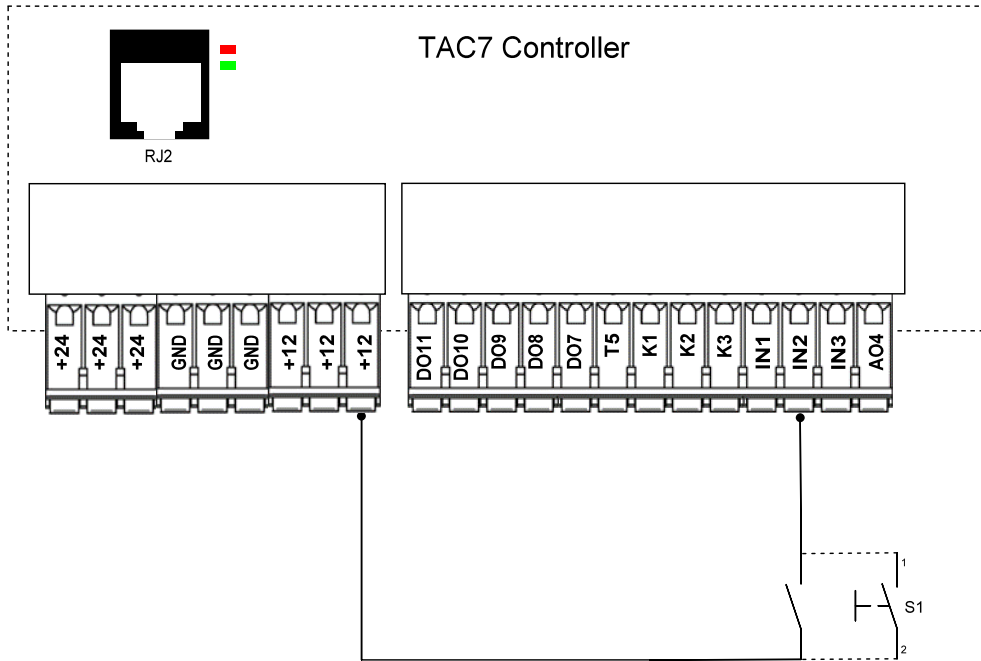
|          |                           |         |      |  |            |
|----------|---------------------------|---------|------|--|------------|
| Changes  |                           | Name    | Date | Configuration of function:<br>Function Regulation mode/ Demand control | Page       |
| Name     | Date                      | Draw.:  | msg  |  | 12/05/2026 |
|          |                           | check.: |      |  |            |
|          |                           | Norm.:  |      |  |            |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |      | Application:<br>Demand control Serial COM (Indoor Air Quality)         | of 38      |



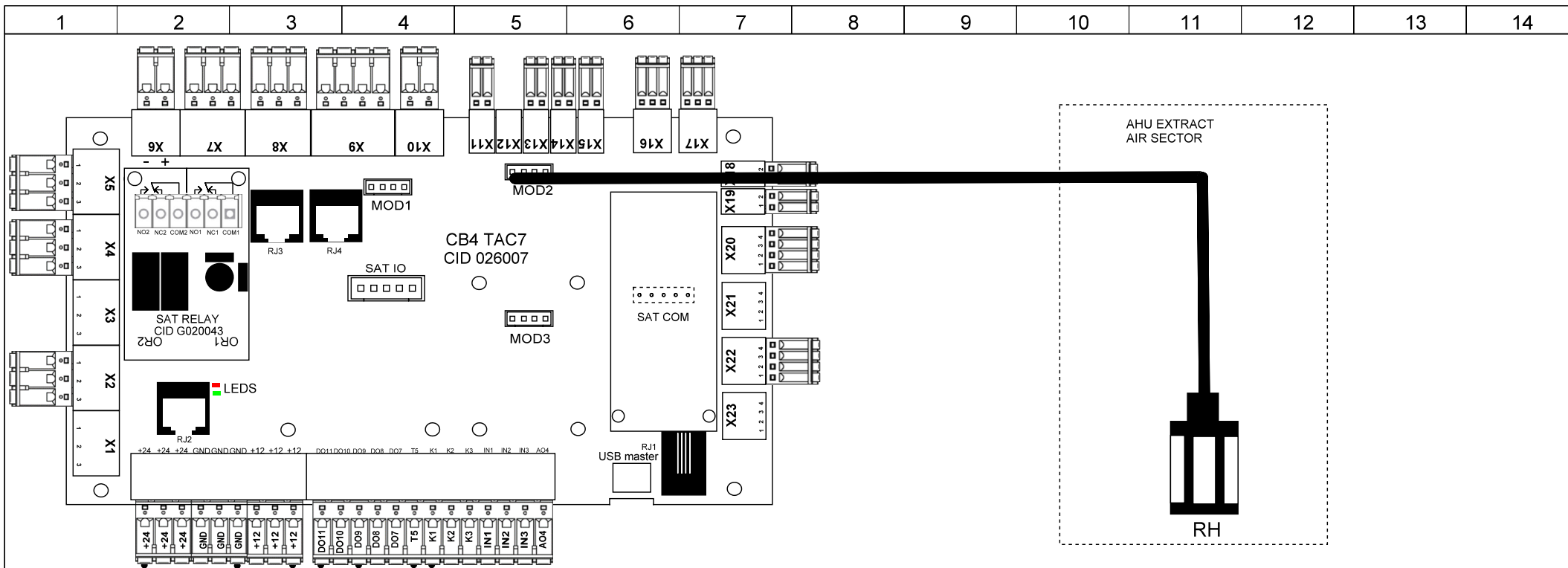
| Changes  |                           | Name       | Date       | Configuration of function:<br>Function Regulation mode/ Demand control | Page                                    |
|----------|---------------------------|------------|------------|--|---|
| Name     | Date                      | Draw.: ola | 27/09/2024 |  | Application:<br>Demand control 1x 0-10V |
|          |                           | check.:    |            | of   |   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | 38   |   |



| Changes  |                           |         | Name | Date       | Configuration of function:<br><b>Function Regulation mode/ Demand control</b> | Page            |
|----------|---------------------------|---------|------|------------|---|-----------------|
| Name     | Date                      | Draw.:  | ola  | 29/09/2024 |   |                 |
|          |                           | check.: |      |            |   |                 |
|          |                           | Norm:   |      |            |   |                 |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |      |            | Application:<br><b>Demand control 2x 0-10V</b>                                | of<br><b>38</b> |



| Changes  |                           | Name          | Date       | Configuration of function:<br>Function Air flow/BOOST | Page                               |
|----------|---------------------------|---------------|------------|---|------------------------------------|
| Name     | Date                      | Draw.:<br>ola | 27/09/2024 |   | Application:<br>BOOST with contact |
|          |                           | check.:       |            | of  |                                    |
| Subject: | SERENITY_Wiring TAC7.spl7 |               |            | 38  |                                    |

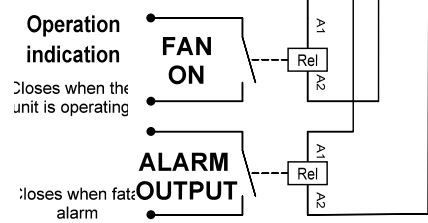


1 I<sup>2</sup>C OEM sensors for RH  
 with max length 1,8m, premounted  
 and preconfigured

**SENSOR CONFIGURATION**

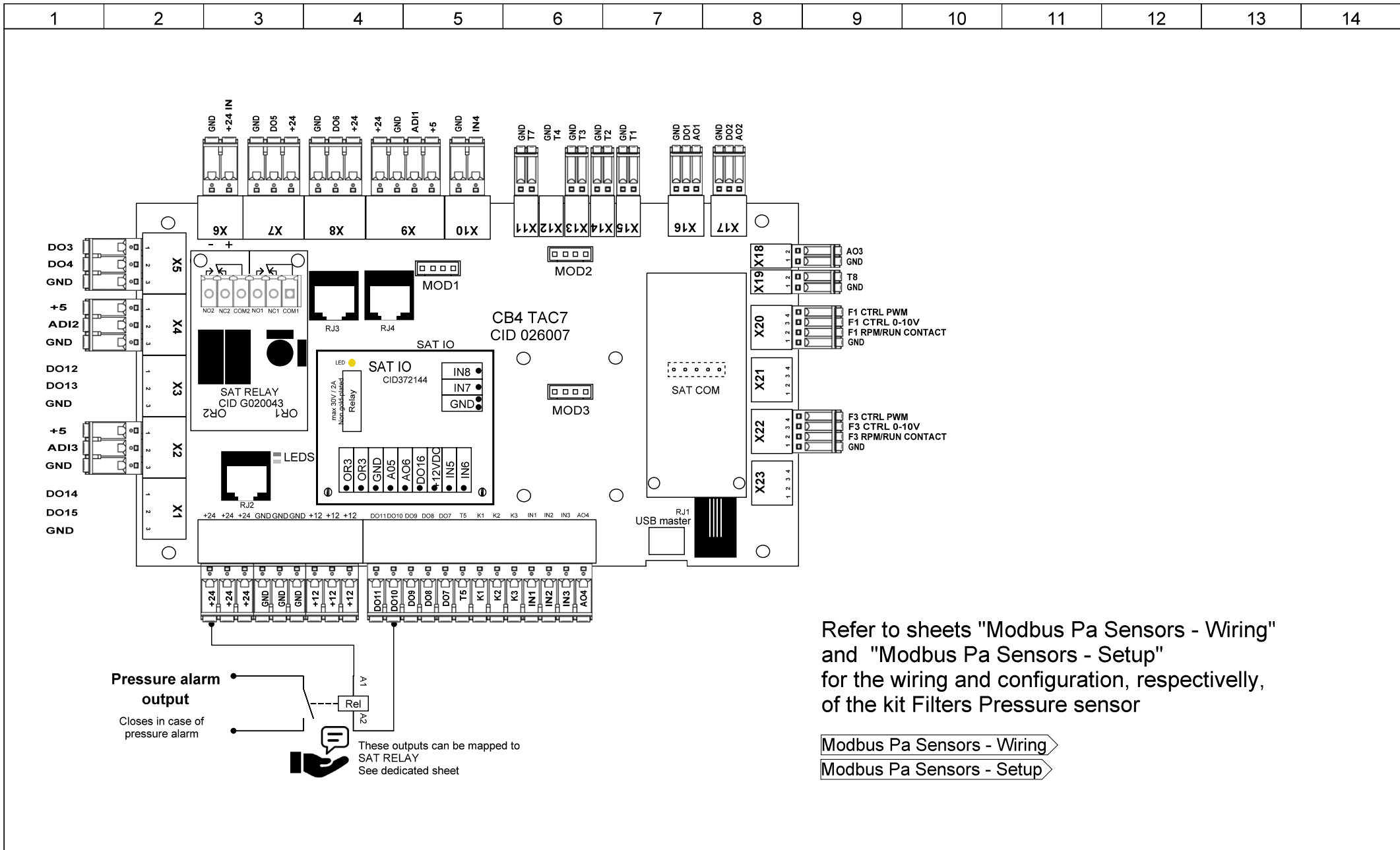
|   |                 |                         |
|---|-----------------|-------------------------|
| Section Airflow/BOOST/<br>Parameters:   |                 |                         |
| Air quality sensors   | 1               |                         |
| Section Airflow/BOOST - Air Quality sensors - Type/<br>Parameters:            |                 |                         |
| Air quality sensor Type   | SERIAL Humidity |                         |
| Scale Factor  |                 | RH [%]                  |
| Low level BOOST off   |                 | 1                       |
| High level BOOST on   |                 | 40                      |
|   |                 | 60                      |
| Section Airflow/BOOST - Air Quality sensors - Modbus / Serial/<br>Parameters: |                 |                         |
| Air quality sensor Modbus/Serial  |                 | RH [%]                  |
| Min. Level  |                 | 0 min                   |
| Max. Level  |                 | 95 max                  |
| Bus   |                 | BUS#2<br>I2C2<br>(MOD2) |

Installed on site  
 T5  
**T5: Supply Air temp. sensor**  
 ca. 1,5m after last coil  
 CID883006

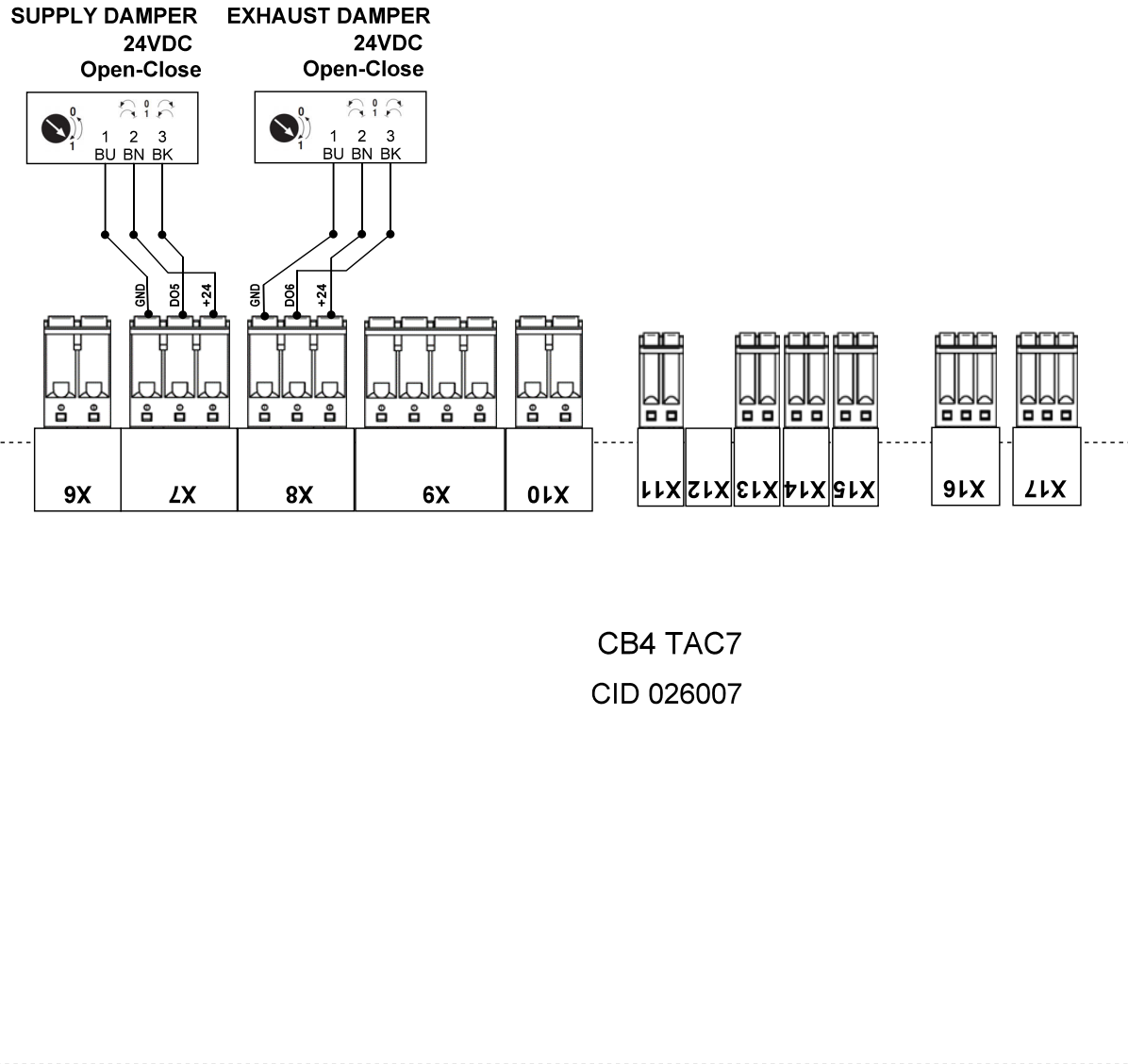


These outputs can be mapped  
 SAT RELAY  
 See dedicated sheet

|          |                           |         |      |  |            |    |
|----------|---------------------------|---------|------|--|------------|----|
| Changes  |                           | Name    | Date | Configuration of function:<br><b>Function Air flow/BOOST</b>     | Page       |    |
| Name     | Date                      | Draw.:  | msg  |  | 12/05/2026 | 15 |
|          |                           | check.: |      |  |            |    |
| Subject: | SERENITY_Wiring TAC7.sp17 | Norm.:  |      | Application:<br><b>BOOST with RH sensor (Indoor Air Quality)</b> | of<br>38   |    |



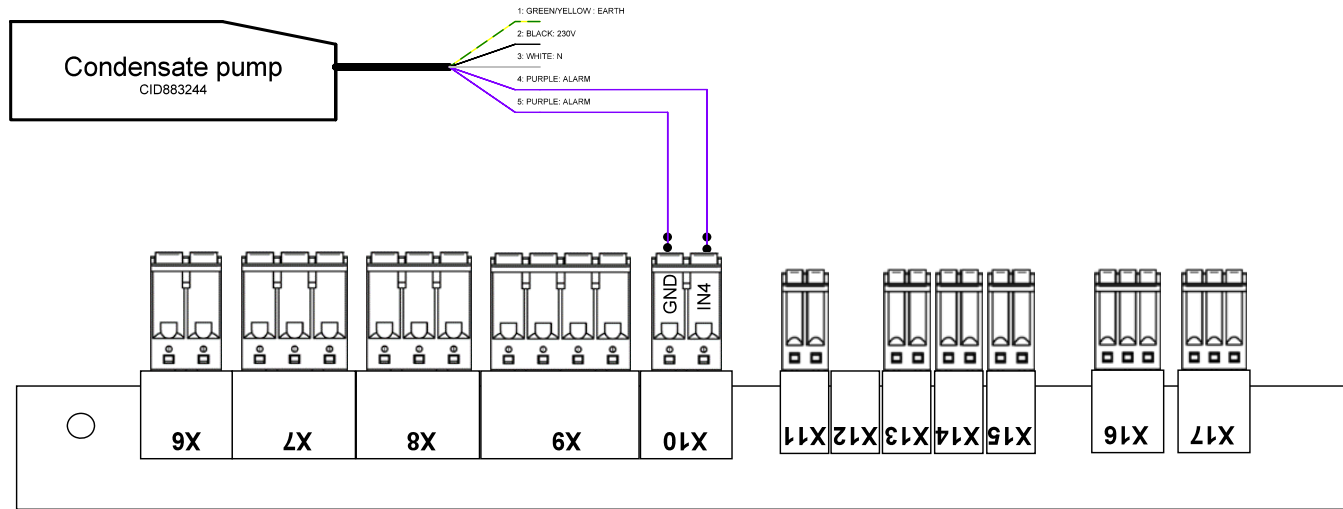
| Changes  |                           | Name    | Date | Configuration of function:   | Page  |
|----------|---------------------------|---------|------|--|-------|
| Name     | Date                      | Draw.:  | msg  | Function Filters/Pressure alarm/Filters pressure revelation with sensors | 16    |
|          |                           | check.: |      |  |       |
|          |                           | Norm.:  |      | Application:   | of 38 |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |      | Filters alarm & monitor  |       |



CB4 TAC7  
 CID 026007

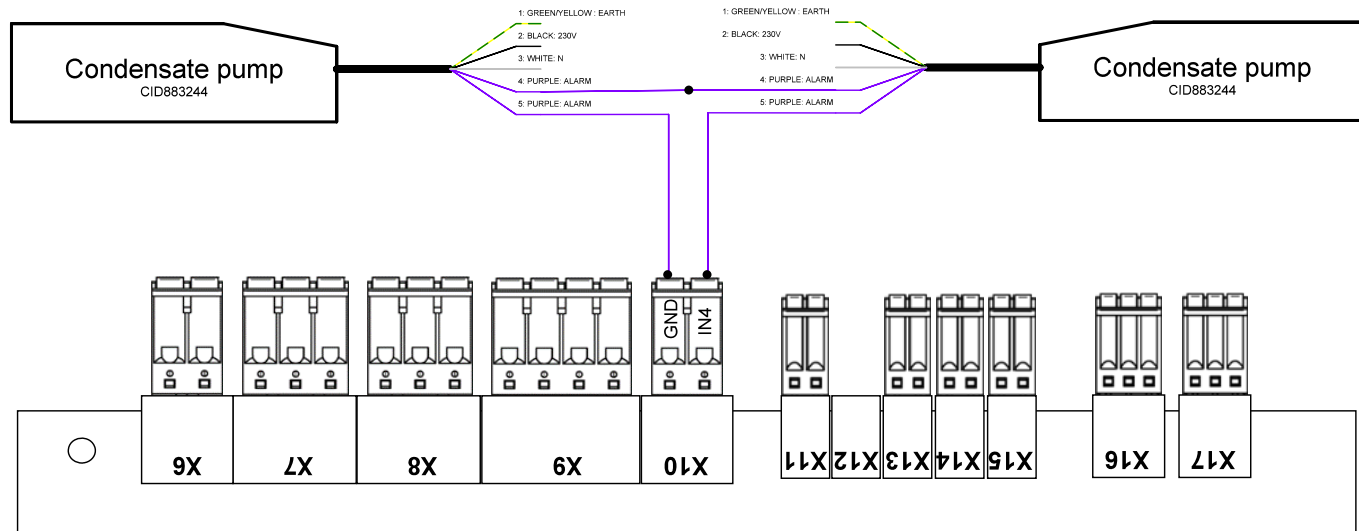
|          |                           |         |      |  |            |    |
|----------|---------------------------|---------|------|--|------------|----|
| Changes  |                           | Name    | Date | Configuration of function:<br>Function Air Handling Unit/Dampers | Page       |    |
| Name     | Date                      | Draw.:  | ola  |  | 27/09/2024 | 17 |
| msg      | 07/04/2023                | check.: |      |  |            |    |
|          |                           | Norm:   |      | Application:<br>Motorised damper - standard                      | of 38      |    |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |      |  |            |    |

1 device with drain pump

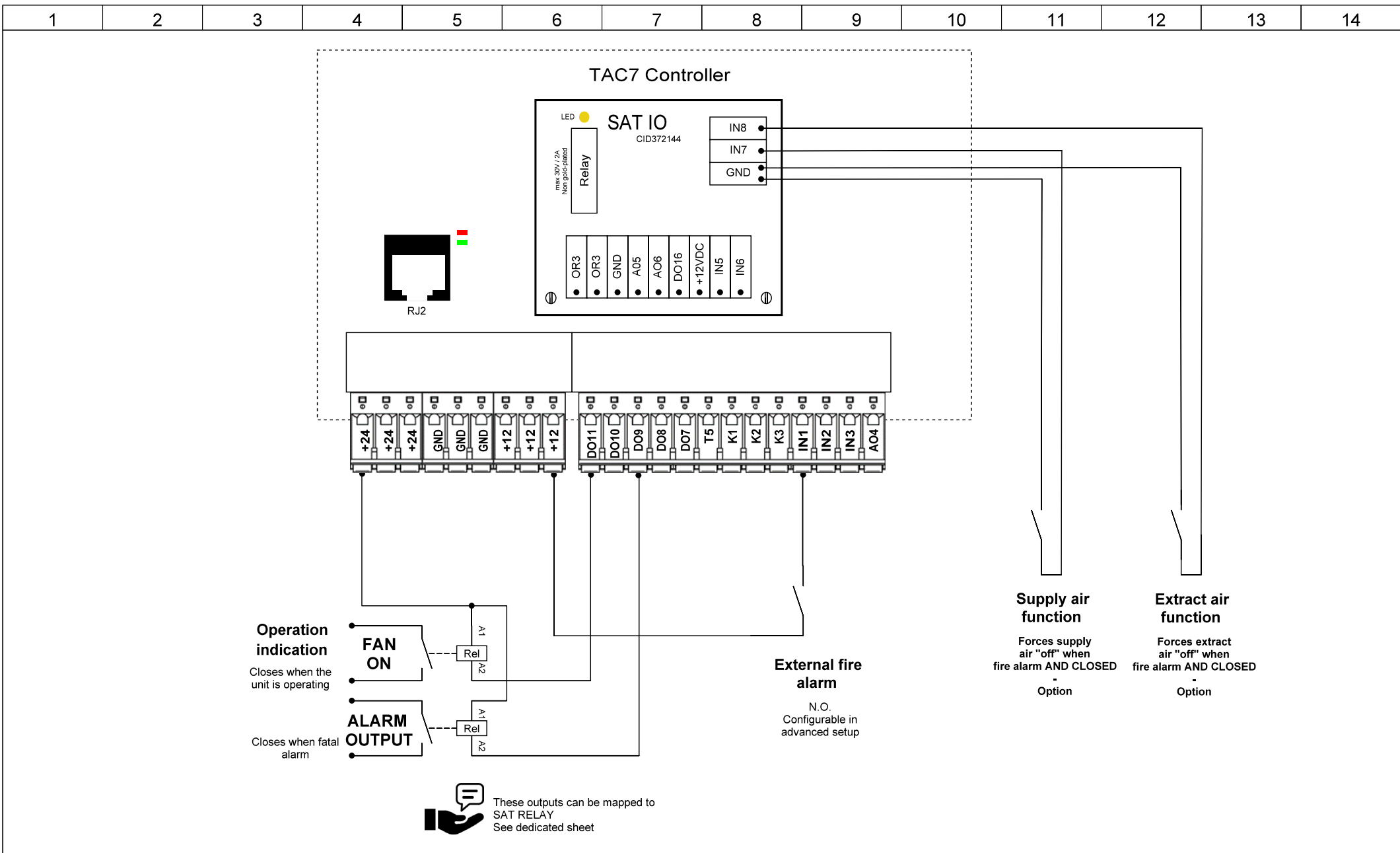


The condensate pump contains an internal sensor that will automatically start the pump when the water level rises above approx. 15 mm and stop the pump when the water level has fallen to approx. 5 mm. The condensate pump is also fitted with a high water level alarm that will operate the alarm relay if the water level rises above approx. 25 mm. The pump will continue to run until the minimum water level is reached and the alarm will reset.

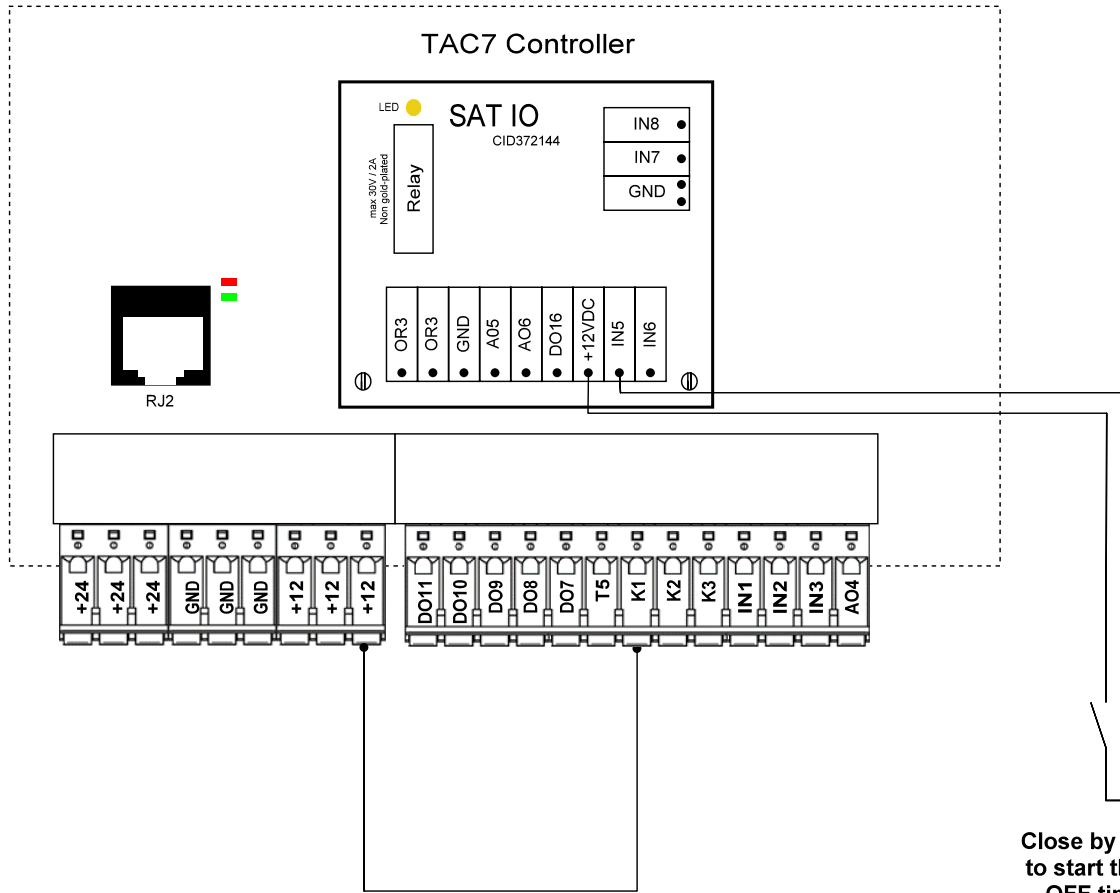
2 devices with drain pump  
(in case of reversible / postcooling)



|          |                           |            |            |                                      |       |
|----------|---------------------------|------------|------------|--------------------------------------|-------|
| Changes  |                           | Name       | Date       | Application:<br><b>Condense pump</b> | Page  |
| Name     | Date                      | Draw.: msg | 13/05/2026 |                                      | 18    |
|          |                           | check.:    |            |                                      |       |
|          |                           | Norm:      |            |                                      |       |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            |                                      | of 38 |



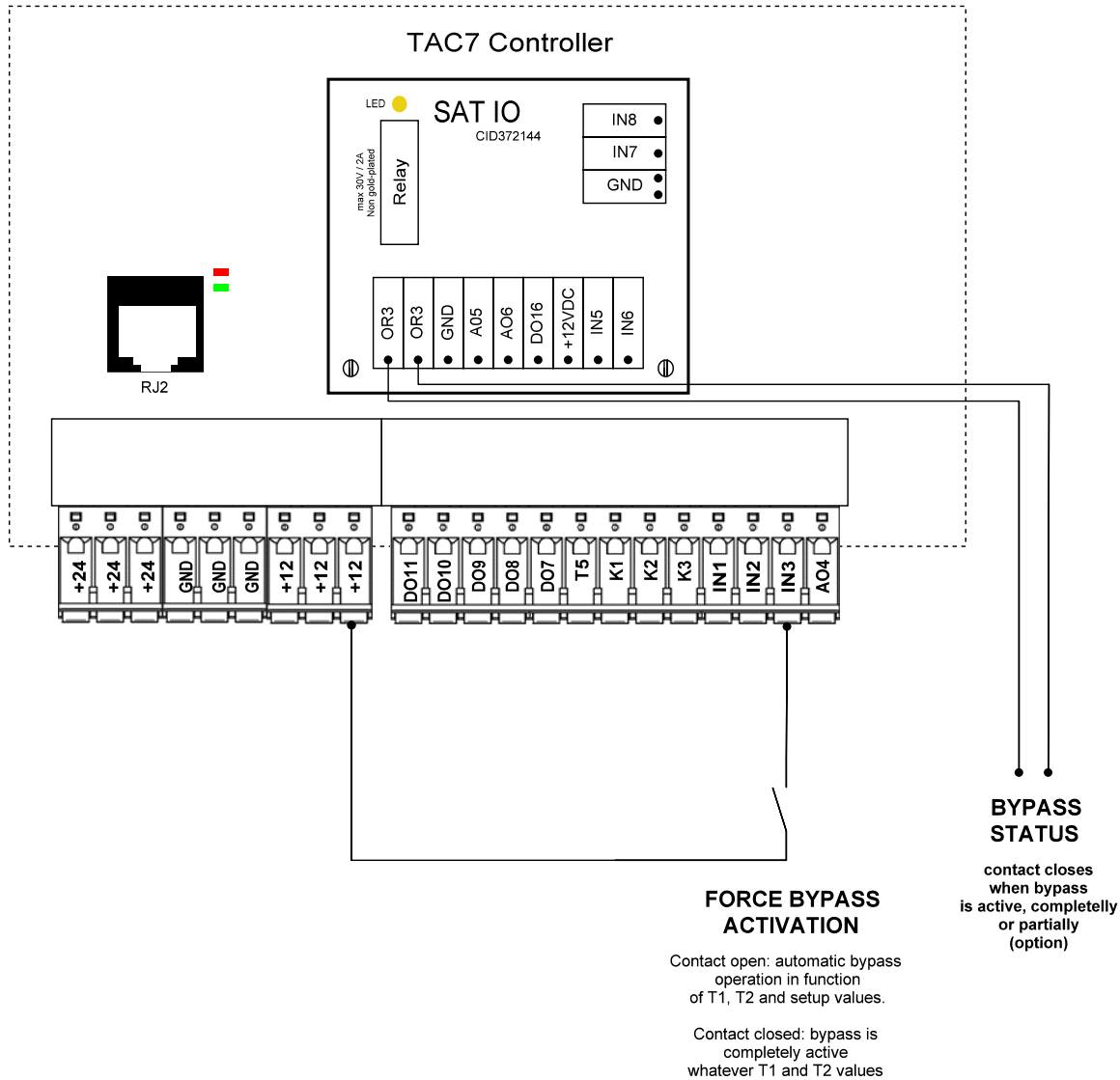
| Changes  |                           | Name       | Date       | Configuration of function:<br><b>Function Alarm Settings</b> | Page                              |
|----------|---------------------------|------------|------------|--|-----------------------------------|
| Name     | Date                      | Draw.: ola | 30/09/2024 |  | Application:<br><b>Fire alarm</b> |
|          |                           | check.:    |            | of   |                                   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | 38   |                                   |



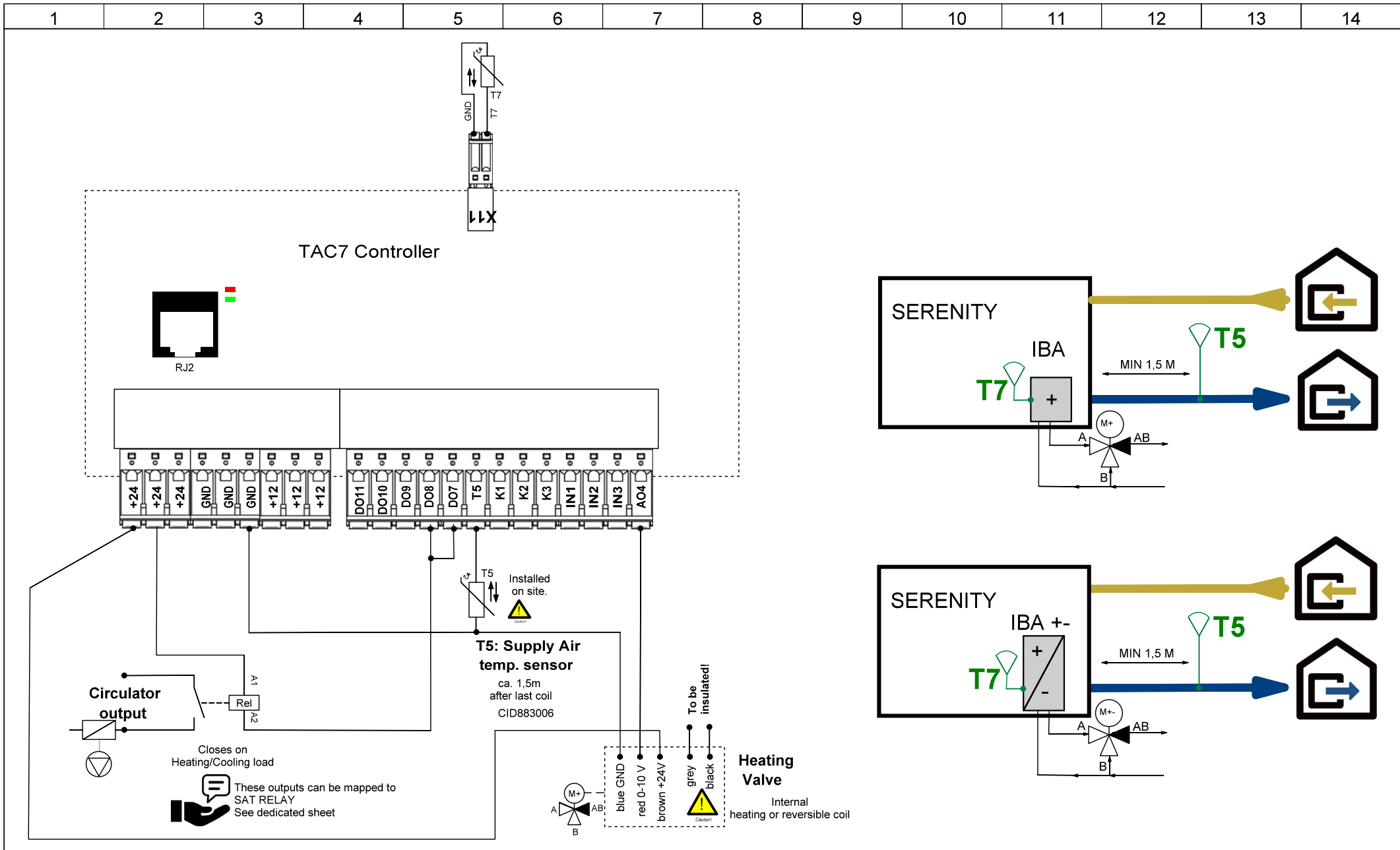
**Close by external clock  
to start the unit during  
OFF time schedule**

with parameter  
"contacts K1-K2-K3 master"  
set to 0  
in advanced setup

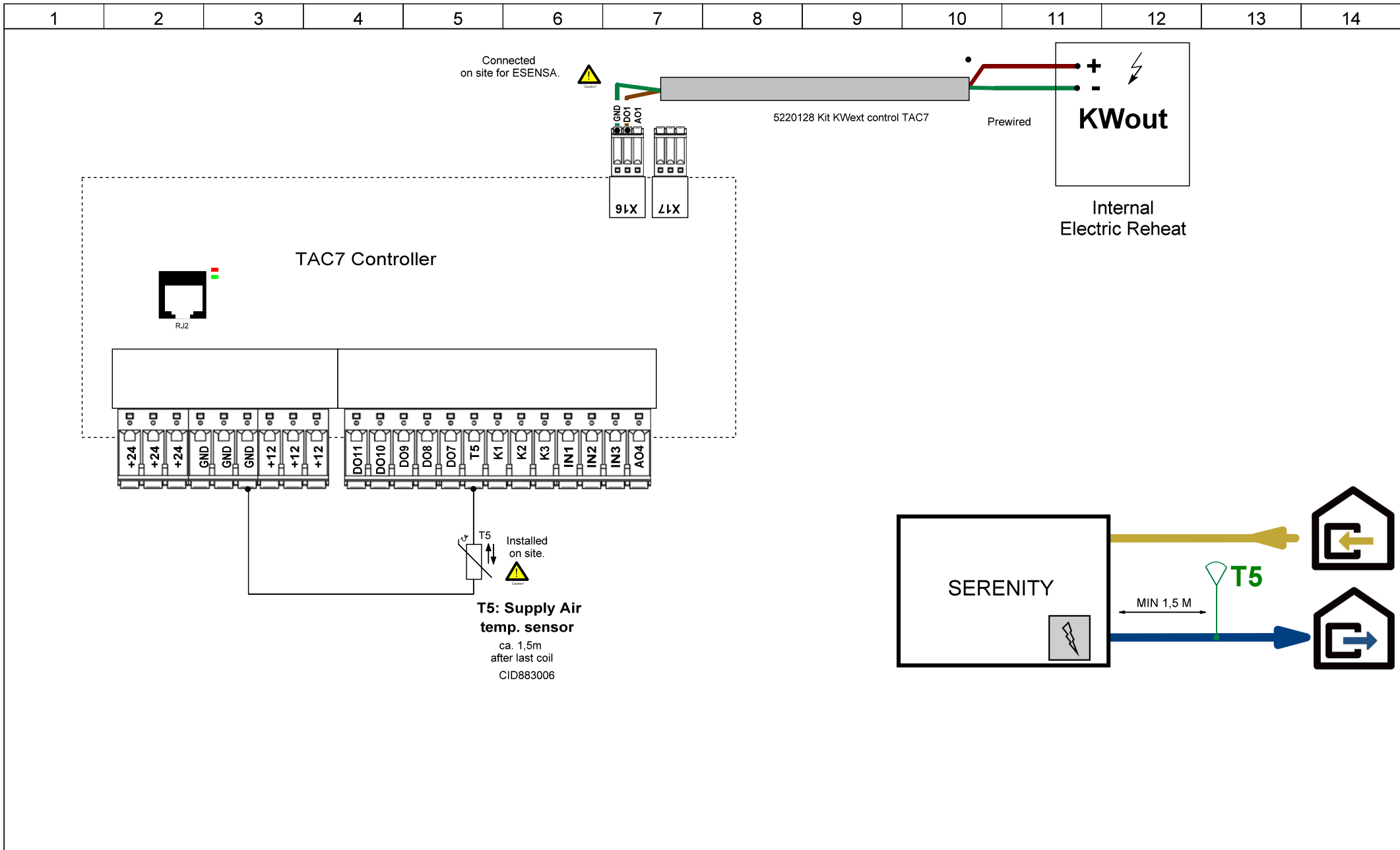
|          |                           |                   |            |   |      |
|----------|---------------------------|-------------------|------------|---|------|
| Changes  |                           | Name              | Date       | Configuration of function:<br><b>Timeschedules configured</b><br><b>Control screen of TACtouch: Speed selescion on 'AUTO'</b> | Page |
| Name     | Date                      | Draw.:<br>check.: | 30/09/2024 |   | 20   |
|          |                           | Norm:             |            | Application:<br><b>External Clock</b>   | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |                   |            |   | 38   |



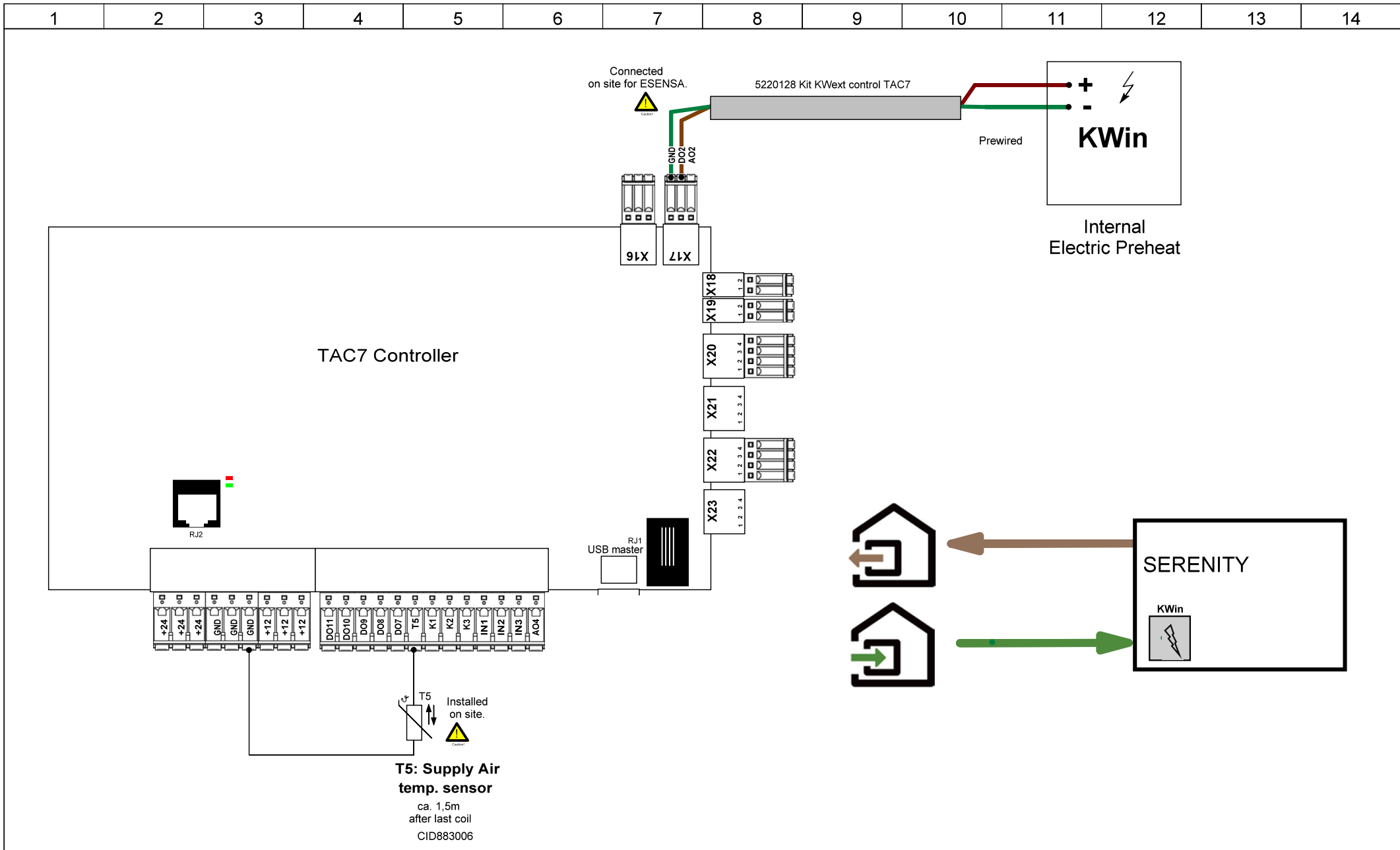
|          |                           |               |            |   |      |
|----------|---------------------------|---------------|------------|---|------|
| Changes  |                           | Name          | Date       | Configuration of function:<br><b>Function Temperature/Freecooling</b> | Page |
| Name     | Date                      | Draw.:<br>ola | 30/09/2024 |   | 21   |
|          |                           | check.:       |            | Application:<br><b>Bypass</b>   | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |               |            |   | 38   |



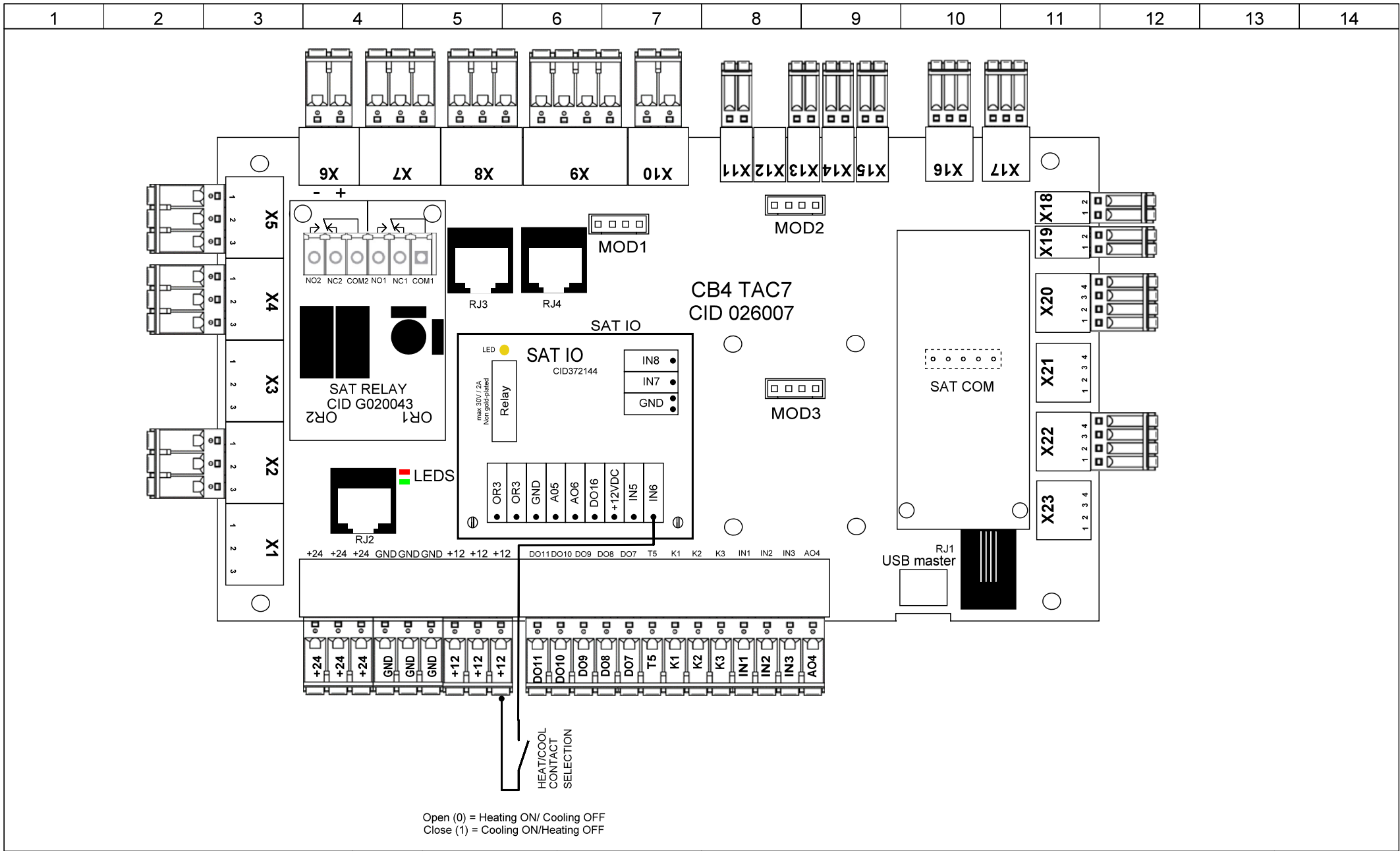
| Changes  |                           | Name       | Date       | Configuration of function:                                | Page |
|----------|---------------------------|------------|------------|---|------|
| Name     | Date                      | Draw.: msg | 12/05/2026 | Function Heat/Reheat/Internal Waterborne Rehater (IBA)    | 22   |
|          |                           | check.:    |            | Function Heat/Cool/Internal Waterborne Reversible (IBA+-) |      |
|          |                           | Norm.:     |            | Application:  | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | Internal Waterborne Battery                               | 38   |



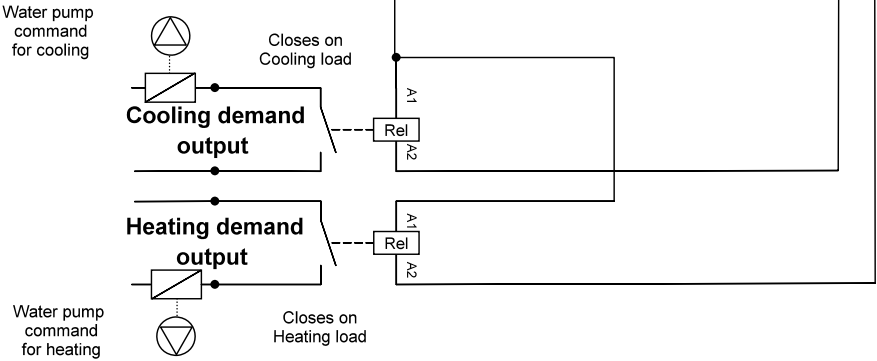
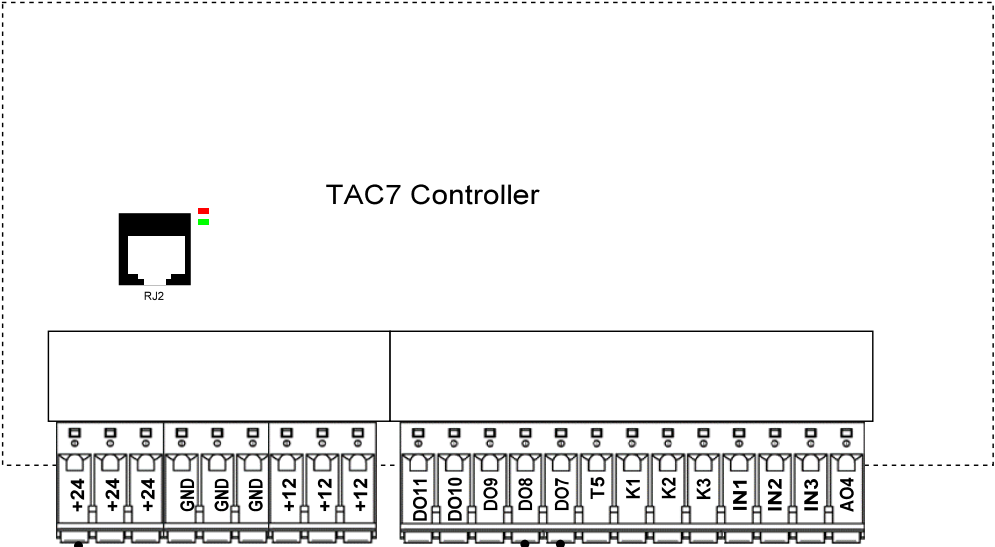
| Changes  |                           | Name       | Date       | Configuration of function:<br><b>Function Heat/Reheat/<br/>Internal Electric Rehater (KWout)</b> | Page  |
|----------|---------------------------|------------|------------|--|-------|
| Name     | Date                      | Draw.: msg | 13/05/2026 |  | 23    |
|          |                           | check.:    |            |  |       |
|          |                           | Norm:      |            |  |       |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | Application:<br><b>KWout Internal Electric Reheat</b>  | of 38 |



| Changes  |                           | Name    | Date       | Configuration of function:<br>Function Heat/Preheat/<br>Internal Electric Prehater (KWin) | Page     |
|----------|---------------------------|---------|------------|---|----------|
| Name     | Date                      | Draw.:  | 13/05/2026 |   |          |
|          |                           | check.: |            |   |          |
|          |                           | Norm:   |            |   |          |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |            | Application:<br>KWin Internal Electric Preheat  | of<br>38 |




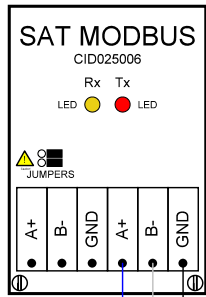
| Changes  |                           | Name       | Date       | Selection of heating/cooling in presence of postheater/postcooler.<br>In alternative to heat/cool selection via:<br>- TACtouch Function Temperature/Regulation mode<br>- Automatic changeover<br>- BMS heat/cool selection control | Page  |
|----------|---------------------------|------------|------------|--|-------|
| Name     | Date                      | Draw.: ola | 04/10/2024 |  | 25    |
|          |                           | check.:    |            |  |       |
| Subject: | SERENITY_Wiring TAC7.spl7 | Norm.:     |            | Application:<br>HEAT/COOL CONTACT SELECTION  | of 38 |



|          |                           |            |            |  |      |
|----------|---------------------------|------------|------------|--|------|
| Changes  |                           | Name       | Date       | Configuration of function:                             | Page |
| Name     | Date                      | Draw.: ola | 04/10/2024 |  | 26   |
|          |                           | check.:    |            | Application:<br>Circulator pump (with hydraulic coils) | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            | Norm.:     |  | 38   |


AHU1

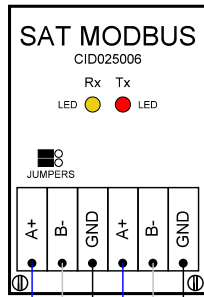
 The SAT circuits must be plugged in correctly before the main circuit is powered. Wrong positioning can damage both circuits.



Modbus RTU RS485

AHU2


 The SAT circuits must be plugged in correctly before the main circuit is powered. Wrong positioning can damage both circuits.

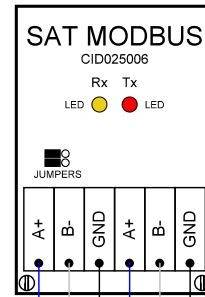


Modbus RTU RS485

Modbus RTU RS485

AHU3 ... AHU64

 The SAT circuits must be plugged in correctly before the main circuit is powered. Wrong positioning can damage both circuits.



Modbus RTU RS485

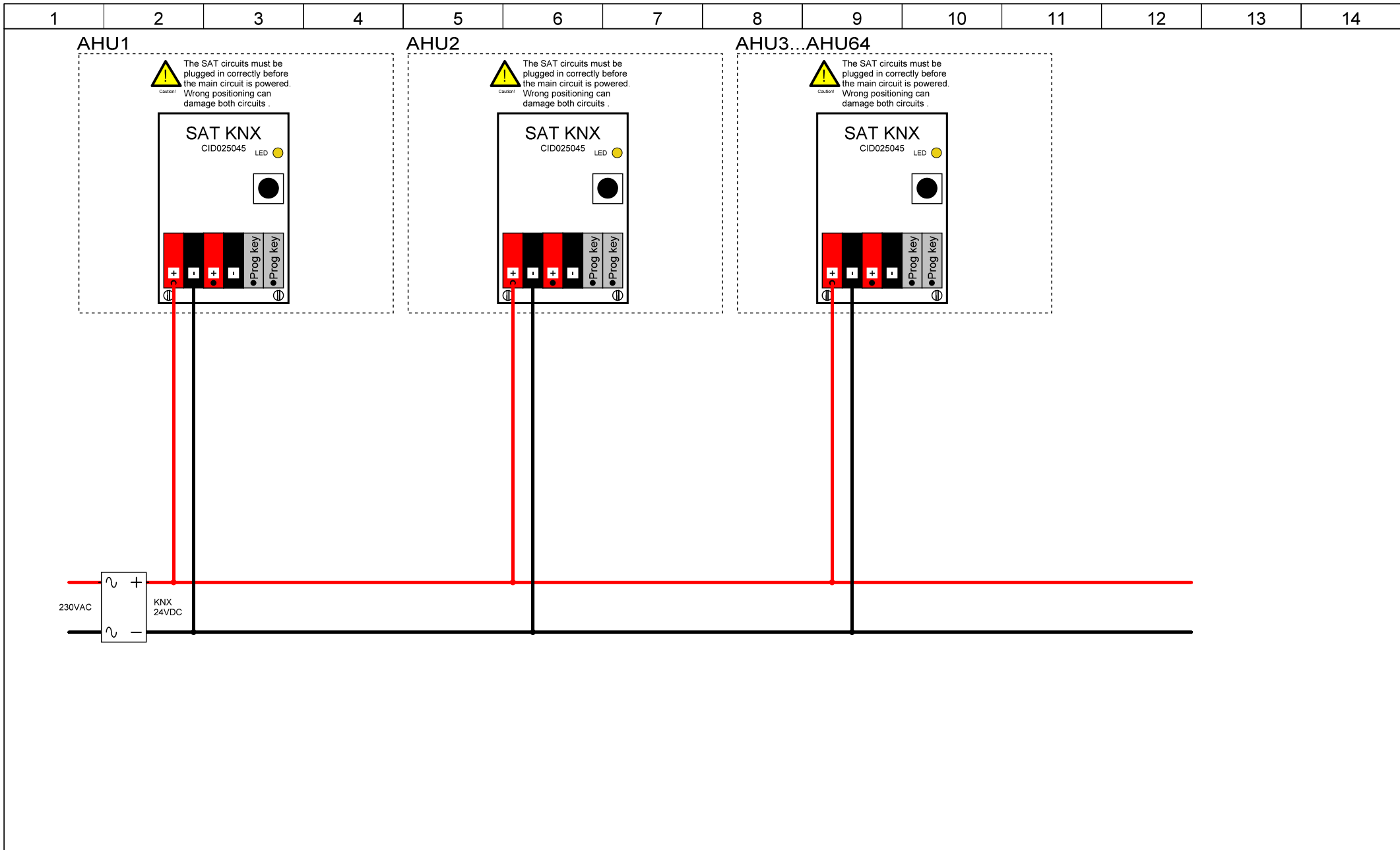
Modbus RTU RS485

To BMS

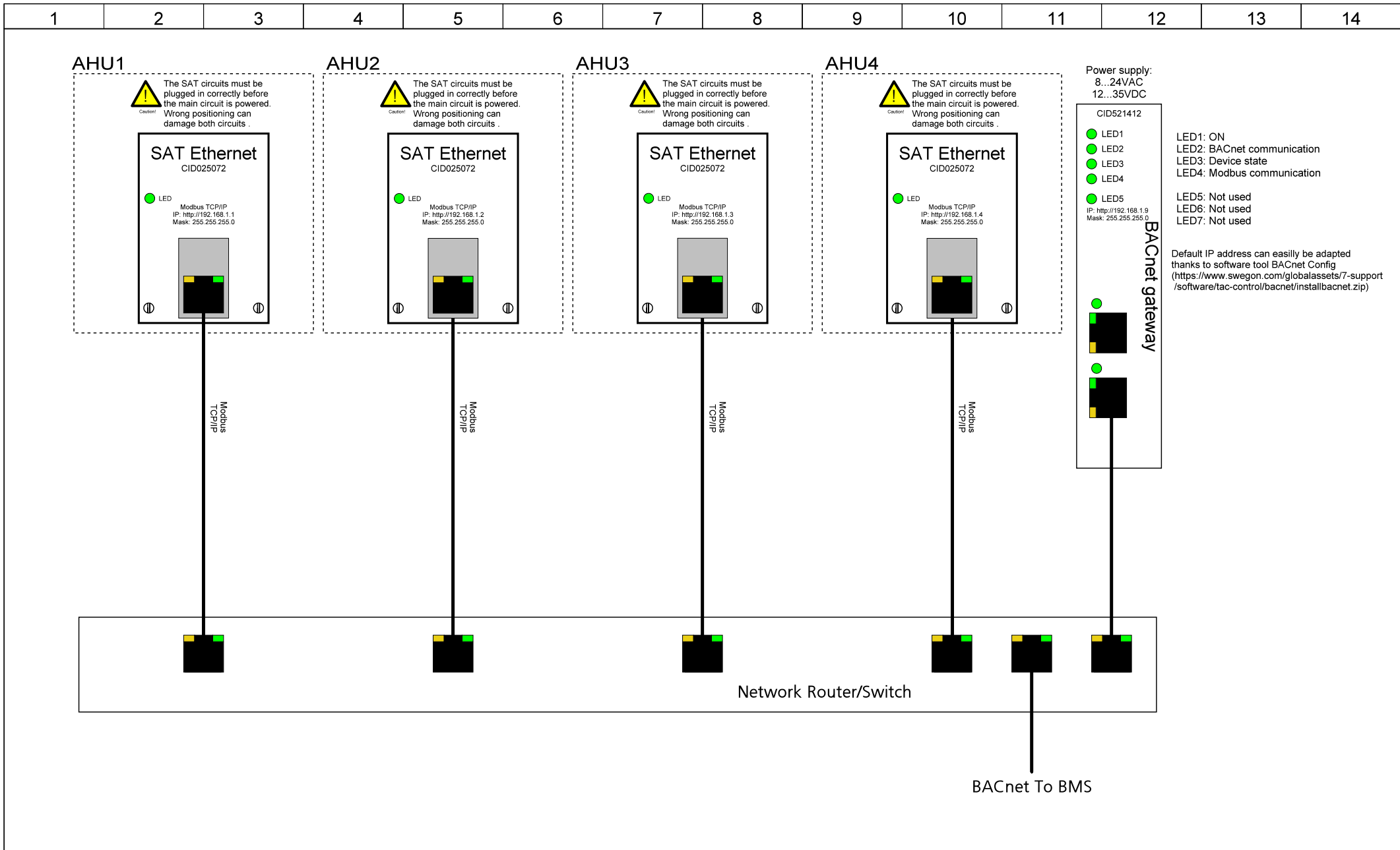
The cables used in the network must conform to RS-485 Standard with twisted pair conductors. The cables must be shielded. Conductor Area 0.26 mm<sup>2</sup> to 0.50mm<sup>2</sup>. The total length must not exceed 1.000 meters.

Depending on Modbus Master device manufacturer, it may be necessary to invert A+ and B- wires on its connectors. 

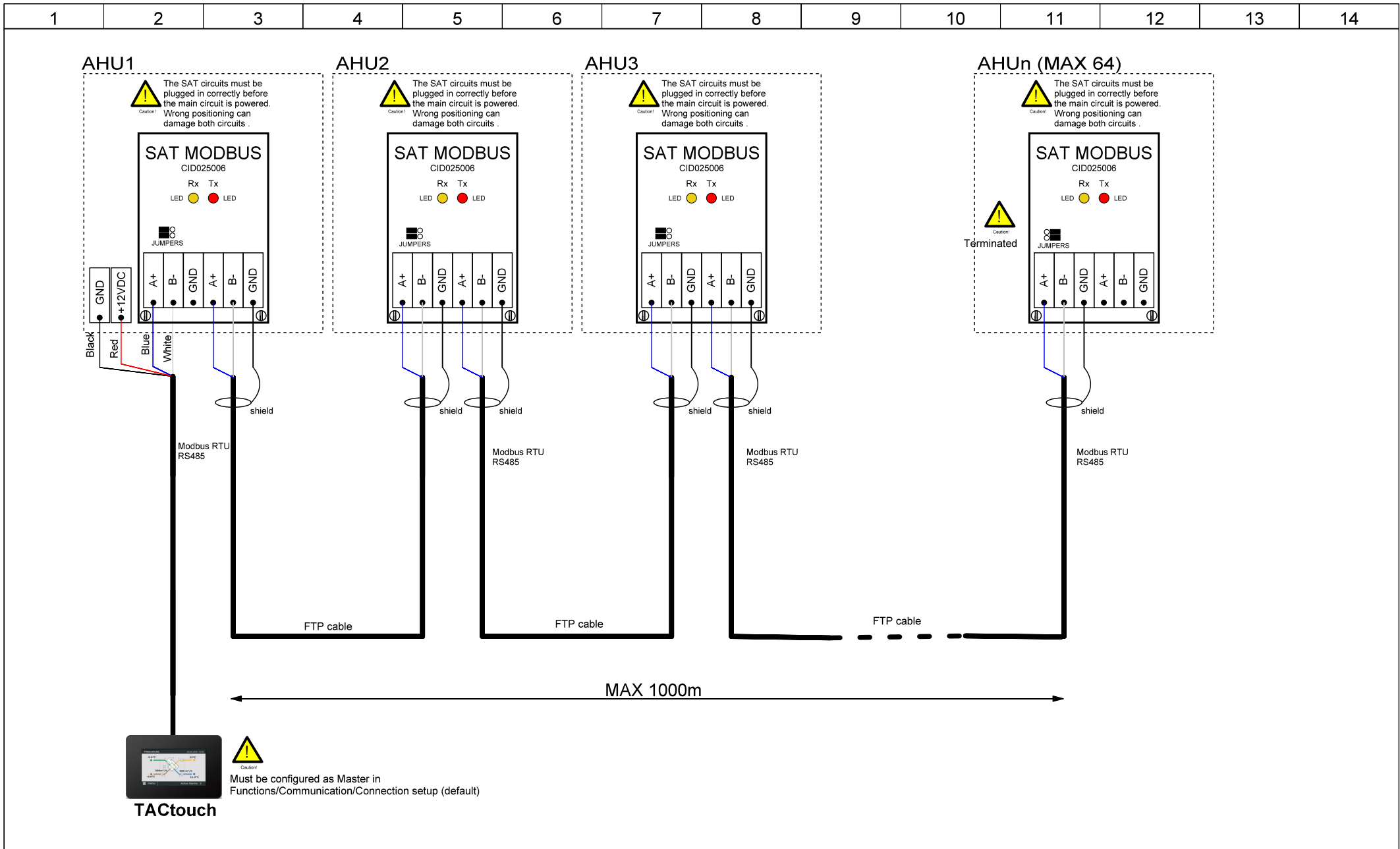
|          |                           |            |            |   |       |
|----------|---------------------------|------------|------------|---|-------|
| Changes  |                           | Name       | Date       | Configuration of function:<br>Function Communication/SAT MODBUS configuration | Page  |
| Name     | Date                      | Draw.: msg | 17/10/2024 |   | 27    |
|          |                           | check.:    |            |   |       |
|          |                           | Norm:      |            | Application:<br>Modbus RTU  | of 38 |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            |   |       |



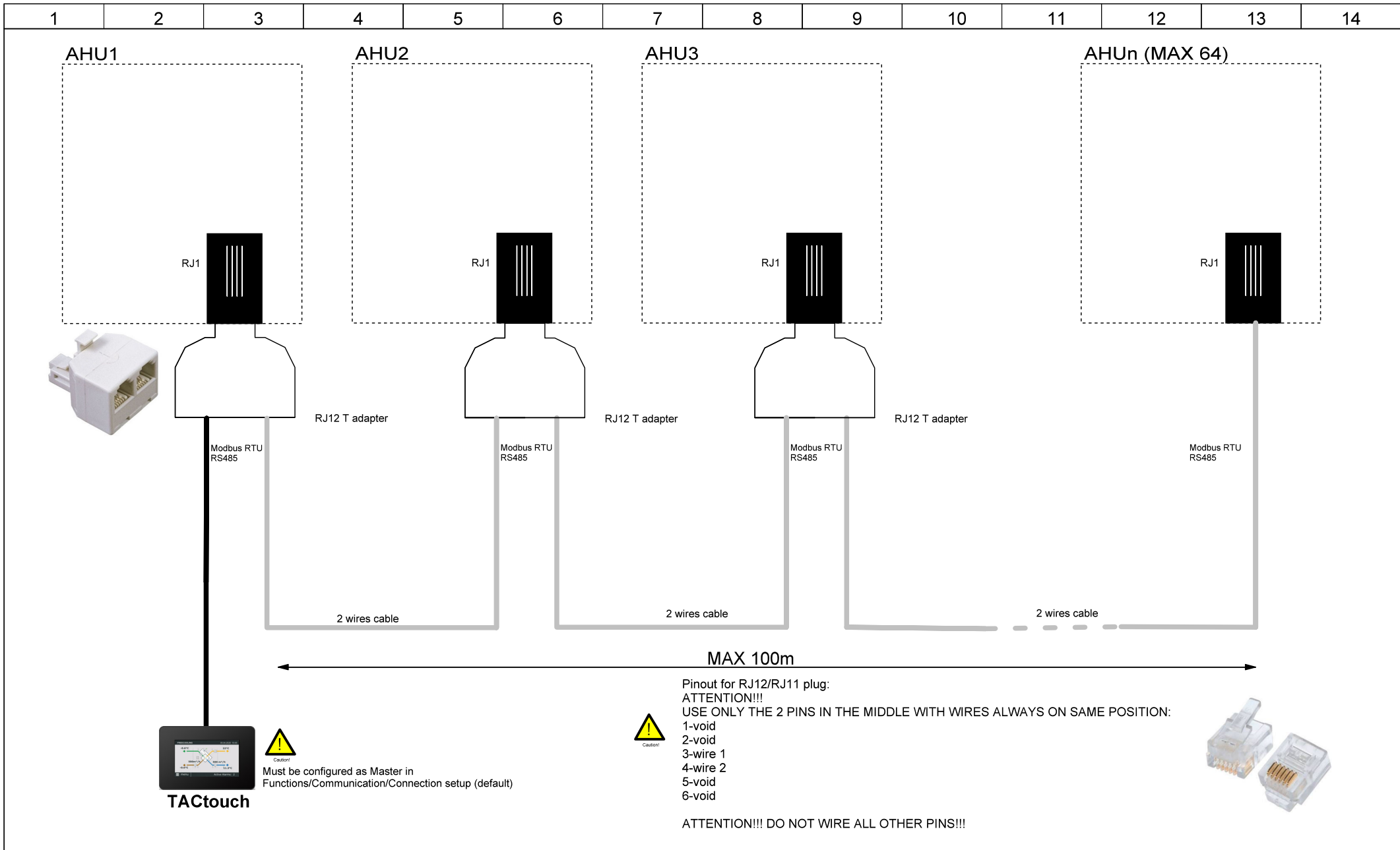
| Changes  |                           | Name    | Date | Configuration of function: | Page       |    |
|----------|---------------------------|---------|------|----------------------------|------------|----|
| Name     | Date                      | Draw.:  | msg  |                            | 17/10/2024 | 28 |
|          |                           | check.: |      |                            |            |    |
|          |                           | Norm:   |      | Application:               | of         |    |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |      | KNX                        | 38         |    |



| Changes                            |      | Name       | Date       | Configuration of function:<br>Function Communication/SAT LAN configuration | Page  |
|------------------------------------|------|------------|------------|--|-------|
| Name                               | Date | Draw.: msg | 17/10/2024 |  | 29    |
|                                    |      | check.:    |            |  |       |
| Subject: SERENITY_Wiring TAC7.sp17 |      |            |            | Application:<br>BACnet   | of 38 |

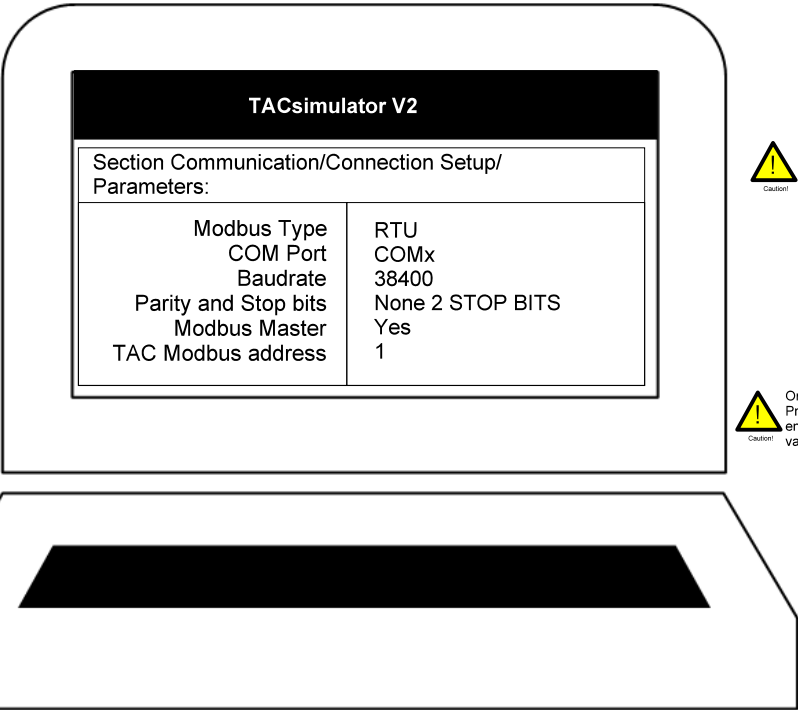
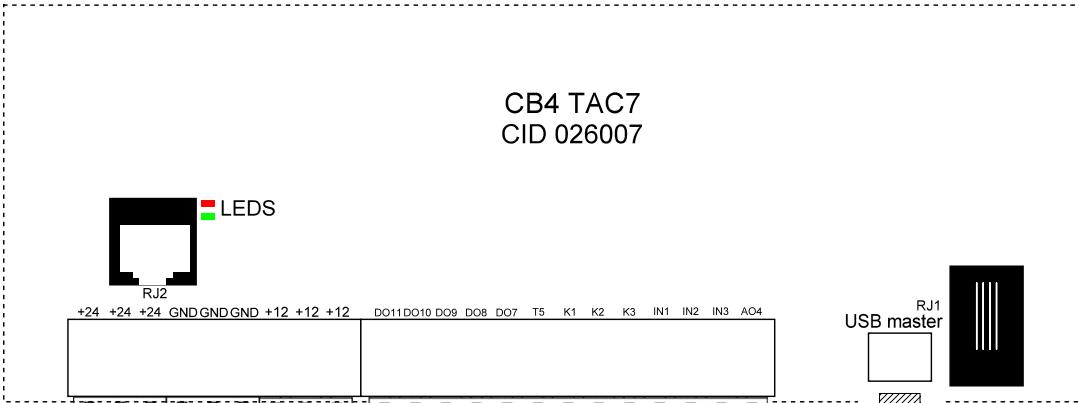


| Changes  |                           | Name       | Date       | Configuration of function:<br>Function Communication/Connection Setup<br>Function Network | Page                                 |
|----------|---------------------------|------------|------------|---|--------------------------------------|
| Name     | Date                      | Draw.: msg | 17/10/2024 |   | Application:<br>TACtouch centralised |
|          |                           | check.:    |            | of  |                                      |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | 38  |                                      |



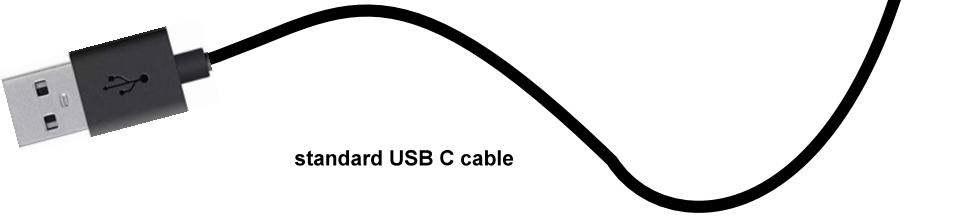
| Changes  |                           | Name       | Date       | Configuration of function:<br>Function Communication/Connection Setup<br>Function Network | Page                                       |
|----------|---------------------------|------------|------------|---|--|
| Name     | Date                      | Draw.: msg | 17/10/2024 |   | Application:<br>TACtouch centralised short |
|          |                           | check.:    |            | of  |  |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | 38  |  |

CB4 TAC7  
CID 026007



**Caution!** Select the COM port to which the USB-C cable is connected

**Caution!** Once setup is changed, Press "RESET COM" at the end of this menu to validate the change

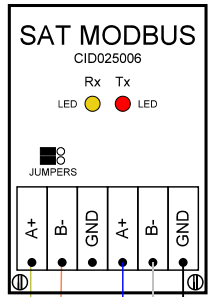


standard USB C cable

| Changes  |                           | Name       | Date       | From version TAC7 v1.0.10.66       | Page  |
|----------|---------------------------|------------|------------|------------------------------------|-------|
| Name     | Date                      | Draw.: msg | 06/05/2025 |                                    | 32    |
|          |                           | check.:    |            |                                    |       |
|          |                           | Norm:      |            | Application:<br>Software HMI+USB C | of 38 |
| Subject: | SERENITY_Wiring TAC7.spl7 |            |            |                                    |       |

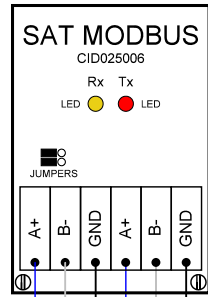
AHU1

**Caution!**  
The SAT circuits must be plugged in correctly before the main circuit is powered. Wrong positioning can damage both circuits.



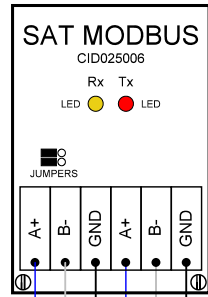
AHU2

**Caution!**  
The SAT circuits must be plugged in correctly before the main circuit is powered. Wrong positioning can damage both circuits.



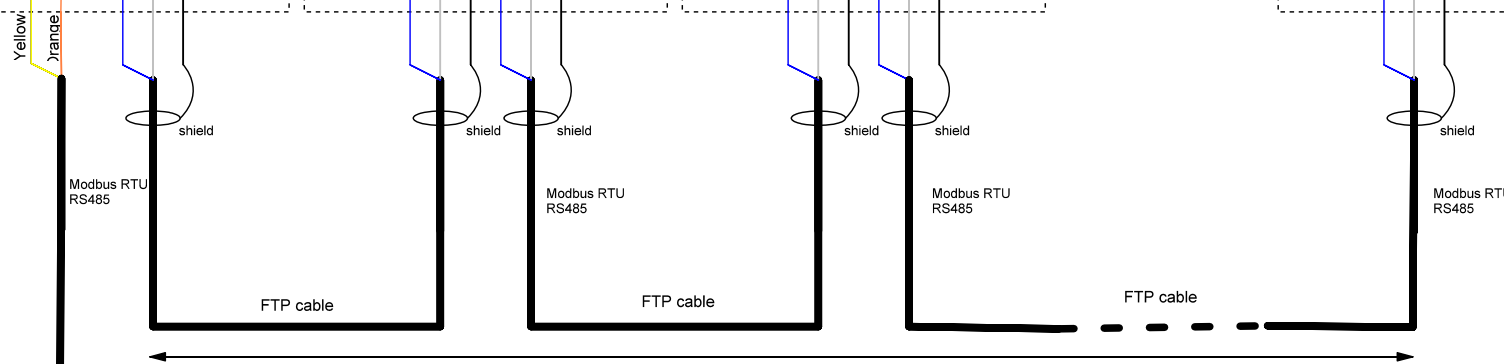
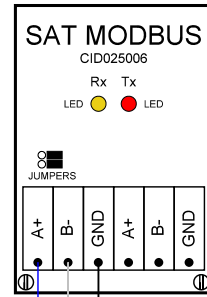
AHU3

**Caution!**  
The SAT circuits must be plugged in correctly before the main circuit is powered. Wrong positioning can damage both circuits.

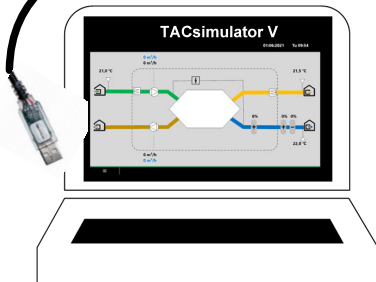


AHUn (MAX 64)

**Caution!**  
The SAT circuits must be plugged in correctly before the main circuit is powered. Wrong positioning can damage both circuits.



CID 025102



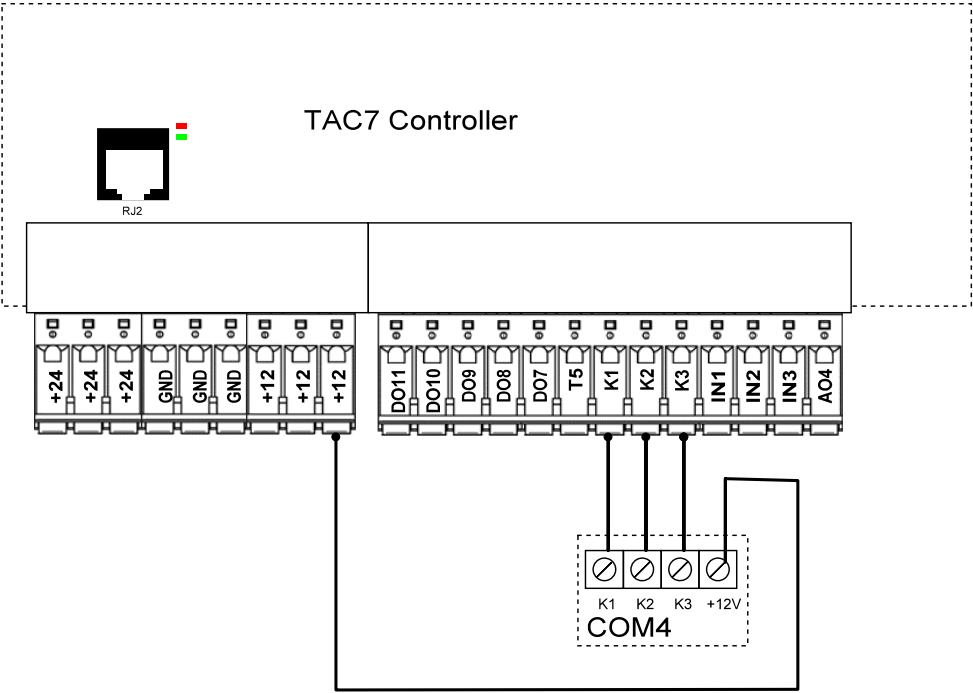
**Caution!**

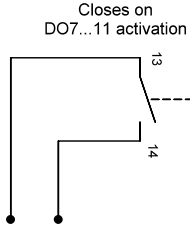
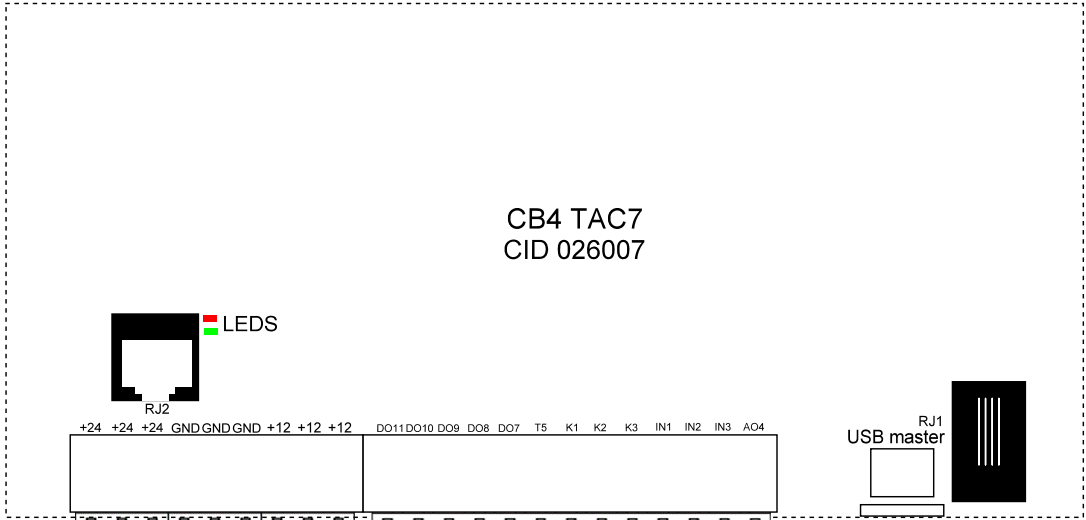
Select the COM port to which the USB-RS 485 adapter cable is connected

**Caution!**

Select the Modbus address of the desired unit to reach in menu "Settings/Connection Setup"

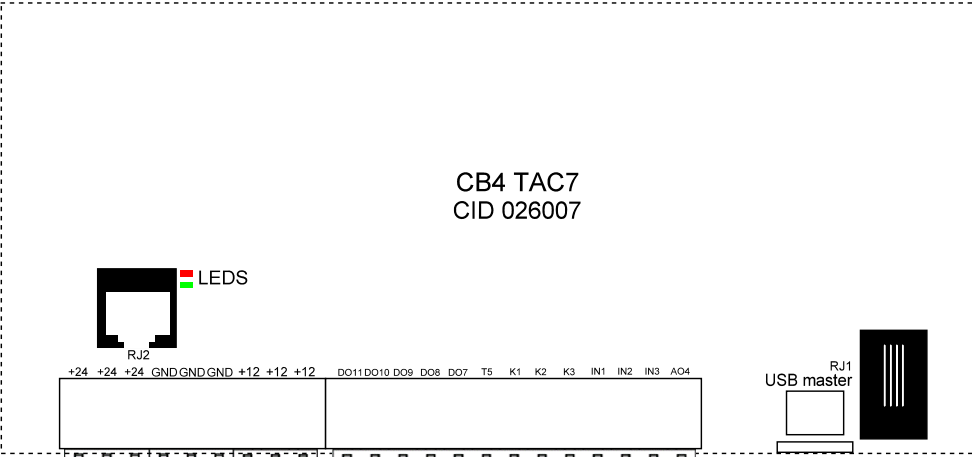
|          |                           |            |            |                                      |      |
|----------|---------------------------|------------|------------|--------------------------------------|------|
| Changes  |                           | Name       | Date       | Configuration of function:           | Page |
| Name     | Date                      | Draw.: msg | 17/10/2024 |                                      | 33   |
|          |                           | check.:    |            | Application:<br>Soft HMI centralised | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            | Norm:      |                                      | 38   |



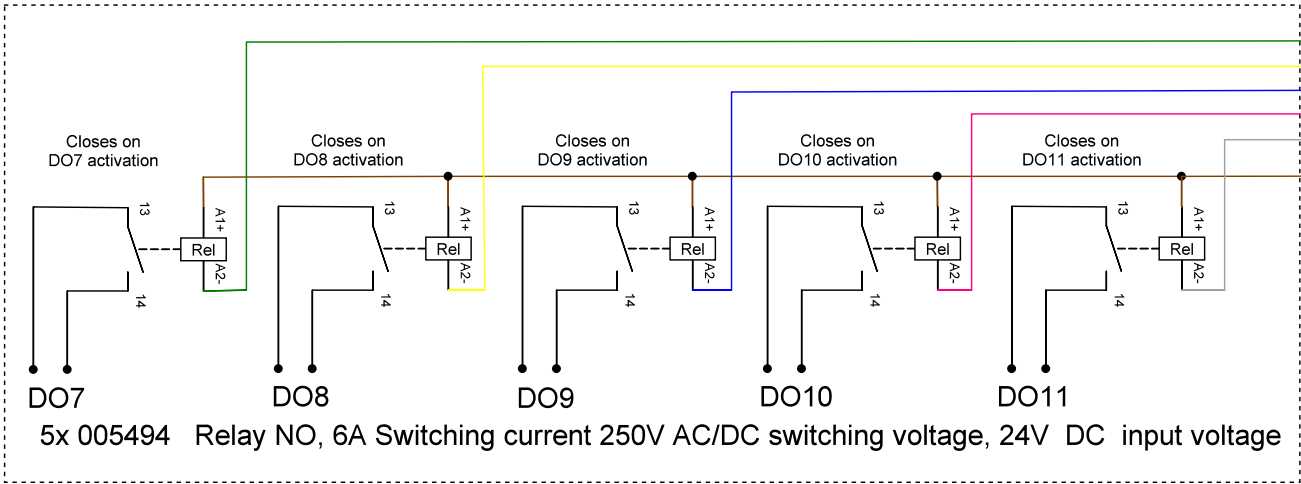


005494 Relais NO, 6A Switching current 250V AC/DC switching voltage, 24V DC input voltage

| Changes  |                           | Name       | Date       | Configuration of function: | Page                                   |
|----------|---------------------------|------------|------------|----------------------------|--|
| Name     | Date                      | Draw.: ola | 04/10/2024 |                            | Application:<br><b>Output Relay 1x</b> |
|          |                           | check.:    |            | of                         |  |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | 38                         |  |



EXTERNAL ELECTRICAL BOX



5x 005494 Relay NO, 6A Switching current 250V AC/DC switching voltage, 24V DC input voltage

522346 Kit 5 Output relays

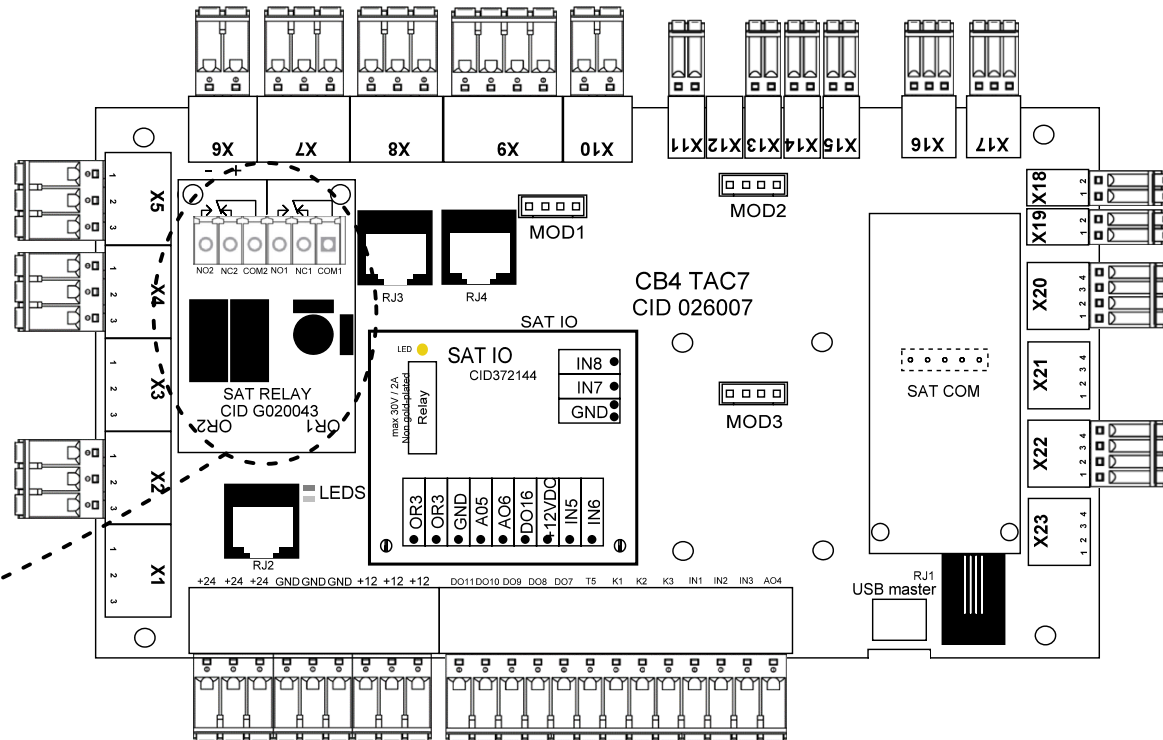
6 wires CABLE

| WIRE COLOR | TAC6 CONNECTOR |
|------------|----------------|
| BROWN      | +24            |
| GREEN      | DO7            |
| YELLOW     | DO8            |
| BLUE       | DO9            |
| PINK       | DO10           |
| GREY       | DO11           |

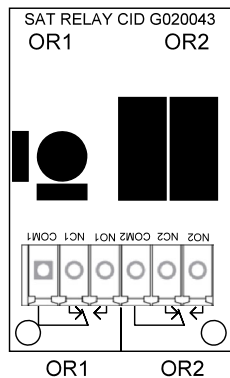
|          |                           |            |            |                                  |      |
|----------|---------------------------|------------|------------|----------------------------------|------|
| Changes  |                           | Name       | Date       | Configuration of function:       | Page |
| Name     | Date                      | Draw.: ola | 04/10/2024 |                                  | 36   |
|          |                           | check.:    |            | Application:<br>Output Relays 5x | of   |
| Subject: | SERENITY_Wiring TAC7.sp17 |            | Norm.:     |                                  | 38   |

**\*SAT RELAY CONFIGURATION**

|  |    |
|--|----|
| Section Inputs/Outputs / Settings / Parameters:                          |    |
| User Digital I/O Mapping   | ON |
| Section Inputs/Outputs / User Digital I/O Mapping - Outputs/ Parameters: |    |
| Select desired functions to be mapped on SAT RELAY OR1 or OR2:           |    |
| - Circulator pump for hydraulic reheater/reversible (by default on DO7)  |    |
| - Circulator pump for hydraulic cooler (by default on DO8)               |    |
| - Default Alarm satus (by default on DO9)                                |    |
| - Pressure Alarm satus (by default on DO10)                              |    |
| - Fan On satus (by default on DO11)                                      |    |
| - Bypass satus (by default on SAT IO OR3)                                |    |
| - Heat satus (by default unapped)  |    |
| - Cool satus (by default unapped)  |    |
| - Circulator pump for hydraulic preheater (by default unapped)           |    |

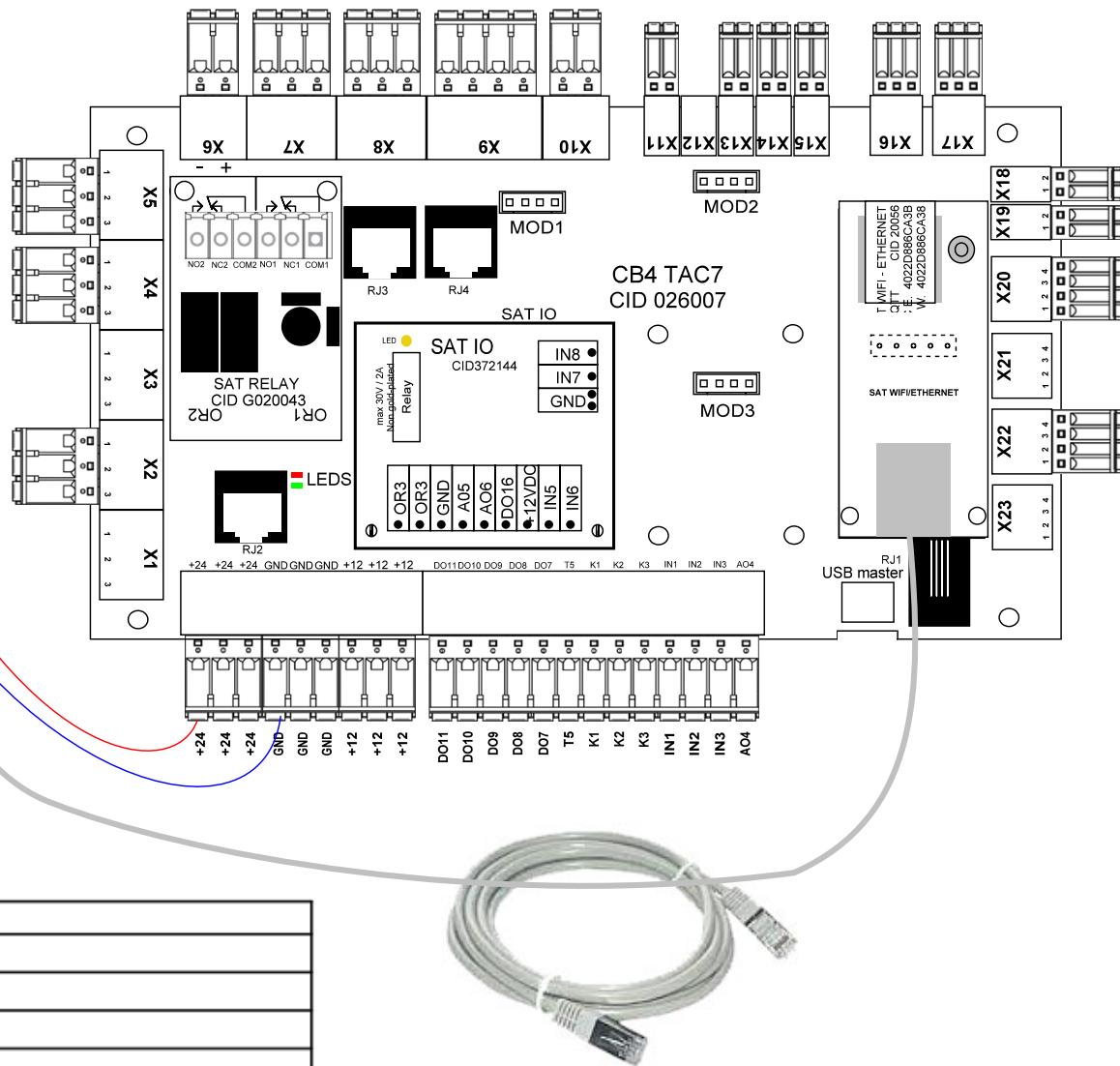
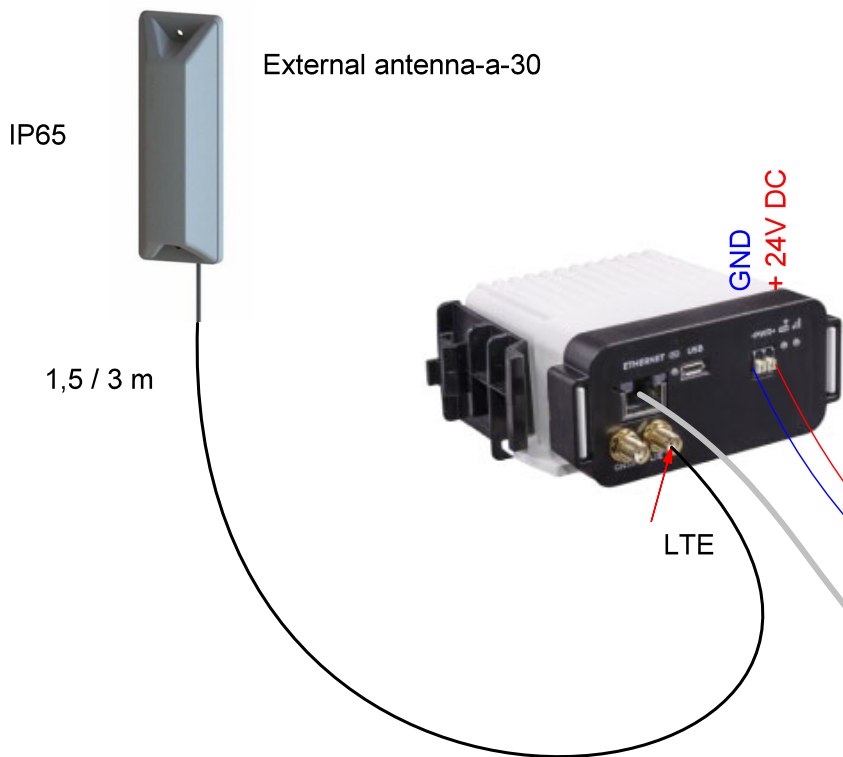


**SAT RELAY plugged on TAC7 controller dedicated connector**



|          |                           |         |      |   |                 |    |
|----------|---------------------------|---------|------|---|-----------------|----|
| Changes  |                           | Name    | Date | Configuration of function:<br>SAT RELAY OR1 – relay SPDT (COM + NC/NO) – max 0,5A 30V DC<br>SAT RELAY OR2 – relay SPDT (COM + NC/NO) – max 0,5A 30V DC<br>See * here above for settings | Page            |    |
| Name     | Date                      | Draw.:  | msg  |   | 17/10/2024      | 37 |
|          |                           | check.: |      |   |                 |    |
|          |                           | Norm:   |      |   |                 |    |
| Subject: | SERENITY_Wiring TAC7.sp17 |         |      | Application:<br><b>SAT RELAY</b>  | of<br><b>38</b> |    |

| Label  | CID    |
|--|--------|
| INSIDE Connect, fitted in electrical cabinet | 883819 |
| INSIDE Connect, delivered loose (no PSU)     | 883820 |
| INSIDE External antenna-a-15                 | 883821 |
| INSIDE External antenna-a-30                 | 883822 |



|                 |                 |
|-----------------|-----------------|
| DHCP            | Off             |
| IP address      | 169.254.235.1   |
| Netmask         | 255.255.255.248 |
| Default gateway | 169.254.235.6   |
| Primary DNS     | 8.8.8.8         |

| Changes  |                           | Name       | Date       | Configuration of function:<br>Function/Communication/Configuration of SAT LAN<br>See settings in table here above | Page  |
|----------|---------------------------|------------|------------|---|-------|
| Name     | Date                      | Draw.: msg | 30/09/2025 |   | 38    |
|          |                           | check.:    |            |   |       |
|          |                           | Norm:      |            |   |       |
| Subject: | SERENITY_Wiring TAC7.sp17 |            |            | Application:<br>Cloud+4G router   | of 38 |