WIRING DIAGRAM
GLOBAL
AIR HANDLING UNITS

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

Caution! 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.

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

Caution! Residual current circuit breaker 300mA class B or B+

Caution! Fuse protection (D-type, “slow”)
D – 10.000 A – AC3

Changes			Name	Date
Name	Date	Draw.:	Beckers	08.03.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Application: General

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

TAC5 DT: GLOBAL RX (TOP) & LP(FW)

CT : output to CT actuator(s) (option - prewired)	**IN1** = Master selection
KWout = output for KWout capacity control (option-prewired)	**IN2** = dPa (pressostat digital input)
AL1 = ALARM OUTPUT (230V/5A)	**IN3** = Fire alarm input
B-/A+/GND/+12V = connection to HMI	**IN4** = Bypass open /Stop heat recovery
K1: Airflow control = m³/h K1	**IN5** = Real time clock auto/manu
Demand/Pressure control = START/STOP	**IN6** = ON/OFF post heating (IBA/KWout)
Torque control = %torque K1	**IN7** = ON/OFF SUPPLY if fire alarm
K2: Airflow control = m³/h K2	**IN8** = ON/OFF EXHAUST if fire alarm
Demand/Pressure control = 0-10V INPUT	**IN9** = BOOST Airflow
Torque control = %torque K2	**IN12** = input pulse from heat exchanger magnet (prewired)
K3: Airflow control = m³/h K3	**OUT1** = 0-10V OUTPUT (airflow/pressure)
Demand/Pressure control = % ON K3 or 0-10 V INPUT	**OUT2** = 0-10V OUTPUT (airflow/pressure)
Torque control = %torque K3	**OUT4** = 0-10V OUTPUT internal post heating (IBA)
T1 = from outdoors T° sensor (prewired)	**OUT5** = 24VDC/1A
T2 = from indoors T° sensor (prewired)	**O.R.1** (output relay 1 - SAT3) = PRESSURE ALARM
T4 = IBA anti freeze protection T° sensor (option - prewired)	**O.R.2** (output relay 2 - SAT3) = FAN ON
T5 = supply T° sensor for IBA/KWout coil (option - prewired)	**O.R.3** (output relay 3-SAT3) = HEATING DEMAND OUTPUT
PR1 = ΔPa from supply inlet fan (only on RX - option)	**O.R.4** (output relay 4-SAT3) = BYPASS STATUS
PR3 = ΔPa from exhaust inlet fan (only on RX - option)	**R-GND**: output for heat exchanger wheel speed command (prewired)

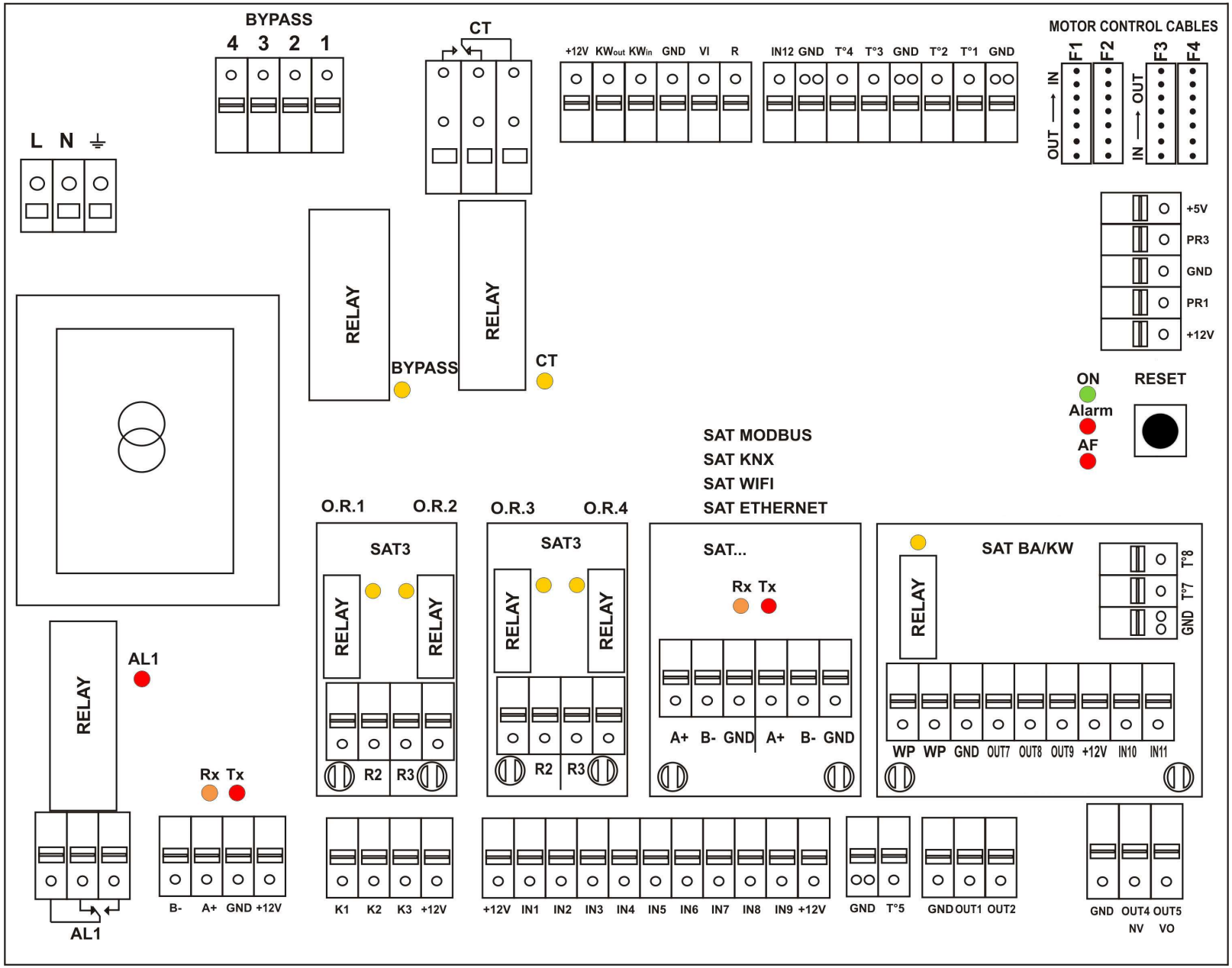
Changes			Name	Date		Page
Name	Date	Draw.:	Beckers	29.11.2018		2
		check.:				
		Norm:			Application: DT Controller	of 27
Subject:	GLOBAL_Wiring TAC5.spl7					

TAC5 DG: GLOBAL PX & LP^{FW}

CT = output to CT actuator(s) (option - prewired)	**IN1** = Master selection
BYPASS = output to bypass actuator (prewired)	**IN2** = dPa (pressostat digital input)
AL1 = ALARM OUTPUT (230V/5A)	**IN3** = Fire alarm input
B-/A+/GND/+12V = connection to HMI	**IN4** = Bypass open /Stop heat recovery
K1: Airflow MODE = m³/h K1	**IN5** = Real time clock auto/manu
Demand/Pressure control = START/STOP	**IN6** = ON/OFF post heating (IBA/KWout)
Torque MODE = %torque K1	**IN7** = ON/OFF SUPPLY if fire alarm
K2: Airflow control = m³/h K2	**IN8** = ON/OFF EXHAUST if fire alarm
Demand/Pressure control = 0-10V INPUT	**IN9** = BOOST Airflow
Torque control = %torque K2	**IN12** = PWM input bypass position
K3: Airflow control = m³/h K3	**OUT1** = 0-10V OUTPUT (airflow/pressure)
Demand/Pressure control = % ON K3 or 0-10 V INPUT	**OUT2** = 0-10V OUTPUT (airflow/pressure)
Torque control = %torque K3	**OUT4** = 0-10V OUTPUT internal post heating (IBA)
T1 = from outdoors T° sensor (prewired)	**OUT5** = 24VDC/1A
T2 = from indoors T° sensor (prewired)	**O.R.1** (output relay 1 - SAT3) = PRESSURE ALARM
T3 = to outdoors T° sensor (prewired)	**O.R.2** (output relay 2 - SAT3) = FAN ON
T4 = IBA anti freeze protection T° sensor (option - prewired)	**O.R.3** (output relay 3 - SAT3) = HEATING DEMAND OUTPUT
T5 = supply T° sensor for IBA/KWout coil (option - prewired)	**O.R.4** (output relay 4 -SAT3) = BYPASS STATUS
PR1 = ΔPa from supply inlet fan (only on PX - option)	**KWin** = output for KWin capacity control (option - prewired)
PR3 = ΔPa from exhaust inlet fan (only on PX - option)	**KWout** = output for KWout capacity control (option - prewired)

Changes			Name	Date
Name	Date	Draw.:	Beckers	29.11.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Application: DG Controller

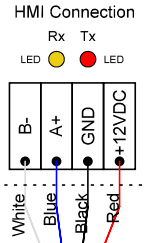


Changes			Name	Date		Page
Name	Date	Draw.:	Beckers	29.11.2018		4
		check.:				
		Norm:			Application:	of
Subject:	GLOBAL_Wiring TAC5.spl7				Controller	27

TAC5 Controller

300mA B-Type
Residual current
circuit breaker

HMI Connection

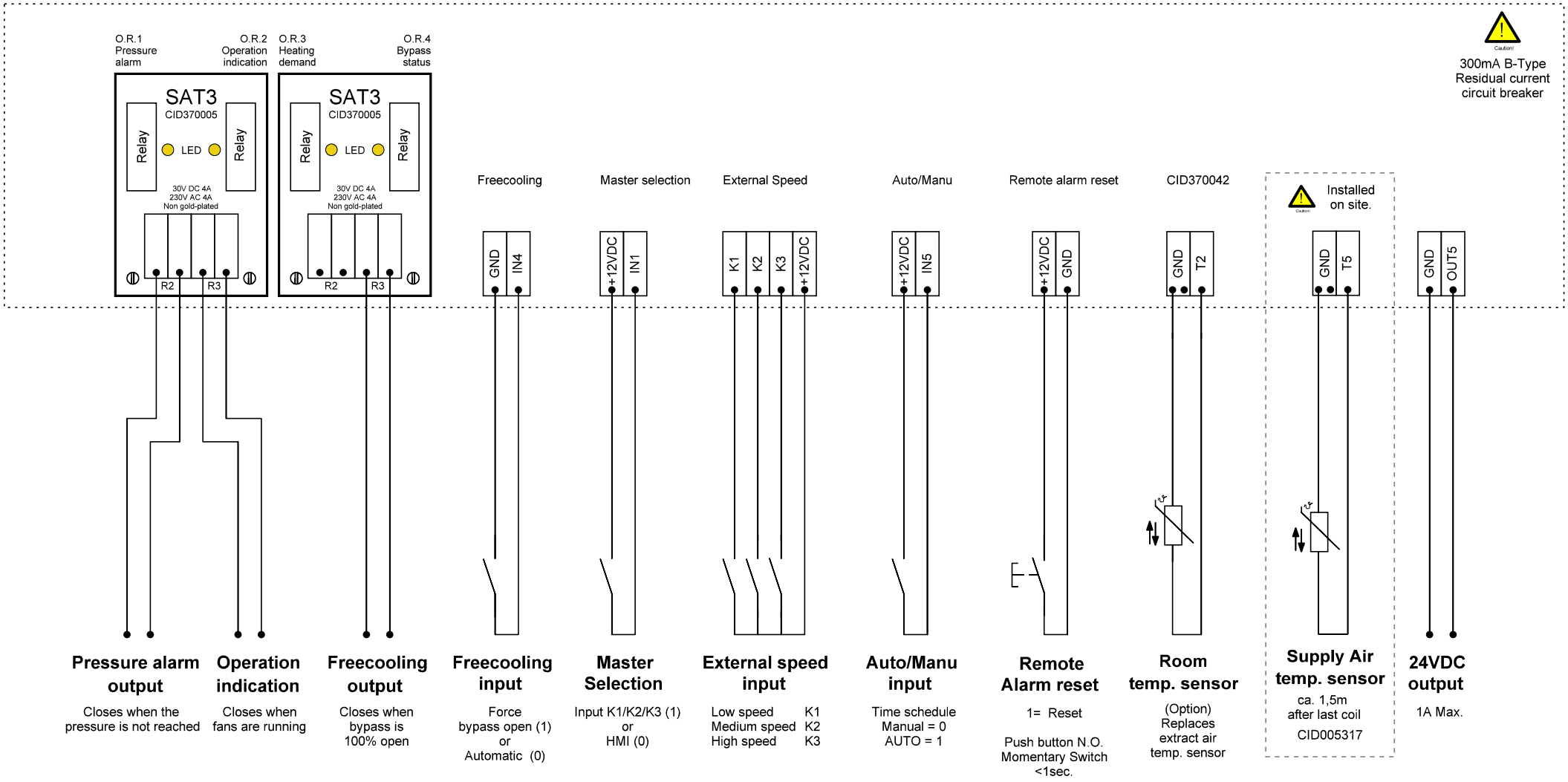


TACtouch

The cables used in the network must comply to the RS-485 standard with twisted pair conductors. The cables must be shielded. Conductor Area >0.2 mm². The total length must not exceed 100 meters.

Changes			Name	Date		Page
Name	Date	Draw.:	Beckers	20.09.2018		5
		check.:				
		Norm:			Application: TACtouch	of 27
Subject:	GLOBAL_Wiring TAC5.spl7					

TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Application:
Main Controller TAC5

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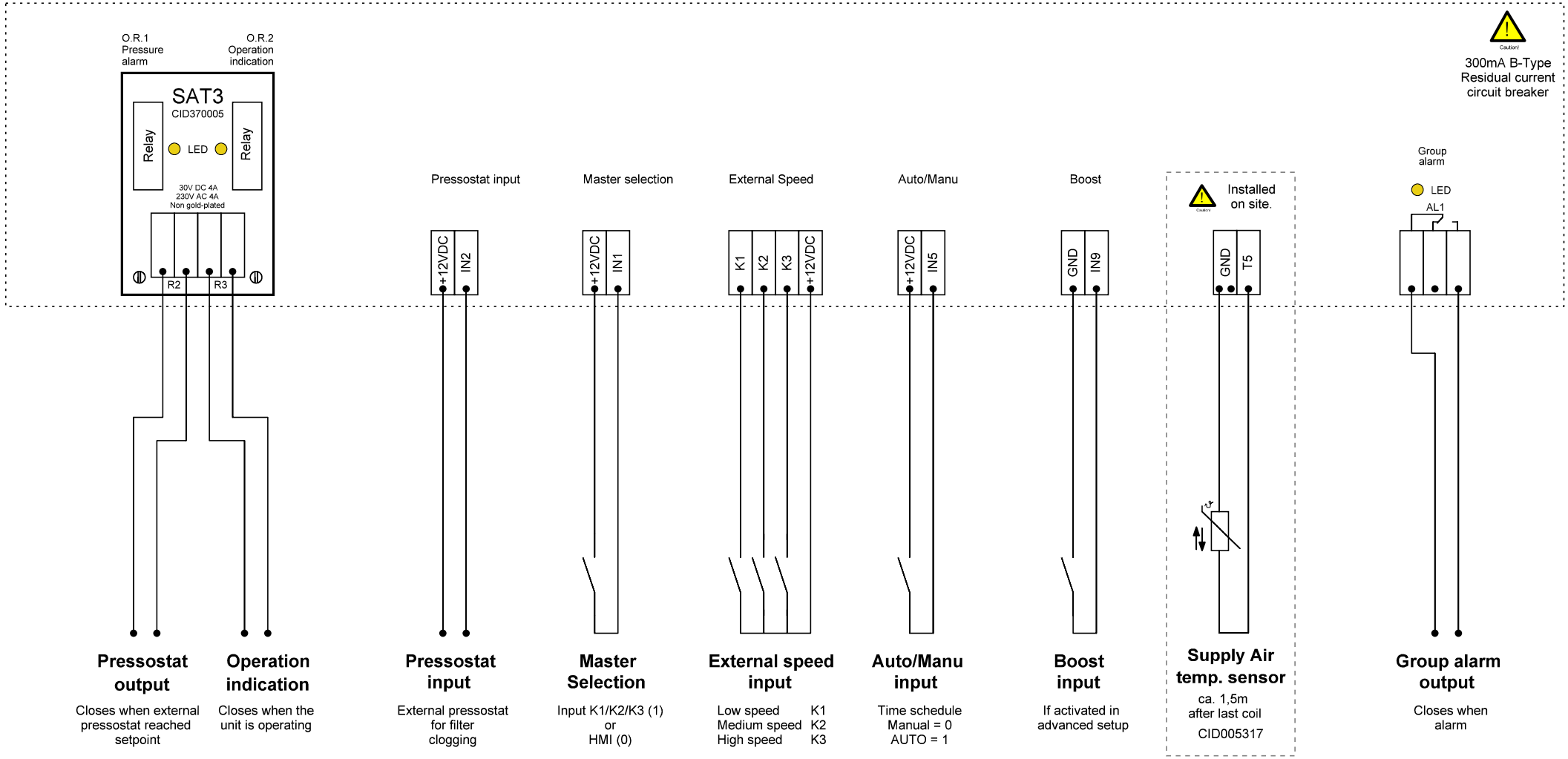
TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Basic setup / Air flow regulation / Constant pressure

Application:
Constant airflow

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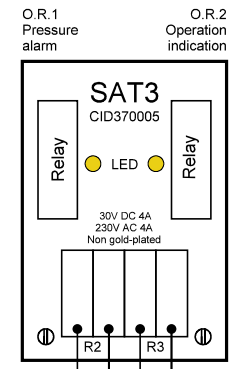
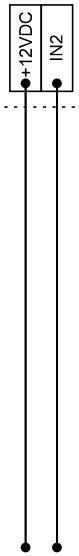
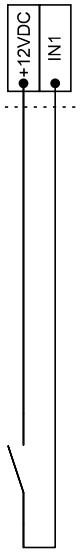
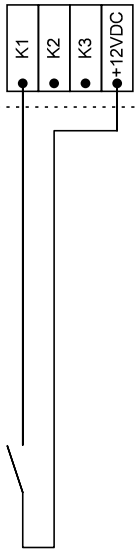
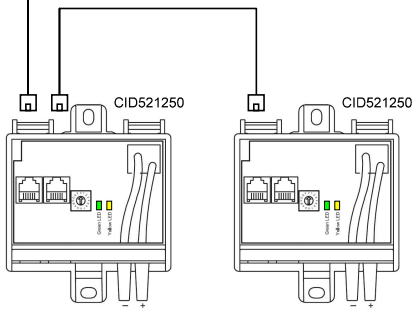
TAC5 Controller











300mA B-Type
Residual current
circuit breaker

Pressostat output

Closes when external pressostat reached setpoint

Operation indication

Closes when the unit is operating

Pressostat input

External pressostat for filter clogging

Master Selection

Input K1/K2/K3 (1) or HMI (0)

Start / Stop input

Active if IN1 = 1

Supply air pressure sensor

Modbus sensor

Position switch: 5

Extract air pressure sensor

Modbus sensor

Position switch: 6

GREEN LED ON: Power ON
GREEN LED OFF: Power OFF

YELLOW LED Flashing: Valid Modbus Communication
YELLOW LED OFF: Invalid Modbus Communication

Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Basic setup / Air flow regulation

Application:
Constant pressure Modbus

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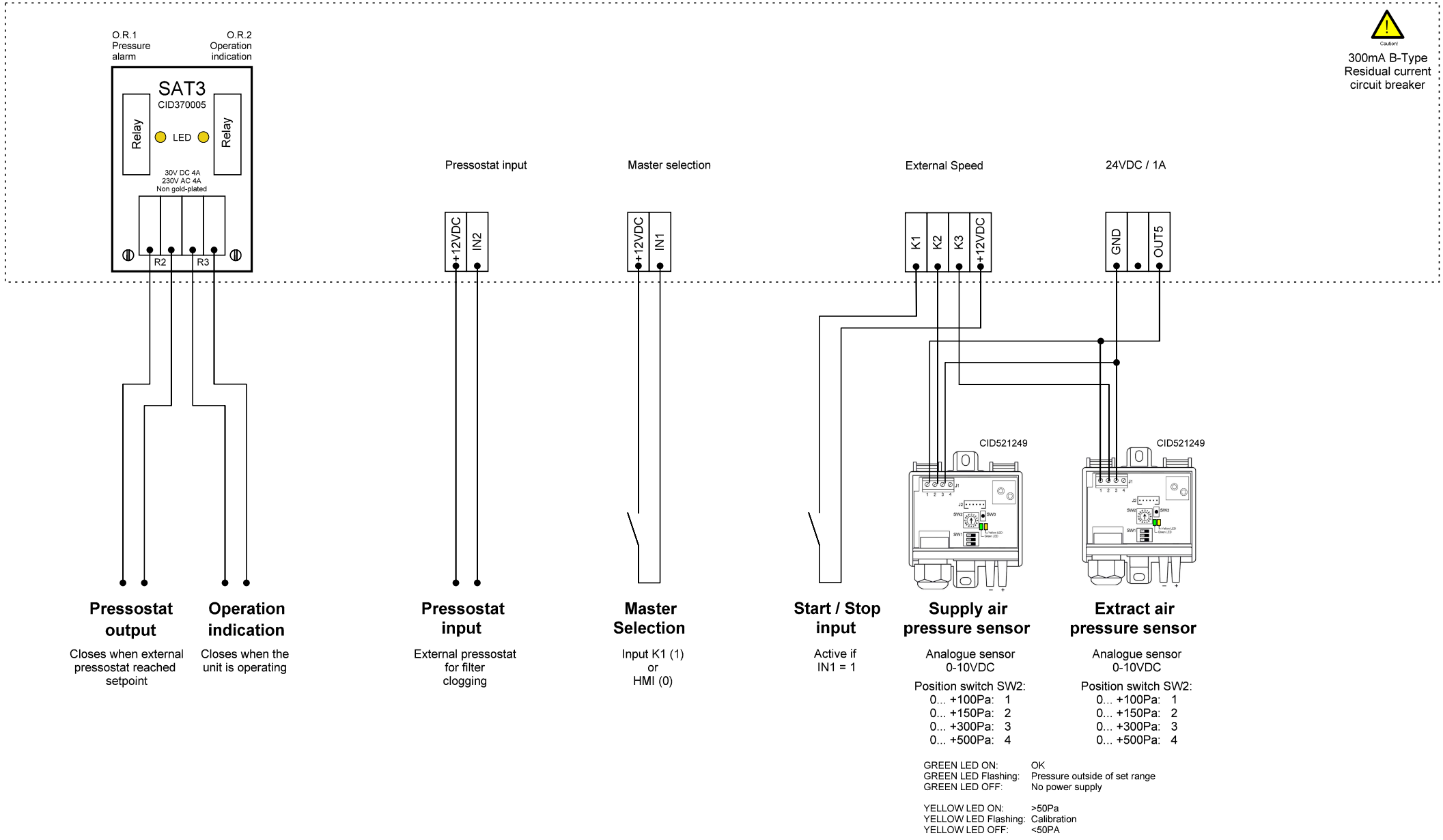
TAC5 Controller



Pressostat output

Closes when external pressostat reached setpoint

Operation indication

Closes when the unit is operating

Pressostat input

External pressostat for filter clogging

Master Selection

Input K1 (1)
or
HMI (0)

Start / Stop input

Active if
IN1 = 1

Supply air pressure sensor

Analogue sensor
0-10VDC

Position switch SW2:
0... +100Pa: 1
0... +150Pa: 2
0... +300Pa: 3
0... +500Pa: 4

Extract air pressure sensor

Analogue sensor
0-10VDC

Position switch SW2:
0... +100Pa: 1
0... +150Pa: 2
0... +300Pa: 3
0... +500Pa: 4

GREEN LED ON:	OK
GREEN LED Flashing:	Pressure outside of set range
GREEN LED OFF:	No power supply
YELLOW LED ON:	>50Pa
YELLOW LED Flashing:	Calibration
YELLOW LED OFF:	<50PA

Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Basic setup / Air flow regulation

Application:
Constant pressure 0-10V

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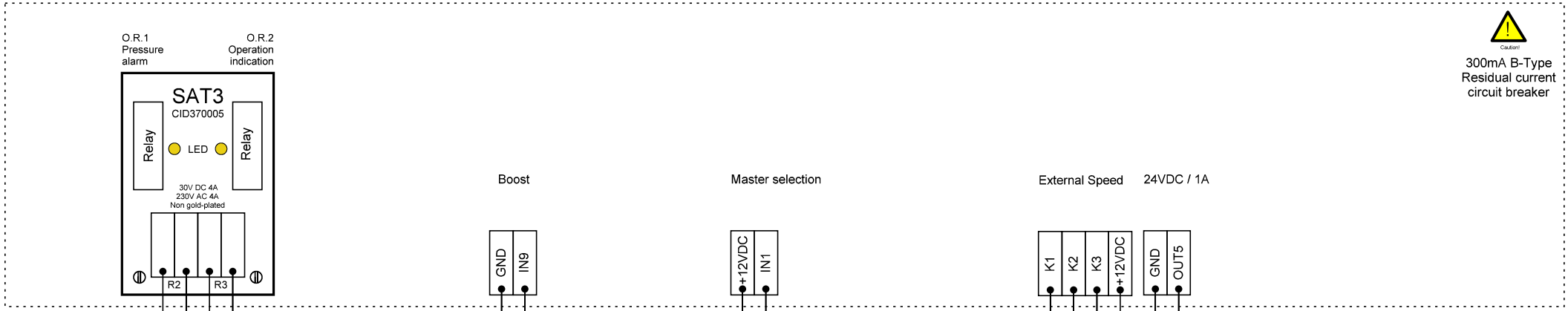
TAC5 Controller



Pressostat output

Closes when external pressostat reached setpoint

Operation indication

Closes when the unit is operating

Boost input

1= Forced boost

If activated in advanced setup

Master Selection

Input K1 (1)
or
HMI (0)

Start / Stop input

Active if
IN1 = 1

Demand control input 1

CO2 wall sensor (CID370015)
CO2 duct sensor (CID370016)
RH sensor (CID370024)
BMS output
etc...
Max. impedance: 1.500Ohm

Demand control input 2

CO2 wall sensor (CID370015)
CO2 duct sensor (CID370016)
RH sensor (CID370024)
BMS output
etc...
Max. impedance: 1.500Ohm

Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Basic setup / Air flow regulation / Demand control

Application:
Demand control 0-10V

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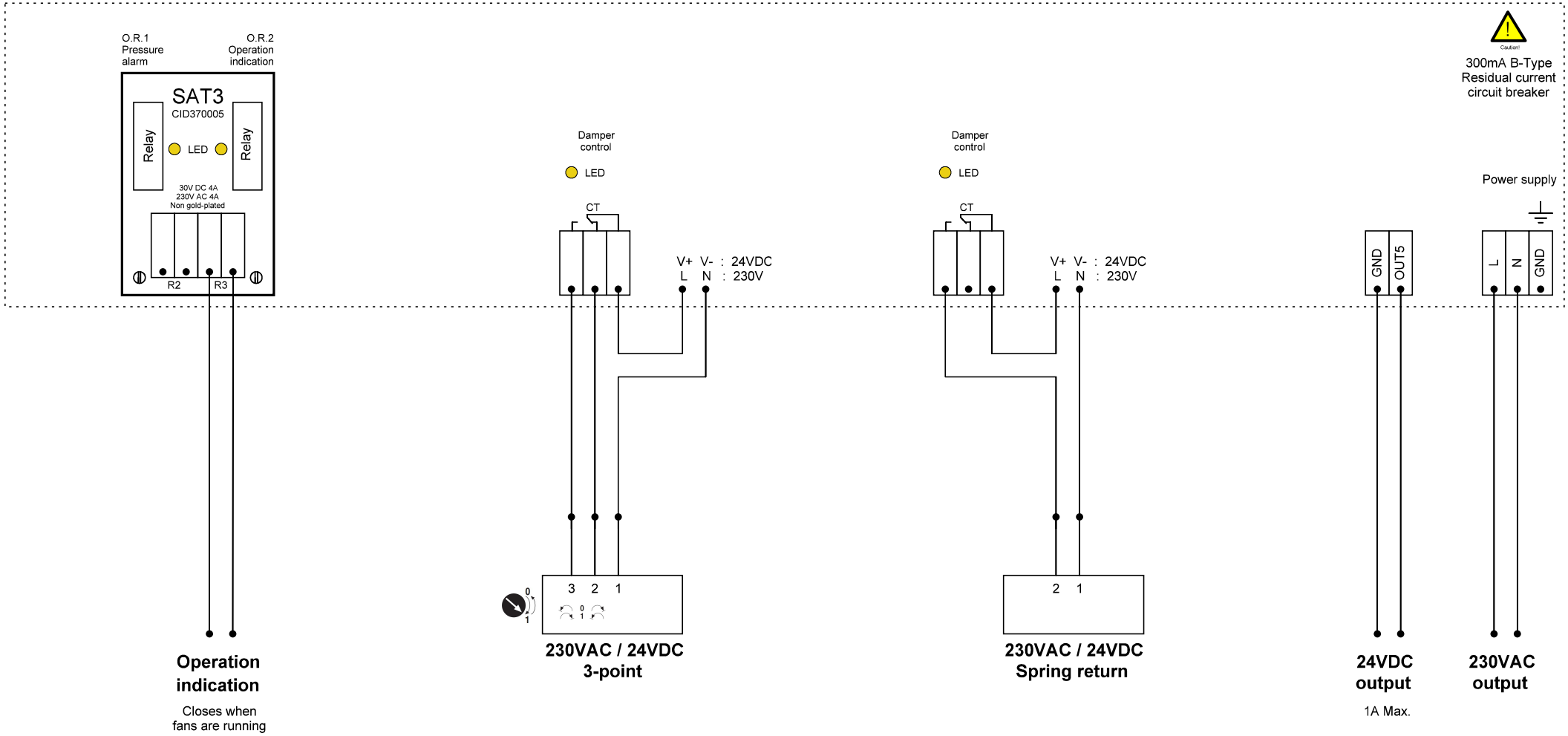
TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Basic setup

Application:
Motorised damper

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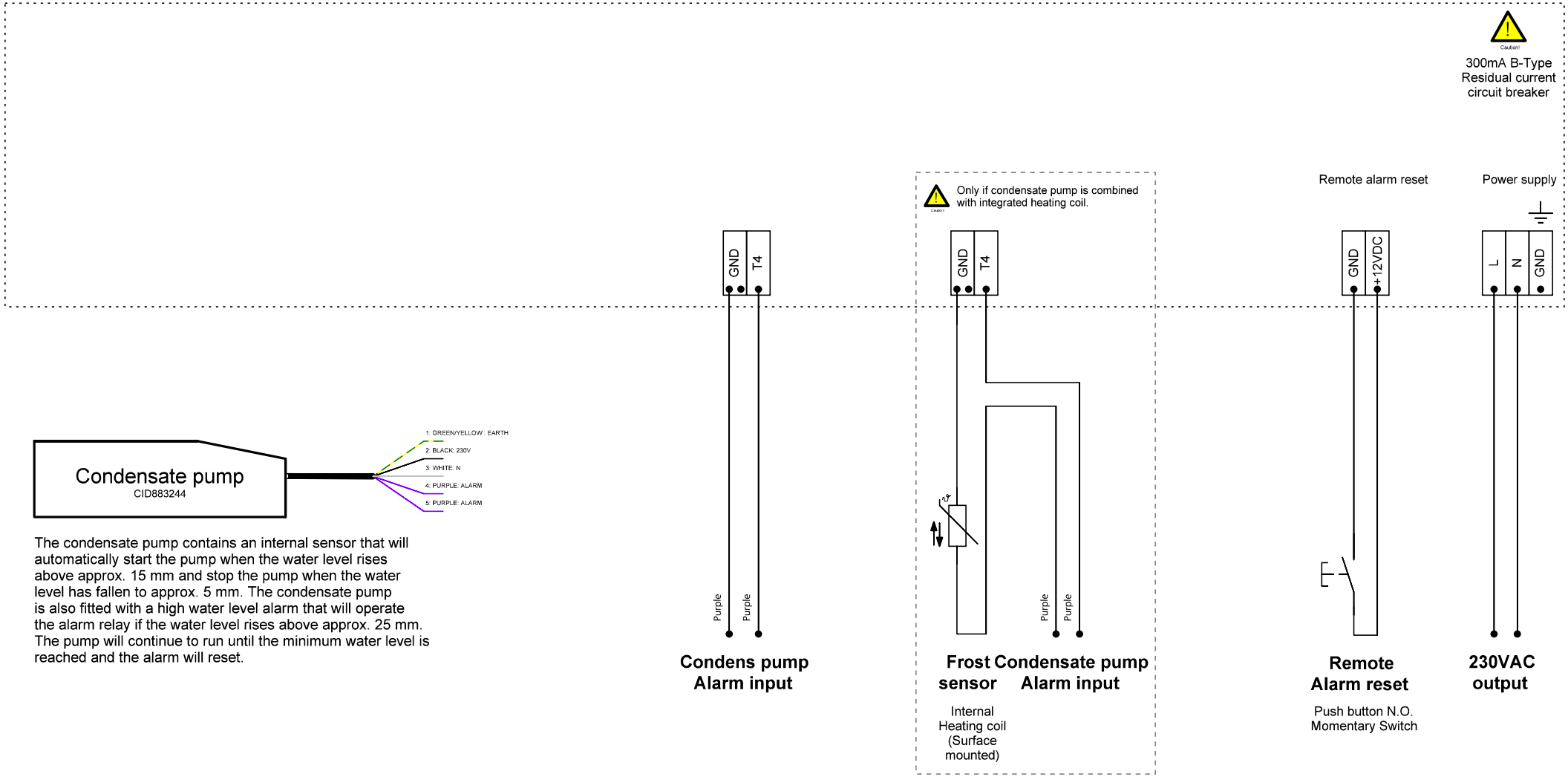
27

TAC5 Controller



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.

Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Application:
Condense pump (LP)

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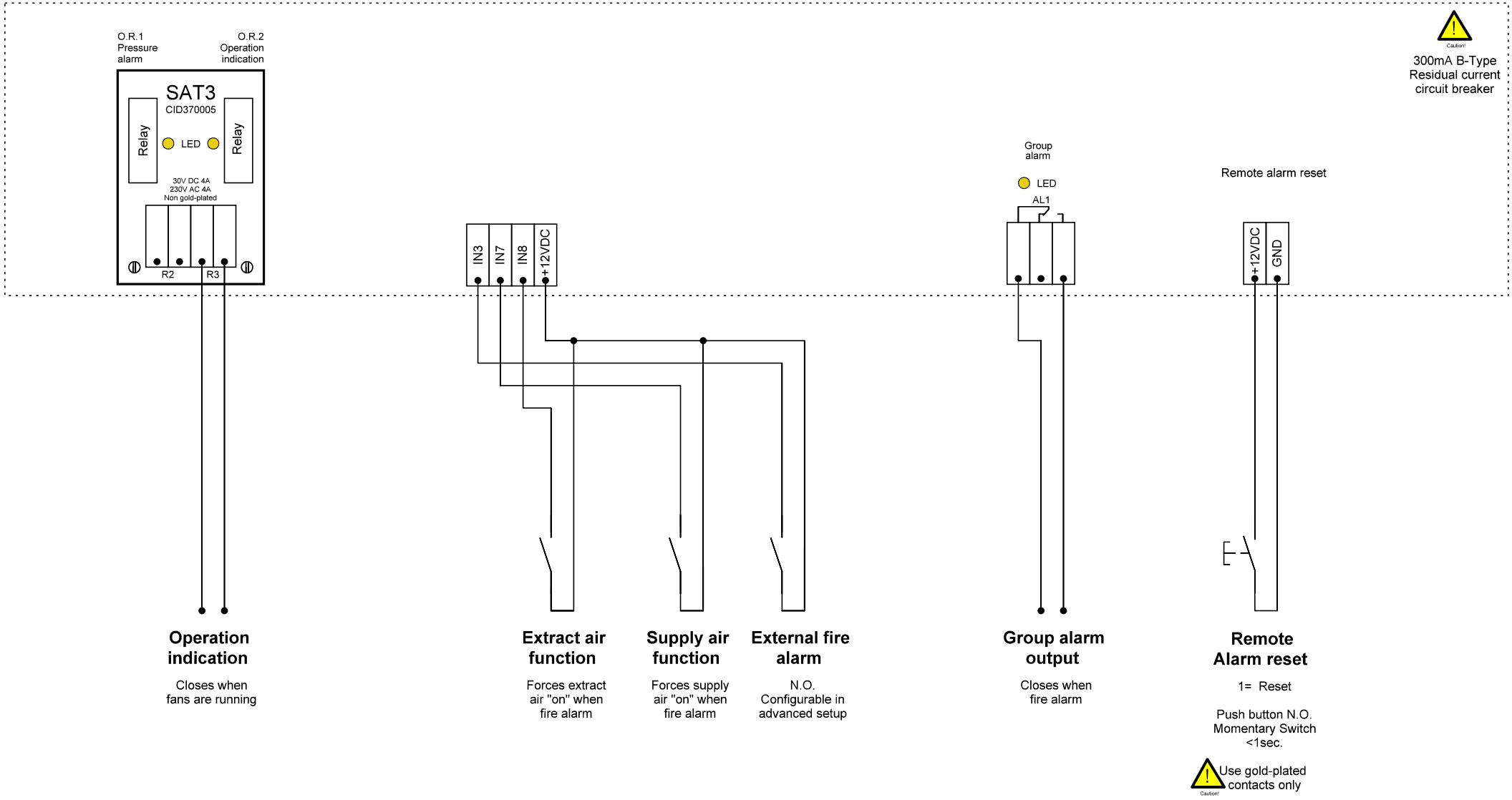
TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Basic setup/Fire alarm

Application:
Fire alarm

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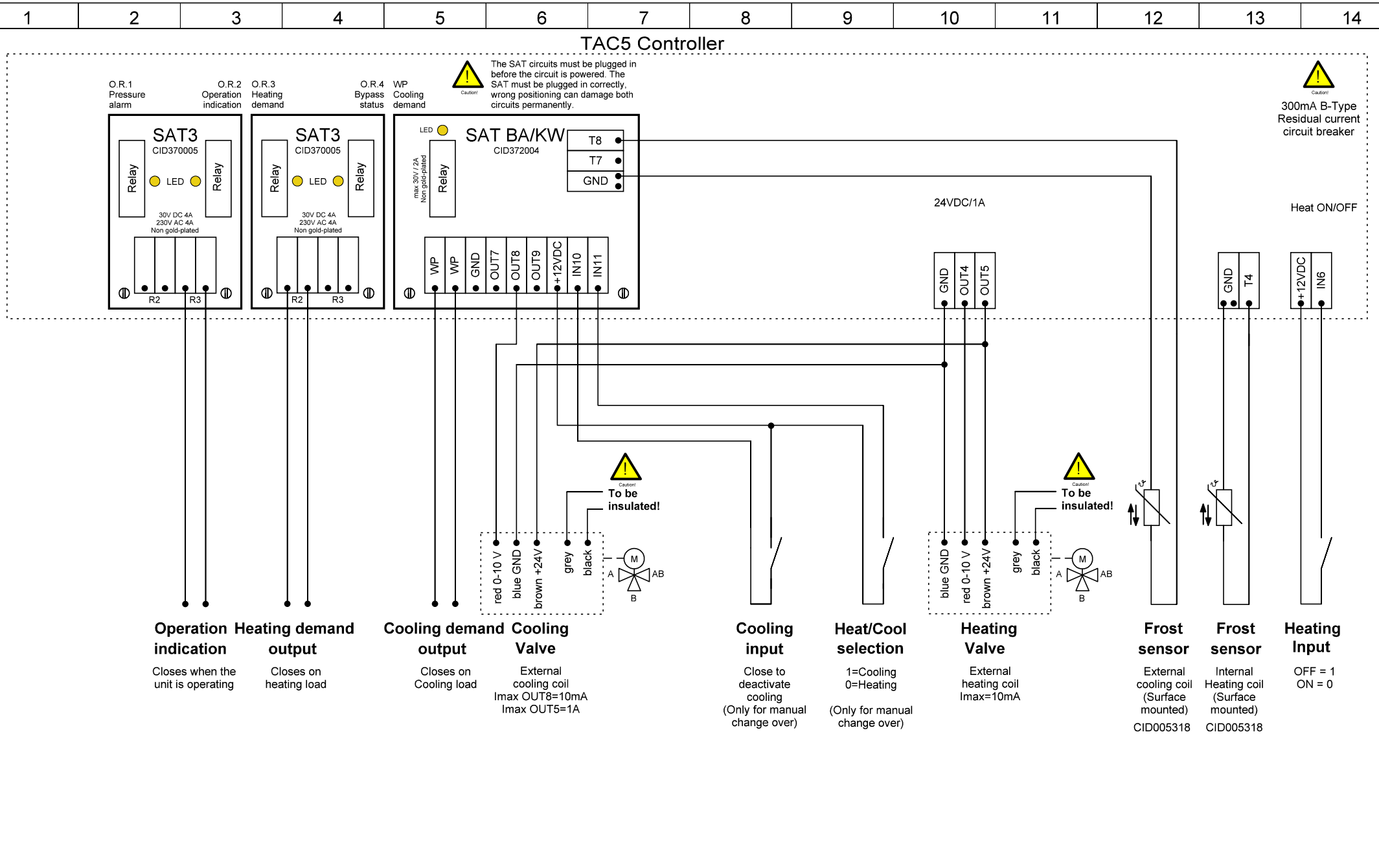
27



Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils & Internal coils

Application:
Int. heating & Ext. cooling

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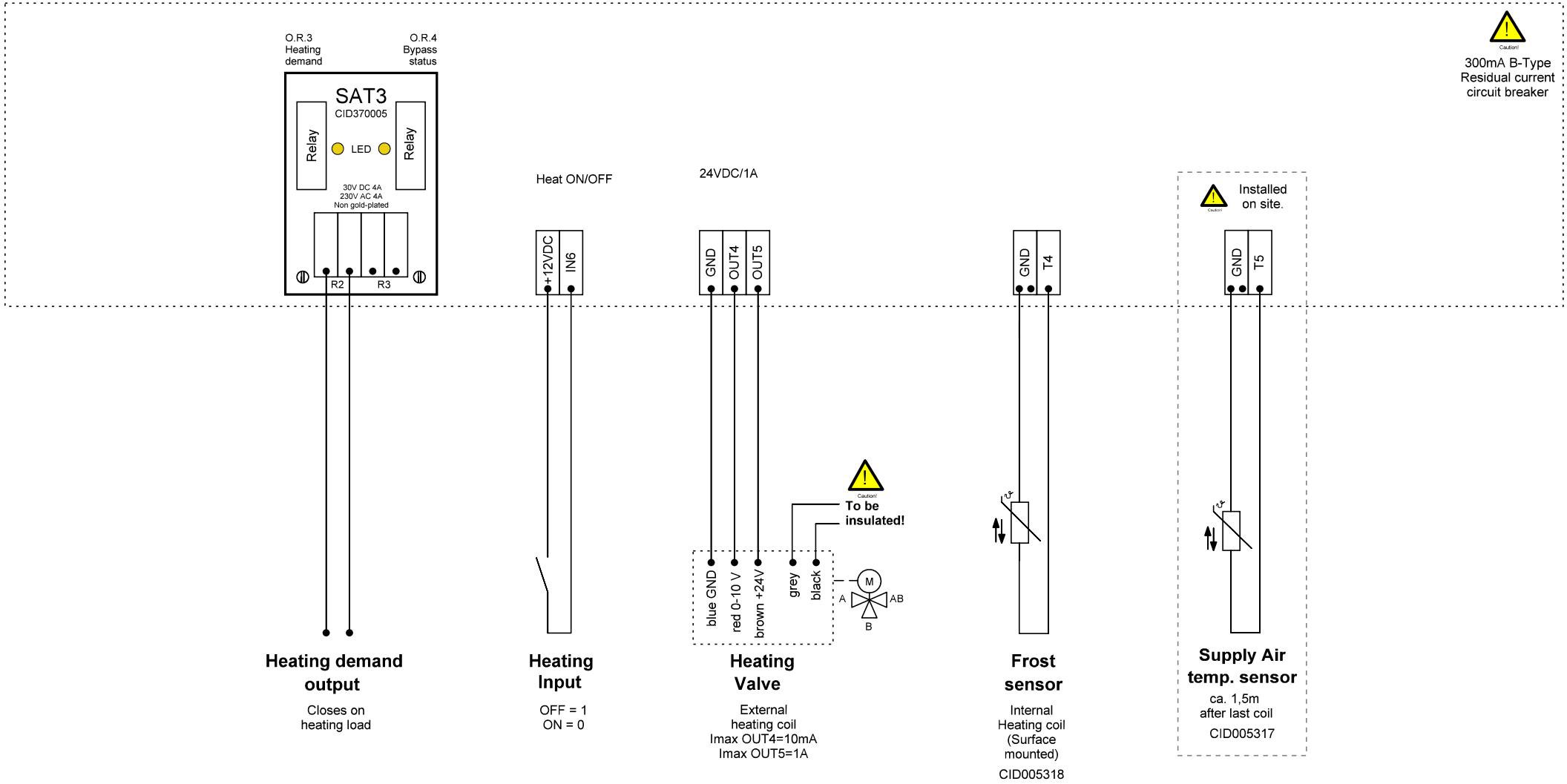
TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup

Application:
Int. heating coil

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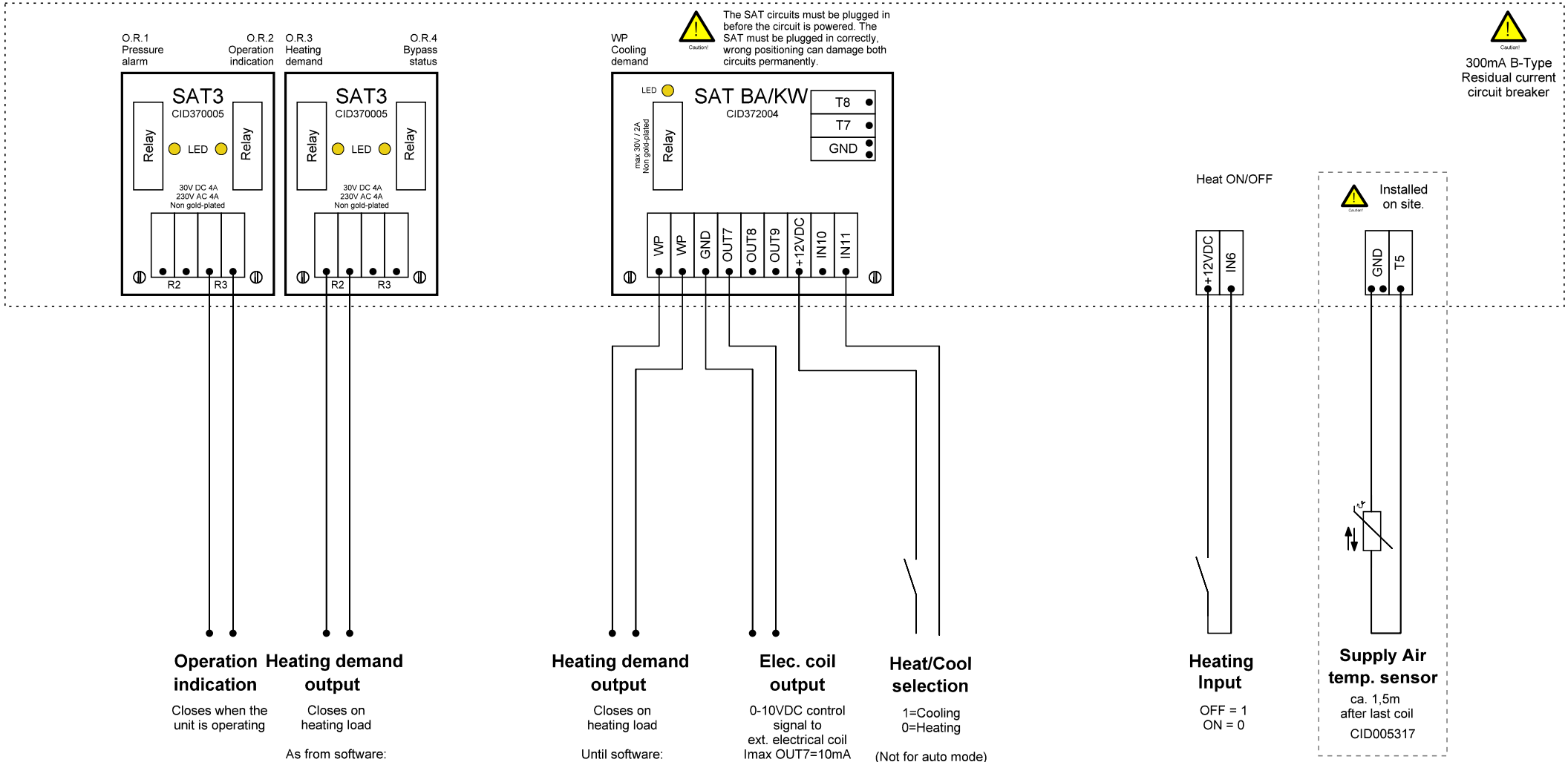
TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils / Electric (0-10V)

Application:
External elec. heating 0-10V

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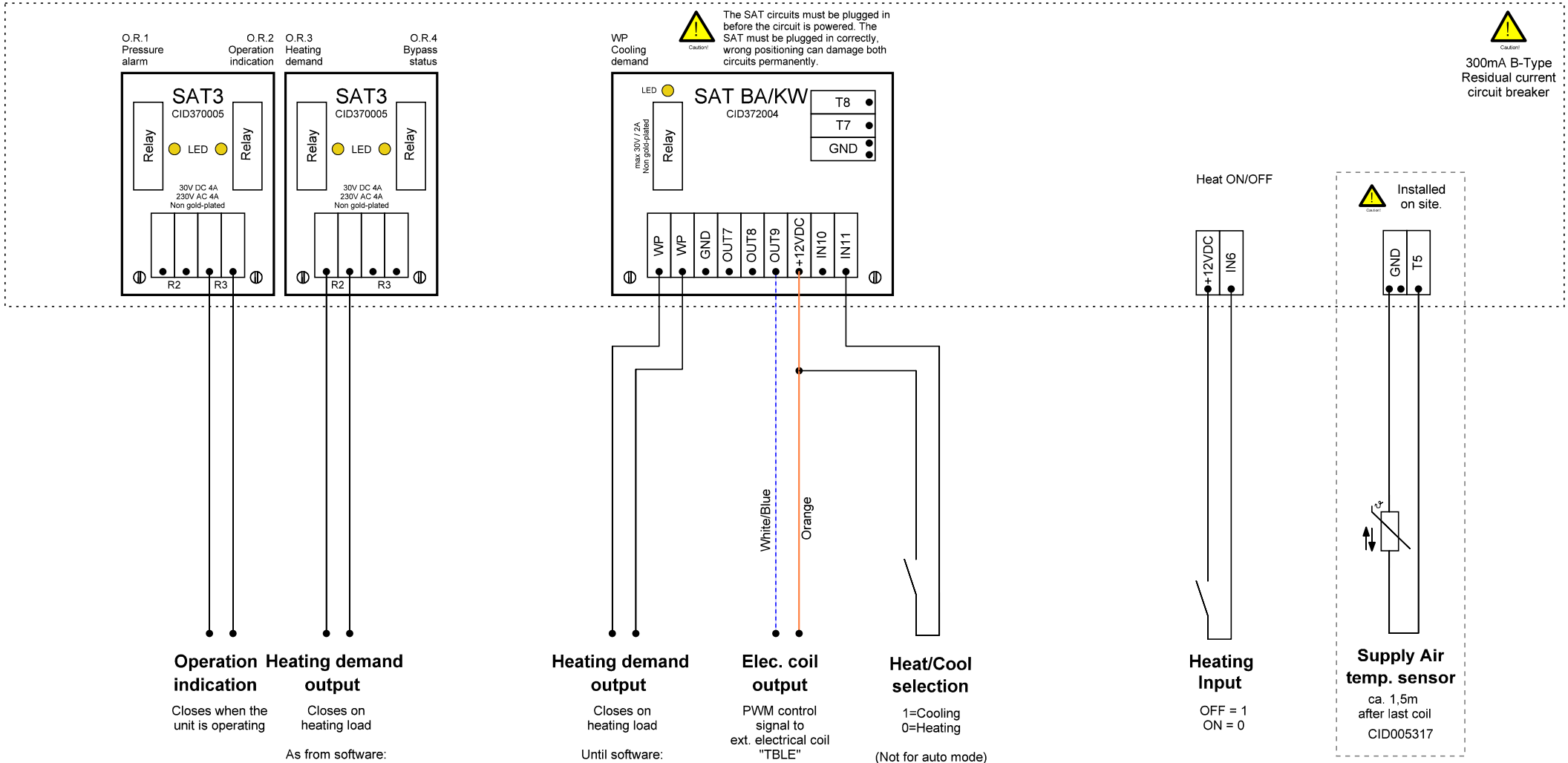
TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils / Electric (PWM)

Application:
External elec. heating PWM

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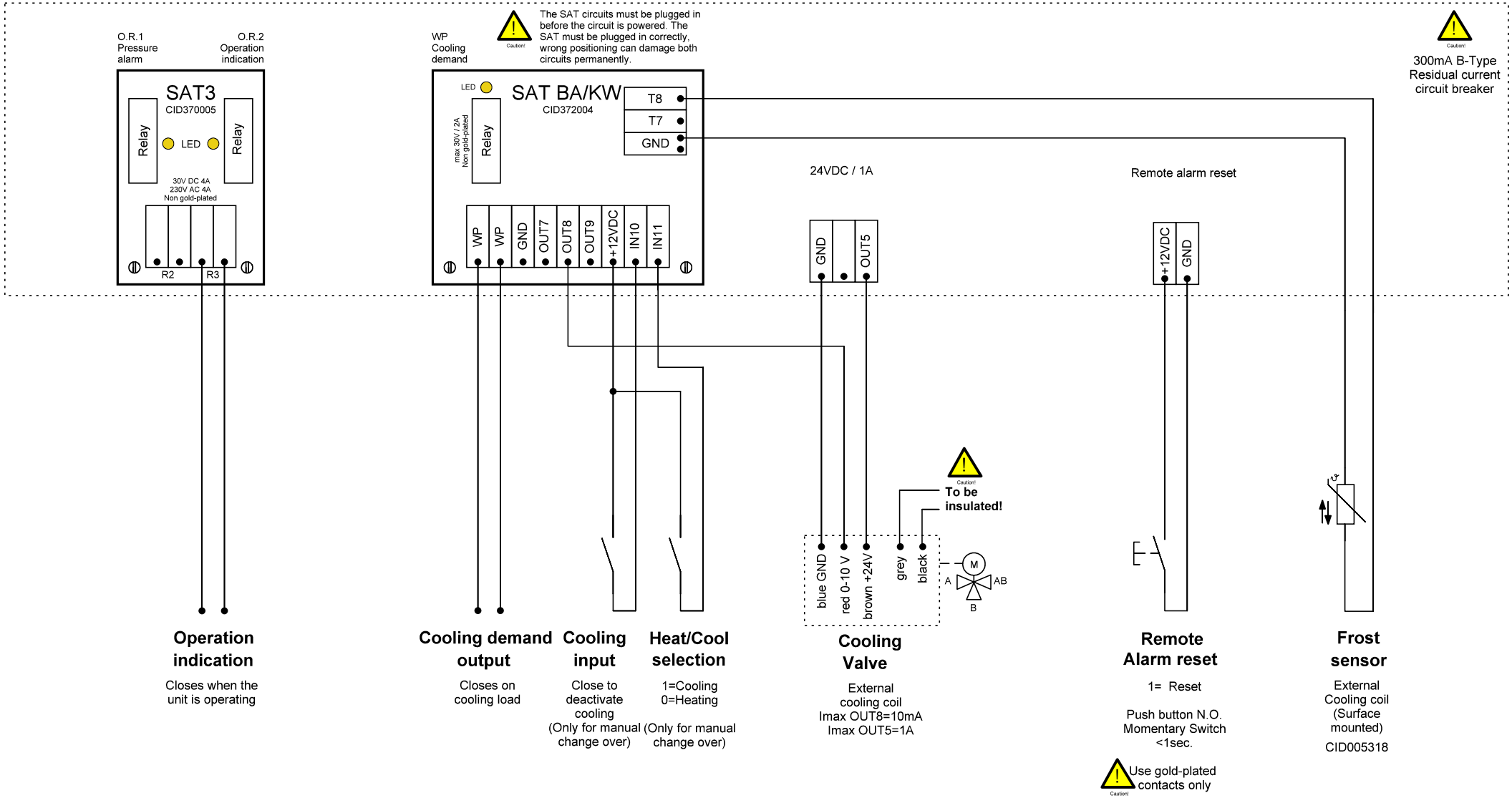
TAC5 Controller



Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils / Cooling

Application:
External cooling coil

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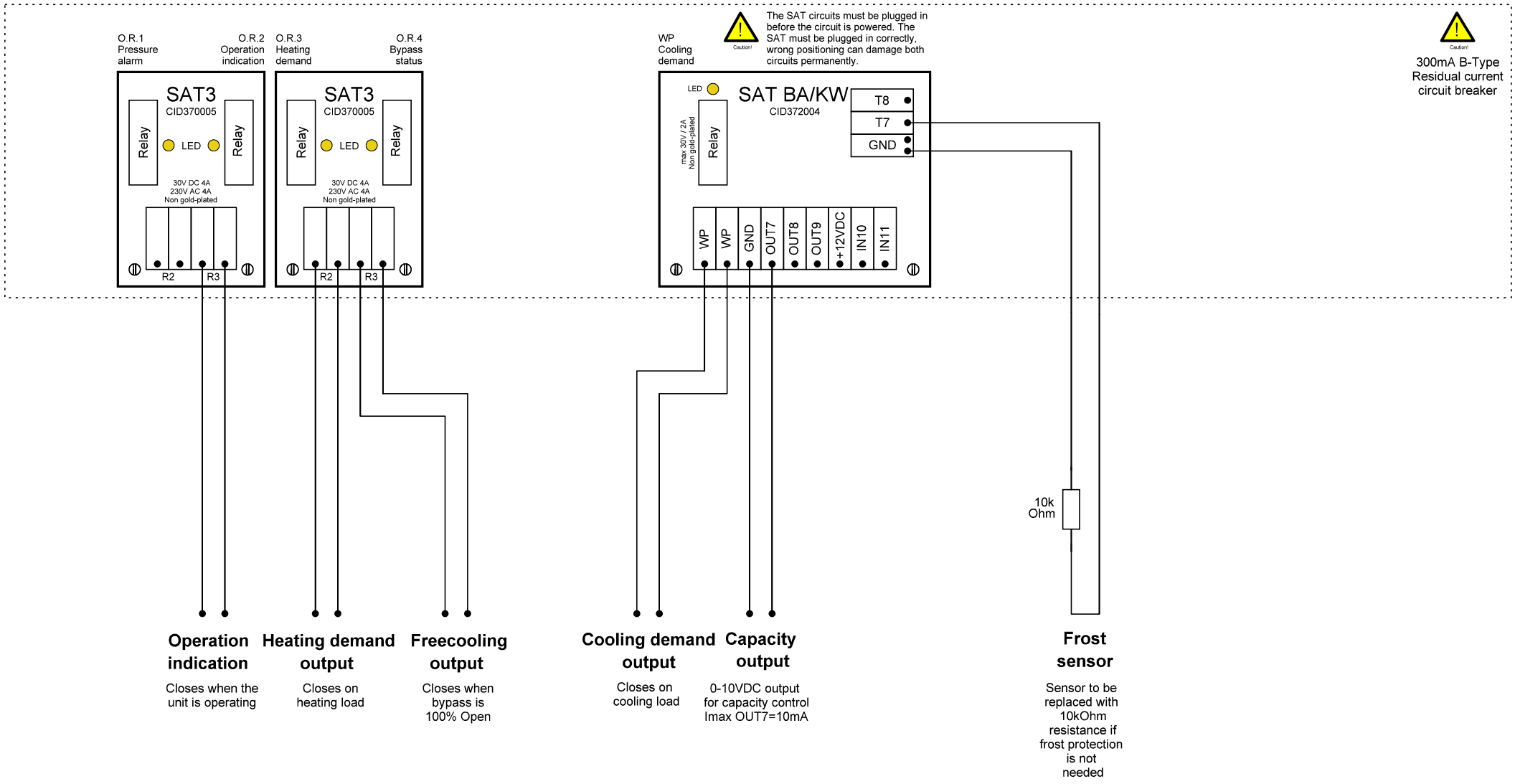

Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils / Reversible

Application:
Change over / Master

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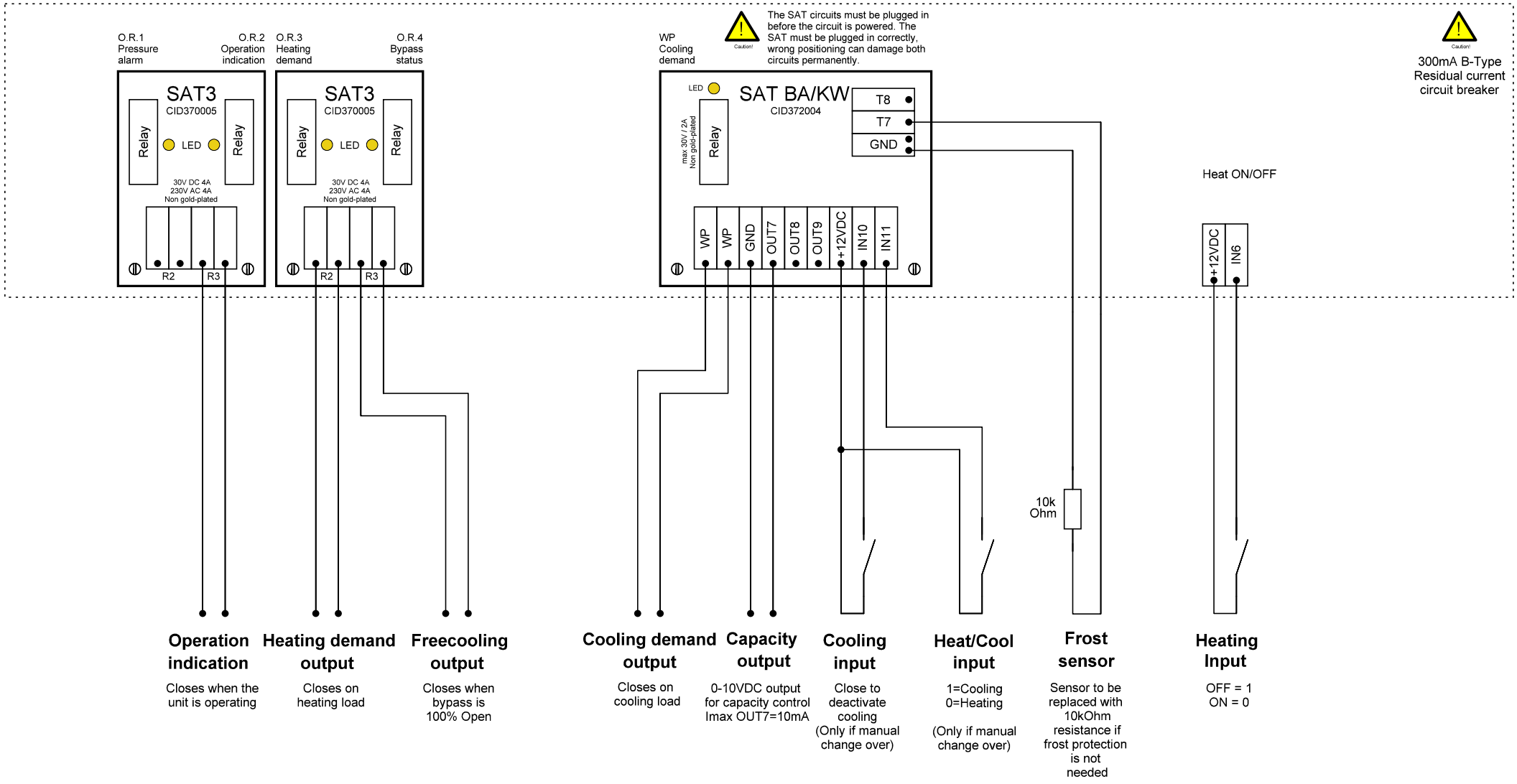

Changes			Name	Date
Name	Date	Draw.:	Beckers	20.09.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils / Reversible

Application:
Change over / Slave

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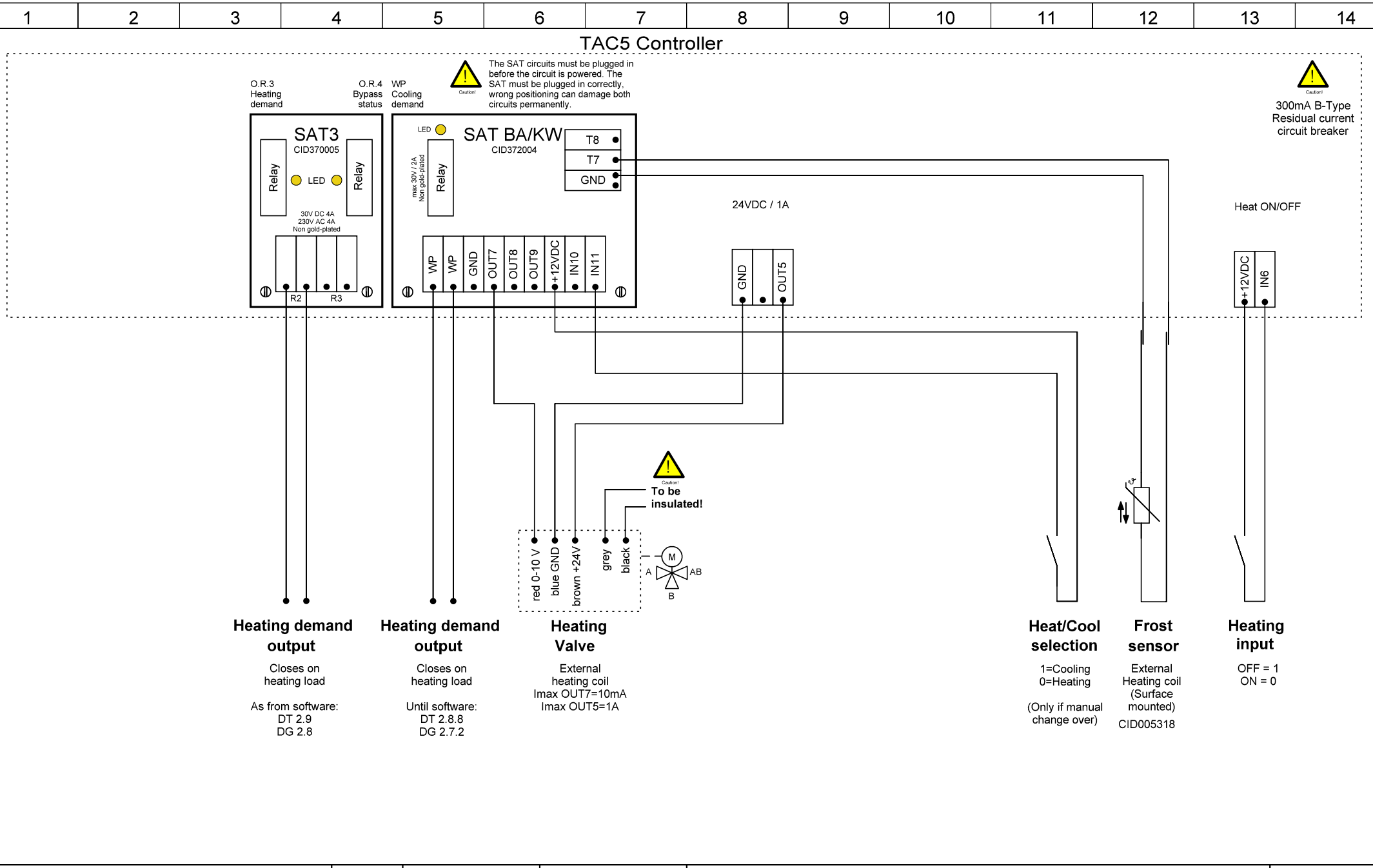

Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils / Hot water

Application:
External heating coil

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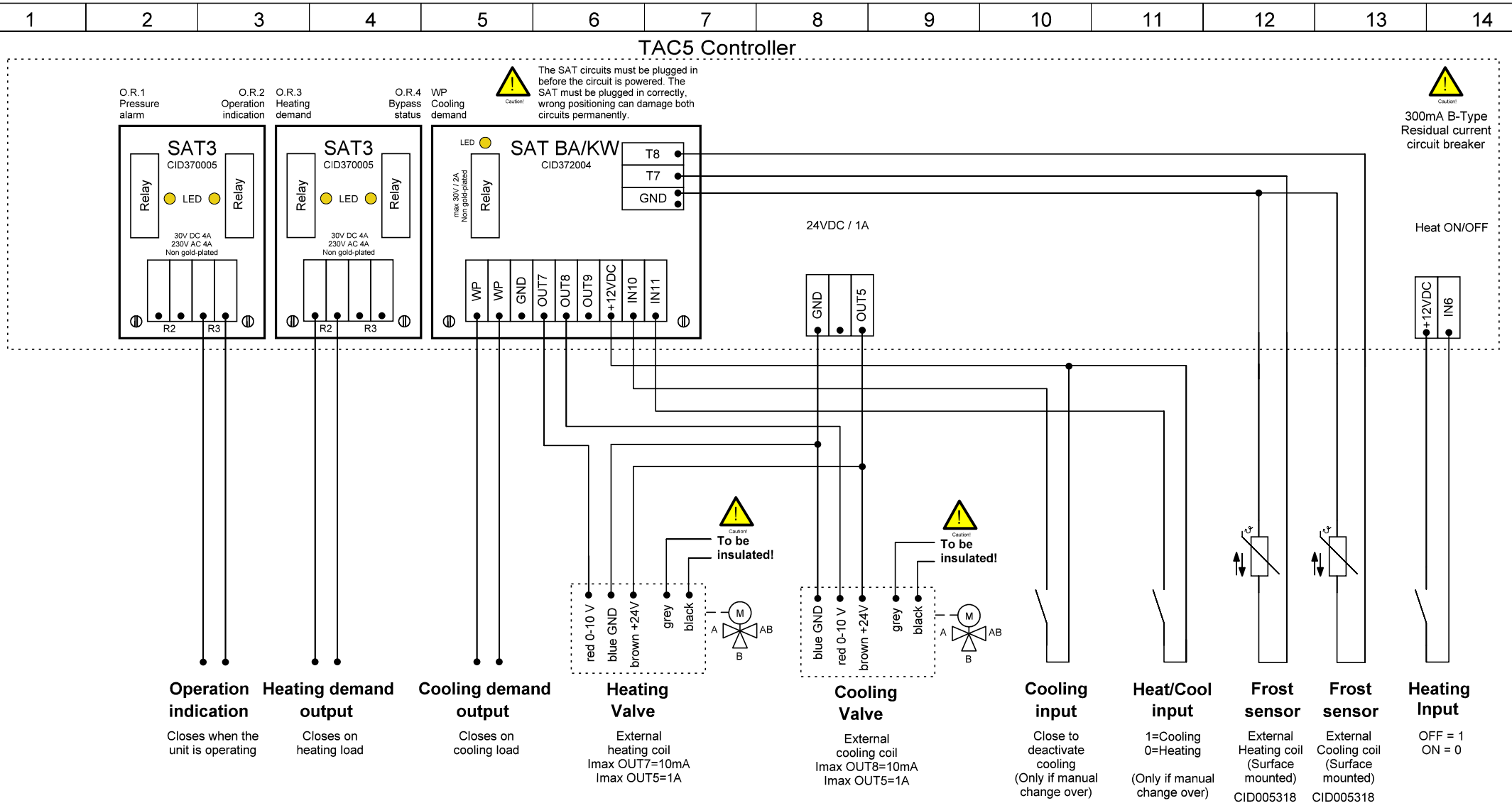

Changes			Name	Date
Name	Date	Draw.:	Beckers	22.01.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup / External coils / Hot water + Cold water

Application:
Ext. heating & Ext. Cooling

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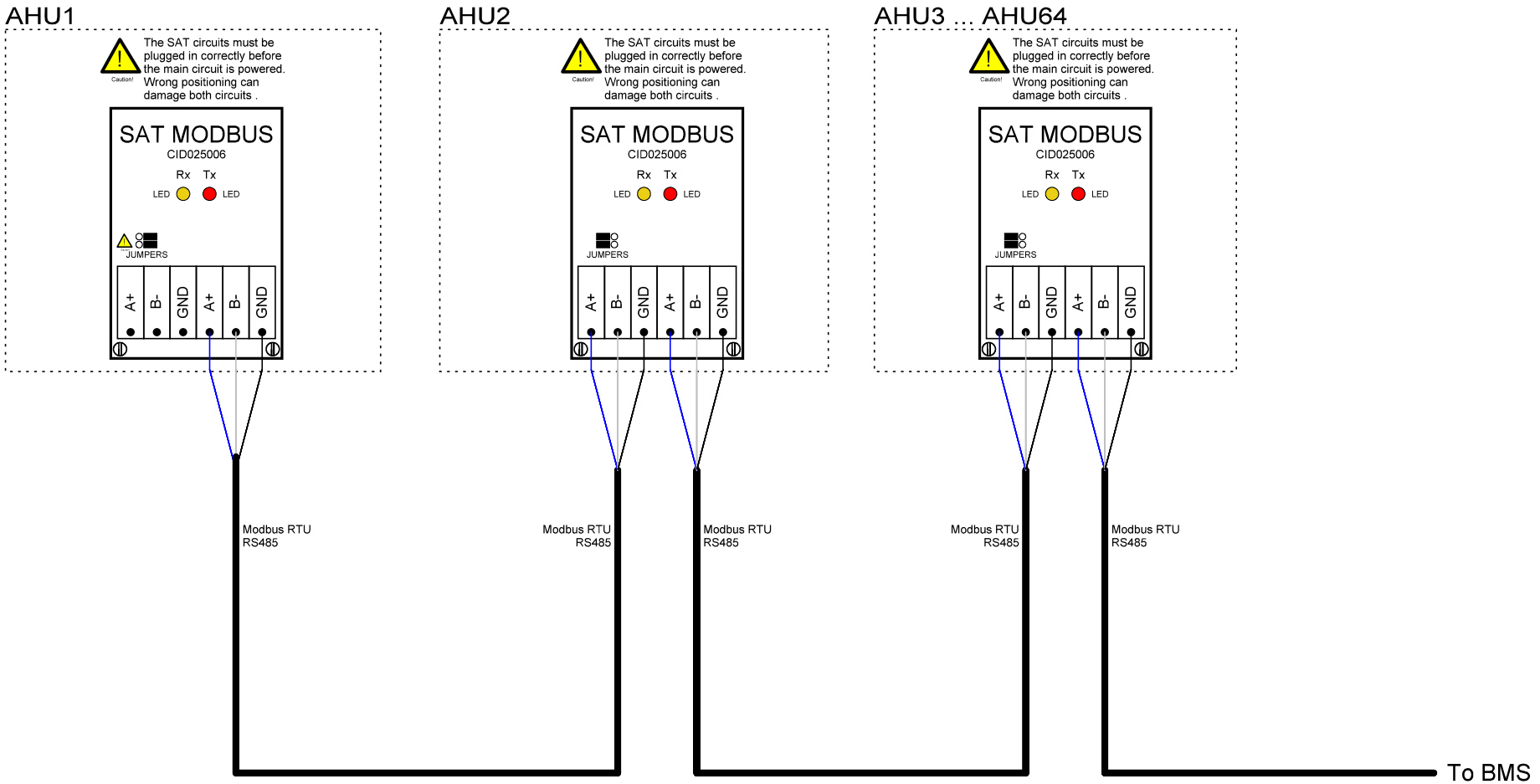

The cables used in the network must conform to RS-485 Standard with twisted pair conductors. The cables must be shielded. Conductor Area 0.26 mm² to 0,50mm². The total length must not exceed 1.000 meters.

Changes			Name	Date
Name	Date	Draw.:	Beckers	18.12.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup

Application:
Modbus RTU

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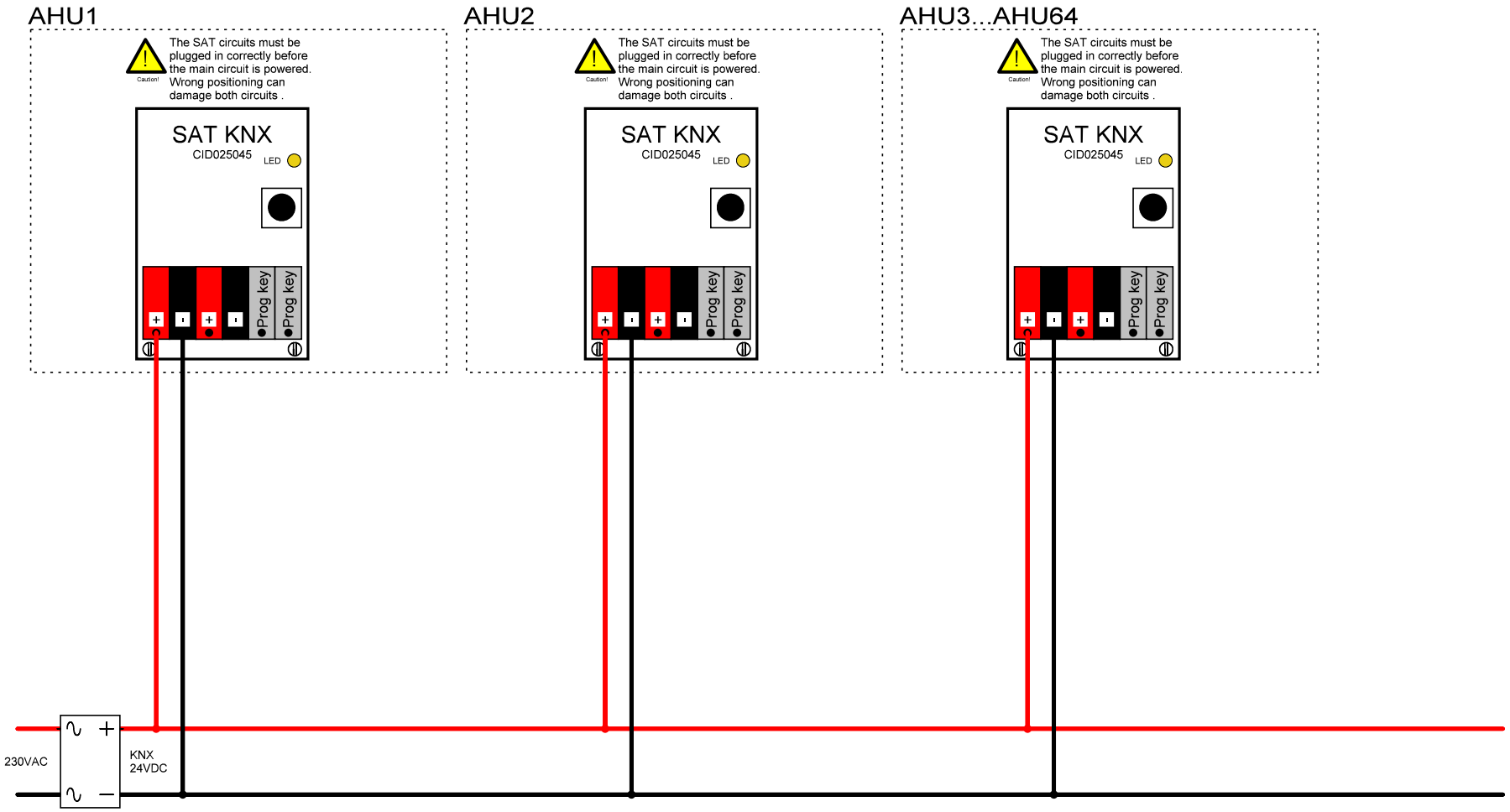

Changes			Name	Date
Name	Date	Draw.:	Beckers	31.03.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup

Application:
KNX

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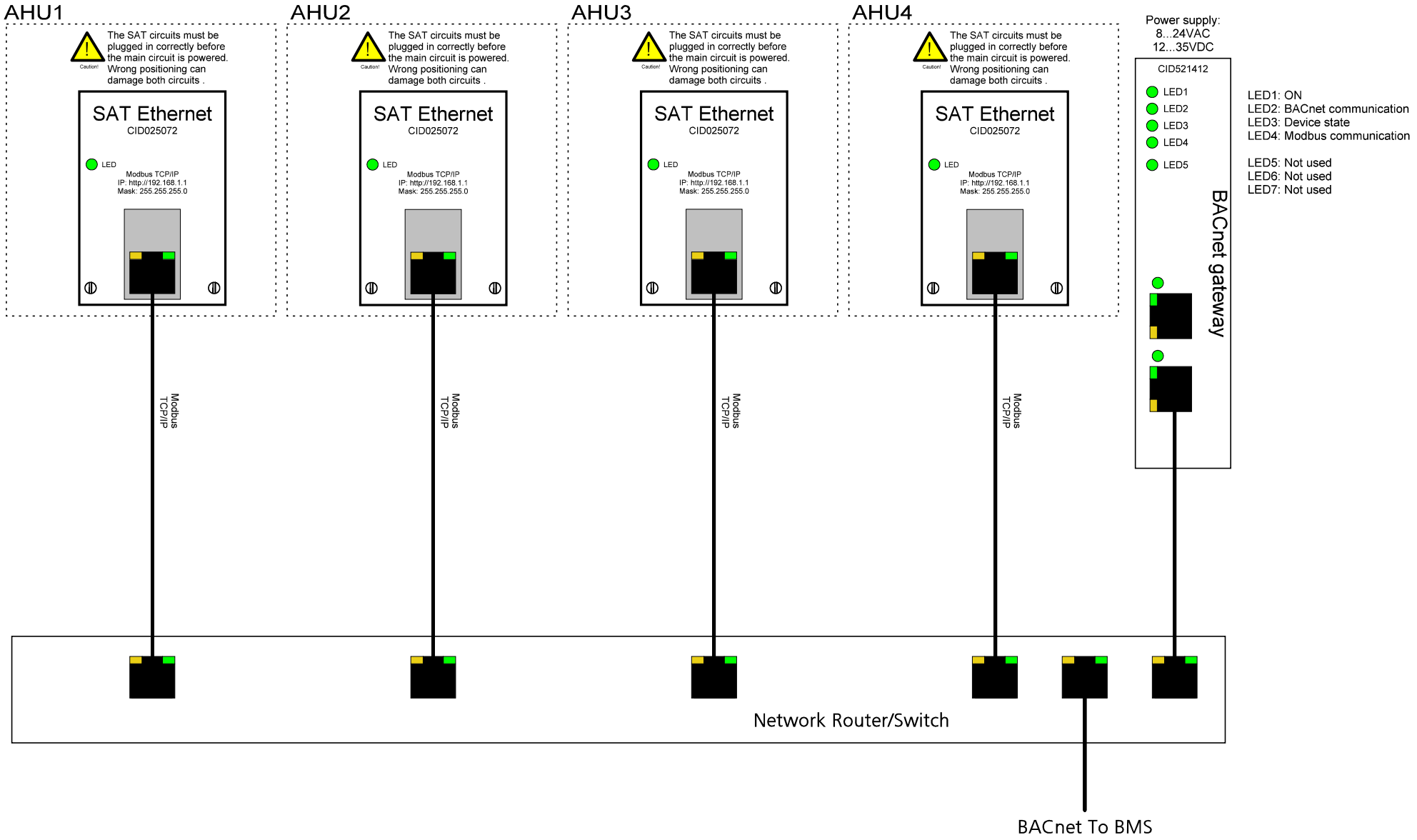
27



Changes			Name	Date
Name	Date	Draw.:	Beckers	20.04.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup

Application:
BACnet

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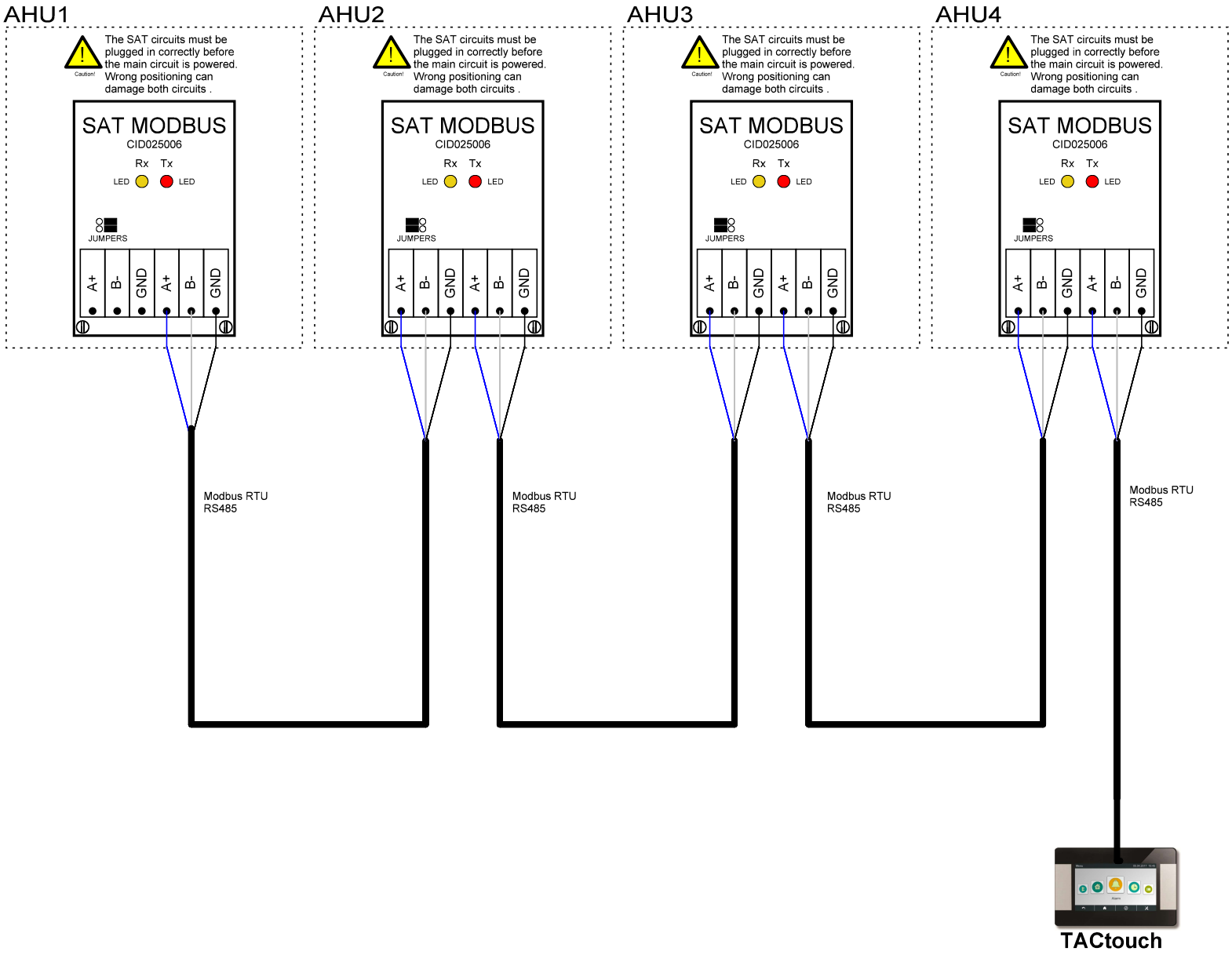
27



Changes			Name	Date
Name	Date	Draw.:	Beckers	18.12.2018
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
Advanced setup

Application:
TAtouch centralised

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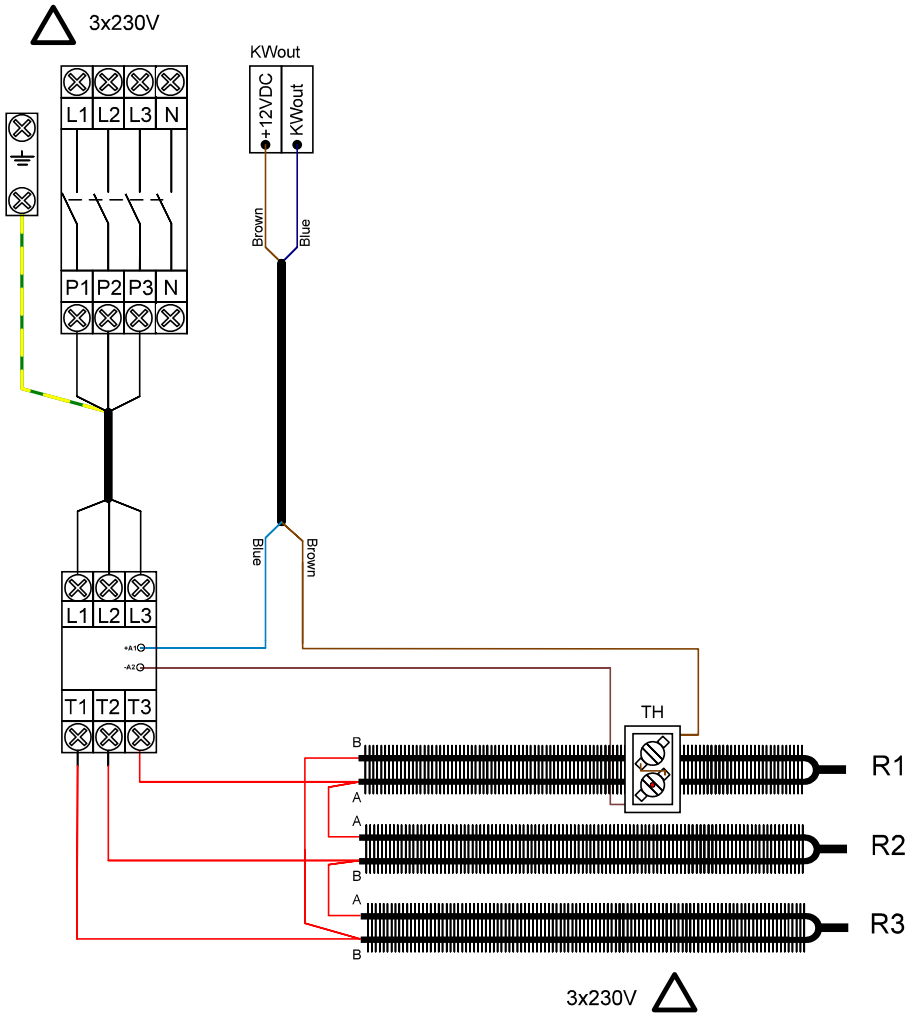

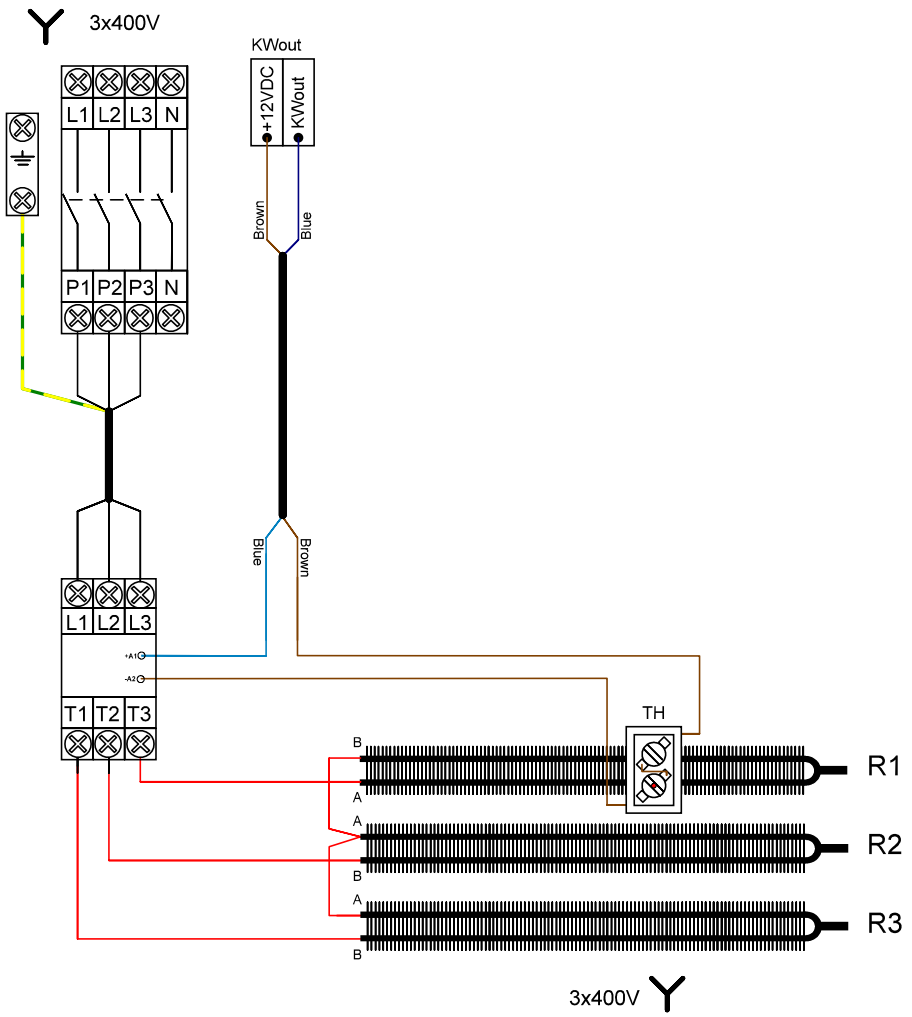

Attention: only possible to change 3x230V into 3x400V. Due to cable sections and selected components, changing from 3x400V to 3x230V is not allowed on site.

Changes			Name	Date
Name	Date	Draw.:	Beckers	08.03.2019
		check.:		
		Norm:		
Subject:	GLOBAL_Wiring TAC5.spl7			

Configuration of function:
N.A.

Application:
KWout 3x230V - 3x400V

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