

# Quantum digital thermostat



The Quantum digital thermostat is the thermostat of the future: stylish, modern and packed full of app-controlled features.

Easy to set up and control, this self-learning thermostat can be operated remotely via your smart device or manually through its intuitive interface.

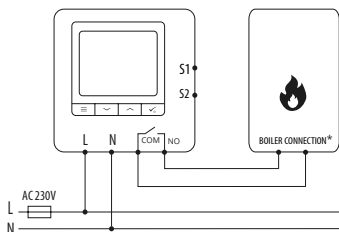
## Contents

1. Before you start
2. LCD icon description
3. Button description
4. Compatibility with other Continal devices
5. First power-up sequence
6. Installation in online mode
7. Full menu structure
8. Operating Quantum digital thermostat
9. Short description of admin settings
10. Error codes
11. Product compliance and safety

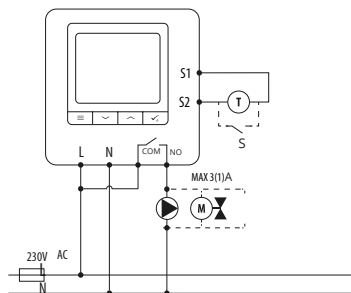
# 1. Before you start

## Wiring diagram

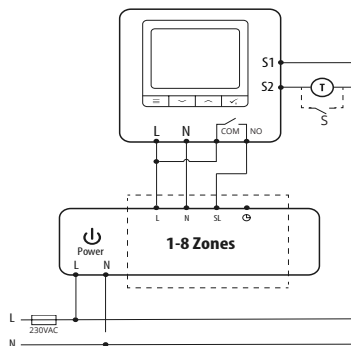
### 1 Wiring diagram for volt-free connection (e.g. boiler control):



### 2 Wiring diagram for 230VAC connections:



### 3 Wiring diagram for control box connection:



#### Legend:



Pump



Valve actuator



Boiler connection \*

Boiler's contacts for ON/OFF thermostat (according to the boiler's instructions)

## Sensor diagram

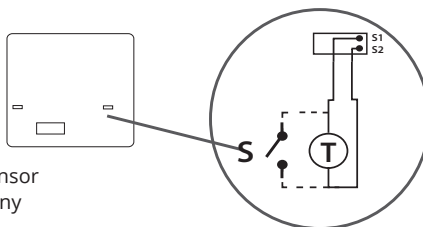
### Symbols explanation:

S – Volt-free contact

T – Temperature sensor

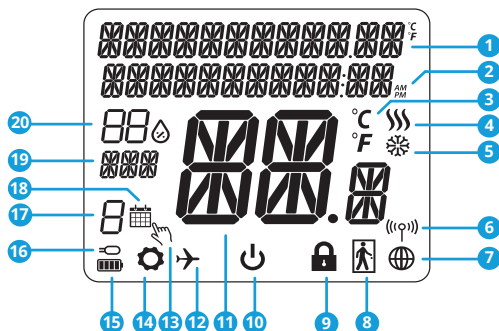
### S1, S2 Terminals:

- Quantum Air or the Quantum floor sensor
- External volt-free contact to connect any ON/OFF switch or occupancy sensor








The ideal position to mount the thermostat is 1.5m above floor level and away from heat sources. The Quantum digital thermostat should not be exposed to sunlight or any extreme conditions (including draughts).

## 2. LCD icon description



- |   |   |
|---|---|
| 1. Menu / Settings description + Clock      | 11. Current temperature / setpoint temperature    |
| 2. AM / PM                                  | 12. Holiday mode                                  |
| 3. Temperature unit                         | 13. Temporary override mode                       |
| 4. Heating indicator (animated when demand) | 14. Settings icon                                 |
| 5. Cooling indicator (animated when demand) | 15. Status indicator                              |
| 6. RF connection indicator                  | 16. External / floor temperature sensor indicator |
| 7. Internet connection indicator            | 17. Schedule program number                       |
| 8. Occupancy sensor                         | 18. Schedule mode icon                            |
| 9. Key lock function                        | 19. Day indicator / SET information               |
| 10. Standby mode icon                       | 20. Current humidity value                        |

### 3. Button description

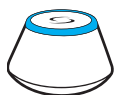
Button	Function
	1) Menu button / return button. 2) In the main screen: press and hold for 3 seconds to change the thermostat operating mode (schedule mode / permanent mode / temporary override mode). 3) In the settings screen: press and hold for 3 seconds to go back without saving the changes. 4) In the pairing screen (in system type menu): press and hold for 3 seconds to see other pairing options.
	"Down" button (decrease value / move the menu in the 'down' direction).
	"Up" button (increase value / move the menu in the 'up' direction).
	1) Press and hold for 3 seconds to power up. 2) "Ok / tick" button (confirm parameter value / go to the next menu / save settings). 3) Main screen: press and hold for 3 seconds to enter standby mode. 4) Settings screen: press and hold for 3 seconds to go back to the main screen & save all your changes. 5) During pairing process – hold button for 3 seconds to power off or reboot the thermostat.
	In the main screen - press and hold these buttons together for 3 seconds to lock / unlock the thermostat keypad).

### 4. Compatibility with other Quantum devices:

The Quantum digital thermostat can work in online or offline mode.

\*Mode selection is available on first use.

#### Online mode



Quantum hub connected.  
You can configure and use all your devices in the Salus Smart Home app.

Download the Salus Smart Home app on your iOS or Android device.

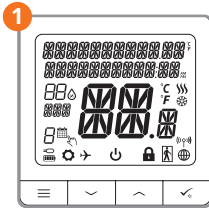


Salus Smart  
Home app



## 5. First power-up sequence

**Please note:** For easy installation, please make sure you have already added your other devices to the ZigBee network, such as wiring centres etc.



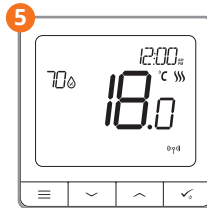
To power on, hold the ✓ button for 3 seconds. The display will show all icons.



The thermostat will display the software version.



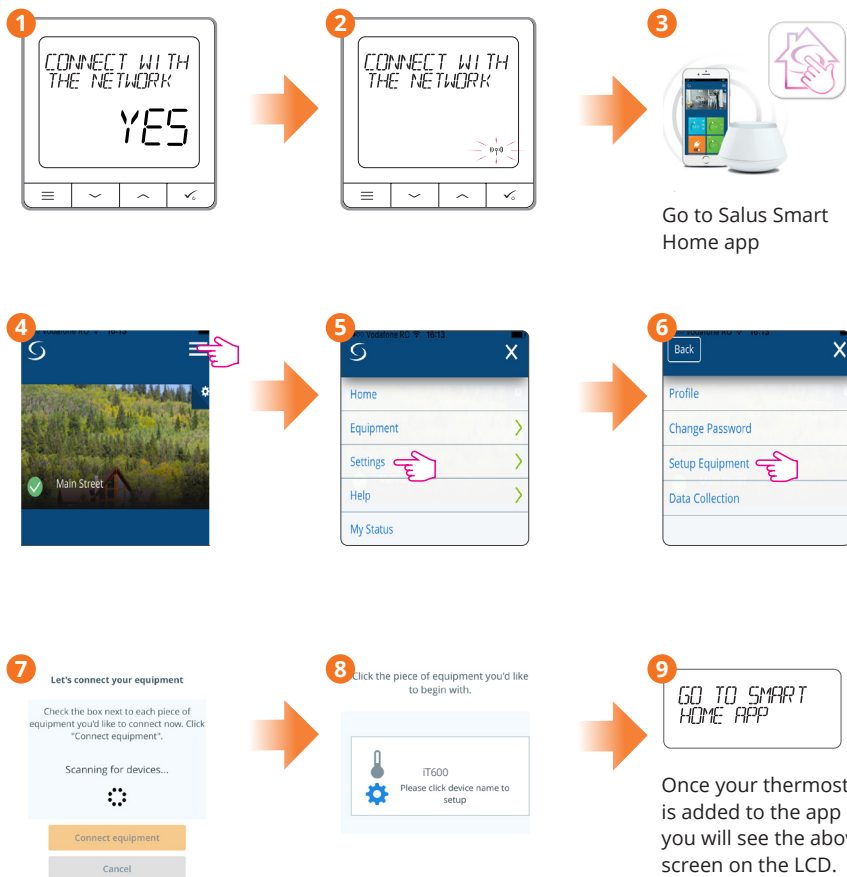
Now, choose your language by using the ∨ or ^ buttons. Confirm your language using the ✓ button.

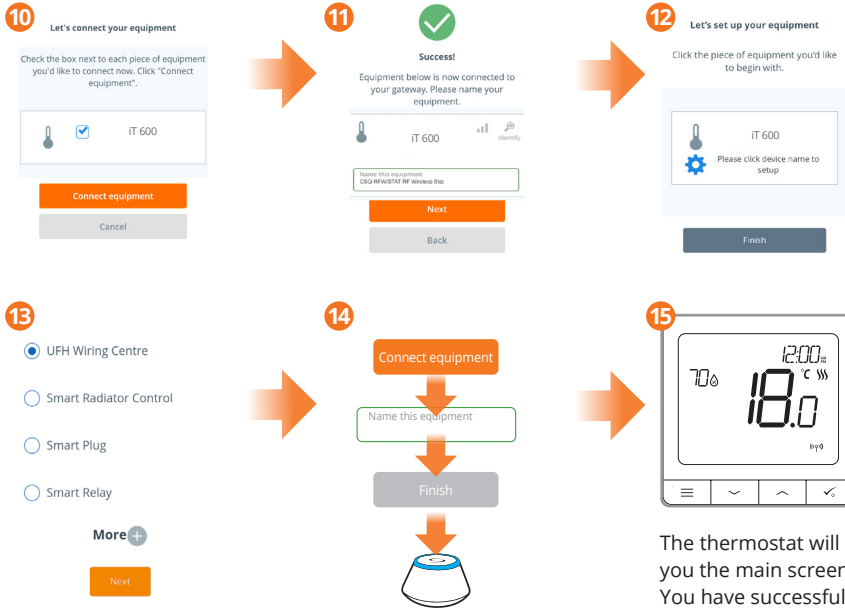


**Please note:** OFFLINE the Quantum digital thermostat can easily be added to the Continal smart home network at anytime. All settings made before adding your device to the application are automatically copied to the Salus Smart Home app.

## 6. Installation in online mode

After choosing your language follow the below steps to add your device to the Salus Smart Home app and pair it with other devices:





## 7. Full menu structure

### Admin settings:

- Temperature scale
- Display temperature resolution
- Heat control algorithm
- Cool control algorithm
- S1 / S2 input
- Minimum setpoint
- Maximum setpoint
- Valve protection
- Minimum turn-off time
- Optimisation feature
- Comfort warm floor
- Pin code
- Device information
- Factory reset

### Schedule settings:

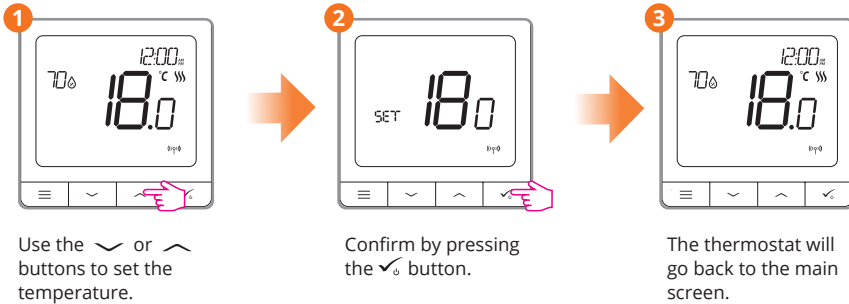
- Disable
- MO-FR+SA-SU
- MO-SU
- Single days

### User settings:

- Time / date
- Holiday mode
- Thermostat calibration
- Show / hide display humidity
- Show / hide display floor
- Standby temperature setpoint
- Heat / cool
- Reset user settings

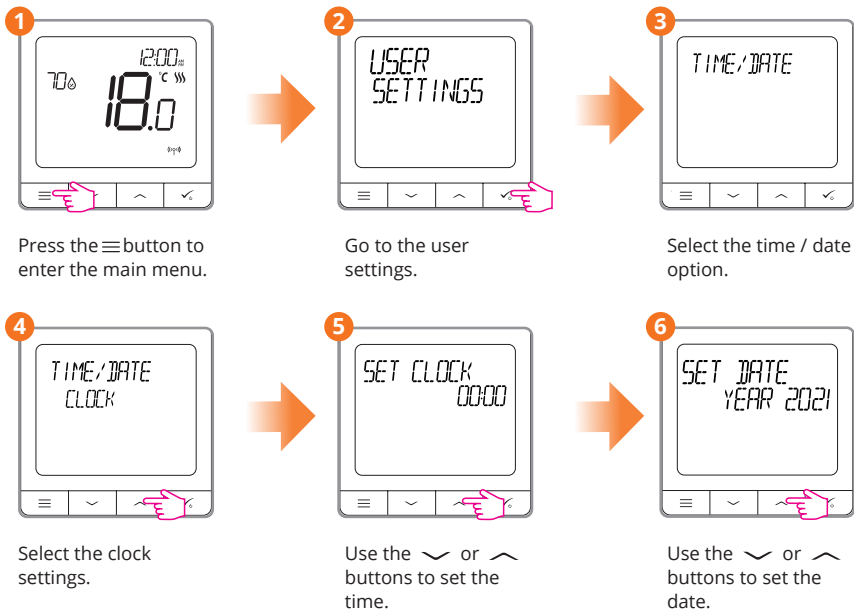
## 8. Operating Quantum digital thermostat

### Setting temperature change (manual mode)



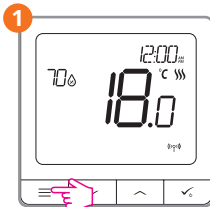
### Setting time / date

Setting the time / date manually can only be done in offline mode. In online mode the Quantum digital thermostat will automatically synchronise the current time and date.





## Programming mode



Press the ≡ button to enter the main menu.

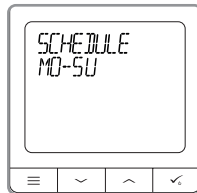


Enter the schedule settings.

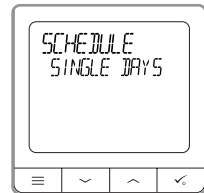
There are 3 possible schedules to choose from.



Separate schedules for weekdays and weekends.

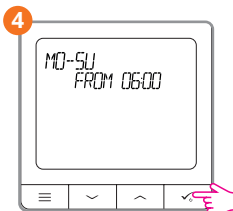


One schedule for the whole week.

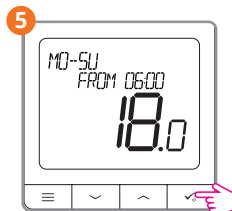


Seven separate schedules for single days.

Programming example shown is for the whole week.



Use the ◀ or ▶ buttons to set the time. Press the ✓ button to confirm.



Use the ◀ or ▶ buttons to set the temperature setpoint. Press the ✓ button to confirm.

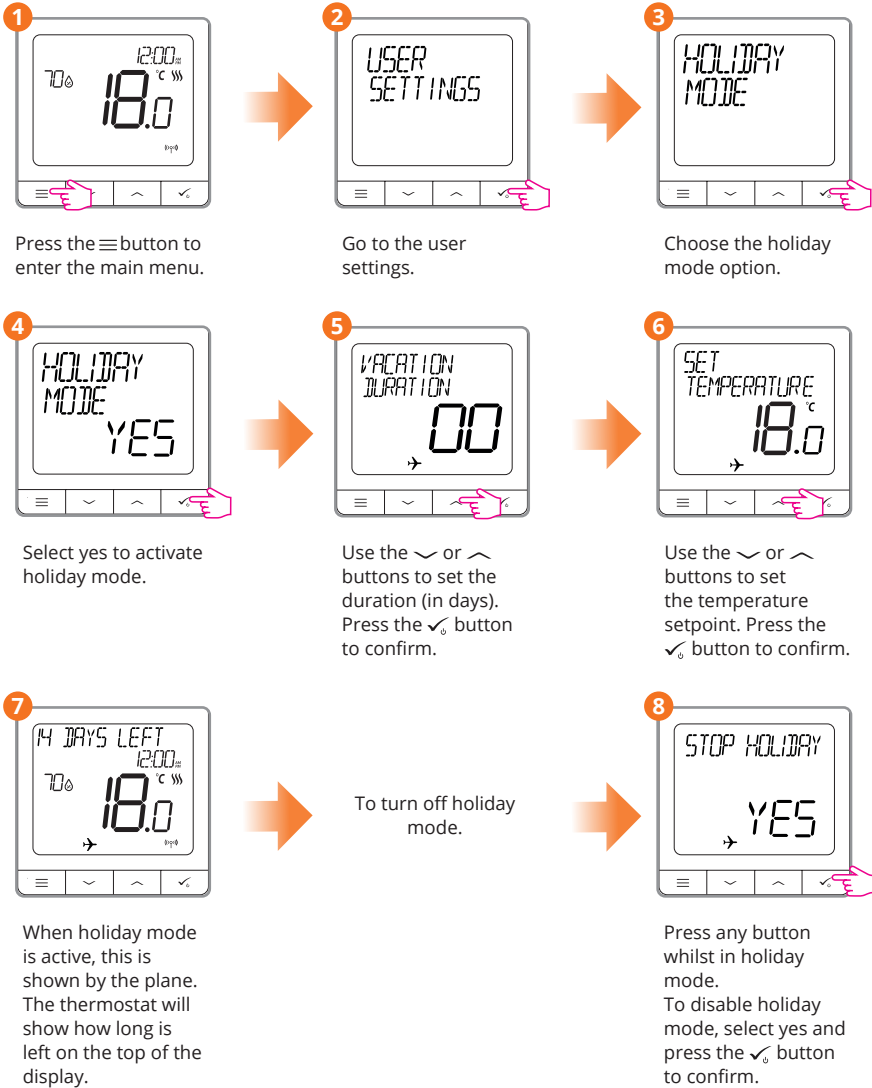


6 The next programme will appear, this will be the lower comfort temperature. Repeat steps 4 and 5 for the next schedules required. There can be 3 time periods set within the schedule. To skip set periods use --:--. Once the final schedule has been added hold ✓ for 3 seconds to save and exit.

After setting the program, the calendar icon will show on the display.

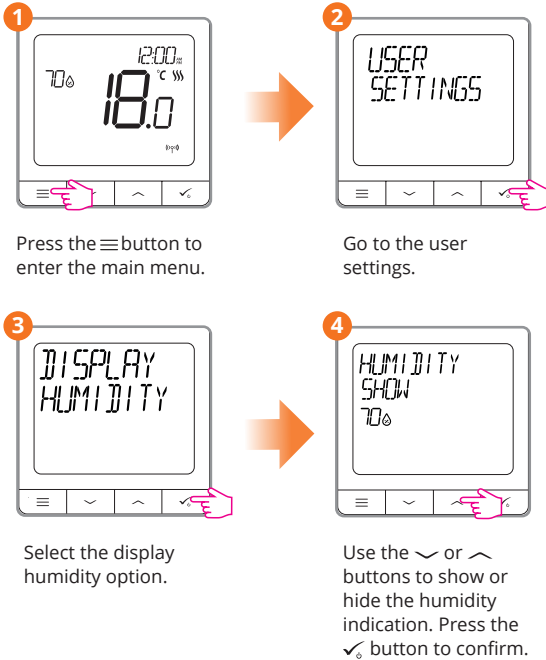
## Holiday mode

Holiday mode will maintain a temperature setpoint for a specific amount of time.



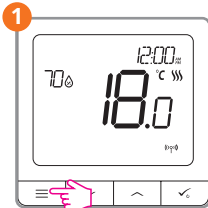
## Display humidity

The Quantum digital thermostat has a built-in hygrometer (humidity sensor). The humidity value can be displayed or hidden.



## Display floor temperature

Display floor temperature is a function available when using the Quantum floor sensor.



Press the ≡ button to enter the main menu.



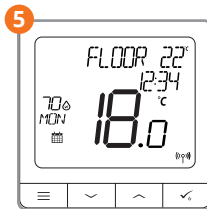
Go to the user settings.



Choose the display floor temperature option.

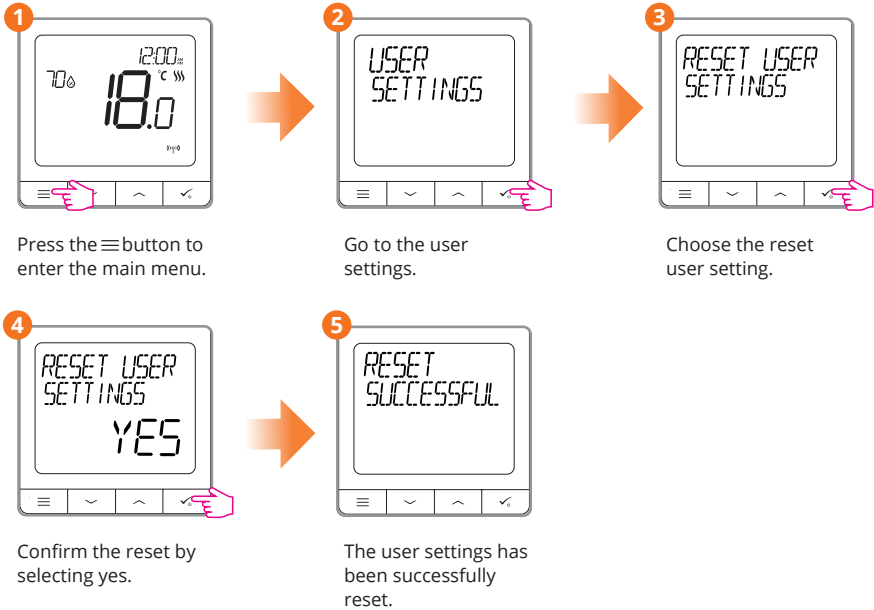


Use the ∨ or ∧ buttons to show or hide the floor temperature. Press the ✓ button to confirm.



The floor temperature is displayed with one degree of accuracy.

## Reset user settings (back to default)



## 9. Short description of admin settings

**Temperature scale:** Set the temperature scale to Celsius or Fahrenheit.

**Display temperature resolution:** Determines the resolution of the displayed temperature (0.5°C or 0.1°C).

**Heat control algorithm:** This function defines how to control the room temperature. Choose ITLC for underfloor heating.

**S1 / S2 input:** An external temperature sensor or an occupancy sensor can be connected to the S1 / S2 input of the Quantum digital thermostat. Additionally, by connecting a NO type of ON / OFF voltage-free contact, you can use this input as a one touch rules trigger (programmed in the Salus Smart Home app).

**Valve protection:** This function activates all actuators once a week for 5 minutes (in summer, this function helps to prevent the actuators sticking).

**Min turn-off time:** Minimum switch-off time (the thermostat will not send the signal for heating more often than specified in this parameter).

**Optimisation feature:** Optimum start and optimum stop functions are energy saving feature that makes the thermostat more cost-effective (in combination with the ITCL control algorithm).

**Comfort warm floor:** This function helps to keep the floor warm, even if the room is warm enough and there is no need to turn on the heating. You can select 3 levels of warmth. Please note it is not an economy feature, as your heating system may be on even if there is no heating demand from the room thermostat. The comfort feature is designed to keep your floor warm all the time.

**Device information:** In this menu you can check: Software version, paired devices or also activate identification mode.

**Factory reset:** Here you can reset your device to factory settings. After a successful reset, the device will be removed from ZigBee network and you will need to add / pair your device again.

## 10. Error codes

Error code	Display description	Error description	Troubleshooting
1.	TRV hardware problem.	TRV paired with thermostat - TRV hardware error.	Reinstall the TRV head or replace it. If necessary contact Coninal.
2.	Floor sensor overheated / overcooled.	Floor is overheated (in heating mode). Floor is overcooled (in cooling mode).	Set the heating medium temperature or change floor sensor MAX / MIN temperature setpoint in the S1/S2 input admin setting parameter. Set the cooling medium temperature or change floor sensor MAX / MIN temperature setpoint in the S1/S2 input admin setting parameter.
3.	Floor sensor defect.	Floor sensor is broken.	If floor sensor is connected to S1/S2 input, check the wiring. If floor sensor is not connected, check the S1/S2 input parameters settings.
4.	Floor sensor defect.	Floor sensor is shorted.	If floor sensor is connected to S1/S2 input, check the wiring. If floor sensor is not connected, check the S1/S2 input parameters settings. Check floor sensor wire insulation for any damages. Sensor resistance for 25°C=10kΩ.

Error code	Display description	Error description	Troubleshooting
5.	Connectivity lost COORD.	Thermostat lost contact with the coordinator or the Quantum hub.	Check the coordinator / Quantum hub power supply connection. Force identification process from the coordinator / Quantum hub or thermostat.
6.	Connectivity lost WC.	Thermostat lost connection with the wiring centre.	Is the wiring centre turned ON and Status Network LED solid? If yes, send the heating signal from thermostat to the wiring centre (change setpoint temperature).
7.	Connectivity lost TRV.	Thermostat lost contact with the TRV head.	Check TRV head batteries. Send the heating signal from thermostat and check if the TRV head is working. If the LED on the TRV head is flashing, repeat the pairing procedure with thermostat according to the manual instructions.
8.	Connectivity lost RX 1.	Thermostat has lost connection with the boiler receiver receiver (RX1 mode).	Is the boiler receiver plugged to the power supply and the top LED is red? The Auto / Manual switch has to be set to AUTO position. Force identification process from the coordinator / Quantum hub side and check if the devices are within the network. Send the heating signal from thermostat. If the top LED is flashing, perform the pairing procedure according to the boiler receiver manual instruction.
9.	Connectivity lost RX 2.	Thermostat has lost connection with the boiler receiver (RX2 mode).	Is the boiler receiver plugged to the power supply and the top LED is red? The Auto / Manual switch has to be set to AUTO position. Force identification process from the coordinator / Quantum hub side and check if the devices are within the network. Send the heating signal from thermostat. If the top LED is flashing, perform the pairing procedure according to the boiler manual instruction.

Error code	Display description	Error description	Troubleshooting
10-17.	Connectivity lost zone 1 - 8.	Wiring centre has lost connection with the thermostat of the given zone: e.g. 11 = with zone 1; 12 = with the zone 2 etc. Error is displayed on all thermostats.	Check the thermostat power supply. Send the heating signal from thermostat. If necessary, reinstall the thermostat.
18.	WC / CB lost connectivity.	Wiring centre has lost connection with the coordinator / Quantum hub. Error is displayed on all thermostats.	Is the wiring centre turned ON and status network LED solid? Force identification process from the coordinator / Quantum hub side and check if wiring centre is within the network. If LED of the network status is flashing, pair the wiring centre with the system in accordance to the manual instruction and pair all thermostats with wiring centre.
19.	WC / CB lost link boiler receiver.	Wiring centre has lost connection with the boiler receiver operating in RX1 mode. Error is displayed on all thermostats.	Is the wiring centre turned on? Status network LED should be solid. Force identification process from the coordinator / Quantum hub side and check if devices are within the network. If the LED of the AUTO / MANUAL receiver switch is flashing, follow the boiler receiver manual instruction for pairing.
20.	Connectivity lost COORD.	TRV head has lost connection with coordinator / Quantum hub.	Check TRV head batteries (replace if necessary). Check if the coordinator / internet Quantum hub is connected to the power supply. Force identification process from the coordinator / Quantum hub side and check if devices are within the network. Send the heating signal from thermostat.
21.	TRV low battery.	Low battery level in the TRV head.	Replace the TRV head batteries.
22.	Unpaired TRV within range.	TRV head's pairing error or head is incompatible with the system.	Remove TRV head from the system and repeat the pairing procedure with the thermostat.
23.	Thermostat rejected WC.	Thermostat was rejected by the wiring centre.	Perform the thermostat's pairing procedure again.



Error code	Display description	Error description	Troubleshooting
24.	Connectivity lost.	Thermostat has lost connection with the nearest 230V powered device.	Check the power supply of the nearest 230V device. If there is problem with RF signal range, install the ZigBee network repeater and pair the thermostat with the receiver again (wiring centre, TRV head etc.)
25 - 28.	Connectivity lost zone 9 - 12.	Wiring centre has lost connection with thermostat of the given zone: e.g. 26 = with zone 9; 27 = with zone 10; 28 = with zone 11, 29 = with zone 12. Error is displayed on all thermostats.	Check the thermostat's power supply. Send the heating signal from thermostat. If necessary, reinstall the thermostat.
29.	TRV gear defect.	TRV head has a problem with the internal gear mechanism.	Reinstall the TRV head or replace it. If necessary, contact with Continal.
30.	TRV failed adaptation.	Adaptation error of the TRV head assembled on the radiator valve insert.	Check assembly of the TRV head on radiator valve insert and reinstall the TRV head. Check the compatibility of the TRV head and radiator valve insert; replace the valve insert if necessary.
31.	Thermostat low battery.	Thermostat's battery level is low (error is displayed only in the Smart Home app).	Replace the thermostat's batteries.
32.	Connectivity lost boiler receiver	The boiler receiver has lost connection with thermostat (error is displayed only in the Smart Home app.)	Check the thermostat's power supply. Force identification process from the coordinator / Quantum hub side and check if devices are within the network. Send the heating signal from thermostat side and check if boiler receiver is turning ON. If the top LED is flashing, perform the pairing procedure according to the boiler receiver manual instruction. Pair thermostat with the boiler receiver again according to the thermostat's manual instruction.

## 11. Product compliance and safety

### Product compliance

This product complies with the essential requirements and other relevant provisions of Directives 2014/30/ EU, 2014/35/EU, 2014/53/EU and 2011/65/EU.

Ⓢ 868.0-868.6MHz; <13dBm

### Safety information

Use in accordance with national and EU regulations. The Quantum 39003-TSRF must be kept dry and is for indoor use only. Installation must be carried out by a qualified person in accordance with national and EU regulations. Disconnect your equipment before cleaning it with a dry cloth.

## Want more information?

02 881 04 14

[www.continal.be](http://www.continal.be)