

Installation and Operating Instructions

UTE 3500 UTE 3800-U



Important!

The device may only be opened by an electrically skilled person and must be installed as shown on the circuit diagram on the device and in these instructions. The existing safety regulations must be followed. The relevant installation measures must be taken to achieve the requirements of protection class II.

This independently mountable electronic device

is used to control the temperature in dry and enclosed rooms only, with normal environment. This device conforms to EN 60730, it operates according to type 1Y (UTE 3500) and 1B (UTE 3800-U).

1. Area of use

The electronic temperature controllers UTE 3500 and UTE 3800-U can be used to control the floor and room temperature. They are suitable for water-based and electric heating systems.

2. Installation Environment

- The thermostat should be mounted in a place in the room that is easy to access for operation.
- Mounting height: approx. 1.5 m above the floor.
- Preference should be given to installation on an internal wall. Avoid external walls and draughts from windows and doors.
- Ensure that the room's normal convection air reaches the thermostat freely without restriction. The thermostat should therefore not be mounted inside shelf units or behind curtains and similar coverings.
- Extraneous heat has a negative influence on the control accuracy.
- Direct sunshine, proximity to televisions, radios and heaters, lamps, stoves and heating pipes must be avoided.
- Install in flush-mounting box 60mm

3. Electrical Connection

Important!

Disconnect the electric circuit from the mains

Connection in the following steps:

- Connect the Powermodule according to the circuit diagram (see bottom of housing or circuit diagram in these instructions.) Note the mounting direction of the power module in the box (arrow pointing upwards)
- Mount the cover frame with the decorative frame holder on the power module
- Mount the logic module to the Decorative Frame Holder

Important!

Mount in non-conductive (plastic) flush-mounting boxes only.

Abbreviations in wiring diagram

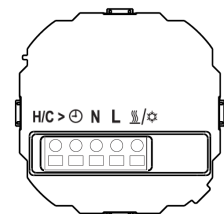
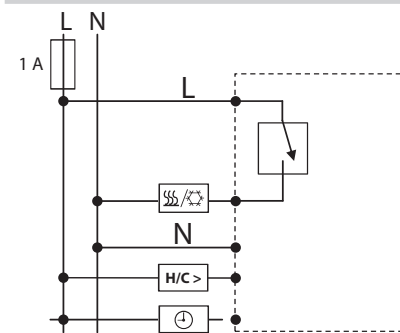
- L = Outer conductor (phase)
- N = Neutral conductor (previously Mp)
- ⊕ = Universal Input (Setback/Presence)
- 🔌 = Load Output Heating
- ❄️ = Load Output Cooling
- H/C> = Heating/Cooling Change-over Input

Indicator LEDs

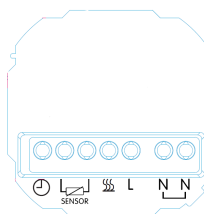
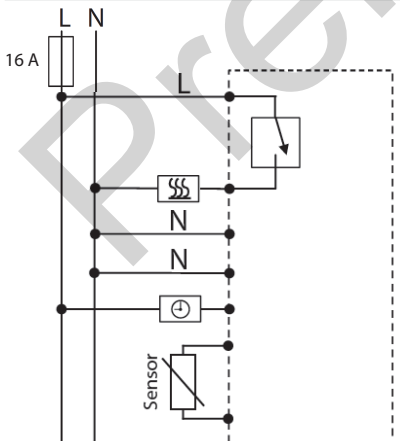
- 🔴 red: Active Heating
- 🟢 green: Unoccupied Mode
- 🔵 blue: Active Cooling
- 🟢 green flashing: Window open detection
- 📶 white: Matter WiFi Connection
- 📶 yellow: WiFi Connection Error

4. Wiring Diagram

UTE 3500



UTE 3800-U



Caution! ⚠️

Risk of fatal injury, due to electric shock. The appliance is not a safety extra-low voltage device (SELV). The sensor cables are connected to 230 V AC mains voltage. Only use sensors with insulated cables. Failure to do so may result in serious injury or death.

5. Presets (depending on variant)

Selection after the first start or inside the menu:

- P2: Hydronic Underfloor Heating - Room
- P3: Hydronic Radiator - Room
- P4: Blow Convector - Room
- P5: Electrical Radiator, Infrared - Room
- P6: Hydronic Underfloor Heating - Limiter
- P7: Electrical Underfloor Heating - Floor
- P8: Electrical Underfloor Heating - Limiter

6. Technical data

	UTE 3500	UTE 3800-U
Voltage supply	230 V AC 50/60 Hz	230 V AC 50/60 Hz
Temperature setting range	5°C ... 30°C	5°C ... 30°C or 10°C ... 40°C (depending on selected preset)
Output	Triac (noiseless)	Relay
Number of switchable actuators / Switching current	5 actuators 3 W each electrothermal (15 W)	16 (4) A
Control algorithm	PWM or 2 point selectable	PWM or 2 point selectable
PWM cycle time	5 min ... 20 min selectable	5 min ... 20 min selectable
Hysteresis	0,1 K or 0,5 K selectable	0,1 K or 0,5 K selectable
Temperature setback	Temperature in unoccupied mode adjustable via menu	Temperature in unoccupied mode adjustable via menu
Frost protection	5°C	5°C
Valve protection (active depending on preset)	Duration and timing adjustable	Duration and timing adjustable
Temp.-Limit acc. to EN 50559 (active depending on preset)	5 min / 60 min	5 min / 60 min
Heating/Cooling Input	Cable length max. 100 m	
Universal Input	Setback Input or Presence Input Selectable	Setback Input or Presence Input Selectable
Floor probe		Example: F 193 720, NTC, length: 4 m Max. extension: 50 m
Setpoint range limitation	Via User Menu	Via User Menu
Connectivity	Matter WiFi V1.1	Matter WiFi V1.1
Heating Schedules	Via Smartphone-Connection (Matter WiFi)	Via Smartphone-Connection (Matter WiFi)
Parametrization	Via Installer and User Menu directly on the device	Via Installer and User Menu directly on the device
Ambient temperature	0 ... 40°C	0 ... 40°C
Storage temperature	-25 ... 60°C	-25 ... 60°C
Protection class	III	III
Rated pulse voltage	4 kV	4 kV
Voltage and current for EMC emission testing purposes	230 V, 0,1 A	230 V, 0,1 A
Protection class	II	II
Degree of protection	IP30	IP30
Pollution degree	2	2
Temperature for ball indentation test	75°C	75°C
Energy class (acc. to EU 811/2013, 812/2013,	IV = 2%	IV = 2%

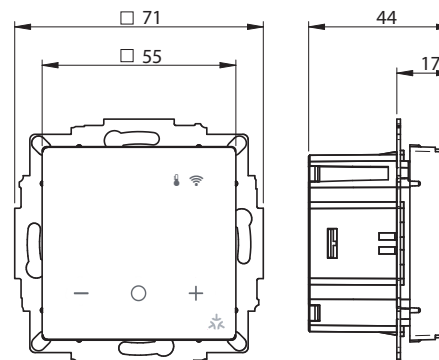
Actuator NC / NO

Via the installer menu it can be adjusted whether the thermostat controls the actuators normally closed (NC) or normally open (NO). The preset is normally closed (NC).

Setback Input / Presence Input

The function of the universal input can be defined in the installer settings (default: setback input). If the setback input is energized (230 VAC) the thermostat switches to unoccupied mode. If the Presence input is energized (230 VAC), it means that the thermostat switches to occupied mode.

7. Dimensions

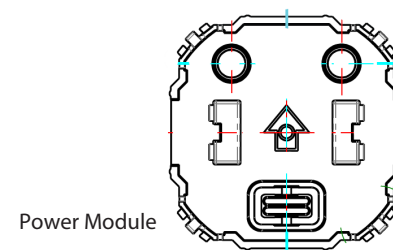


This product should not be disposed of with household waste. Please recycle the products where facilities for electronic waste exist. Check with your local authorities for recycling advice.

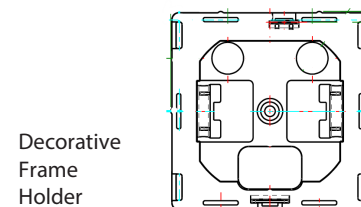
Heating / Cooling input

H/C-terminal connected to voltage means cooling mode, not connected means heating mode. In case of cable used longer than 100m an anti-interference capacitor (Merten 542895 Capacitor 230 VAC 0,33µF or comparable) between control line H/C and neutral line N can be installed at any position to avoid a malfunction.

8. Part Overview



Power Module

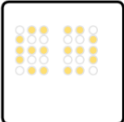
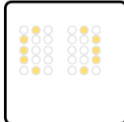


Decorative Frame Holder



Logic Module

10. Operation in normal mode

Visual Feedback	Menu Item	Functional description	Options and display of dot matrix LEDs	Default values	UTE 3500	UTE 3800-U
	Setpoint	Change occupied setpoint	min. setpoint – max. setpoint in °C [+] or [-] Button (Settable range limits adjustable via user menu)	Heating: 21 Cooling: 19	•	•
Locked  Unlocked 	Child Lock	Lock / Unlock	Press and hold [+] and [-] button for 5 sec	Unlocked	•	•

11. User menu

To access the user menu, press and hold the [-] and [0] buttons simultaneously for 3 seconds.
The WiFi LED lights up yellow.
The following settings can be made:

User-Menu item	Function description	Option and display of the dot matrix LEDs	Default values	UTE 3500	UTE 3800-U
01	Idle brightness	00: 0% (off) 01: 10% 02: 25% 03: 50% 04: 75% 05: 100%	00	•	•
02	Activity timeout	10: 10 secs 30: 30 secs 60: 60 secs 2m: 2 min 4m: 4 min	60	•	•
03	Show icons in idle mode	no: Disable YES: Enable	YES	•	•
04	Setpoint change indication (via Smart Home)	no: Disable YES: Enable	YES	•	•
05	Room sensor correction in 0,1°C steps	-2,5 ... +2,5	0	•	•
06	Min. setpoint	5 ... 30°C (room control range) 10 ... 40°C (floor control range)	room: 5 floor: 10	•	•
07	Max. setpoint	5 ... 30 °C (room control range) 10 ... 40 °C (floor control range)	room: 30 floor: 40	•	•
08	Unoccupied temperature (Heating) in °C	min. setpoint ... max. setpoint	18	•	•
09	Unoccupied temperature (Cooling) in °C	min. setpoint ... max. setpoint	22	•	-
10	Heating off	no: Cancel and return Yes: Confirm	no	•	•
11	Stand-by (Heating off, display & WiFi off)	no: Cancel and return Yes: Confirm	no	•	•
98	Reset Matter fabric	no: Cancel and return Yes and hold [0] for 3 seconds: confirm	no	•	•
99	Reset user data	no: Cancel and return Yes and hold [0] for 3 seconds: confirm	no	•	•

Installer Menu (Level 1):

Depending on the respective heating application, preset values and functions can be selected at menu level 1.

Press and hold [+] und [O] buttons simultaneously for 5 seconds to access the menu.

Enter code: 19

The WiFi-LED lights up purple.

Menu item	Heating application	UTE 3500	UTE 3800-U
P2	Hydronic Underfloor Heating - Room	•	-
P3	Hydronic Radiator - Room	•	-
P4	Blow Convector - Room	•	•
P5	Electrical Radiator, Infrared - Room	•	•
P6	Hydronic Underfloor Heating - Limiter	-	•
P7	Electrical Underfloor Heating - Floor	-	•
P8	Electrical Underfloor Heating - Limiter	-	•
99	Ex-factory reset no: Cancel and go back Yes: Yes and hold [O] for 3 seconds: confirm	•	•

Overview of set values for selected preset

	Function description	P2	P3	P4	P5	P6	P7	P8
01	Floor Probe Type in kΩ (UTE 3800-U only)	-	-	00 (Not fitted)	00 (Not fitted)	33	33	33
02	Min Floor limit in °C (UTE 3800-U only)	-	-	10	10	10	10	10
03	Max Floor limit in °C (UTE 3800-U only)	-	-	40	40	40	40	40
04	Control Method	PWM 20 Min	PWM 10 Min	2-pt (ON/OFF) 0,5 K	2-pt (ON/OFF) 0,5 K	PWM 20 Min	PWM 20 Min	2-pt (ON/OFF) 0,5 K
05	2-pt min On/Off Time	-	-	02	02	-	-	02
06	Application Type (Control sensor)	Room control	Room control	Room control	Room control	Room control with floor limit	Floor control	Room control with floor limit
07	Actuator Type	Normally closed valve	Normally closed valve	Normally closed valve	Normally closed valve	-	-	-
08	Universal Input Configuration	Setback	Setback	Setback	Setback	Setback	Setback	Setback
09	Cool Input Configuration (UTE 3500 only)	On	On	On	On	-	-	-
10	Occupancy - Switch to unoccupied delay (min)	10	10	10	10	10	10	10
11	Occupancy - Switch to occupied delay (sec)	60	60	60	60	60	60	60
12	Valve Protection	On	Off	Off	Off	On	Off	Off
13	Valve Protection - Maximum Idle Time	14	14	-	-	14	-	-
14	Valve Protection - Antildle Exercise Time	03	03	-	-	03	-	-
15	Temporal Limit acc to EN50559 (UTE 3800-U floor control only)	-	-	Off	Off	Off	On	On
16	Window open detection	Off	Off	Off	Off	Off	Off	Off
17	Window open detection - Threshold (in 0.1°C steps)	02	02	02	02	02	02	02
18	Windows open detection - Event Duration (in Min)	20	20	20	20	20	20	20
19	Windows open detection - Guard Period (in Min)	02	02	02	02	02	02	02

Installer menu (Level 2):

For advanced settings of individual menu items after preset selection

Press and hold the [+] and [O] buttons simultaneously for 3 seconds. The WiFi LED lights up purple.

Enter code: 32

Menu options: See next page

•
•
•

Item	Function description	Options und display of Dot Matrix LEDs
01	Floor Probe Type	display and meaning: 00 : Not Fitted 02 : 2K probe 10 : 10K probe 12 : 12K probe 15 : 15K probe 33 : 33K probe
02	Min Floor limit	display and meaning: in C, no leading zero 10 - 20
03	Max Floor limit	display and meaning: in C, no leading zero 21 - 40
04	Control Method	display and meaning: 01 : PWM 20 mins 02 : PWM 10 mins 03 : PWM 5 mins 04 : 2-pt 0.5 K 05 : 2-pt 0.1 K
05	2-pt min On/Off Time	display and meaning: in mins, with leading zero 01 - 10
06	Application Type (Control sensor)	display and meaning: 00 - Room control (Internal sensor) 01 - Floor control (External probe) 02 - Room control w/ floor limit
07	Actuator Type	display and meaning: nC - normal close valve no - normal open valve
08	Universal Input Configuration	display and meaning: 01 : setback input - use unoccupied setpoint when energized 02 : Occupancy sensor - use occupied setpoint when energized
09	Cool Input Configuration	display and meaning: no : Disable cool input signal YES : Enable (cool input, switch to cool mode when energized)
10	Occupancy - Switch to unoccupied delay	display and meaning: in mins, with leading zero 00 - 60
11	Occupancy - Switch to occupied delay	display and meaning: in sec, with leading zero 00 - 60
12	Valve Protection	display and meaning: no : Disable YES : Enable
13	Valve Protection - Maximum Idle Time	display and meaning: in day, with leading zero 01 - 14
14	Valve Protection - Antidle Exercise Time	display and meaning: in min, with leading zero 01 - 10
15	Temporal Limit	display and meaning: no : Disable YES : Enable (5mins off time)
16	Windows open detection	display and meaning: no : Disable YES : Enable
17	Windows open detection - Threshold	display and meaning: in 0.1C, with leading zero 01 - 50
18	Windows open detection - Event Duration	display and meaning: in mins, with leading zero 10 - 90
19	Windows open detection - Guard Period	display and meaning: in mins, with leading zero 00 - 90

12. Error Codes

E1 = Room sensor error

E2 = Floor sensor error

13. Matter WiFi Configuration

The thermostat can be connected to smart home apps and the respective controllers/hubs from Apple, Google, Amazon and Samsung via Matter.

How-to Video:



To integrate the thermostat into a Smart Home App and the respective Matter network, scan the QR code on the back of the logic module with a smartphone or type in the Matter provisioning code. Press the [O] button for 5 seconds until the thermostat displays "Jn" for Join Mode. The WiFi LED lights up yellow.



If an error occurs during connection, the controller displays "Er" for error:
The WiFi LED lights up red.

