



INSTALLATION GUIDE

Thermia Idun

Indoor units

Thermia AB is not liable or bound by warranty if these instructions are not adhered to during installation or service.

The English language is used for the original instructions. Other languages are a translation of the original instructions. (Directive 2006/42/EC)

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1 Introduction

1.1 Product documentation

The following documents are available for this product:

- **Installation Guide.** Gives thorough information on how to install the product. Supplied with the product on delivery and available for download, see below.
- **Wiring Diagram** for the product, intended for fault tracing and service. Available for download, see below .
- **User Guide** is intended for the end user and must be handed over and gone through with the end user when installation and commissioning is completed. Supplied with the product on delivery.
- **Technical Description** contains information about the product's function, fault tracing and technical data. Available for download, see below.
- **Country specific instructions** and forms are available where relevant. Supplied with the product on delivery.

Documents not delivered with the indoor unit are available for download at: www.thermia.com

1.2 Symbols

These instructions contain different symbols, which, together with text, indicate to the user that there are risks involved with actions to be taken.

The symbols are displayed to the left of the text and three different symbols are used to indicate the degree of danger:

Danger



Indicates an immediate danger that leads to fatal or serious injury if necessary measures are not taken!

Warning



Risk of personal injury! Indicates a possible danger that can lead to fatal or serious injury if necessary measures are not taken.

Caution



Risk of installation damage. Indicates a possible hazard that can lead to item damage if necessary measures are not taken.

A fourth symbol is used to give practical information or tips on how to perform a procedure.

Note



Information regarding making the handling of the installation easier or anything that may need further attention.

1.3 Symbols on product labels

1.3.1 General



Warning, danger!



Read the documentation provided.



Read the documentation provided.



Warning, hazardous electrical voltage!



Warning, hot surfaces!



Warning, moving parts!



Warning, risk of crushing injury!

1.3.2 Electrical Components



Component, ordinary delivery according to proposed system solutions.
Components, accessories according to proposed system solutions.

1.3.3 Pipe Connections



Tap water



Heating system



Expansion tank with safety valve



Air bleeding



Outdoor unit



Water heater

2 Important information/Safety regulation

2.1 General safety precautions

Carefully follow the precautions listed in this document because they are essential to guarantee the safety of the product. Store the manuals in a safe place in order to be able to use as reference after installation and remember to hand the manuals over to the new owner if the product unit is sold or transferred. To prevent serious damage on the system and injuries to users, precautions and other notices shall be observed.

Danger



Risk of personal injury! Children are not permitted to play with the product.

Danger



Always disconnect the power supply of the appliance before servicing it or accessing components inside the unit.

Danger



Electrical current is stored for a while in the electronics after you disconnect the power supply, because the unit contains capacitors which may be charged. Make sure you wait before performing any work in the appliance after turning off the power.

Warning



Installation and testing operations must be performed by qualified personnel.

Warning



The manufacturer shall not be responsible for damage originating from unauthorized changes or the improper connection of electric or hydraulic lines. Failure to comply with these instructions or to comply with the requirements, included in the manual, will immediately invalidate the warranty.

Warning



Do not use the unit if you see any damages on the unit, hear loud noise, or the smell of burning.

Warning



If the unit produces smoke, is very noisy or if any of the cables are hot or damaged, always use the circuit breaker to turn off the unit and contact the supplier.

Warning



The unit contain moving parts and electrical parts, which should always be kept out of the reach of children.

Warning

Do not touch the internal parts (water pipe, etc) while running the units. If you need to adjust and touch the units, have enough time for the unit to be cooled off and be sure to wear protective gloves.

Caution

Flush pipes with clean water to remove contaminants in pipes from installation and make sure to clean the strainer. The strainer should also be cleaned periodically. Replace strainer when necessary.

Caution

Make sure that the check valves are correctly installed in the system (field supply).

Caution

This manual explains how to install the Thermia Idun unit. The use of other types of units with different control systems may damage the units and invalidate the warranty. The manufacturer shall not be responsible for damages arising from the use of non compliant units.

Caution

If there is any risk of groundwater infiltration at wall lead-ins for connected pipes, watertight grommets must be used.

Caution

Always make sure that the power supply is compliant with local safety standards.

Caution

Protect the unit from rats or small animals. If an animal makes contact with the electric parts, it can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.

Caution

Do not disassemble or alter the heater at your own discretion.

Caution

The unit must be installed by authorized personnel and the installation must follow the applicable local rules and regulations as well as these installation instructions.

Caution

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Cleaning and user maintenance shall not be made by children without supervision.

Caution

The Thermia Idun must be located on a stable base. The floor must be able to support the gross weight of the indoor unit with filled hot water tank. (Thermia Idun Total EQ, Thermia Idun Total 300L and Thermia Idun Compact)

Caution

If there is a water heat tank in the installation it must be placed in an area with a floor drain.

Caution

The hot water tank must be equipped with an approved safety valve.

Caution



Heating systems with closed expansion tanks must also be supplied with approved pressure gauges.

Caution



Cold and hot water pipes and overflow pipes from the safety valves must be made of heat resistant and corrosion resistant material, for example copper.

Caution



The safety valve overflow pipes must have an open connection to the drain and a visible flow into this in a frost-free environment.

Caution



Do not start the unit if there is a possibility of frozen water in the immersion heater.

Caution



The appliance shall be stored and installed so as to prevent mechanical damage from occurring.

Note



It is important that the entire system is vented for air after installation.

Note



Manual air venting valves must be installed where necessary.

2.2 Scrapping

Caution Appliance disposal



When the appliance has reached end-of-life and is subject to scrapping, it should be sent to a recycling/treatment facility to ensure correct handling of disassembly, recycling, and disposal.

To empty the water in the water tank, follow the instructions below:

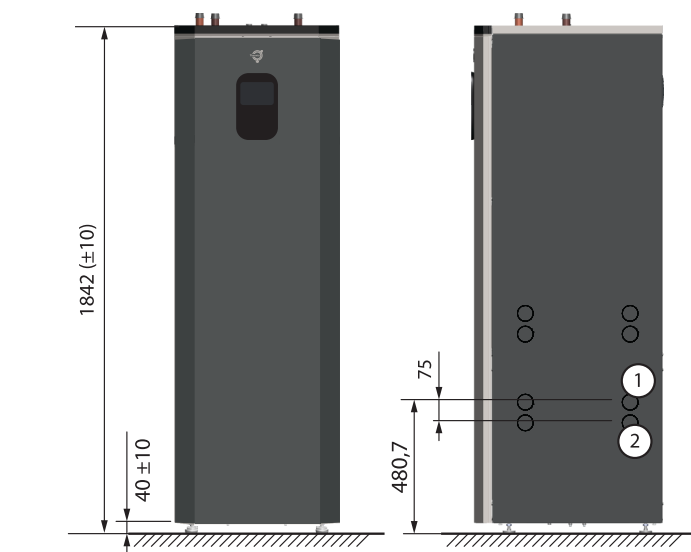
1. Turn off the power.
2. Turn off the water supply from the main water line.
3. Empty the tank from the top using a siphon hose.

2.3 Water quality

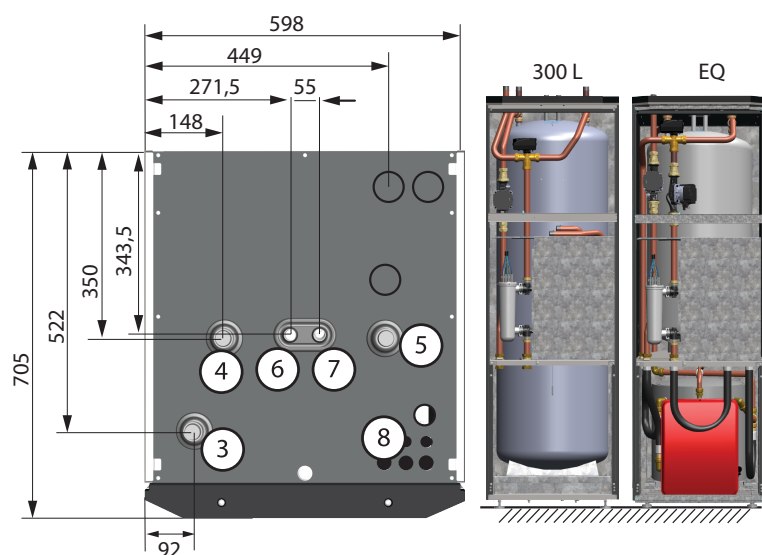
Chemical or oil contamination shall always be avoided. In areas where there are exceptional water conditions with regards to hard water, a softening filter may be necessary to use/install. The softening filter softens the water, cleans any impurities and prevents the buildup of calcification. The hot water tank is designed to work well in all normal drinking water qualities in line with the European drinking water directive (2020/2184). With regards to chloride level this means that it is approved to up to 250 mg/l.

3 Indoor unit data, dimensions and connections

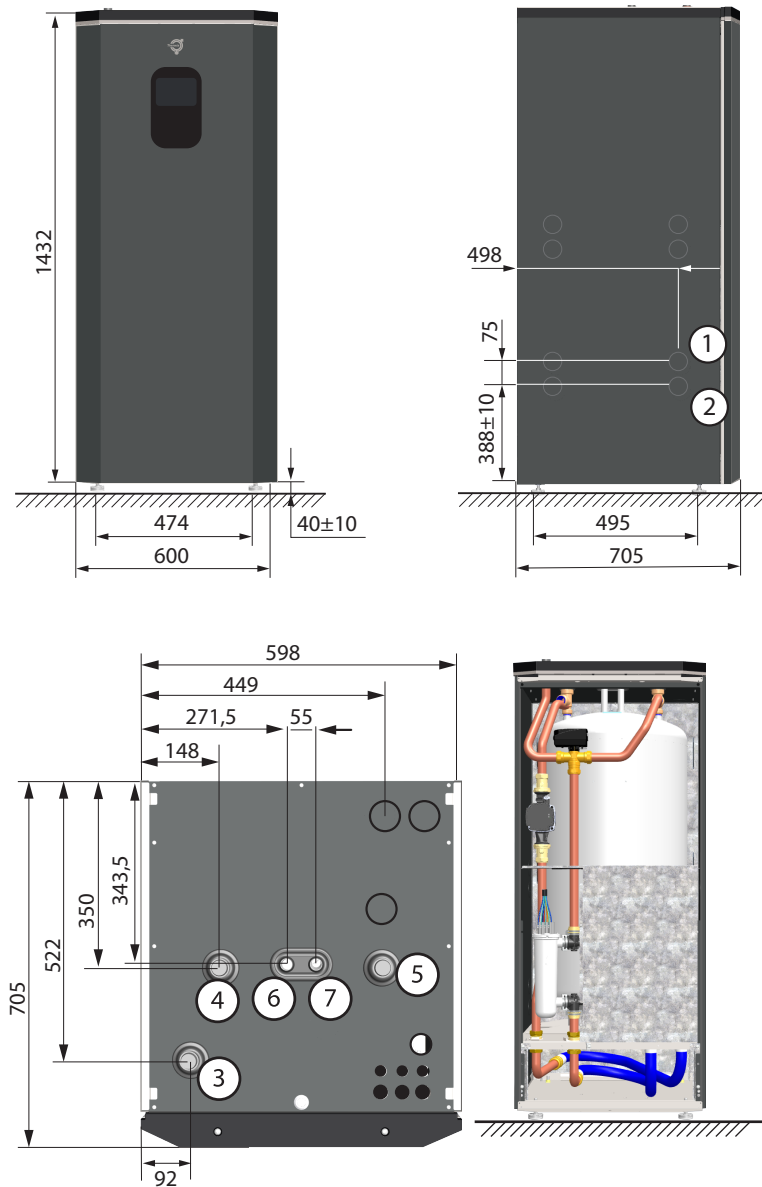
3.1 Thermia Idun Total EQ/300I



1. Supply line from outdoor unit, 28 mm Cu (left or right)
2. Return line to outdoor unit, 28 mm Cu (left or right)
3. Heating system supply, 28 mm
4. Heating system return, 28 mm
5. Connection for bleed valve, 28 mm
6. Hot water line, 22 mm
7. Cold water line, 22 mm
8. Lead-in for power supply, sensor and communication cable

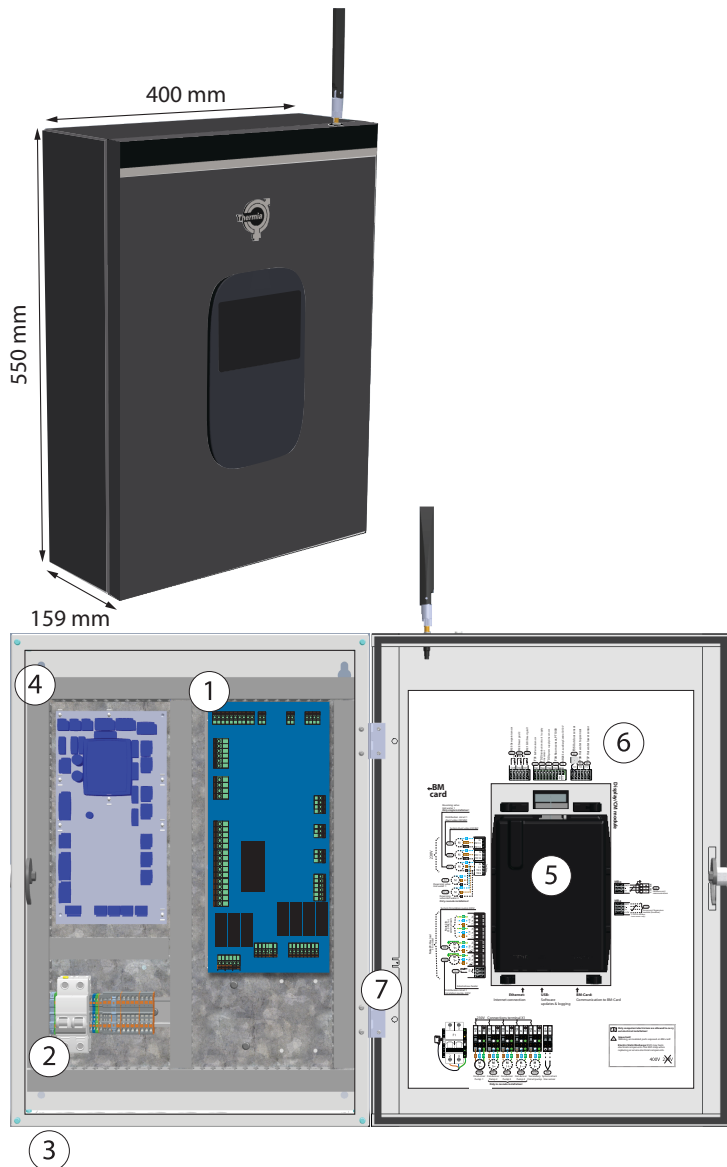


3.2 Thermia Idun Compact



1. Supply line from outdoor unit, 28 mm Cu (left or right)
2. Return line to outdoor unit, 28 mm Cu (left or right)
3. Heating system supply, 28 mm
4. Heating system return, 28 mm
5. Hot water line, 22 mm
6. Cold water line, 22 mm
7. Lead-in for power supply, sensor and communication cable

3.3 Thermia Idun Standard



1. BM-Card
2. Incoming power, sensor and communication terminal
3. Lead-in
4. Designated place for EM-Card
5. Back of display, connections for BM-Card, network & USB
6. Label sheet, instructions for connections
7. Grounded cable

4 Preparing the installation of the indoor unit

Caution

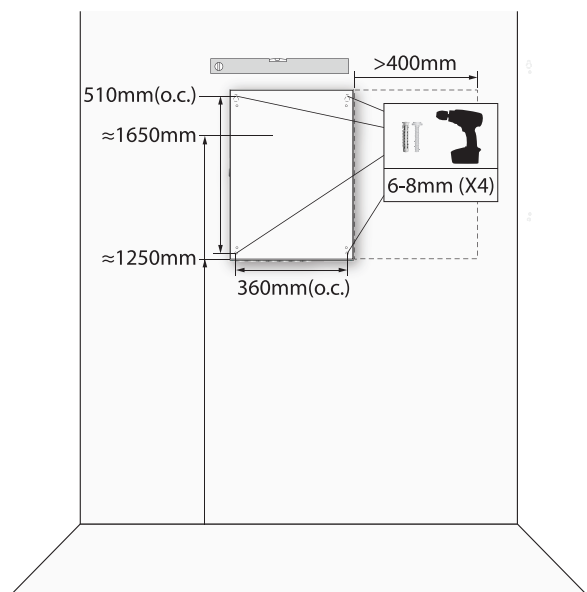


The Thermia Idun must be located on a stable base. The floor must be able to support the gross weight of the indoor unit with filled hot water tank. (Thermia Idun Total EQ, Thermia Idun Total 300L and Thermia Idun Compact)

The appliance shall be stored and installed so as to prevent mechanical damage from occurring.

The unit should be placed on a stable floor with a floor well (so any condensation may drain from the condensation hole in the bottom of the unit), preferably a concrete floor. When placed on a wooden floor, the floor should be reinforced to hold the weight of the unit, including a filled water heater. Consider that condensation water may drip from the drain hole, so take the necessary steps to protect the floor.

Thermia Idun Standard

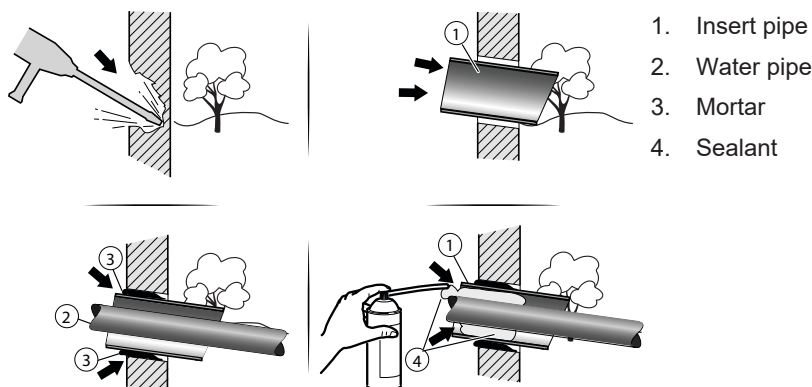


If the recommended approximate height of 1650 mm for the center of the display is desired, the drilling holes for the upper row should be 1780 mm from the ground. Make sure there is nothing in the way of the lid when opened, 400 mm of free space to the right of the cabinet

4.1 Preparing the installation of an outdoor unit

Drill holes for pipes

If you have an outdoor unit, you need to drill holes for the connection pipes. **It is important that the holes are drilled with a slight angle to prevent rainwater from entering the house.** The pipes must be insulated from the indoor unit, through the walls and outside the house all the way to the outdoor unit so as to avoid freezing and prevent heat loss.



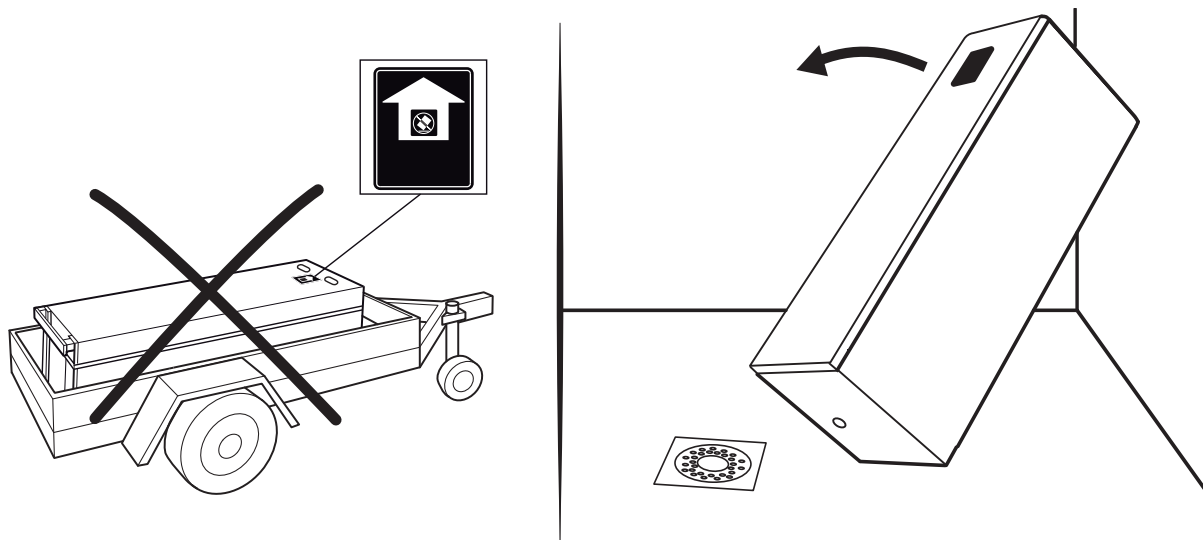
1. Drill holes in the wall for the insert pipes (1) for the pipes. Follow the dimension and connection diagrams. If there is any risk of groundwater infiltration at pipe lead-ins, watertight grommets must be used.
2. Position the insert pipes (1) in the holes sloping downwards. The inclination must be at least 1cm every 30 cm. Cut them at an angle (as illustrated) so that rain water cannot get into the pipes.
3. Insert the pipes (2) into the insert pipes in the installation room.
4. Fill in the holes around the lines with mortar (3).
5. Ensure that the pipes (2) are centered in the insert pipes (1) so that the insulation is distributed equally on all sides.
6. Seal the insert pipes (1) with a suitable sealant (foam) (4).

5 Transporting and setting up the indoor unit

Caution



During transportation and lifting of the indoor unit, the front panel must always be in place upward as it locks the other panels in position.



The indoor unit must not be transported lying down,

Floor well

Idun Total EQ:

Gross weight: 156,5 kg

Idun Total 300L:

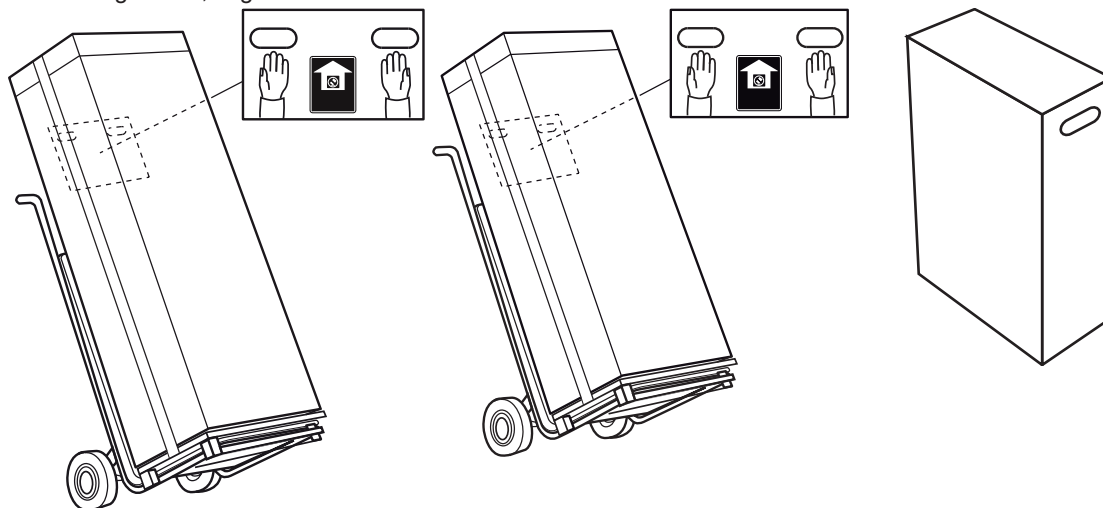
Gross weight: 138,0 kg

Idun Compact:

Gross weight: 109,4 kg

Idun Standard:

Gross weight: 12,4 kg



5.1 Unpacking

General information

Warning



Wear protective gloves to unpack, move, install, and service the unit to avoid your hands being injured, for instance by sharp edges.

Caution



Make sure to safely dispose of packing materials. They can be hazardous to children.

Note



All the materials used for the manufacture and packaging of the air to water indoor unit are recyclable.

5.2 Delivery check

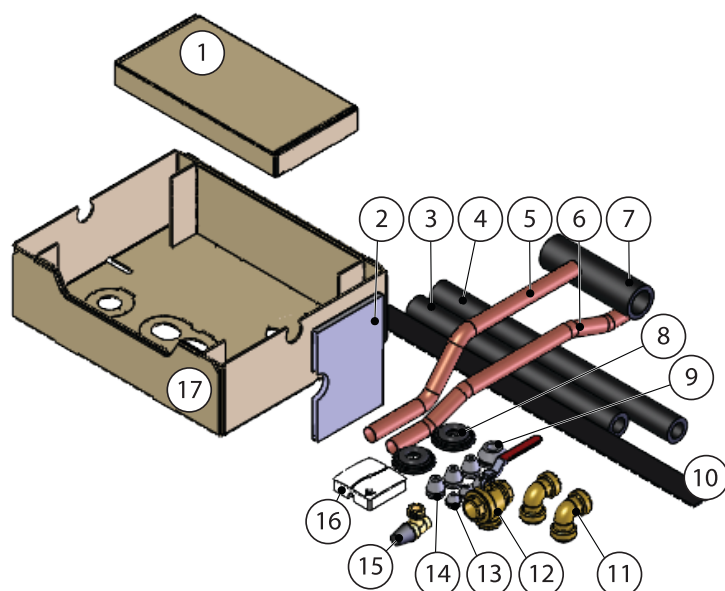
Caution



Inspect the product shipped and check for any transport damage. If the product is damaged, **DO NOT INSTALL**. Immediately let the carrier or retailer know (if the installer or the authorized technician has collected the material from the retailer).

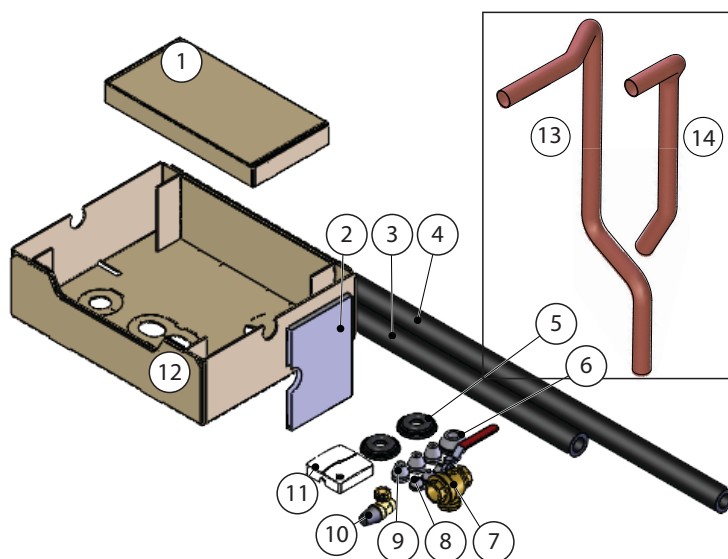
Check that the delivery contains the following components:

Thermia Idun Compact and Thermia Idun Total EQ:



1. Accessory box with sections
2. Plastic manual holder
3. Pipe insulation
4. Pipe insulation
5. Inlet pipe
6. Outlet pipe
7. Pipe isolation
8. Grommet (x2)
9. Cable inlet M40
10. Isolation tape
11. Push-fit elbow 28 (x2)
12. Filter ball, DN25, PN16
13. Cable inlet (x3)
14. Cable inlet (x3)
15. Safety valve, 9 bar
16. Outdoor sensor
17. Accessory box

Thermia Idun 300L:

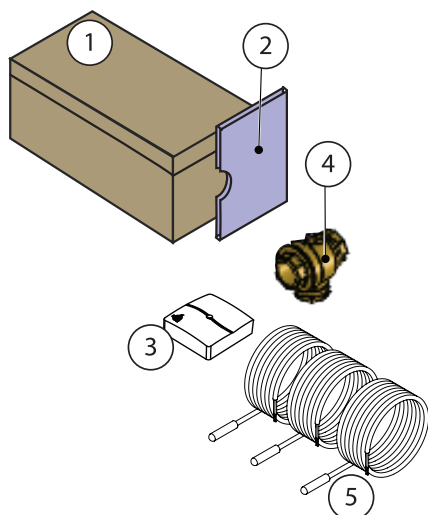


1. Accessory box with sections
2. Plastic manual holder
3. Pipe insulation
4. Pipe insulation
5. Grommet (x2)
6. Cable inlet M40
7. Filter ball, DN25, PN16
8. Cable inlet
9. Cable inlet
10. Safety valve, 9 bar
11. Outdoor sensor
12. Accessory box

13. Cu-pipe Ø28 (placed behind the electrical cabinet inside the unit and not included in this package)

14. Cu-pipe Ø28 (placed behind the electrical cabinet inside the unit and not included in this package)

Thermia Idun Standard:



1. Accessory box with sections
2. Plastic manual holder
3. Outdoor sensor
4. Filter ball, DN25, PN16
5. Temperature sensor universal PT1000 (3x4m)

5.3 Placing the unit

Space requirements and recommended location

Placing the indoor unit:

Floor standing indoor unit **must be placed on a stable floor with a floor well** (so any liquid may drain from the hole in the bottom of the indoor unit). Make sure that the floor can hold the total weight of the unit (filled), including any additional water heaters (filled). Connect a hose to the drain connection at the bottom of the unit and lead it to the floor drain, to prevent liquid from damaging the floor.

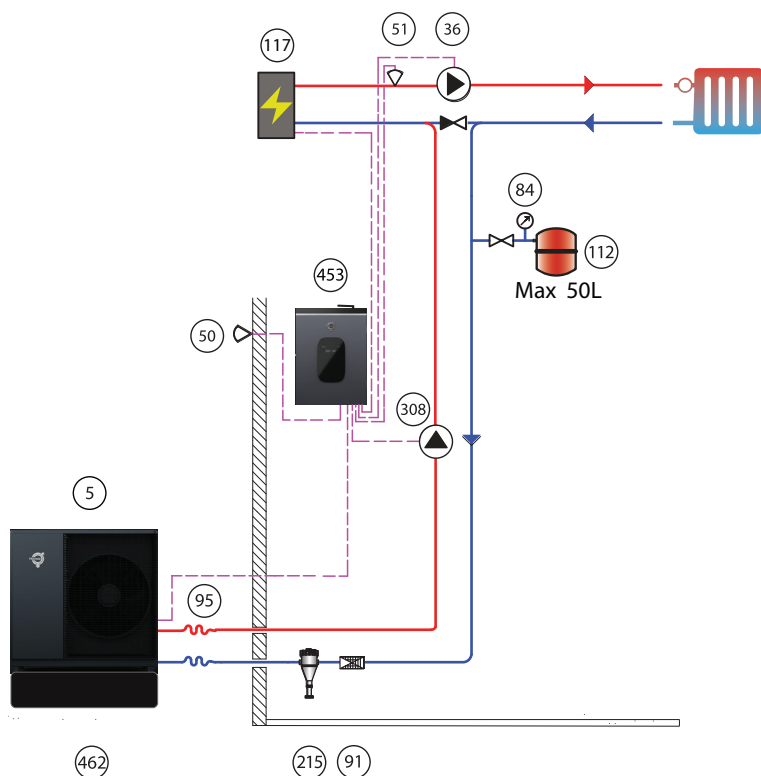
5.3.1 Consideration to prevent noise

To prevent disturbing noise from the unit the following recommendations should be observed:

- Connection of the heat transfer fluid to the unit must be made using a flexible hose to prevent transmission of vibration to building construction and the pipe system, see Flexible hoses.
- **Do NOT** install expansion vessel on the connection for the bleed valve.
- Ensure that pipes at lead-ins are not lying against the walls.
- Ensure that the electrical supply cable does not provide a path for vibration because it is overstretched.
- In cases where attachment of pipes to sensitive construction elements cannot be avoided, special elastic pipe attachments should be used.

5.4 System proposal Thermia Idun Standard

Below is an example of a supported system proposal for Thermia Idun Standard



5	Outdoor unit
36	Circulation pump (system)
50	Outdoor sensor
51	System supply sensor
84	Manometer
95	Flexible hose (1000mm DN25)
112	Expansion vessel
215	Magnetite filter
453	Indoor unit, display
462	Ground stand high

Important! Everything in the picture is **NOT** included in delivery, but a representation of an installation.

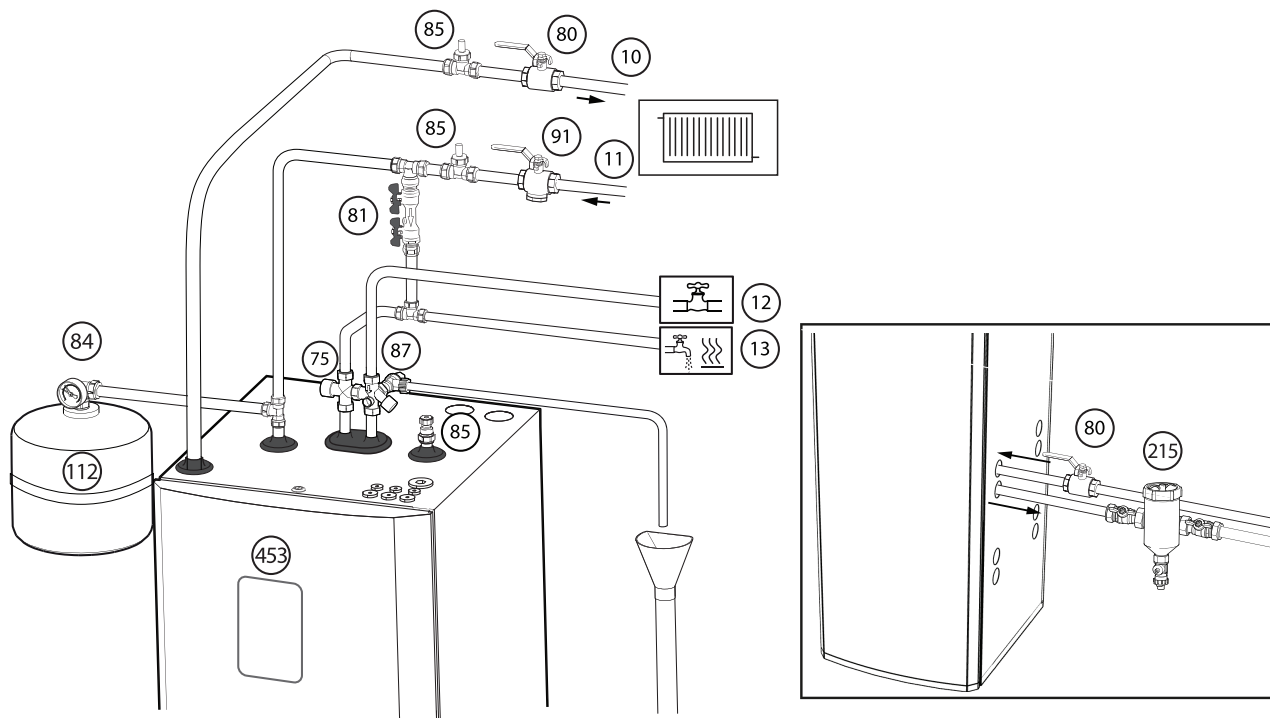
Make sure that a free flow is always possible in the heating circuit. Very small water volumes or interruptions in the heating circuit may cause operational disturbances.

Warning



*Since the water temperature exceeds 65°C, a mixing valve has to be installed between the cold- and the hot water pipes, to lower the tap water temperature.

5.5 Heating connections



10	Heating system supply pipe
11	Heating system return pipe
12	Cold water line
13	Hot water line
75	Mixing valve hot water, with exchange valve*
80	Shut-off valve
81	Filling valve
85	Manuel venting valve
87	Safety valve (9 bar, hot water)
91	Dirt strainer with shut-off valve, DN 25
112	Expansion vessel
215	Magnetite filter
453	Display

Important! Everything in the picture is NOT included in delivery, but a representation of an installation.

Make sure that a free flow is always possible on the heating circuit. Very small water volumes or stop in the heating circuit may cause operational disturbances.

Warning



*Since the water temperature exceeds 65°C, a mixing valve has to be installed between the cold- and the hot water pipes, to lower the tap water temperature.

6 Installation alternative

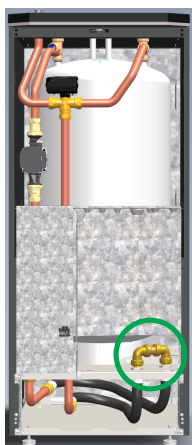
The indoor unit can also be used alone as an electrical boiler without an outdoor unit.

6.1 Electrical and pipe installation

1. Read the chapter: **Preparing the installation of the indoor unit** and **Placing the unit**, and install accordingly.
2. Fill the heating system to 1.0 bar
3. Fill the hot water tank

If an outdoor unit is to be connected at a later stage, prepare space for pipes and electrical connections.

Loop the outgoing pipes according to the picture.



6.2 Checklist

Before commissioning, the following must be verified:

- ☐ The indoor unit is placed on a stable floor and checked with a spirit level to make sure it is installed horizontally.
- ☐ Safety valves are installed on both water heaters and heating systems.
- ☐ Hose is connected to the drain connection at the bottom of the unit and lead to the floor drain, to prevent liquid from damaging the floor.
- ☐ The customer has been informed that the product can only be operated as an electric boiler for heating and hot water.

Mark the indoor unit (for future knowledge) with a note that indicates that it is an electric boiler and has no outdoor unit connected.

6.3 Commissioning

Read the chapter: **Commissioning**

6.4 Important information

Caution



Do not commission the unit until the system is completely installed, filled with water and checked for any leakage.

Caution



Use operating mode: **Auxiliary heater only**.

Caution



If an outdoor unit is connected at a later stage, remember that the safety valve on the heating system must be removed as the heating system's safety valve is normally mounted in the outdoor unit.

7 Piping installation

Caution



Piping installation must be carried out in accordance with applicable local rules and regulations. The hot water tank must be equipped with an approved safety valve. Follow applicable local and national regulations.

Caution



To prevent leaks, ensure that there are no stresses in the connecting pipes!

Caution



It is important that the heating system is vented for air after installation. Manual air ventilation valves must be installed where necessary.

Caution



Heating systems with closed expansion tanks must also be supplied with approved pressure gauges.

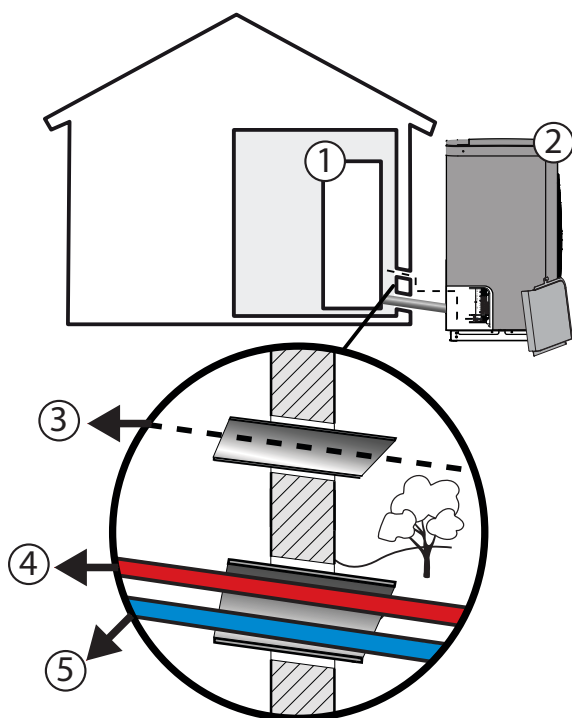
Note



Ensure that the pipe installation is carried out in accordance with the dimensions and connection diagrams.

7.1 Connecting an outdoor unit

See chapter: **Preparing the installation of an outdoor unit** for details.



1. Indoor unit
2. Outdoor unit
3. Communication cable
4. Supply line
5. Return line

7.2 Pressure drop data

Unit	Idun Compact	Idun Total 300L	Idun Total EQ
kVS (m3/h)	3,75	4,09	3,72

8 Electrical Installation

Danger



Hazardous electrical voltage! The terminal blocks are live and can cause death through electric shock. All power supplies must be isolated before electrical installation is started. The appliance is connected internally at the factory, for this reason electrical installation consists primarily of the connection of the power supply.

Danger



Electrical voltage! The terminal blocks are live and can be highly dangerous. All power supplies must be switched off before the electrical installation is started.

Warning



The electrical installation may only be carried out by an authorized electrician and must follow applicable local and national regulations.

Warning



The power cable may only be connected to the terminal block intended for this purpose. No other terminal blocks may be used!

Caution



Depending on the condition of the power supply, unstable power or voltage may cause malfunction of the parts or control system.

Note



Verify that the voltage and frequency of the power supply complies with the specifications and that the input power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines. Always verify that the cut-off and protection switches are suitably selected.

Note



Always verify that electric connections (cable entry, section of leads, protections) are compliant with the electric specifications and with the instructions provided in the wiring scheme. Always verify that all connections complies with the standards applicable to the installation of air to water products. Devices disconnected from the power supply should be completely disconnected in the condition of over voltage category.

Note



Ensure to install both a residual current circuit breaker and circuit breaker with specified capacity in accordance with relevant local and national regulations. If not installed properly, it may cause electric shocks and fire.

8.1 Power supply

Danger Electrical voltage!



Electrical voltage! The connection terminals are powered and can cause life hazards due to electrical shock. All power supplies must be disconnected before electrical installation can commence.

Caution Cables, power supply



The electrical installation must be carried out using permanently routed cables and must follow applicable local and national regulations. Isolate the power supply using an all-pole circuit breaker with a minimum contact gap of 3 mm.

Caution Cables, characteristics



The power supply cable must be rigid. No flexible cable may be used, due to the lack of strain relief in the electrical cabinet.

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. Also take into account the effects of aging. The wiring shall be installed in accordance with national wiring regulations.

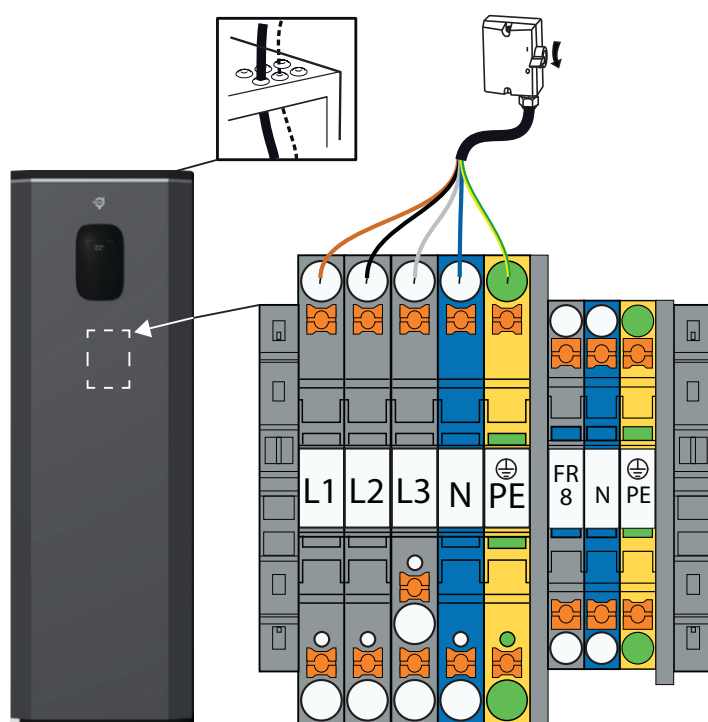
Make sure that all grommets are in place at the top of the indoor unit and the electrical cabinet, regardless of which ones are in use. This to ensure a tight seal of the enclosures and to meet the IP rating requirements.

8.1.1 Power supply 400V

Thermia Idun Compact 400V

Thermia Idun Total 300L

Thermia Idun Total EQ



8.1.1.1 Fuse sizes for 400~3N

The internal immersion heater can be limited in the controller.

Immersion heater steps					
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
1,5 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW
Fuse sizes					
6 A	6 A	13 A	13 A	13 A	16 A

Max steps: 4 (factory setting)

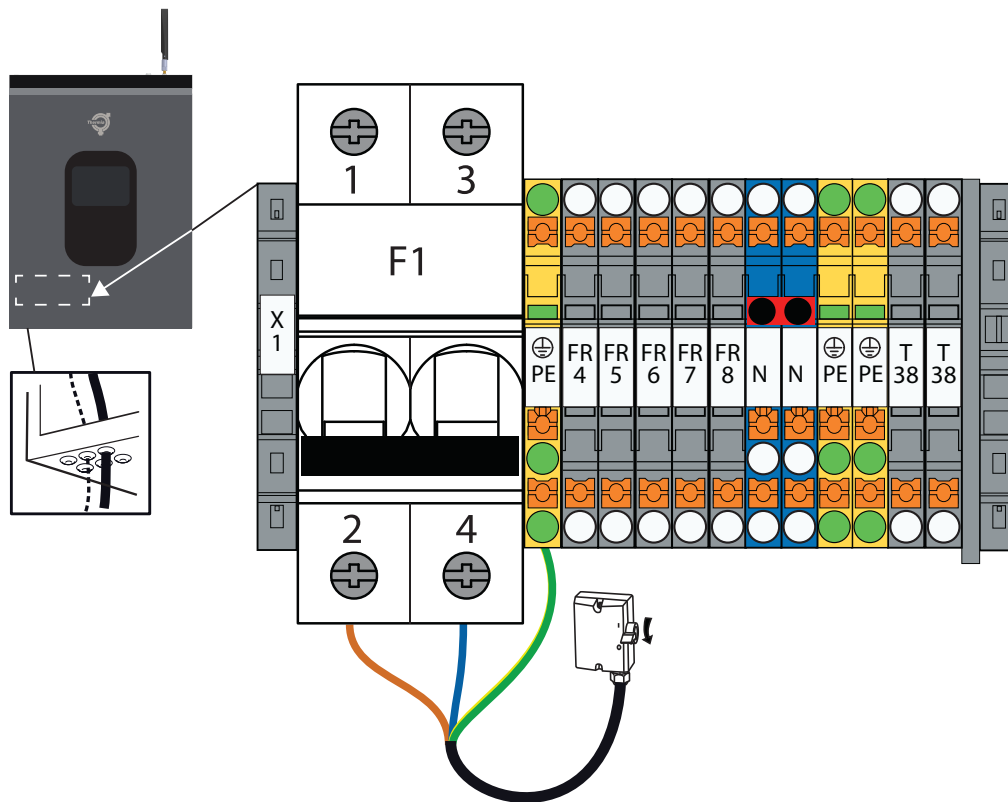
Max steps with compressor: 4 (factory setting)

Initial delay: 30 minutes (factory setting)

(Setting in controller for **Max steps** can be set equal or higher than **Max steps with compressor**. Lowest possible setting is "Step 1".) Recommended minimum fuse sizes (recommended fuse characteristic is C)

8.1.2 Power supply 230V

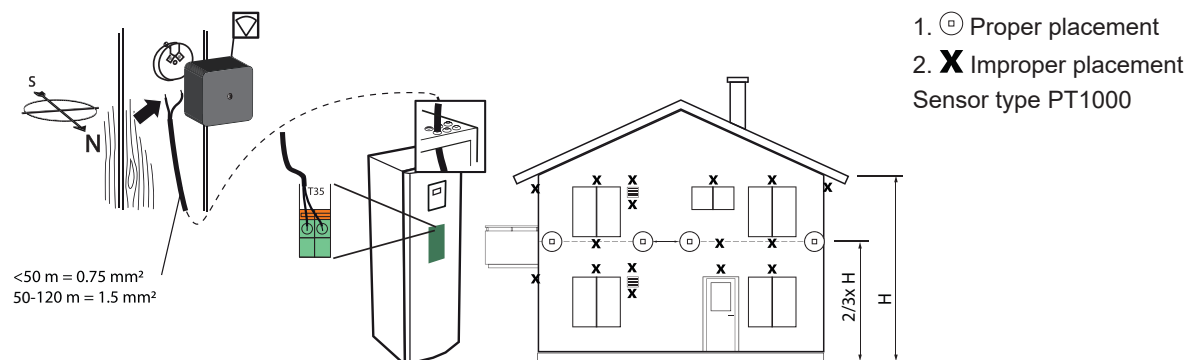
Thermia Idun Standard 230V ~N



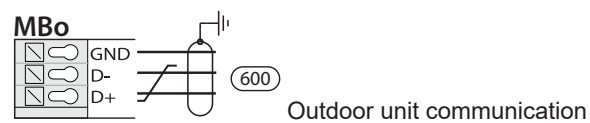
8.1.2.1 Fuse size 230V~1N

Built in fuse	Size
Fuse size	10 A

8.2 Outdoor sensor

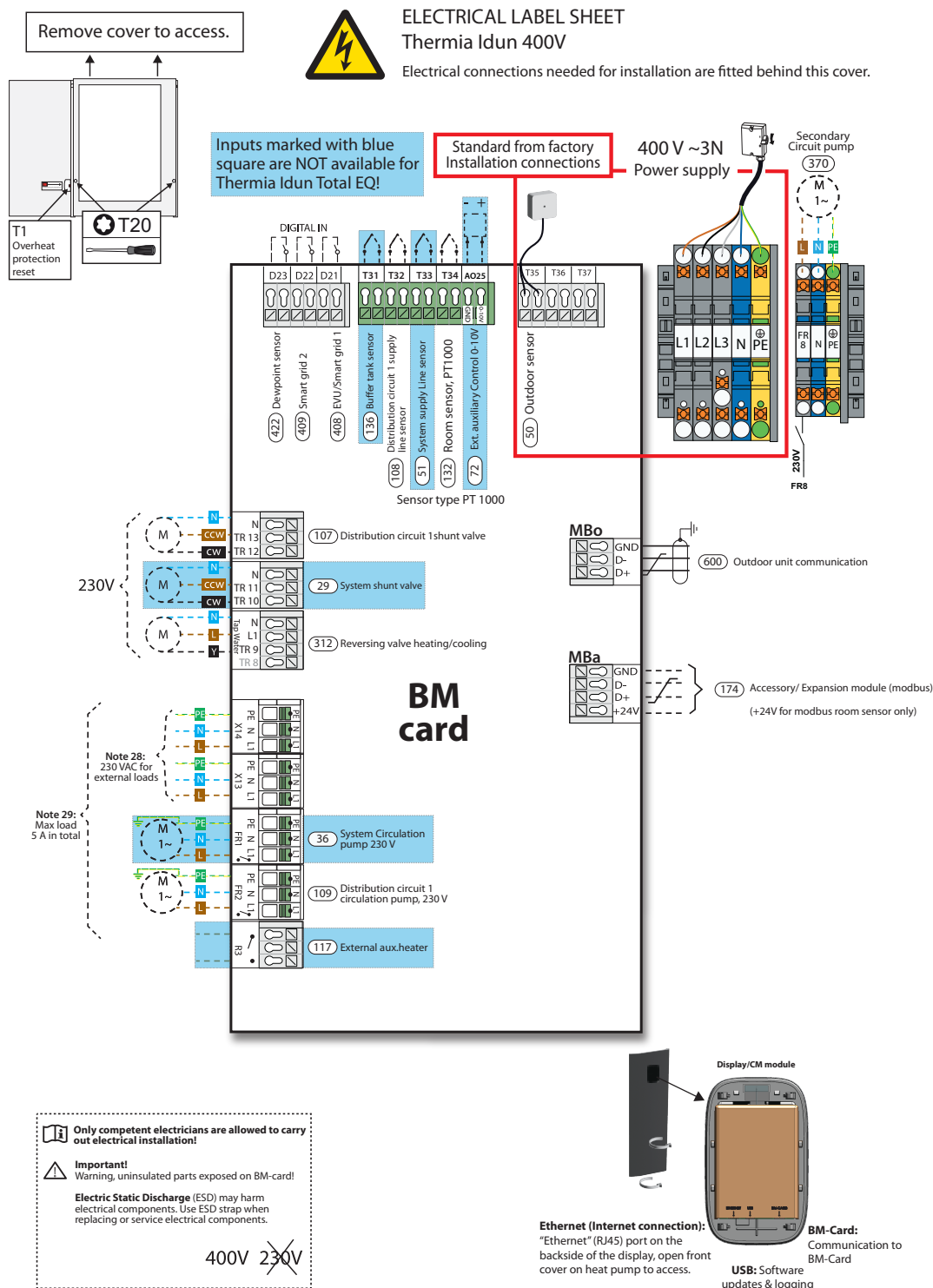


8.3 Communication



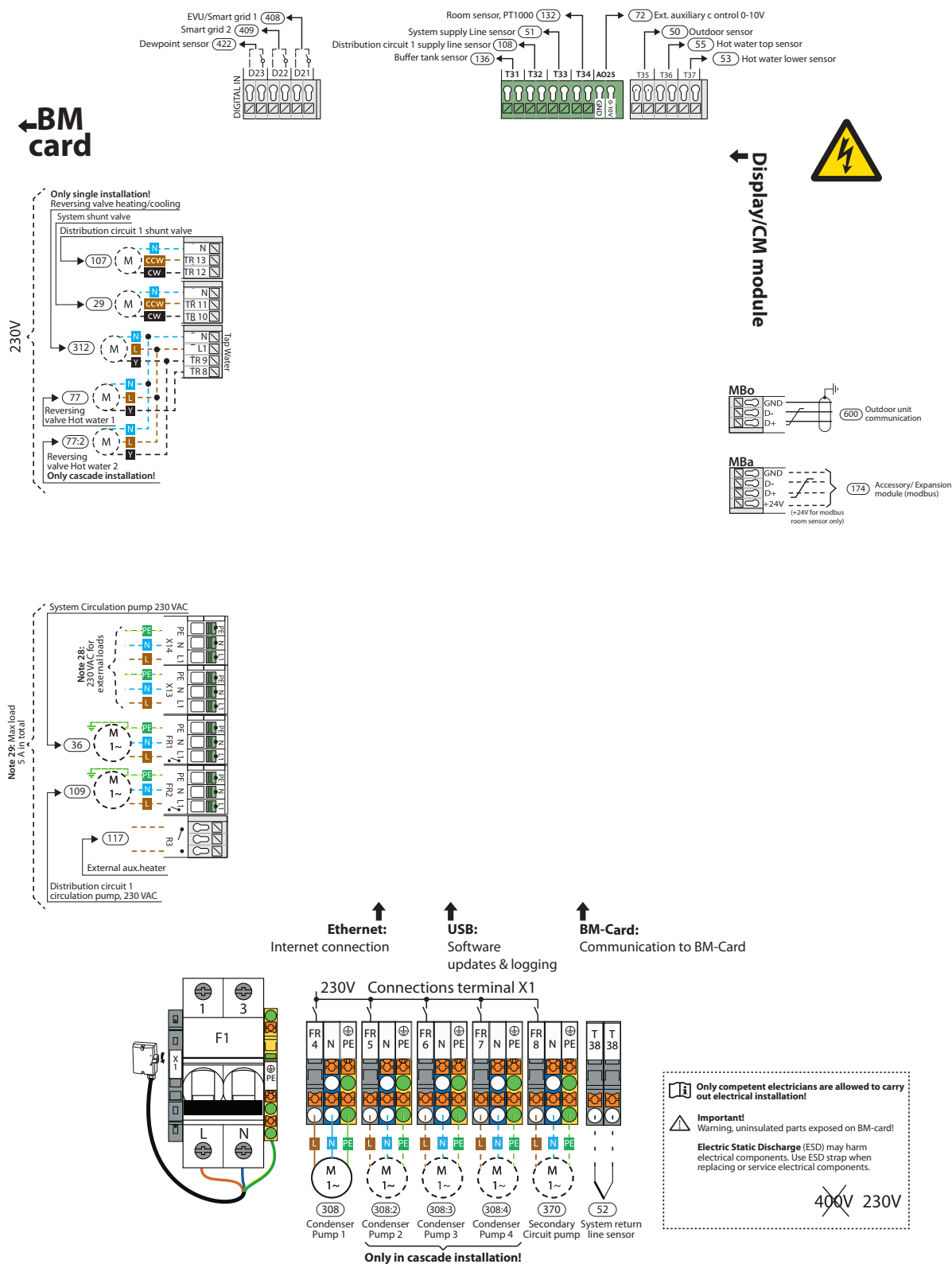
8.4 Electrical connections 400V

This label is also fitted on the electrical cabinet of the indoor unit



8.5 Electrical connection 230V

This label is also fitted on the electrical cabinet of the indoor unit



9 Checking installation

9.1 Checking electrical installation

Before turning on electrical power, check the electrical installation according to the checklist below

Electrical checklist

- ☐ Main circuit breaker is installed. (Not included in the delivery.)
- ☐ Correct fuses (see table) are installed.
- ☐ Outdoor sensor are correctly positioned.
- ☐ Communication cable between outdoor unit and indoor unit are correctly connected, including the shielded connection.

Note



Communication cable must be UV-resistant twisted pair data/telephone shielded, 0.75mm², 4 wire, maximum length of 30m.

9.2 Checking the pipe installation

Before filling the heating system, check the piping installation according to the checklist below.

Piping checklist

- ☐ The pipe connections are in accordance with the connection diagram.
- ☐ Holes are drilled for the supply and return lines to the outdoor unit.
- ☐ Flexible hoses are installed on the outdoor unit supply and return lines.
- ☐ Strainer on return line is mounted.
- ☐ Proper vessel is installed.
- ☐ Valve pipe and manometer are installed.
- ☐ Volume tank is installed.
- ☐ Filler cock with non-return valve for the heating system is installed.
- ☐ Manual air venting valve is installed.

Note



If the amount of water in the heating system is not sufficient, alarms may occur.

10 Commissioning

10.1 Installer access

Certain functions will be locked and only accessible with the correct access code. To gain access, the following steps must be made:

1. Press  on the start screen to open the **Menu screen**.
2. Scroll all the way down and press  to unlock advanced settings.
3. Press the input area to open up the number pad.
4. Enter the code for installer access, **607080**, and confirm by pressing  in the lower right corner.
5. A new menu button is now available:  **Installer settings**.

Note: To activate other functions than heat and tap water, the appliance needs to be set to Off mode, then go Advanced settings/Installation and activate desired function. Some functions may need additional accessories to work.

The access code is active for 8 hours, after which, it will log out automatically. Logging out manually is done by leaving the input area empty, or typing a "false" code, and pressing the confirm symbol. Restarting the appliance will also force a log out.

10.2 Select display language

1. Press  in the upper left corner of the start screen.
2. Press  **System settings**
3. Press **Language** and choose your language.
4. Press  in the upper left corner to return to the **Menu**.

10.3 Setting date and time

1. Press  in the upper left corner of the start screen.
2. Press  **System settings**
3. Press  **Date/time** and choose the correct time zone.
4. Press  in the upper left corner to return to the **Menu**.

10.4 Internal Immersion Heater

1. Press  on the Start screen to open the Menu screen.
 2. Press  to open the **Advanced settings** menu.
 3. Scroll down to **Internal immersion heater**.
 4. Make the desired changes.
 5. Confirm settings by pressing .
- (For steps, kW and fuse sizes, see electrical installation chapter.

10.5 Radiator or floor heating settings

Important: If the system shall be configured to floor heating or similar, the unit's default value must be set to floor heating. If this is not done, the **factory reset** button will reset the heat curve and max/min supply line temperatures to default values for radiator systems, which may cause damages on systems with e.g. floor heating.

If the house has floor heating, the supply line temperature must not exceed the values recommended by the floor manufacturer. Otherwise the floor might get damaged.

To change default heat settings from radiator to floor heating (or reverse):

1. Press  on the start screen to open the menu screen.
2. Press  to open the **Heating** menu.
3. Expand to **Advanced settings** and press  **Heat curve**.
4. Make the desired changes and press Back when done.

10.6 Adjusting the Heat Curve

1. Press  to open the menu screen.
2. Press .
3. Expand **Advanced settings** and press  **Heat curve** to open the menu.
4. There are two ways of adjusting the heat curve:
 - If the heat curve indicator  is lit, press + or - to adjust the entire curve.
Or:
 - Press  **Adjust points**, individual points can be moved separately by pressing the desired point and pressing + or - to the desired temperature.

The heat curve indicator value shows the temperature of the water supplied to the heating system ("supply line temperature") at an outdoor temperature of 0 °C.

10.7 Heating Settings

Press  to open the **Menu** and press  for **Heating**.


Heating

 **Target home temperature**

 **Temperature tuning**

Advanced settings

 **Heat curve**

 **Supply line temperature limits**

Important! If your house has floor heating, the supply line temperature must not exceed the values recommended by the floor manufacturer. Otherwise the floor might get damaged.

 **Seasonal stop**

 **Room sensor influence**

10.8 Mix valves

Distribution circuit 1 is available as an additional heating- or cooling circuit without having to use an expansion module. With an expansion module (accessory) **Distribution circuit 2 and 3** are also available.

Press  to open the menu screen and press  to open the **Mix valves** menu.



Distribution circuit 1



Distribution circuit 2



Distribution circuit 3

Mixing dynamics setting

Mixing dynamics is a value that controls how fast or slow the shunt motor on the circuit should regulate. Depending on the type of shunt, the table below can be used as a recommendation on what approximate value to set. A lower value will cause the shunt motor to open and close faster, a higher value will cause it to open and close slower.

The range is between 30-240. Default value is 140.

Default value and effects:

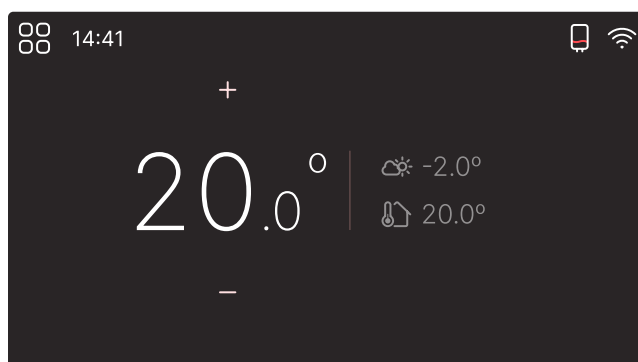
Setting	Effect
< 140 (30-140)	Faster regulation
140	Default value
>140 (140-240)	Slower regulation

Approximate values depending on shunt motor and system characteristics:

Mixing dynamic value	Shunt motor characteristic
50	300 seconds
100	200 seconds
150	100 seconds

10.9 Adjusting the indoor temperature

On the start screen, adjustment to the indoor temperature is done very easily, provided that the heat curve is set properly.



Press + or - to raise or lower the temperature. Each step represents an increase/decrease of approximately 0,5 °C of the indoor temperature.

10.10 Additional information about heating settings

The heat curve is the base for all space heating adjustments. The curve number (example **40**) corresponds to what target temperature the supply line will have to the heating system when the outdoor temperature is 0 °C (if not adjusted with any offset). A higher set heat curve will increase the desired supply line temperature when the outdoor temperature gets lower and vice versa.

Enable heating is default on, and should normally never be deactivated as this will stop heating (risk of freezing).

Start with setting **Heating type** (Radiator/floor heating). Floor heating will limit max adjustable supply line temperature for end customer to 45 °C for installations with floor heating. Floor heating will also set the default heat curve to **30** instead of 40. Note that the value for the heat curve should be adjusted and fine tuned for the installation to get desired indoor climate.

Supply line minimum is the minimum supply line temperature used as base line for the heat curve.

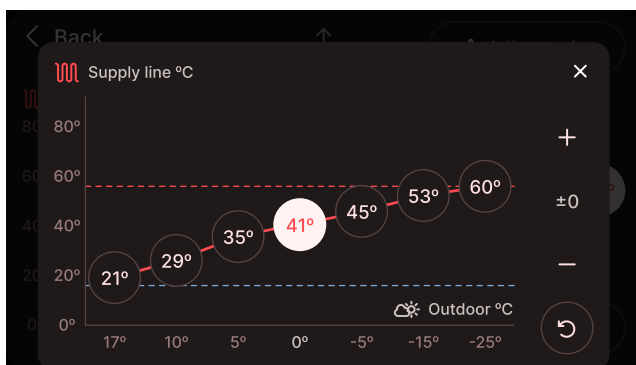
Supply line maximum is the max temperature used to limit the heat curve maximum supply line temperature. (Note: For certain floor heating applications, a too high set max supply line temperature may cause damages to the floor.)

Seasonal stop is the set outdoor temperature condition where the unit will begin to prepare to stop (or start) heating. Often set to around 17°C.

Comfort factor: When the heat curve is set properly, changes made with the comfort settings, on the start page, will parallel offset the heat curve up or down, and will not change the inclination of the heat curve. Each step up or down will increase the desired supply line temperature with the setting of the **Comfort factor**. The factory setting is 3 and is often suitable for radiator systems, meaning that a 1°C increase on the comfort setting corresponds to an increase of the desired supply line temperature with 3°C. In floor heating systems a comfort factor of 2 is often more suitable. This means that when the heat curve and comfort factor is set properly, an adjustment of 1°C on the comfort setting is representative of 1°C to the room temperature.

Note: Fixed supply line set point that may be available in the menu is not used in normal installations and should normally not be activated.

The heat curve shows the desired supply line temperature based on the outdoor temperature. The heat curve incline can be changed by pressing the curve indicator **40** and adjust with +/- in the heat curve view, (or in the settings view). Also each of the seven heat curve coordinates points can be individually adjusted to get a perfectly adjusted heat curve for the application by pressing **41** and adjusting with +/- . The individual adjustment is often found useful in temperatures around 0°C, where the supply line temperature may need to be somewhat increased (1-2°C) to get a perfect indoor climate.



Note that most changed settings needs to be confirmed with ✓ to be stored.

General guidance: To increase the indoor temperature by around 1 °C (at a given outdoor temperature), the supply line temperature normally needs to be increased by 2-3 °C in the heat curve setting, depending on the heating system.

The temperature reference (e.g. 20 °C) shown on the comfort settings (start page) may deviate from the actual indoor temperature, and is intended as a reference value to facilitate understanding and adjustment for the end customer.

10.11 Activate manual test

1. Press  on the start screen to open the **Menu** screen.
2. Press **Advanced settings**.
3. Scroll to **Manual test** and turn the function On.
4. Activate the functions that needs to be tested.

During manual test, this symbol is shown in the top of the display (as a reminder to turn off Manual test mode when the testing is done):



Note:

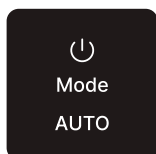
- Start the circulation pump, listen for air. Run the reversing valve to Hot water, listen for air. If necessary, bleed for air.
- Start the circulation pump, listen for air. If necessary, bleed for air.
- If necessary, the compressor (placed in the outdoor unit) and the internal immersion heater can also be run in manual testing. Additional testing may apply if external devices are installed and activated.
- After completion, turn off **Manual test**.

Parameter	Meaning
Circulation pump	0 = stop circulation pump, 1 = start circulation pump
Compressor (placed in the outdoor unit)	0 = stop compressor, set compressor gear
Internal immersion heater	Six active steps: 1-6
Reversing valve	0 = Heating, 1 = Hot water

10.12 Selecting operating mode

Set the appliance to the desired operating mode in the menu:

1. Press  on the start screen to open the Menu screen.
2. Scroll down to **System configurations** and press **Mode** to open the **Operating mode** screen.



- 3.
4. Choose the desired operating mode.
5. Normal mode is **Auto** (On).

If the outdoor unit has been in operation for the past 20 minutes, a restriction time may occur, temporarily preventing the compressor from starting. In that case, the following symbol appears in the top of the display:



Operating mode	Description
Auto (default)	The appliance will automatically run the outdoor unit and the auxiliary heater to meet the heating and hot water needs.
Use auxiliary heater only	The appliance will only use the electrical auxiliary heater to meet the heating and hot water needs. Using the auxiliary heater only will increase energy consumption.
Off	All functions, such as the outdoor unit and auxiliary heater are turned off. No heat or hot water will be produced which risks freeze damage and property damage.

If the heating system is very cold, auxiliary heater may be used initially to simplify start up. Tap water production is enabled (factory setting). The appliance will start producing hot water before space heating.

10.13 Connectivity

To be able to use the full scope of the functionality of the indoor unit, it needs to be connected to the internet. This can be done in three different ways, with Wi-Fi or ethernet (both will require a router connection) or a cellular network.

Below are steps for the different internet connections that might be good to know:

(All three functions can be found in the  **System settings** view)



Wi-Fi

Open the Wi-Fi view and enable the function. A list of available networks should be visible. Choose the one you want to connect to and type in the correct password for that network.



Ethernet

Connect an ethernet cable, on the back of the display, to a router. Open the Ethernet view and enable the function. Either let the unit acquire an automatic IP address or type in the required information to establish a connection.



Cellular network

Open the Cellular network view and enable the function.

10.14 Monitoring and Control

In order to use the **Thermia Online Pro** service, download the **Thermia Onsite** app on your mobile device or visit **www.onlinepro.thermia.com** to access connected unit installations via internet.

Sign in and follow on screen instructions to start using the service.

Note: If you want to create a new user account, contact your company administrator or local **Thermia** sales office.

Connecting the installation

- Make sure the unit is connected to the internet.

For further instructions on how to connect your unit to the internet:

Press  **Menu**

Press  **System settings**

Choose **Wi-Fi**, **Ethernet**, or **Cellular network**.

- Sign in to **Thermia Onsite** app or via web **onlinepro.thermia.com**
- Make note of the serial number of the unit.
- Follow instructions in app or web on how to add your device.
- Choose if you wish to:
 - Request the device to be connected to your company, which enables remote monitoring and control to the specific device.
 - Send invite to end customer for remote access via **MyThermia** app

Thermia hereby declare that the radio system type in this appliance complies with Directive 2014/53/EU. For a full review of the Declaration of conformity for this product, please visit www.thermia.se/declarations

10.15 Alarms

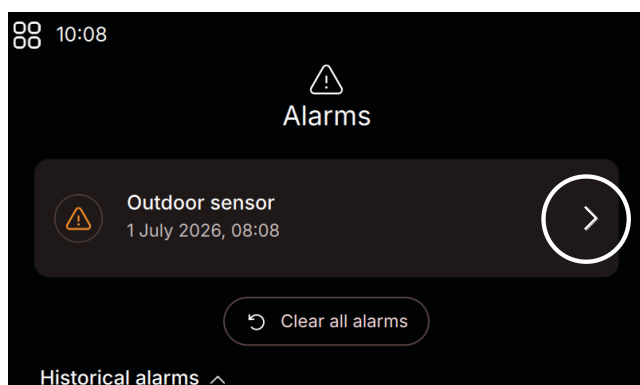
During commissioning and start up, alarms sometimes may appear. A pop up window will appear, with information on the alarm(s) and a shortcut button that leads to the **Alarms** view. Press **Alarms**  to get more information about the alarm. Expand the view of the alarm you want more information on by pressing the arrow to the right. There is also the option to reset alarms, in the bottom of the first view, and to watch historical alarms.

In  **System settings**, open the **Ambient light settings** menu and set what level of detail the unit should report on. The LED light at the bottom of the appliance front will indicate with different colors depending on what type of alarm that has been triggered. The ambient light does not apply for Thermia Idun Standard 230V.

There are three different classifications of alarms:

Symbol	Meaning/Class
	Class A Stops the appliance. The alarm must be acknowledged. A red light will be visible on the floor in front of the appliance.
	Class B Does not stop the appliance. The alarm must be acknowledged. An amber light will be visible on the floor in front of the appliance.
	Class C Temporary functional deviation, no action required it is self-acknowledging. Does not stop the appliance. A white light will be visible on the floor in front of the appliance.

In the case of an active alarm, information about the alarm is also available by pressing the arrow next to the notification.



10.16 Selecting hot water settings

Hot water settings:

- Press  and then  **Hot water** to enter the menu.
- Select one tap water mode according to the customer demands:
 -  **Economy** will give the most energy efficient hot water production and is often sufficient for households with low to moderate hot water consumption.
 -  **Normal** can be selected as the best compromise between energy efficiency and hot water availability.
 -  **Comfort** is the choice for customers with large demands of hot water availability.

Boost hot water will temporarily increase the hot water production.

Settings for Anti legionella can be made in **Advanced settings**.

Remember to inform the end customer that the settings can be changed in the settings menu.

10.17 Activate cascade function

One Thermia Idun Standard indoor unit can support up to 4 outdoor units. Read earlier chapters on how to prepare the units before commissioning them in the display. The outdoor units are identified with their respective ID's set (1-4). NOTE: Only outdoor unit 1 & 2 can produce hot water. All four can produce heating.

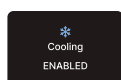
Note: Read the Installation guide delivered with the outdoor unit for more details regarding communication and individual settings for each unit.

1. Press  and then  **Installer settings**, scroll down and press **Machine profile**.
2. Scroll down and press **Idun Standard cascade** and then press  to confirm.
3. Activate Cascade and go back to the  menu.
4. Navigate to the **Cascade** menu and the back to **Installation**.
5. Enable each outdoor unit and assign their respective function/functions.
6. The system needs to restart before the functions can work.

10.18 Activate Cooling

The cooling function needs to be activated in the display to function. Follow the steps below to activate cooling in the display. Inform the end user about what settings they can make.

1. Go to **Installer settings** and navigate to **Installation**.
2. Scroll down and activate **Cooling**.



3. Go back to  and press .
4. Activate **Active cooling**.

10.19 Display symbol description

Not all symbols are applicable in all installations.

Symbol	Description
	Opens the menu screen from the start screen. Return to the menu screen from any sub-menu.
	Home. Press to go back to the start screen.
	This symbol indicates whenever a text area can be pressed to open up a more detailed view.
	Alarm. Press the symbol to go to the alarm view, which shows current and historic alarms.
	Select operating mode. Press the symbol to select operating mode in the next view.
	System information. Opens a number of sub-menus such as Operating data, Operating time etc.
	Reset button. Gives the option to reset values in the current view to factory default values or to the previous values that was set before the view was opened and edited.
	Push/pull control. Used for raising or lowering values. Drag the handle left or right, release at the desired value.
	Certain menu selections are locked, to prevent unauthorized use. An authorization code is required. Press to enter code.
	Internal immersion heater mode. Visible in the top of the display when the indoor unit is producing heat or hot water with the internal immersion heater. The number indicates which step is used.
	Restart icon. Visible in the top of the display when the indoor unit has a pending restart demand. Execute a restart in the Operating view.
	Wi-Fi icon. Visible in the top view when there is an established Wi-Fi connection. A fully filled symbol means there is a good, solid communication/connection.
	Internet connection. Visible in the top of the display when the indoor unit has an internet connection.
	Ethernet connection. Visible in the top of the display when the indoor unit has an ethernet connection.

Symbol	Description
	Cellular network Open the Cellular network view and enable the function.
	Pool heating mode. Visible in the top of the display when the indoor unit is in pool heating mode.
	Space heating mode. Visible in the top of the display when the indoor unit is in space heating mode.
	Restriction timer. Visible in the top of the display when the compressor has a restriction that prevents it from starting.
	Hot water production. Visible in the top of the display when the indoor unit is producing hot water. Depending on the Hot water settings, the symbol shows 1 (Economy), 2 (Normal) or 3 (Comfort) red waves inside the container. During Hot water boost, the container outline will also be in the same red color.
	Anti Legionella. Visible in the top of the display when the indoor unit is in Anti Legionella mode.

11 Additional functionality

11.1 Functions table

In addition to the standard functionality (heating and hot water production etc), a wide range of extra functionality is available as accessory, or from factory, depending on the appliance and selected application.

Accessories that interact with the appliance are shown in table below.

Explanation:

- **BM** stands for Building Module (I/O) and means that the functionality is standard and available on the BM-card fitted in the indoor unit.
- **EM4** stands for Expansion Module 4 and means that the functionality is available with the expansion module only. EM4 is available as accessory. For functions that require EM4, read the installation manual for EM4 on how to set it up.
- **CM** stands for Control Module, also the display unit.
- Space is available to fit the EM4-card inside the electrical cabinet in the indoor unit.
- The functions of the different input/output connections are set in the display, in the Installation menu.
- Sensors used are PT1000 type. Mixing valves are 230V.

Functionality	Conne- ction	Terminal connec- tions BM/ EM4	Position numbers	Description
Room sensor, PT1000	BM	T34	132	
Room sensor, Modbus	BM	MBa	62	Room sensor, Modbus type connected to MBa connection (Modbus Accessory).
Room sensor, Wi-Fi	CM	Wi-Fi	N/A	Wireless connection between the Control Module and the room sensor.
BMS (Connection to Building Manage- ment System)	CM	ETHER- NET	173	Modbus TCP/IP connection only.
Buffer tank control	BM	TR10-11	29	Shunt valve 230VAC
	BM	FR1	36	Circulation pump 230VAC
	BM	T33	51	Supply line sensor
	BM	T31	136	Buffer tank sensor
External auxiliary heater (relay)	BM	TR10-11	29	Shunt valve 230VAC
	BM	FR1	36	Circulation pump 230VAC
	BM	T33	51	Supply line sensor
	BM	R3	117	External auxiliary heater
External auxiliary heater (control)	BM	FR1	36	Circulation pump 230VAC
	BM	T33	51	Supply line sensor
	BM	AO25	72	External auxiliary control 0-10V
Power consumption control	BM	D21	408	EVU/Smart grid 1
	BM	D22	409	Smart grid 2
Distribution circuit 1 (extra under shunt group for heating or cooling)	BM	TR12-13	107	Shunt valve 230VAC
	BM	T32	108	Supply line sensor
	BM	FR2	109	Circulation pump 230VAC
				Possible to use as a second lower set heat curve or for certain cooling applica- tions.
Current limiter	BM	MBa	456	Modbus type connected to MBa connec- tion (Modbus accessory).
Alarm relay (Sum alarm output)	EM4	R52	344	
Distribution circuit 2 (extra under shunt group for heating or cooling)	EM4	TR68	207	Shunt valve 230VAC
	EM4	T81	208	Supply line sensor
	EM4	FR61	209	Circulation pump 230VAC
	EM4	(U91-92)	(422)	(Dew point/temperature sensor)
				Possible to use as a second lower set heat curve or for certain cooling applica- tions. It is possible to use dew point sensor (422) for cooling mode.

Functionality	Conne- ction	Terminal connec- tions BM/ EM4	Position numbers	Description
Distribution circuit 3 (extra under shunt group for heating or cooling)	EM4	TR69	207	Shunt valve 230VAC
	EM4	T82	208	Supply line sensor
	EM4	FR62	209	Circulation pump 230VAC
	EM4	(U93-94)	(422)	(Dew point/temperature sensor) Possible to use as a second lower set heat curve or for certain cooling applications. It is possible to use dew point sensor (422) for cooling mode.
Cooling	EM4	TR70	74	EM4 only needed when combined with Shunt valve 230VAC or cooling tank otherwise use BM.
	EM4	T83	58	Supply line sensor
	EM4	T84	59	Cooling tank sensor
	EM4	T85	57	Return line sensor
	EM4	FR63	38	Circulation pump cooling 230VAC
	EM4	FR64	39	Circulation pump cooling 230VAC
	EM4	TR65	79	Reversing valve 230VAC
	BM	TR9	310	Reversing valve 230VAC on BM BM uses the same Inputs/Outputs as Distribution circuit 1 and can therefore not be combined. If both are required, use EM4 (Cooling). Enable Cooling on BM in Installation menu and navigate to Cooling and select BM.
Pool	EM4	TR67	101	Reversing valve 230VAC
	EM4	T86	183	Supply line sensor
	EM4	T87	60	Return line sensor
	EM4	D96	342	External pool off
External alarm (Sum alarm input)	EM4	D95	444	

11.2 How to set up additional accessories, functions etc.

For more detailed information and system proposals see separate instructions or system solution generator on Thermia's website. Functions not activated/enabled from factory must be enabled and activated in the control system before they can be used.

1. Login and go to  Advanced settings.
2. Select desired function. Activate by selecting **BM**, or **EM4**, depending on function.
3. Make the desired settings.
4. Restart the appliance and check functionality.

11.3 Distribution circuit 1

In heating systems where there is a need of a separately controlled heating circuit (in addition to the open main circuit) with a lower heat curve, it is possible to control a separate circuit (mixing valve, temperature sensor and circulation pump) with a lower set heat curve.

The supply line temperature for distribution circuit 1 is determined from the Temperature sensor (108), and is used to regulate the mixing valve actuator (107). The circulation pump (109) is running when the appliance is in heating season.

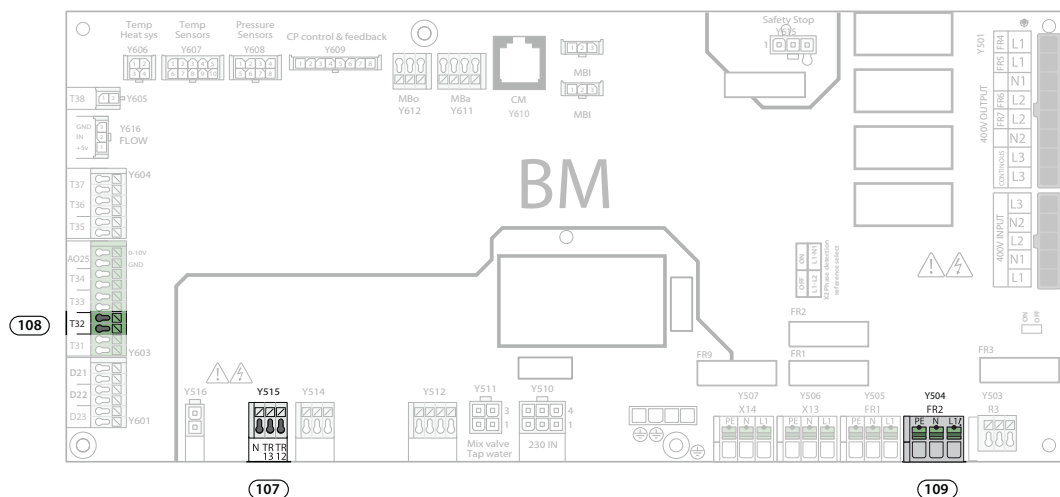


Table item number	Terminal	Description
107	TR12-13	Shunt valve 230VAC
108	T32	Supply line sensor
109	FR2	Circulation pump

11.4 Buffer tank

There are two different setups of buffer tank supported. Both enable connections to different heat sources (such as solid fuel burner, solar heating or waste heating) to be connected to the same buffer tank as the controllers primary heat generator, and will make it possible for controlling this unit and other sources of non-controllable heat to work together.

(Please note that if a mixing valve controlled by the controller is not fitted (= tank is to be used only as a volume tank), buffer tank control should not be activated.)

Alt 1: Primary heat generator connected to charge buffer tank (without external auxiliary heater controlled by controller).

With this setup the appliance will charge the tank, meaning that heating will be supplied from the tank to the heating system.

As the primary heat generator in this application is charging the tank and always has the water volume of the hot water tank to work with, it is often possible to achieve long running time for the compressor with few stops also when the heat demand is low. The controller will use the buffer tank sensor (136) and the system supply line sensor (51) to regulate the buffer tank (shunt valve, 29) and primary heat generator. The shunt will then control on the calculated set point from the main curve, using the system supply line sensor to calculate the heat demand. The system circulation pump (36) is required and running when the appliance is in heating season.

Alt 2: Appliance NOT connected to charge tank (not in combination with external aux heater)

With this setup, the primary heat generator is never charging the tank ("heat pump connected to tank" should be "off" in the controller menu), but when the tank temperature, measured by buffer tank sensor (136), exceeds set overcharge temperature above desired supply line temp, the heat generator will stop and the buffer tank shunt / Shunt valve (29) will regulate the shunt according to set heat curve and use the energy in the tank before the heat generator is started again. When the temperature in the buffer tank is colder than the system set point, the system shunt is completely switched off and the compressor starts based on the demand calculation as usual.

This alternative does not use the volume available in the tank to achieve longer running time but may be preferred in certain applications where it is not desired to charge the accumulator tank. This solution requires a system circulation pump.

The function requires a system pump and is not supporting external auxiliary heater controlled by the controller or Pool functionality.

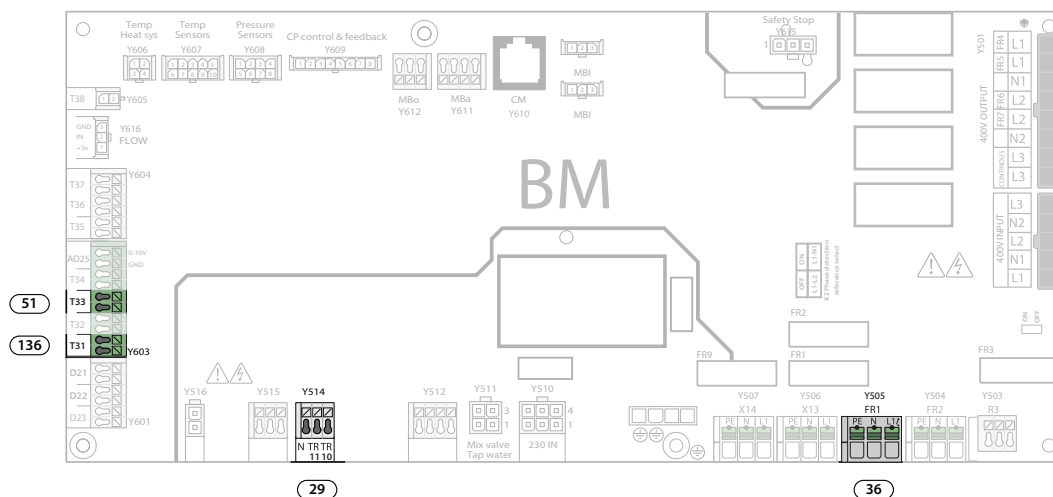


Table item number	Terminal	Description
29	TR10-11	Shunt valve 230VAC
36	FR1	Circulation pump 230VAC
51	T33	Supply line sensor
136	T31	Buffer tank sensor

11.5 System circulation pump and system supply line sensor

In certain systems (such as systems with a volume tank where there is no shunt valve) it may be desired to let the controller control a system pump (circulation pump for heating) and calculate the demand based on the system supply line sensor that can be positioned after the volume tank. To do this (provided that no other function uses these connections), install according to wiring diagram (position number 51 & 36) and enable "system pump" in the circulation pump menu, then go to SETTINGS/INSTALLATION and activate Auxiliary heater or Buffer tank, in order to establish a connection. There is no need to activate the functions in their respective settings view for the system to communicate.

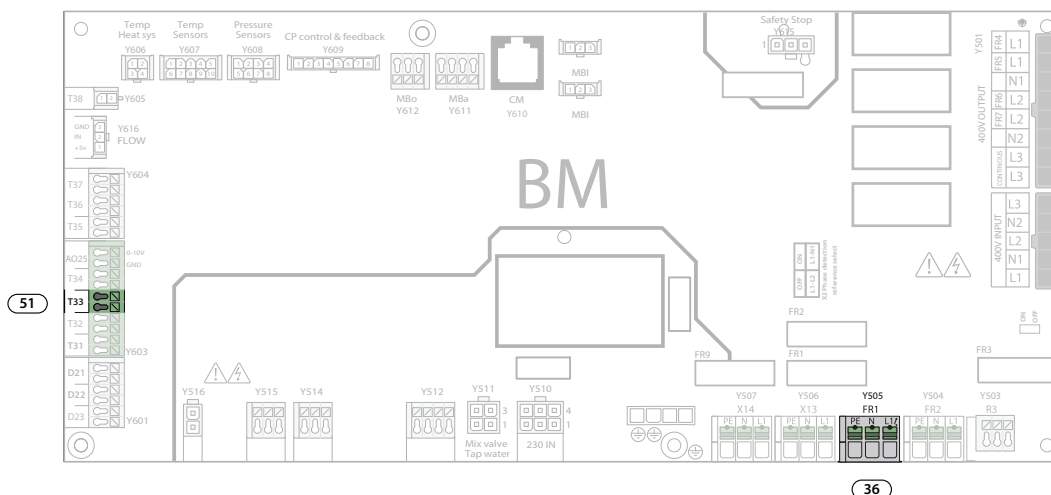


Table item number	Terminal	Description
36	FR1	System circulation pump (Needs to be activated in display to be activated. SETTINGS/CIRCULATION PUMPS/SYSTEM PUMP)
51	T33	System supply line sensor

11.6 Power consumption control

Power consumption control is a feature designed for electrical grid load control and local home automation/optimization.

The function is activated in the display, with login, under **Installer settings/Installation/Power consumption control**.

Mode selection under **Installer settings/Power consumption control/Input mode**:

None | SG-ready | PL/LU

The two digital inputs (Smart grid 1 and Smart grid 2) have a total of four open/closed combinations (1=Closed, 0=Open), where each combination represents a different mode based on the main input mode setting. These are also available via BMS. Mode set from digital inputs will be prioritized over BMS.

There are two different configurations available: SG-ready and PL/LU (Power Limitation/Load Up). Each configuration utilizes the four different inputs, to affect how the heat pump operates with certain limitation settings.

In Primary/secondary mode, Power consumption control is only connected to the primary unit, which controls the rest of the secondary heat pumps.

SG-ready mode (Intended for electrical grid control)

SG-1	SG-2	Description
0	0	Normal: Normal operation
1	0	EVU: The function blocks compressor operation and internal immersion heater. Other components such as circulation pumps, exchange valves and external auxiliary heater are still controlled.
0	1	Comfort: Increased start and stop temperature of hot water.
1	1	Boost: Increased start and stop temperature of hot water, increased room setting (default 22°C) and triggers anti-legionella if the tank is two degrees below stop temperature for anti-legionella. Buffer tank: sets desired tank temperature to 55°C, and if "Allow immersion heater during boost" is set in the display, internal immersion heater is also used.

Note: The EVU functionality will prevent the compressor from starting. If the compressor is running, trigger of the EVU signal will cause a compressor stop to be initiated. Note that the compressor will need up to 5 minutes to stop depending, on running circumstances. Physical power cut off, before the compressor has stopped, is not permitted, as repeated cutoff power supply when the compressor is running, could cause operational disturbances/damage.

PL/LU mode (Supports combination of PV panel overcharge and power limitation)

SG-1	SG-2	Description (closing=1)
0	0	Normal: Normal operation
1	0	Power limitation: The system runs within the configured power limitation or turns off. With power limitation set to 0 the system always turns off.
0	1	Load up (Comfort): Increased start and stop temperature of hot water.
1	1	Power limitation: Increased start and stop temperature of hot water, increased room setting (default 22°C) and triggers anti-legionella if the tank is two degrees below stop temperature for anti-legionella. Buffer tank: Applies to the external heater if it is configured to be an electric heater, or if the electric external heater that has an external capacity control. Applies to TWC, where the capacity needs to be configured. TWC heater is forced off if Compressor speed up is restricted. Anti-legionella is blocked.

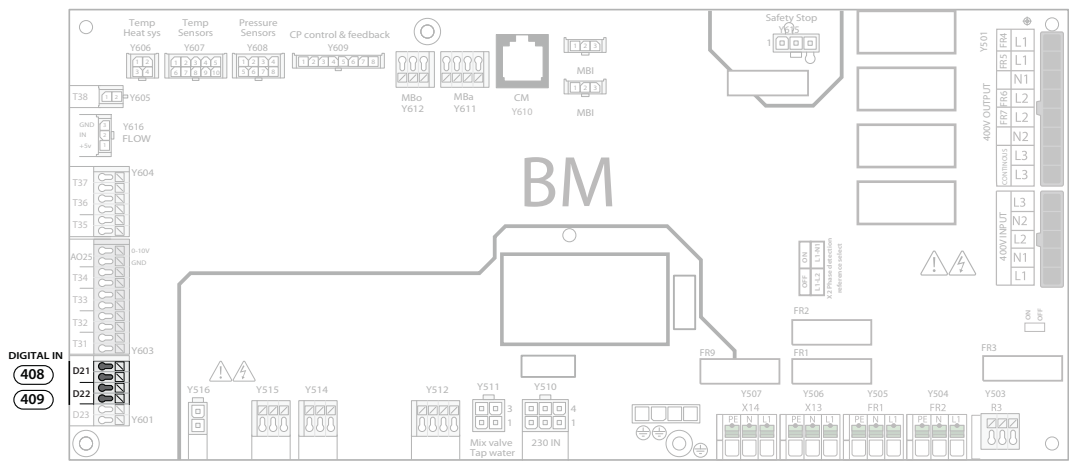


Table item number	Terminal	Description
408	D21	EVU/Smart grid 1
409	D22	Smart grid 2

11.7 External auxiliary heater

The controller can, in addition to the heat generator also control external aux heater (0-10V and on/off). The external auxiliary heater requires a system supply line sensor.

The external auxiliary heater also controls a 0-10 V signal which regulates system supply line temperature in accordance with calculated set point and desired delay.

The relay (117) is potential free.

External auxiliary heater can only produce heating and pool (if pool after external auxiliary heater is activated).

External auxiliary heater (relay)

(Not in combination with Alarm relay without EM4.)

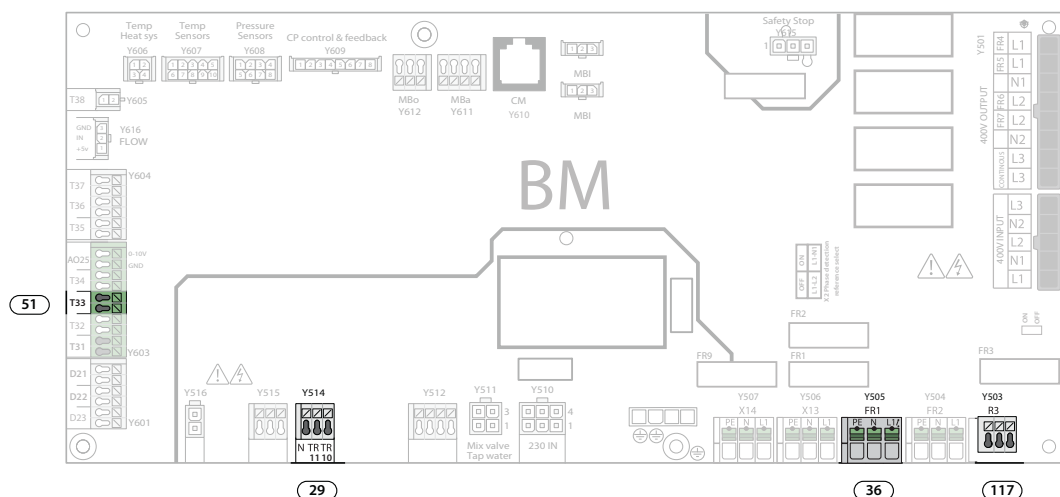


Table item number	Terminal	Description
29	TR10-11	Shunt valve 230VAC
36	FR1	Circulation pump 230VAC
51	T33	Supply line sensor
117	R3	External auxiliary heater

External auxiliary heater (control)

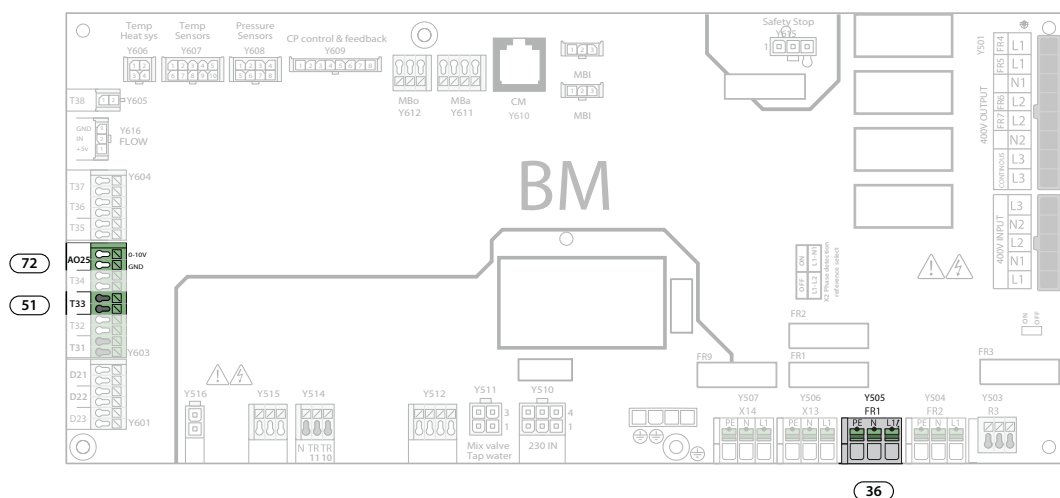


Table item number	Terminal	Description
36	FR1	Circulation pump 230VAC
51	T33	Supply line sensor
72	AO25	External auxiliary control 0-10V

12 Check list before commissioning the unit

12.1 Checklist

Location

- ☐ Surface adjustment
- ☐ Drainage

Pipe installation, hot and cold side

- ☐ Pipe connections in accordance with the diagram
- ☐ Flexible hoses (does not apply for all models)
- ☐ Expansion and bleed vessels
- ☐ Filter, hot and cold side as applicable
- ☐ Pipe insulation, for freezing and condensation
- ☐ Open radiator valves
- ☐ Leak test, hot and cold side

Electrical installation

- ☐ Circuit breaker
- ☐ Fuse
- ☐ Positioning of the outdoor sensor
- ☐ Wi-Fi connection

Commissioning

- ☐ Bleeding, hot and cold side as applicable
- ☐ Settings control system
- ☐ Manual test components
- ☐ Manual test, different operating conditions
- ☐ Noise check
- ☐ Function test safety valves
- ☐ Function test mixing valve, if applicable
- ☐ Trimming the heating system
- ☐ High pressure switch checked

____ °C. Fill in the measured freezing point of the collector circuit's brine fluid, if applicable

Customer information

- ☐ Contents of this manual
- ☐ Safety precautions
- ☐ Controller, function
- ☐ Settings and adjustments
- ☐ Regular checks
- ☐ Reference to service equipment
- ☐ Warranties and insurances



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