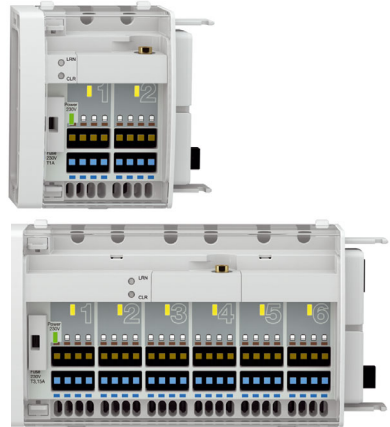


Operating instructions



Controller module (wireless)

Product family CosiTherm®

Type: F2A

Type: F6A

Copyright 2024 AFRISO-EURO-INDEX GmbH. All rights reserved.



1 About these operating instructions

These operating instructions describe the controller module (wireless) "F2A and F6A" (also referred to as "product" in these operating instructions). These operating instructions are part of the product.

- You may only use the product if you have fully read and understood these operating instructions.
- Verify that these operating instructions are always accessible for any type of work performed on or with the product.
- Pass these operating instructions as well as all other product-related documents on to all owners of the product.
- If you feel that these operating instructions contain errors, inconsistencies, ambiguities or other issues, contact the manufacturer prior to using the product.

These operating instructions are protected by copyright and may only be used as provided for by the corresponding copyright legislation. We reserve the right to modifications.

The manufacturer shall not be liable in any form whatsoever for direct or consequential damage resulting from failure to observe these operating instructions or from failure to comply with directives, regulations and standards and any other statutory requirements applicable at the installation site of the product.

2 Information on safety

2.1 Safety messages and hazard categories

These operating instructions contain safety messages to alert you to potential hazards and risks. In addition to the instructions provided in these operating instructions, you must comply with all directives, standards and safety regulations applicable at the installation site of the product. Verify that you are familiar with all directives, standards and safety regulations and ensure compliance with them prior to using the product.

Safety messages in these operating instructions are highlighted with warning symbols and warning words. Depending on the severity of a hazard, the safety messages are classified according to different hazard categories.



DANGER

DANGER indicates a hazardous situation, which, if not avoided, will result in death or serious injury.

NOTICE

NOTICE indicates a hazardous situation, which, if not avoided, can result in equipment damage.

In addition, the following symbols are used in these operating instructions:



This is the general safety alert symbol. It alerts to injury hazards or equipment damage. Comply with all safety instructions in conjunction with this symbol to help avoid possible death, injury or equipment damage.



This symbol alerts to hazardous electrical voltage. If this symbol is used in a safety message, there is a hazard of electric shock.

2.2 Intended use

This product may only be used to control the room temperature in single rooms with an underfloor heating system (heating/cooling).

The product is a part of CosiTherm® and may only be used to control the thermostatic actuators via the signals of the room temperature sensors and the base module.

Any use other than the application explicitly permitted in these operating instructions is not permitted and causes hazards.

Verify that the product is suitable for the application planned by you prior to using the product. In doing so, take into account at least the following:

- All directives, standards and safety regulations applicable at the installation site of the product
- All conditions and data specified for the product
- The conditions of the planned application

In addition, perform a risk assessment in view of the planned application, according to an approved risk assessment method, and implement the appropriate safety measures, based on the results of the risk assessment. Take into account the consequences of installing or integrating the product into a system or a plant.

When using the product, perform all work and all other activities in conjunction with the product in compliance with the conditions specified in the operating instructions and on the nameplate, as well as with all directives, standards and safety regulations applicable at the installation site of the product.

2.3 Predictable incorrect application

The product must never be used in the following cases and for the following purposes:

- Hazardous area (Ex)
 - If the product is operated in hazardous areas, sparks may cause deflagrations, fires or explosions
- In conjunction with products which are used for health-saving or life-saving purposes or whose operation may incur hazards to humans, animals or property

2.4 Qualification of personnel

Only appropriately trained persons who are familiar with and understand the contents of these operating instructions and all other pertinent product documentation are authorized to work on and with this product.

These persons must have sufficient technical training, knowledge and experience and be able to foresee and detect potential hazards that may be caused by using the product.

All persons working on and with the product must be fully familiar with all directives, standards and safety regulations that must be observed for performing such work.

2.5 Personal protective equipment

Always wear the required personal protective equipment. When performing work on and with the product, take into account that hazards may be present at the installation site which do not directly result from the product itself.

2.6 Modifications to the product

Only perform work on and with the product which is explicitly described in these operating instructions. Do not make any modifications to the product which are not described in these operating instructions.

3 Transport and storage

The product may be damaged as a result of improper transport or storage.

NOTICE

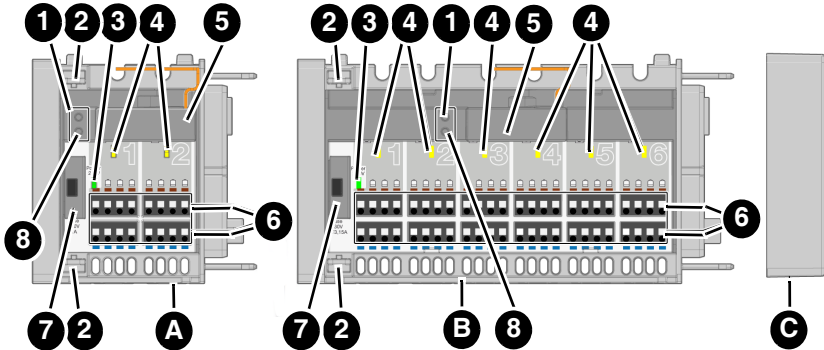
INCORRECT HANDLING

- Verify compliance with the specified ambient conditions during transport or storage of the product.
- Use the original packaging when transporting the product.
- Store the product in a clean and dry environment.
- Verify that the product is protected against shocks and impact during transport and storage.

Failure to follow these instructions can result in equipment damage.

4 Product description

4.1 Overview



A. Controller module "F2A"

B. Controller module "F6A"

C. End cover

1. Pairing key (LRN key)

2. Catch

3. Operation mains voltage (LED green)

4. Thermostatic actuator active (LED yellow)

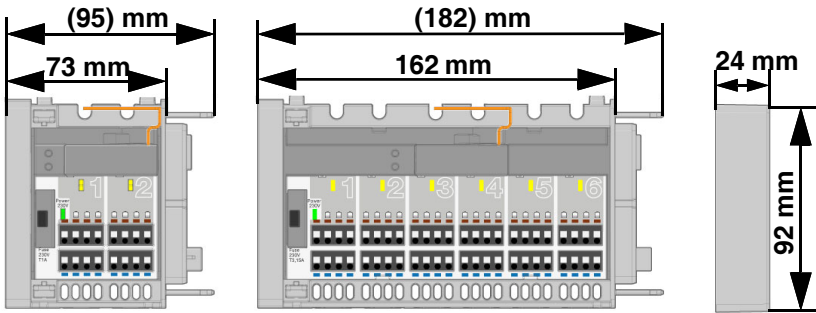
5. Wireless module

6. Terminal block for thermostatic actuators

7. Fuse compartment

8. Reset button (CLR button)

4.2 Dimensions



4.3 Application example(s)

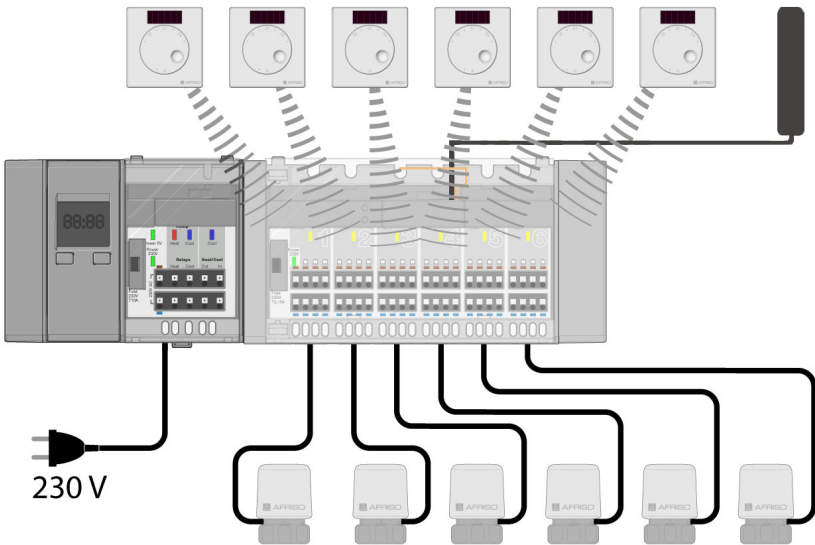


Fig. 1: Base module with controller module, timer module, room temperature sensors, external antenna and actuators

With a gateway, the room temperatures can be adjusted via the AFRISO-home app.

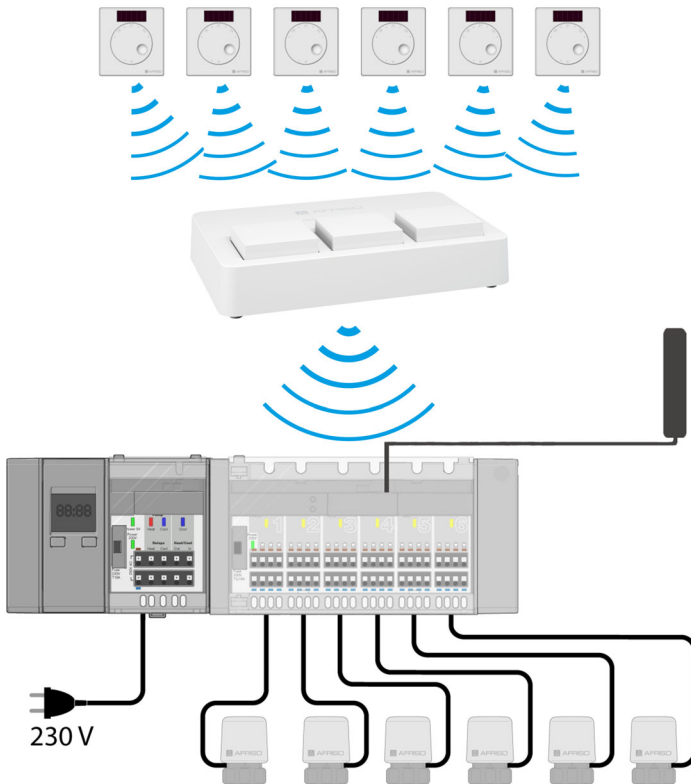


Fig. 2: Base module with controller module, timer module, room temperature sensors, gateway, external antenna and actuators

4.4 Function

CosiTherm® is a single room temperature controller used to control the temperature in rooms with underfloor heating system (heat/cool). The product is a part of CosiTherm®.

The product with 2 or 6 independent control circuits controls the thermostatic actuators via the signals of the room temperature sensors and the base module.

Multiple products with 2 or 6 control circuits can be installed adjacent to each other.

The room sensors "FT / FTF" transmit the actual temperature and the reference temperature directly to the product via wireless EnOcean® telegrams.

4.5 Approvals, conformities, certifications

The product complies with:

- EMC Directive (2014/30/EU)
- Low Voltage Directive (2014/35/EU)
- Radio Equipment Directive, RED (2014/53/EU)
- RoHS Directive (2011/65/EU)

4.6 Technical specifications

Parameter	F2A	F6A
General specifications		
Dimensions (W x H x D)	73 x 92 x 45 mm	162 x 92 x 45 mm
Weight	130 g	260 g
Housing material	PC/ABS	
Ambient conditions		
Ambient temperature operation	-20 ... 60 °C	
Ambient temperature storage	-20 ... 60 °C	
Relative humidity	< 70 % non-condensing	
Supply voltage		
Nominal voltage	via base module AC 230 V, DC 5 V	
Nominal power (controller module only)	0.3 W	0.5 W

Parameter	F2A	F6A
Fuse for thermostatic actuators	T 1 A	T 3.15 A
Permissible cable type to thermostatic actuators	H05 VV-H2-F 2 x 0.75 mm ²	
The following components may be connected to one product		
Room temperature sensor	Maximum 2	Maximum 6
Thermostatic actuators	Per control circuit a maximum of 4 AFRISO TSA*)	
Electrical data		
Protection class (EN 60730-1)	II	
Degree of protection (EN 60529)	IP 20	
EnOcean® wireless		
Frequency	868.3 MHz	
Transmission power	Maximum 10 mW	
Range	See chapter "Information on EnOcean® wireless"	
EnOcean® Profile	Generic Profile (GP)	

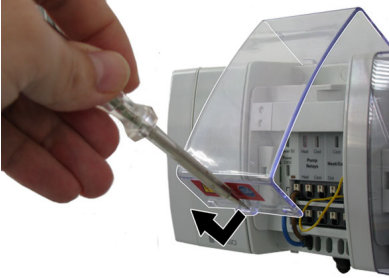
*) Note

AFRISO recommends the use of AFRISO actuators to ensure optimum system performance. If actuators from other manufacturers are used, the following limit values must be met:	
Operating voltage	AC 230 V ±10 %, 50 ... 60 Hz
Operating current	Maximum 9 mA
Inrush current	Maximum 140 mA / 200 ms
Operating power	Maximum 2 W
Special characteristic	Short-circuit proof, protected against over-voltage
Actuators of other manufacturers connected per control circuit	Maximum 2

5 Mounting

5.1 Mounting the product

⇒ Verify that the base module is disconnected from mains.



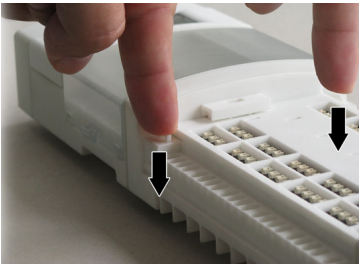
1. Open the cover using a screwdriver.



2. Pull off the end cover.

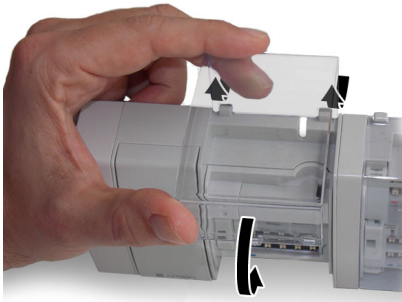


3. Connect the product to the base module.
4. Secure the product and the base module with the catch.

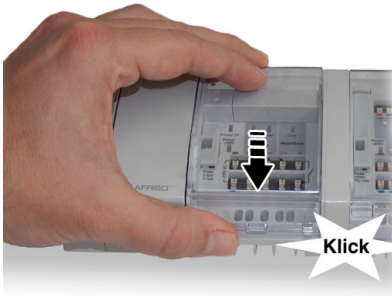




5. Refit the end cover onto the last controller module.



6. Refit the cover.
7. Close the cover.



5.2 Electrical connection



DANGER

ELECTRIC SHOCK

- Verify that the degree of protection against electric shock (protection class, double insulation) is not reduced by the type of electrical installation.

Failure to follow these instructions will result in death or serious injury.

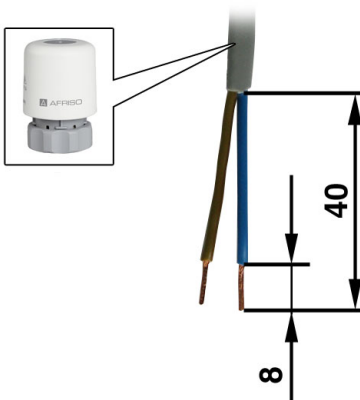


DANGER

ELECTRIC SHOCK CAUSED BY LIVE PARTS

- Disconnect the mains voltage supply before performing the work and ensure that it cannot be switched on.
- Verify that no hazards can be caused by electrically conductive objects or media.

Failure to follow these instructions will result in death or serious injury.

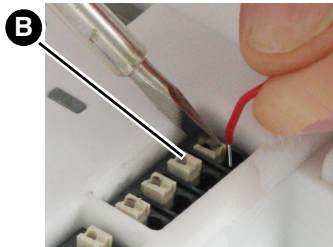
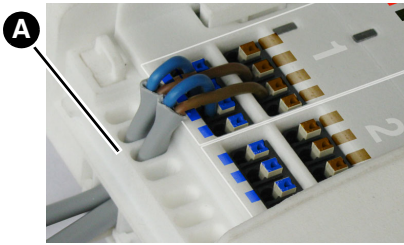


⇒ Verify that a connection concept has been created.

⇒ Verify that all cables are disconnected from power.

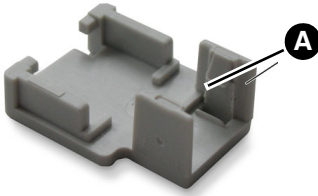
1. Strip the cables as shown.

5.2.1 Connecting the thermostatic actuators

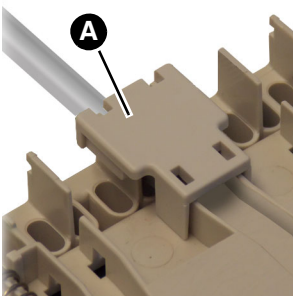
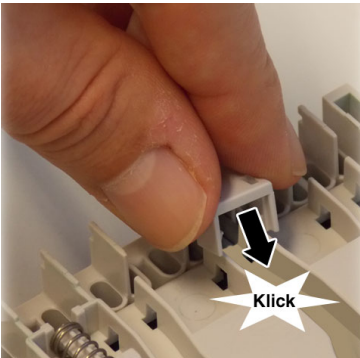
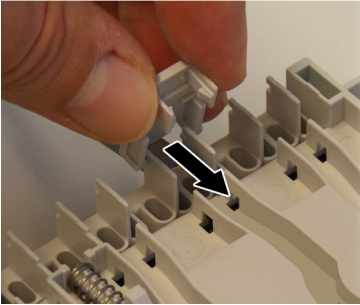


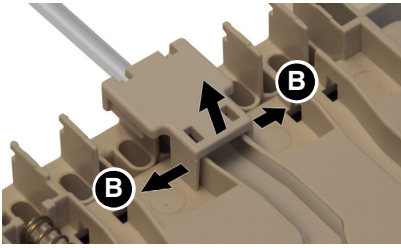
1. Route the cables of the thermostatic actuators through the strain reliefs (A) and connect the wires to the corresponding terminals (observe colour coding).
2. Push the stripped wires into the terminals all the way to the stop.
3. In the case of flexible wires or for disconnecting wires, push the catch (B).

5.2.2 Fitting the cable clamp



1. Fix the cable at the rear of the product using the cable clamp (B).
2. Repeat this procedure for all other cables.





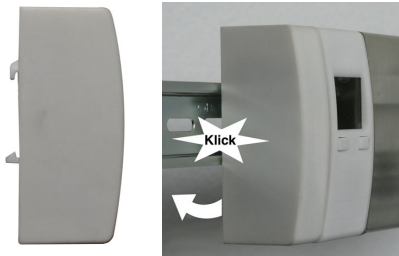
3. It is possible to open the cable clamps. To do so, pull the two tabs (B) outwards and remove the cable clamp.

5.3 Mounting modules on a DIN rail

- ⇒ Verify that all modules (base module and controller modules) are plugged together and firmly locked.
- ⇒ Verify that all cables are connected.



1. Fit the modules (base module and controller module) onto the DIN rail with the upper clamps.
2. Push the lower end of the modules (base module and controller module) towards the DIN rail until they snap in with a click.



5.4 Removing modules from a DIN rail



1. Slightly lift the modules (base module and controller modules) and tilt the top away from the DIN rail.
2. Remove the modules (base module and controller modules) towards the bottom.



5.5 Connecting the adhesive antenna

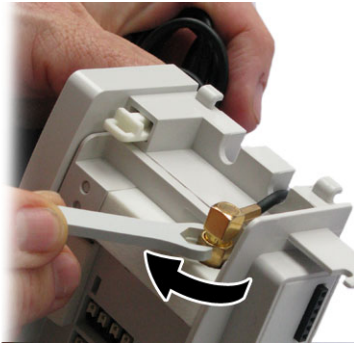
NOTICE

ELECTROSTATIC DISCHARGE

- Always earth yourself before touching electronic components.

Failure to follow these instructions can result in equipment damage.

⇒ Verify that the base module is disconnected from mains.



1. Open the cover of the product.
2. Push the antenna cable onto the wireless module and screw it on.
3. Close the cover of the product.

5.5.1 Mounting an adhesive antenna

If the conditions in the building allow for sufficient reception, you can mount the adhesive antenna in the cabinet. If no sufficient reception is possible in the cabinet, the adhesive antenna must be mounted outside of the cabinet.



⇒ To determine the required antenna position, the product must be connected to the room temperature sensors (see "Commissioning").

1. Open/remove the cover of the cabinet.
2. In order to determine the optimum position of the antenna, fix it temporarily in the cabinet using easily removable adhesive tape.
3. Close the cover of the cabinet.
4. Temporarily position the room temperature sensors in the rooms in which you will ultimately install them.
5. Set all room temperature sensors to maximum temperature and wait for at least one minute.

If the reception is sufficient with the adhesive antenna in the cabinet:

1. Open/remove the cover of the cabinet.
 - All control circuits are in heating mode.
 - The yellow LEDs light.
2. Close the cover of the cabinet.
3. Set all room temperature sensors to minimum temperature and wait for at least five minutes.
4. Open/remove the cover of the cabinet.
 - All control circuits are off.
 - The yellow LEDs are off.
5. Remove the protective film from the adhesive antenna and push the adhesive antenna onto the previously selected spot.
6. Close the cover of the cabinet.

If the reception is not sufficient with the adhesive antenna in the cabinet, the adhesive antenna must be mounted outside of the cabinet.



1. Open/remove the cover of the cabinet.



2. Drill a hole into the inside of the cabinet using a power drill.
3. Route the cable through the drilled hole.



4. Push the antenna connector onto the connection module WL and screw it on.
5. Remove the protective film from the adhesive antenna and push the adhesive antenna onto the outer edge of the cabinet.
6. Close the cover of the cabinet.

Antenna angular SMA connector (optional)



If the reception is not sufficient with the adhesive antenna in the cabinet, you can mount an antenna with an angular SMA connector at the outside of the cabinet.

5.5.2 Terminating

1. Refit the cover of the product and close it.
2. Install the room temperature sensors "FT / FTF" in the appropriate rooms. Observe the assignment room temperature sensor/control circuit/room when doing so.

6 Commissioning

6.1 Commissioning the product

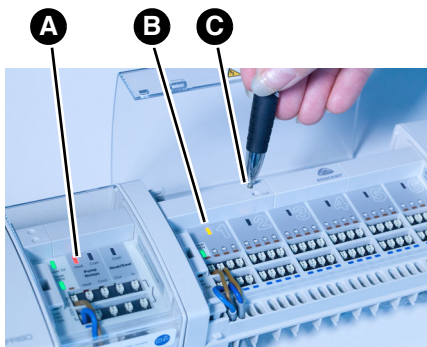
- ⇒ Verify that the modules are properly connected.
- ⇒ Verify that the product is properly mounted to the DIN rail.
- ⇒ Verify that the antenna has been properly mounted.
- 1. Apply mains voltage.
 - The green LEDs for operation of the base module and the product light up.

6.2 Connecting room temperature sensors "FT / FTF" to the product

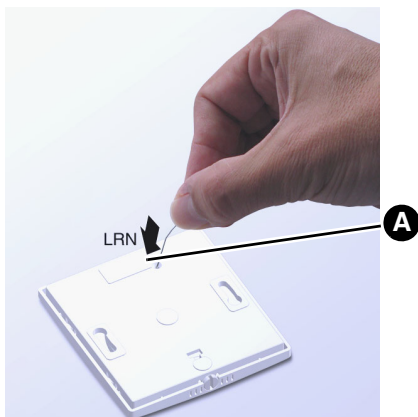
6.2.1 Preparation

- ⇒ Verify that the single room temperature controller is in operation and that the cover of the controller module has been removed.
- ⇒ Verify that the room temperature sensors "FT / FTF" have been exposed to sunlight for at least one day or that they have a battery.
- ⇒ Verify that all devices to be paired are in the vicinity of the product.
- ⇒ Verify that the rear side of each of the room temperature sensors "FT / FTF" are numbered consecutively and marked with the place of use. This helps to avoid subsequent confusion.
- ⇒ Verify that a paper clip bent open and a ballpoint pen are available.
- ⇒ Reset the controller module to the factory settings ("Unpairing all room temperature sensor/reset").

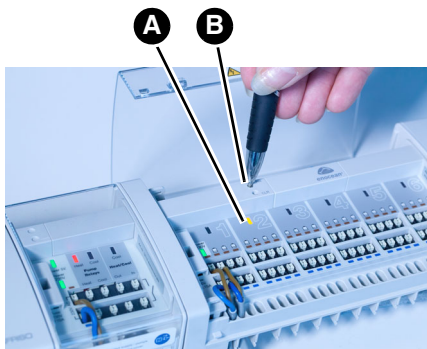
6.2.2 Pairing



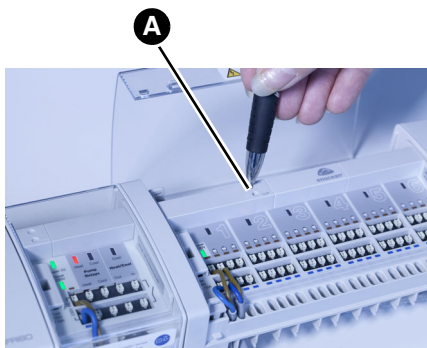
1. Press the LRN key (C) of the controller module with the tip of the ballpoint pen until the yellow LED (B) of control circuit 1 starts flashing.
 - The yellow LED (B) of control circuit 1 flashes.
 - The red LED (A) "Heat" of the base module flashes.
 - Control circuit 1 is in pairing mode.



2. Within the next 30 seconds, press the LRN key (A) of the assigned room temperature sensor "FT / FTF" with the bent open paper clip.
 - If pairing was successful, the yellow LED for control circuit 1 lights up for several seconds.
 - After successful pairing, the yellow LED for control circuit 1 flashes at intervals of one second.



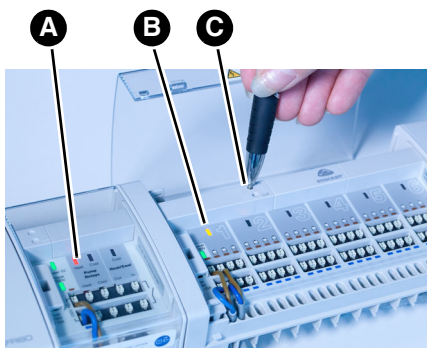
3. Press the LRN key (B) of the controller module until the LED (A) for the next control circuit flashes.
 - The next control circuit is in pairing mode.
4. Proceed as described for step 2 and the following steps.



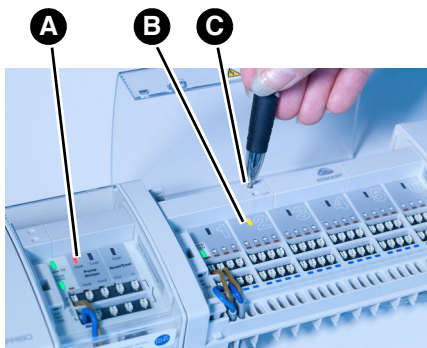
5. Once you have connected the last control circuit of the controller module, press the LRN key (A) of the controller again.
 - The controller module switches to normal operating mode.
 - No LED flashes.

If you do not press the LRN key of a room temperature sensor "FT / FTF" in pairing mode (the yellow control circuit LED flashes at intervals of one second) for a period of 30 seconds, the product automatically switches back to normal operating mode.

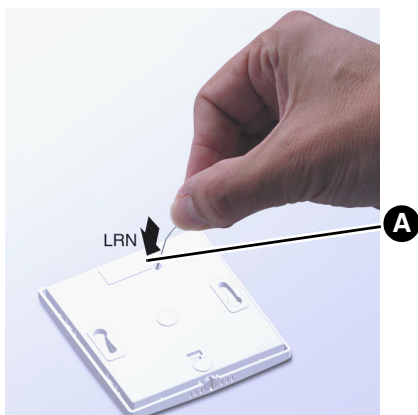
6.2.3 Unpairing



1. Press the LRN key (C) of the controller module with the tip of the ballpoint pen until the yellow LED (B) of "Control circuit 1" starts flashing.
 - The yellow LED (B) of control circuit 1 flashes.
 - The red LED (A) "Heat" of the base module flashes.
 - Control circuit 1 is in pairing mode.

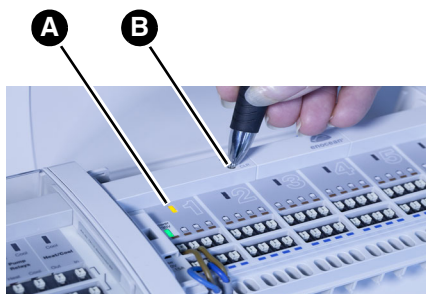


2. If you do not want to unpair control circuit 1, press the LRN key (C) of the controller module until the LED of the next control circuit (B) starts flashing. Select the control circuit this way.



3. Within the next 30 seconds, press the LRN key (A) of the assigned room temperature sensor "FT / FTF" with the bent open paper clip.
 - If unpairing was successful, the yellow LED of the control circuit goes out for several seconds.
 - After successful unpairing, the yellow LED at the control circuit flashes at intervals of one second.

6.2.4 Unpairing all room temperature sensor/reset



1. Hold down the CLR key (B) of the controller module with the tip of the ballpoint pen until the yellow LED (A) control circuit 1 starts flashing at intervals of one second.
 - All room temperature sensors "FT / FTF" paired with this product have been unpaired.
 - The product is again in pairing mode.

6.3 Function test

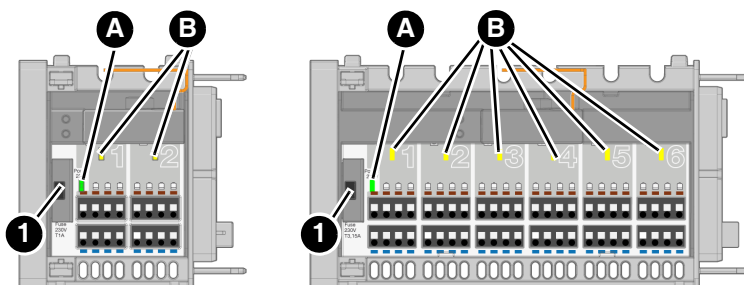
Room temperature sensor "FT / FTF"

⇒ Verify that the room temperature is between +15 °C and +25 °C. Test the room temperature sensors "FT / FTF" one after another.

1. Verify that the room temperature sensor to be tested is connected to the correct control circuit.
2. Set the room temperature sensor to +30 °C.
 - After one minute, the yellow LED lights up at the controller module to which the room temperature sensor is connected.
3. Repeat this procedure for all other room temperature sensors.

7 Operation

7.1 Overview of the LED signals



	Indication	State	Explanation
A.	Operation AC 230 V (LED green)	Solid lit	When mains voltage for the thermostatic actuators is applied.
		Goes off	In the case of power outage. If the fuse in the base module trips. If the fuse (1) trips.
B.	LED yellow	Solid lit	When the room temperature sensor "D / FT / FTF" connected to this control circuit is requesting heating energy or cooling.
		Flashes	When the control circuit is in pairing mode.

8 Maintenance

The product is maintenance-free.

9 Troubleshooting

Any malfunctions that cannot be removed by means of the measures described in this chapter may only be repaired by the manufacturer.

Problem	Possible reason	Repair
LED operation mains voltage not lit (green LED)	No mains voltage	Check the power supply
	Fuse tripped	Check the fuse
LED 5 V operation not lit (green LED)	No mains voltage	Check the power supply
	Fuse tripped	Check the fuse
Other malfunctions	Power supply unit defective	Contact the AFRISO service hotline

9.1 Replacing the fuse

⇒ Verify that the mains voltage is interrupted and cannot be switched on.



1. Open the cover using a screwdriver.

Example: Replacing the fuse in the base module.



2. Remove the fuse holder.



3. Replace the defective fuse with a G fuse insert 5 x 20 mm.



4. Insert the fuse holder into the fuse compartment.

5. Close the cover.

10 Decommissioning, disposal

Dispose of the product in compliance with all applicable directives, standards and safety regulations.

Electronic components must not be disposed of together with the normal household waste.



1. Disconnect the product from mains.
2. Dismount the product (see chapter "Mounting", reverse sequence of steps).
3. Dispose of the product.

11 Returning the device

Get in touch with us before returning your product.

12 Warranty

See our terms and conditions at www.afriso.com or your purchase contract for information on warranty.

13 Spare parts and accessories



NOTICE

UNSUITABLE PARTS







- Only use genuine spare parts and accessories provided by the manufacturer.

Failure to follow these instructions can result in equipment damage.

Product

Product designation	Part no.	Figure
Controller module "F2A"	78123	
Controller module "F6A"	78124	

Spare parts and accessories

Product designation	Part no.	Figure
Base module "BM"	78112	
Room temperature sensor FT - wireless	78111	
Room temperature sensor FTF - wireless	78119	
AFRISOhome Gateway HG02	78102	
Thermostatic actuator TSA-02	78882	
Adhesive antenna	78175	
Antenna angular SMA con- nector and coaxial cable	78168	

14 Information on EnOcean® wireless

14.1 Range of EnOcean® wireless

Visit www.enocean.com for further information on range planning with EnOcean®.

14.2 Additional information on EnOcean® wireless systems

Additional information on planning, installation and operation of EnOcean® wireless systems can be found at www.enocean.com.



- Wireless standard
- Wireless technology
- AN001
- AN102
- AN103

14.3 Features of the EnOcean® technology

Visit www.afrisohome.com for documents on EnOcean® technologies.

A variety of videos on AFRISO products can also be found on the AFRISO YouTube channel.

15 Appendix

Technik für Umweltschutz		Messen. Regeln. Überwachen.
EU - Konformitätserklärung EU Declaration of Conformity / Déclaration EU de conformité / Declaración de conformidad CE / Declaração de conformidade CE / Deklaracja zgodności UE		 Formblatt FB 27 - 03
Name und Anschrift des Herstellers: <u>AFRISO-EURO-INDEX GmbH, Lindenstraße 20, 74363 Güglingen</u> Manufacturer / Fabricant / Fabricante / Nome e endereço do fabricante / Producent:		
Erzeugnis: <u>Einzelraum-Temperaturregelung</u> Product / Produit / Producto / Produto / Produkt:		
Typenbezeichnung: <u>CosìTherm (Draht/Funk): Basis- und Reglermodule</u> Type / Type / Tipo / Tipo / Typ: <u>inkl. optionaler Module Raumfühler Draht, Uhrmodul</u>		
Betriebsdaten: <u>230V AC, 50-60 Hz, IP 20</u> Techn. Details / Caractéristiques / Características / Detalhes técnicos / Dane techniczne:		
Wir erklären in alleiniger Verantwortung, dass das bezeichnete Erzeugnis mit den Vorschriften folgender Europäischer Richtlinien übereinstimmt: We declare under our sole responsibility that the above mentioned product meets the requirements of the following European Directives: Le produit mentionné est conforme aux prescriptions des Directives Européennes suivantes: El producto indicado cumple con las prescripciones de las Directivas Europeas siguientes: O produto indicado cumpre com as prescrições das seguintes Diretivas Europeias: Wymieniony wyżej produkt spełnia wymagania następujących Dyrektyw Europejskich:		
Radio Equipment Directive, RED (2014/53/EU) RED Directive / Directive RED / Directiva RED / Diretiva RED / Dyrektywa radiowa <u>EN 301489-3:V1.6.1, EN 61000-3-2:2019, EN 61000-3-3:2020</u> <u>EN 300220-2:V3.1.1, EN 62479:2010</u>		
Elektromagnetische Verträglichkeit (2014/30/EU) Directive Electromagnetic Compatibility / Directive compatibilité électromagnétique / Directiva compatibilidad electromagnética / Diretiva sobre compatibilidade eletromagnética / Dyrektywa kompatybilności elektromagnetycznej <u>DIN EN 61326-1:2013</u>		
Niederspannungsrichtlinie (2014/35/EU) Low Voltage Directive / Directive basse tension / Directiva baja tensión / Diretiva sobre baixa tensão / Dyrektywa niskonapięciowa <u>DIN EN 60730-1:2012 (erfüllt auch / meets also DIN EN 60730-1:2017-05)</u>		
RoHS-Richtlinie (2011/65/EU) RoHS Directive / Directive RoHS / Directiva RoHS / Diretiva RoHS / Dyrektywa RoHS <u>EN IEC 63000:2018</u>		
Unterzeichner: Signed / Signataire / Firmante / Assinado por / Podpisal:		Dr. Späth, Geschäftsführer Technik Technical Director / Diretor Técnico / Dyrektor Techniczny
<u>27.1.2023</u> Datum / Date / Fecha / Data		 Unterschrift / Signature / Firma / Assinatura / Podpis
Version: 3 Index: 5	AFRISO-EURO-INDEX GmbH D-74363 Güglingen	Seite 1 von 1