homematic IP

Floor Heating Controller – 8 channels, motorised

HmIP-FALMOT-C8

EN Installation and Operating Manual

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1 Package contents

1x Floor Heating Controller – 8 channels, motorised

1x Mains cable

Operating manual

2 Information about this manual

Read this manual carefully before beginning operation with your Homematic IP device. Keep the manual for later consultation. If you hand the device over to other persons for use, please ask them to read this manual.

Symbols used


This indicates a hazard.


This section contains important additional information.

3 Hazard information


We accept no liability for damage caused by use for other than the intended purpose, incorrect handling or failure to observe the hazard warnings. In such cases, all warranty claims are void. We accept no liability for consequential damage.


Do not use the device if it has visible damage or a malfunction. If you have any doubts, have the device checked by a qualified expert.


For safety and licensing reasons (CE), unauthorised conversions to and/or modification of the device are not permitted.


The device is not a toy – do not allow children to play with it.


Plastic film, plastic bags, polystyrene parts, etc. can be dangerous for children. Keep the packaging material out of the reach of children and dispose of it immediately.


Clean the device using a soft and clean lint-free cloth. Do not use any detergents containing solvents for cleaning purposes.


Do not expose the device to moisture, vibrations, constant solar or other heat radiation, excessive cold or mechanical loads. The device must only be operated indoors.


Connect the device to an easily accessible power socket outlet. The mains plug must be pulled out if a hazard occurs.


Use the device only in permanently installed sockets with protective contacts. Do not use it in multiple socket outlets or with extension cables.


Always route cables in such a way that they do not become a risk to people, pets or domestic animals.

For safe operation, the device must be installed in a circuit distribution board that complies with the standards VDE 0603, DIN 43871 (low voltage sub-distribution board (NSUV)), DIN 18015-x. The device must be installed on a mounting rail (top-hat rail, DIN rail) in accordance with DIN EN 60715. Installation and wiring must be carried out in accordance with VDE 0100 (VDE 0100-410, VDE 0100-510). The provisions of the technical connection regulations (TAB) of the energy supplier must be observed.

The device is suitable for use only in residential environments.

The underfloor heating controller may only be operated in combination with motorised actuators (HmIP-VDMOT).

4 General system information

This device forms part of the Homematic IP Smart Home system and communicates via the Homematic IP radio protocol. All devices in the system can be conveniently and individually configured via the Homematic IP App. Operation requires the connection to a Homematic IP Access Point or . Further information on the system and on combination with other Homematic IP devices can be found in the Homematic IP *User guide*.

All technical documents and updates are to be found at *www.homematic-ip.com*.

5 Function and device overview

With the Homematic IP Floor Heating Controller – 8 channels, motorised, you can control your floor heating room by room conveniently and as required via the Homematic IP app or with a Homematic IP Wall Thermostat and thus adjust the room temperature to your individual needs.

The floor heating controller is used in conjunction with actuators(HmIP-VDMOT) to control floor heating with up to 8 heating circuits and can be operated in heating and cooling mode (provided your heating system supports this operating mode). You can flexibly mount the device using the supplied screws or on a DIN rail.

Device overview

A) System button (device LED)

B) LC display

C) Select button

D) Channel button

E) Connecting socket 230 V/50 Hz

F) Spring latches for rail mounting

G) Cover

H) Connecting socket for motorised drives

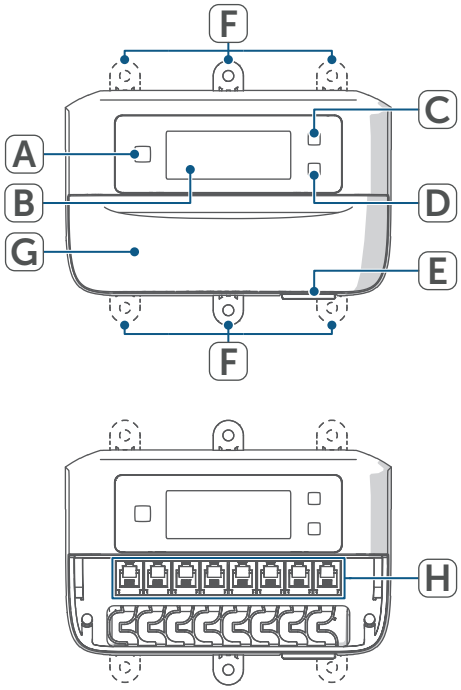

Figure 1

Cable bushings

I) Cable bushing for motorised drives

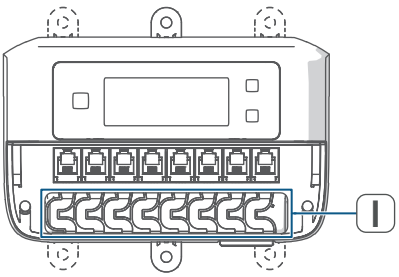

Figure 2

Display overview

- Warning about condensation
- Radio transmission
- Heating
- Cooling
- External timer active (configurable in conjunction with a Homematic IP Multi IO Box)
- % Valve position
- Valve position > 0%
- Valve position = 0%
- Open-ended wrench
- Emergency operation

You will find further information on the display symbols at *Flash codes and display indicators, page 17*.

In contrast to conventional, thermal drives, the motorised drive can move to any valve position calculated by the floor heating controller to set the desired room temperature. This achieves even thermal flow and a continuous heat output. In isolated cases, replacing conventional with motorised drives may cause flow noise at the heating manifold if the pump pressure has been set too high and the valves are only slightly open. You can eliminate this by changing the pump settings or adapting the floor heating controller parameters.

6 Start-up

6.1 Screw mounting

Make sure that there are no cables running in the wall at the desired location.

Proceed as follows to mount the device with screws:

- Please select a suitable mounting location close to your heating manifold.
- Use a pen to mark the positions of the two bore holes with a distance of 97 mm on the wall.

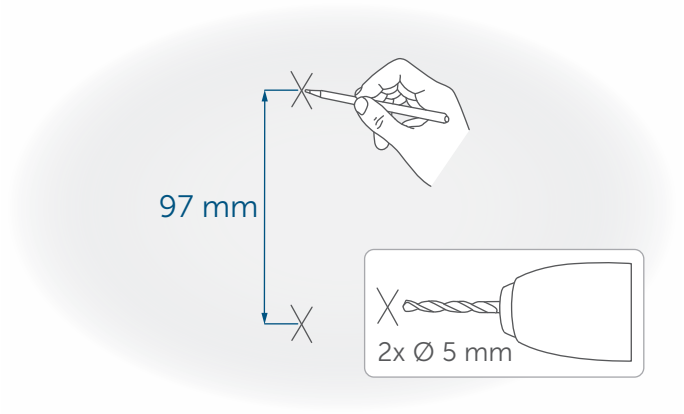

Figure 3

- Use an appropriate drill to make the 5 mm holes as illustrated.
- Insert the supplied plugs and screws into the drill holes.
- Place the underfloor heating controller on the screw heads.

6.2 Rail mounting

Proceed as follows to install the device on a DIN rail:

- Place the device on the DIN rail.
- You should be able to read the letters on the device and in the display.
- During installation, make sure that the spring latches engage properly and that the device is securely seated on the rail.

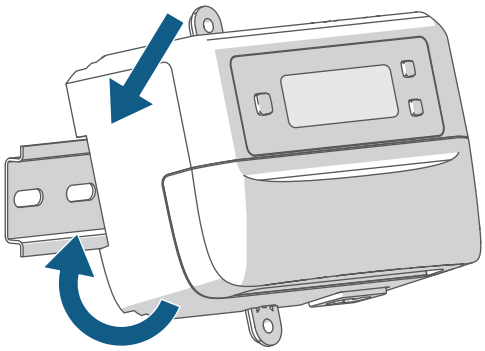

Figure 4

6.3 Installation

Proceed as follows to install the device:

- Pull the cover downwards to open it.

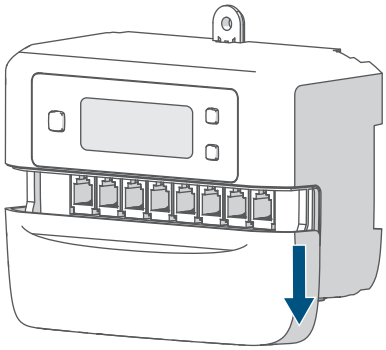

Figure 5

- Plug the mains cable into the connection socket and into the power socket.
- Connect your heating circuit valve drives' connecting cables to the connecting sockets.

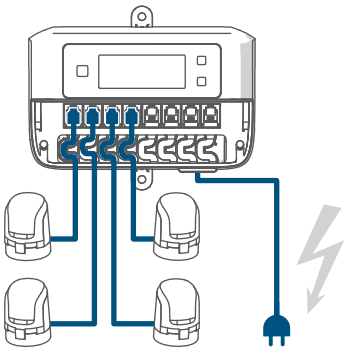

Figure 6

- Close the cover again by positioning it in the dedicated guide rail and push the cover upwards.

6.4 Behaviour after switching on the power supply

After switching on the power supply, the LC display is permanently on.

If the device has not yet been paired, pairing mode will be enabled on the floor heating controller during the first 3 minutes after the mains voltage has been switched on. You will find further information about connecting your device in the next section.

All connected valve drives are fully opened one after the other. The valve drives will then complete an adjustment run to determine the valve closing position.

Each heating zone will be shown on the display according to the valve position after a successful adjustment run.

6.5 Pairing with a control unit

Read this entire section before starting the pairing procedure.

Set up your Homematic IP Central Control Unit via the Homematic IP app so that you can use Homematic IP devices in the system. Detailed information on this is to be found in the operating manual for the Central Control Unit.

Proceed as follows to pair the device with your control centre:

- Open the Homematic IP app.
- Tap on **...More** in the homescreen.
- Tap on **Pair device**.
- The pairing mode is active for 3 minutes.

You can manually start the pairing mode for another 3 minutes by pressing the system button shortly.

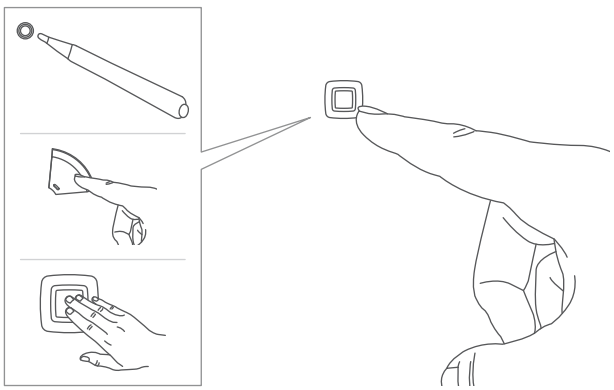

Figure 7

The type of system button depends on your device. Further information is to be found in the device overview.

- The device appears automatically in the Homematic IP App.
- Enter the last four digits of the device number (SGTIN) in your app, or scan the QR code. The device number can be found on the sticker supplied or attached to the device.
- Wait until pairing is completed.
- If pairing was successful, the device LED lights up green.
- The device is now ready for use.

If the device LED lights up red to, please try again *Flash codes and display indicators, page 17*.

- Then follow the instructions in the Homematic IP App.

6.6 Pairing with a Wall Thermostat

Read this entire section before starting the pairing procedure.

You can leave the pairing mode manually by briefly pressing the system button. This will be indicated by the device LED lighting up red.

If no pairing is performed, the pairing mode is automatically cancelled after 3 minutes.

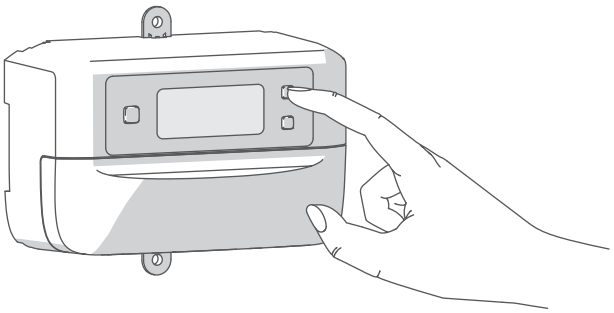

Figure 8: Pressing the Channel button

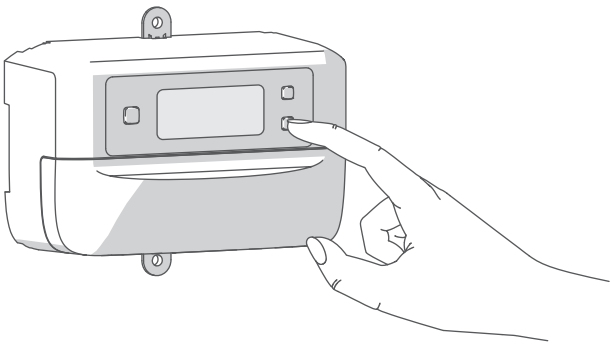

Figure 9: Pressing the Select button

Proceed as follows to pair a Wall Thermostat with a Underfloor Heating Controller:

- Select the desired channel on the underfloor heating controller with which you want to pair the wall thermostat using the channel button. Press once for channel 1, twice for channel 2, and so on. The respective channel is shown on the LC display.
- Press and hold the system button for 4 s.
- The device LED starts flashing orange fast.
- Release the system button.
- The pairing mode of the selected channel remains activate for 3 minutes.
- Press and hold the system button of the device to be paired for 4 seconds.
- The device LED starts flashing orange fast.
- Release the system button.
- The device LED lights up green to indicate that pairing has been successful.

If the device LED lights up red to, please try again *Flash codes and display indicators, page 17*.

6.6.1 Delete device connections

Proceed as follows to delete the device links between an underfloor heating controller and a wall thermostat:

- Select the channel to which the wall thermostat has been paired using the Channel button.
- Press and hold the system button and the Channel buttonof the underfloor heating controller at the same time.
- The device LED lights up green.
- Restore the factory settings of the wall thermostat (for further information, please refer to the User Manual of the wall thermostat).

6.7 Teach-in to a Homematic IP Multi IO Box(HmIP-MIOB)

Read this entire section before starting the pairing procedure.

Detailed information on Push-to-Pair and combining with other Homematic IP devices can be found at *www.homematic-ip.com/en/push-to-pair*

If you have already paired the device directly with another Homematic IP device, you must first restore the factory settings to pair it with a Homematic IP Central Control Unit *see Restoring the factory settings, page 19*.

Please make sure you maintain a distance of at least 50 cm between the devices during paring.

You can leave the pairing mode manually by briefly pressing the system button. This will be indicated by the device LED lighting up red.

- Press the Select button until the LEDs of all channels light up green.
- Press and hold the system button for 4 s.
- The device LED starts flashing orange fast.
- Release the system button.
- Pairing mode is active for 3 minutes.
- Press and hold the system button on the Multi IO Box for 4 seconds.
- The device LED starts flashing orange fast.
- Pairing mode is active for 3 minutes.
- Release the system button.
- The device LED lights up green to indicate that pairing has been successful.

If the device LED lights up red to, please try again *Flash codes and display indicators, page 17*.

If no pairing is performed, the pairing mode is automatically cancelled after 3 minutes.

6.8 Configuration using the Homematic IP Wall Thermostat

The Homematic IP Wired underfloor heating controller can be configured with the Homematic IP Wired wall thermostatHmIPW-WTHHmIP-WTH-2) or with the Homematic IP App if the underfloor heating controller has been paired with a centralised.

Use the handwheel to navigate through the configuration menu and make the configurations. Briefly press the handwheel to confirm your selection or settings.

Proceed as follows to configure the underfloor heating controller via the wall thermostat:

- Press and hold the handwheel to open the configuration menu.
- Select the “FAL” menu item.
- Confirm with the handwheel.
- Select the desired underfloor heating controller (“FALx”).
- Confirm with the handwheel.
- Please define if you would like to configure the device parameters (“UnP1/UnP2”) or the channel parameters (“ChAn”).
- Confirm with the handwheel.

All the settings that are made under “UnP1/UnP2” will be applied to the entire device. All settings that are made under “ChAn” will be applied to the single channels of the device.

- To individually configure decalcifying runs, humidity limits and heating and cooling mode details, etc., please proceed as follows.

Device parameter UnP1

Parameter	Index	Val-ue	Meaning
Day of the week for de-calcifying run	P010	0	Sunday
		1	Monday
		2	Tuesday
		3	Wednesday
		4	Thursday
		5	Friday
		6	**Saturday (default)**
Decalcifying run time	P011	0	00:00 am
		1	12:30 AM
		2	01:00 AM
		...	...
		22	**11:00 am (default)**
		...	...
		46	11:00 PM
		47	11:30 PM
Frost protection tem-perature	P024	3	Frost protection enabled
		4	2.0°C
		5	2.5°C
		...	...
		16	**8.0°C (default)**
		...	...
		19	9.5°C
		20	10.0°C

Parameter	Index	Val-ue	Meaning
emergency mode in heating mode	P026	0	0%
		1	1%
		...	...
		25	**25% (default)**
		...	...
		99	99%
		100	100%
emergency mode in cooling mode	P032	**0**	**0% (default)**
		1	1%
		...	...
		99	99%
		100	100%

Device parameter UnP2

Parameter	Index	Val-ue	Meaning
Duration/length of external pump protection function	P007	128	0 minutes
		129	1 minute
		...	...
		133	**5 minutes (default)**
		...	...
		138	10 minutes
External pump protection function interval	P051	225	1 day
		226	2 days
		...	...
		238	**14 days (default)**
		...	...
		247	23 days
		248	24 days

ChAn

Parameter	Index	Value	Meaning
Minimum floor temperature in connection with a floor temperature sensor	P045	10	5.0°C
		11	5.5°C
		...	...
		38	**19.0°C (default)**
		...	...
		59	29.5°C
		60	30.0°C
Humidity limit	P050	40	40%: humidity limit disabled
		...	...
		80	80%: humidity limit disabled
		168	40%: humidity limit enabled
		...	...
		188	**60%: humidity limit enabled (default)**
		...	...
		208	80%: humidity limit enabled
Cooling in cooling mode	P052	0	Cooling in cooling mode disabled
		1	**Cooling in cooling mode enabled (default)**
Heating in heating mode	P053	0	Heating in heating mode disabled
		1	**Heating in heating mode enabled (default)**
Selection of heating system	P055	**0**	**Standard floor heating (default)**
		1	Low energy floor heating

Further information on configuration can be found in the operating instructions for the Wall ThermostatHmIPW-WTHHmIP-WTH-2).

6.9 Pairing another underfloor heating controller

Proceed as follows to pair another underfloor heating controller:

- Press and hold the system button of the existing underfloor heating controller for 4 seconds.
- Press and hold the system button of the new underfloor heating controller for 4 seconds.
- The device system button lights up green to indicate that pairing has been successful.

If the device LED lights up red to, please try again *Flash codes and display indicators, page 17*.

- If necessary, connect the new underfloor heating controller to other Homematic IP devices, such as a Wall ThermostatHmIPW-WTHHmIP-WTH-2) or a Multi IO Box (HmIP-MIOB). For further information, please refer to the user manual of the corresponding device.

7 Operation

After commissioning, simple operating functions are available directly on the device.

- **Adjustment run**: For installation and test purposes, you can restart the adaptation journey at the individual heating zones.
  - – Select the desired channel using the Channel button.
  - – Press and hold the Select button until the display shows the Maul key for the selected channel.

You can carry out the adaptation run on all heating zones at the same time. To do this, press the Channel button until all channels appear on the display. Then press the Select button until the spanner appears in the display at heating zone “1”.

- **Open/close heating zones manually**: You can open/close the individual heating zones manually for installation and test purposes.
  - – Select the desired channel using the Channel button.
  - – Brieflypress the Select button.

  The valve of the heating zone is opened or closed for 15 minutes. Afterwards, normal operation will be continued for the heating zone.

You can open or close the valves on all heating zones simultaneously. To do this, press the Channel button until all channels appear on the display. Then press the Select button briefly.

If you have paired with a Homematic IP Central Control Unit, additional configurations are available in the device.

- **Emergency operation cooling**: Select the reduction of cooling mode in the event of prolonged communication faults between the wall thermostat and the underfloor heating controller.
- **Emergency operation heating**: Select the reduction of heating operation in the event of prolonged communication faults between the wall thermostat and the underfloor heating controller.
- **Frost protection temperature**: The frost protection function prevents the system from freezing.
- **Balancing heating zones**: Only activate the balancing heating zones option if you notice that a room with several heating circuits has different floor temperatures.
- **Assign channels**: Assign the individual channels to the desired rooms or solutions.

8 Troubleshooting

8.1 Command not confirmed

If at least one receiver does not confirm a command, the LED lights up red at the end of the failed transmission. The reason for the failed transmission may be radio interference *see General information about wireless operation*. This may be caused by the following:

- Receiver cannot be reached
- Receiver is unable to execute the command (load failure, mechanical blockage, etc.)
- Receiver is faulty

8.2 Duty cycle

The duty cycle is a legally regulated limit of the transmission time of devices in the 868 MHz range. The aim of this regulation is to safeguard the operation of all devices working in the 868 MHz range. In the 868 MHz frequency range we use, the maximum transmission time of any device is 1% of an hour (i.e. 36 seconds in an hour). Devices must cease transmission when they reach the 1% limit until this time restriction ends. Homematic IP devices are designed and produced with 100% conformity to this regulation. During normal operation, the duty cycle is not usually reached. However, repeated and radio-intensive pairing processes mean that it may be reached in isolated instances during start-up or initial installation of a system. If the duty cycle is exceeded, this is indicated by three slow red flashes of the device LED, and may manifest itself in the device temporarily working incorrectly. The device will start working correctly again after a short period (max. 1 hour).

8.3 Flash codes and display indicators

Flash code/display indicator	Meaning	Solution
1x orange and 1x green light (after connecting the power supply)	Test display	You can continue once the test display has stopped.
Short orange flashes (every 10 s)	Pairing mode active	Enter the last four digits of the device number (SGTIN) in your app, or scan the QR code.
Short orange flashes	Transmission of configuration data	Wait until the transmission is completed.
Brief orange flashing (followed by a steady green light)	Transmission confirmed	You can continue operation.
Brief orange flashing (followed by a steady red light)	Transmission failed or duty cycle limit reached	Please try again *see Command not confirmed, page 16* or *see Duty cycle, page 16*.
6x long red flashes	Device defective	Please see the display on your app or contact your retailer.
Alternating long and short orange flashing	Device software update (OTAU)	Wait until the update is completed.
Antenna symbol flashes	Communication fault with the Central Control Unit/ paired device	Replace the batteries in the wall thermostat, carry out a radio test, reposition the wall thermostat, replace a defective wall thermostat. *see Command not confirmed, page 16*
Condensation symbol flashes	Humidity input of Multi IO Box has been activated	Air the room and switch from cooling to heating mode, if required.
	Operating lock activated	Deactivate the operating lock via the app .

Flash code/display indicator	Meaning	Solution
Spanner, channel symbol and channel number flash  ■ 1	Unable to carry out adjustment run in the heating zone	Check whether the drive has been correctly installed on the valve and whether the connecting plug has been connected to the corresponding connecting socket.
Exclamation mark flashes 	Heating zone in emergency mode	Replace the batteries in the wall thermostat, carry out a radio test, reposition the wall thermostat, replace a defective wall thermostat.
Exclamation mark and antenna appear on display  	Adjustment run completed (no wall thermostat paired with this heating zone)	Pair the wall thermostat with the heating zone *see Pairing with a Wall Thermostat , page 8* or *see Pairing with a control unit, page 8*.
Channel symbol and --- are displayed 	Valve position could not be determined	Check whether the drive has been correctly installed on the valve and whether the connecting plug has been connected to the corresponding connecting socket.

9 Restoring the factory settings

The factory settings of the device can be restored. If the device is paired with a Central Control Unit, the configurations are automatically restored. If the device is not paired with a Central Control Unit, all the settings are lost.

Proceed as follows to restore the factory settings of the device:

- Unplug the mains adapter from the socket.
- Press and hold the system button for 4 seconds *Fig. 7* and at the same time plug the power supply unit into the socket
- The device LED starts flashing orange fast.
- Release the system button.
- Press and hold themenu buttonfor 4 seconds.
- The device LED lights up green.
- Release the system button to finish restoring the factory settings.

The device performs a restart.

If the device LED lights up red to, please try again *Flash codes and display indicators, page 17*.

10 Maintenance and cleaning

The device is maintenance-free for you. Leave any maintenance or repair to a specialist.

Clean the device using a soft, clean, dry and lint-free cloth. The cloth can be slightly dampened with lukewarm water to remove more stubborn marks. Do not use any detergents containing solvents for cleaning purposes. They could corrode the plastic housing and label.

11 Disposal

This symbol means that the device must not be disposed of as household waste, general waste, or in a yellow bin or a yellow sack. For the protection of health and the environment, you must take the product and all electronic parts included in the scope of delivery to a municipal collection point for waste electrical and electronic equipment to ensure their correct disposal. Distributors of electrical and electronic equipment must also take back waste equipment free of charge. By disposing of it separately, you are making a valuable contribution to the reuse, recycling and other methods of recovery of old devices. Please also remember that you, the end user, are responsible for deleting personal data on any waste electrical and electronic equipment before disposing of it.

CE The CE mark is a free trademark that is intended exclusively for the authorities and does not imply any assurance or guarantee of properties.

If you have any technical questions about the appliance, please contact your specialist dealer.

12 Technical specifications

Short description	HmIP-FALMOT-C8
Supply voltage	230 V/50 Hz
Protection class	II
Degree of protection	IP20
Ambient temperature	0 - 50°C
Weight	247.2 g
Dimensions (W x H x D)	135 x 85 x 52 mm
Withstand voltage	2500 V
Current consumption	500 mA max.
Construction of the regulation and control device: (RS)	independently mounted electronic regulation and control device, surface mount
Degree of pollution	2
Method of operation	Type 1
Temperature of ball pressure test	125°C
Temperature of glow wire test	850°C
PTI value of housing material	IIIb with 100 < CTI < 175
Number of heating zones	8
Software class:	Class A
Typical Range in open space	340 m
Radio frequency band	868.0-868.6 MHz / 869.4-869.65 MHz
Duty cycle	< 1% per h / < 10% per h
Receiver category	SRD category 2
Maximum radiated power	10 dBm

Subject to modifications.

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