

Installation and Operating Instructions

Single channel mechanical timer

MT20 Wired Timer

Control Unit 7 733 600 332

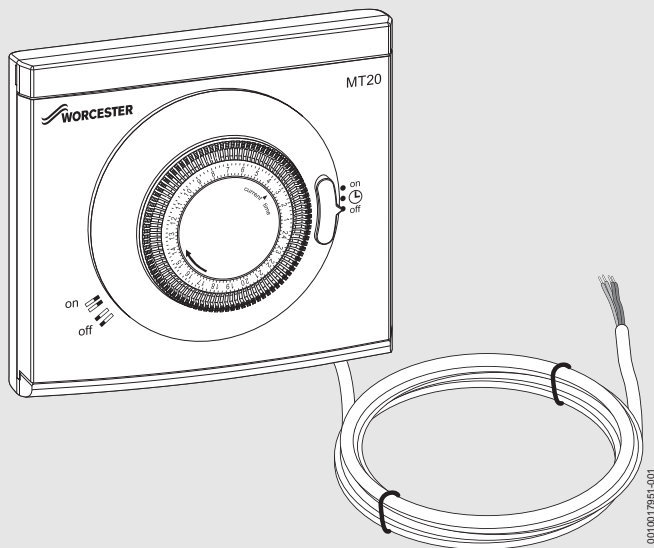


Table of contents

1 Explanation of symbols and safety instructions 2

1.1 Explanation of symbols 2

1.2 General safety instructions 3

2 Product Information 4

2.1 Scope of delivery 4

2.2 Declaration of conformity 4

2.3 Technical data 4

3 Installation 5

3.1 Prerequisites 5

3.1.1 Installation location 5

3.1.2 Prepare the MT20 unit for mounting 5

3.2 Installing the device 6

3.2.1 Mounting the wall plate 6

3.2.2 Fitting the MT20 onto the wall plate 6

4 Electrical connection. 7

5 Commissioning. 7

5.1 Function check 7

6 Environmental protection/disposal 8

7 Operation 8

7.1 MT20 overview. 8

7.2 Setting the time 9

7.3 Setting the heating times. 9

7.4 Operating mode selection 9

8 Maintenance 10

8.1 General maintenance. 10

9 Troubleshooting 10

9.1 General troubleshooting 10

10 Short operating instructions 11

1 Explanation of symbols and safety instructions

1.1 Explanation of symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimising danger are not taken.

The following signal words are defined and can be used in this document:

**DANGER:**

DANGER indicates that severe or life-threatening personal injury will occur.

**WARNING:**

WARNING indicates that severe to life-threatening personal injury may occur.

**CAUTION:**

CAUTION indicates that minor to medium personal injury may occur.

NOTICE:

NOTICE indicates that material damage may occur.

Important information



The info symbol indicates important information where there is no risk to people or property.

Additional symbols

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document
•	a list entry
–	a list entry (second level)

Table 1

1.2 General safety instructions

Instructions for the target group **Installation instructions are intended for plumbers, heating engineers and electricians:**

- ▶ All instructions must be followed.
 - Failure to comply with instructions may result in material damage and personal injury, including possible loss of life.
- ▶ Read the installation instructions (heat source, heating controller, etc.) before installation.
- ▶ Follow the safety instructions and warnings.
- ▶ Follow national and regional regulations, technical rules and guidelines.

Operating instructions are intended for the heating system user.

- ▶ All instructions must be followed.
 - Failure to comply with instructions may result in material damage and personal injury, including possible loss of life.
- ▶ Read and retain the operating instructions (heat source, heating controller, etc.) prior to operation.
- ▶ Follow the safety instructions and warnings.

Determined use

- ▶ Use the product only to control heating systems.

Any other use is considered inappropriate. We take no responsibility for damage caused through incorrect use.

2 Product Information

2.1 Scope of delivery

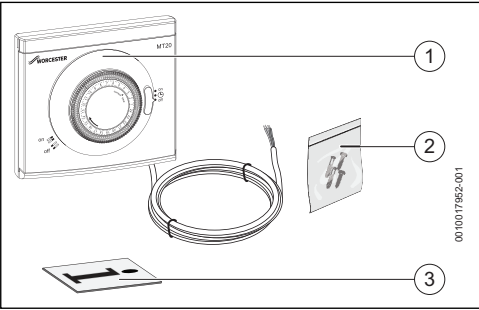


Fig. 1 MT20 scope of delivery

- [1] MT20 timer assembly
 - MT20 timer with cable
 - Top retainer
 - Wall plate
- [2] Fittings pack
 - Screws (x2)
 - Wall plugs (x2)
- [3] Instructions

Appliance compatibility

The MT20 Wired Timer is compatible with the following Greenstar appliance ranges:

- Combi wall mounted appliances
- Greenstar 8000

2.2 Declaration of conformity

The design and operating characteristics of this product comply with the European and national requirements.



The CE marking declares that the product complies with all the applicable EU legislation, which is stipulated by attaching this marking.

The complete text of the Declaration of Conformity is available on the Internet: worcester-bosch.co.uk.

2.3 Technical data

Description	Units	Receiver
Dimensions	mm	H120 x W134 x D45
Operating voltage	V	24V d.c.
Ambient operating temperature	°C	-5 to +45
Class of protection		II
Degree of protection	IP	20

Table 2 MT20 timer

3 Installation

3.1 Prerequisites

3.1.1 Installation location

The timer should be located close to the appliance.

Considerations

- Do not install within the appliance service and maintenance clearances.
- Ideally the timer should be in an easily accessible location.
- Installed in an enclose.
 - Ensure it is easy for the home owner to access the controller.
- Installation below appliance.
 - When installing the timer below the appliance be aware that residual water content from water carrying parts may be present when disconnecting components during maintenance.

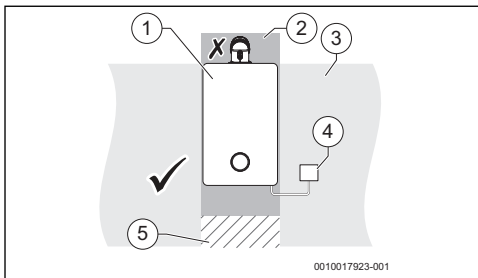


Fig. 2 Receiver installation location

- [1] Appliance
- [2] Appliance clearances (→ appliance Installation and Maintenance Instructions)
- [3] Acceptable installation area
- [4] Example location for receiver
- [5] Care should be taken installing in this area.

3.1.2 Prepare the MT20 unit for mounting

Remove the device from the box and disassemble ready to install the device.

- ▶ Remove the top retainer [2] from the wall plate [1].
- ▶ Ease the MT20 [3] up to release from the catches and lift from the wall plate [1].
 - Take care when removing the MT20 [3] to remove the MT20 cable [4] through the rear cable entry point before completely removing from the wall plate [1].

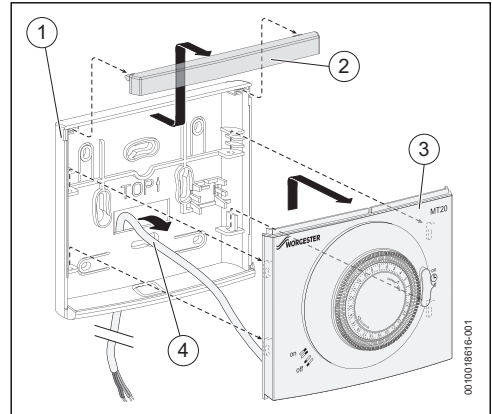


Fig. 3 MT 20 preparation before mounting

3.2 Installing the device

3.2.1 Mounting the wall plate



WARNING:

Damage to property!

Damage caused by drilling into pipes, electrical cables or other hazards.

- ▶ Ensure that there are no obstructions or other hazards before drilling.



Position the wall plate near the appliance leaving sufficient length in the cable to connect to the appliance.

- ▶ Hold wall plate level to mark securing points and remove wall plate.
- ▶ Drill holes, where marked, 30mm deep using a 6mm diameter drill bit.
- ▶ Insert the wall plugs
- ▶ Reposition the wall plate, check level and secure with screws.

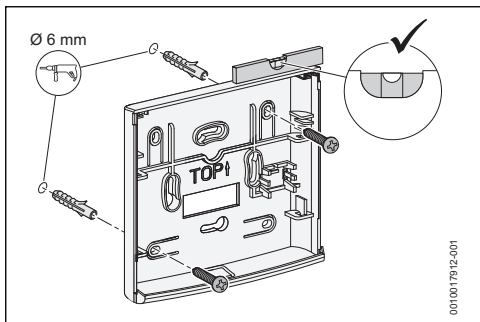


Fig. 4 Wall plate mounting

3.2.2 Fitting the MT20 onto the wall plate

Refer to figure 5.

- ▶ Cable routing can be done one of two ways, through the rear cable entry point [7].
- or-
- ▶ through the knock-out panel [6] at the bottom of the wall plate [1].
- ▶ Engage the four locating clips [5] on the back of the MT20 [4] with the four slots on the wall plate [1].
- ▶ Push the MT20 [4] down into the body of the wall plate [1] to secure.
- ▶ Engage the tabs [2] on the top retainer [3] into the slots on the wall plate [1] and push down onto the MT20 [4] to secure.

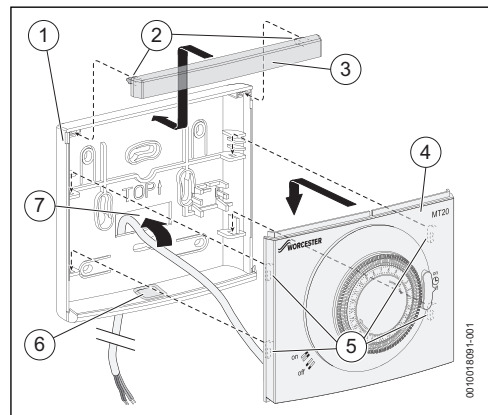


Fig. 5 Fitting the MT20 to the wall plate

4 Electrical connection

NOTICE:

Electrical connection

Low voltage (signal voltage) connections only.

- ▶ Do not connect the MT20 to the appliance or external 230V supply.

Connect the MT20 cable to the appliance.

Refer to figure 6.

- ▶ Follow the appliance instructions for connecting to the low voltage (signal voltage) connections side on the appliance control unit.
- Blue wires [1]
 - Connect to the blue plug  LV ON/OFF thermostat connection.
- Orange wires [2]
 - Connect to the orange plug  EMS-BUS connection.

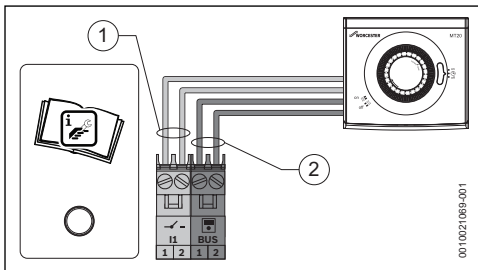


Fig. 6 Connecting the MT20

- [1] Blue wires ( LV ON/OFF thermostat connection)
 [2] Orange wires ( EMS-BUS connection)

5 Commissioning

5.1 Function check

- ▶ Move the selector switch [1] to the **on** position.
 - Ensure the room thermostat is set to maximum temporarily for this function test.

The appliance will fire.

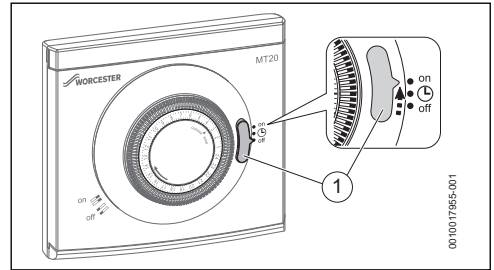


Fig. 7 Function test

- ▶ Set the heating times to the end user's requirements.
 - → section 7.3 "Setting the heating times"
 - Record new time settings in the table provided in the section.
- ▶ Move the selector switch [1] to the Timed  position.
- ▶ Set the room thermostat back to the end user's preference.

6 Environmental protection/disposal

Environmental protection is a fundamental corporate strategy of the Bosch Group.

The quality of our products, their economy and environmental safety are all of equal importance to us and all environmental protection legislation and regulations are strictly observed. We use the best possible technology and materials for protecting the environment taking account of economic considerations.

Packaging

Where packaging is concerned, we participate in country-specific recycling processes that ensure optimum recycling. All of our packaging materials are environmentally compatible and can be recycled.

Used appliances

Used appliances contain valuable materials that can be recycled. The various assemblies can be easily dismantled. Synthetic materials are marked accordingly. Assemblies can therefore be sorted by composition and passed on for recycling or disposal.

Old electrical and electronic appliances



This symbol indicates that the product must not be disposed of with other waste, but be taken to the waste collection centers for treatment, collection, recycling and disposal procedure.

The symbol applies to countries with electronic waste regulations, for example the European Waste Electrical and Electronic Equipment Directive 2012/19/EU. These regulations determine the framework for the return and recycling of used electronic appliances as applicable within each country.

As electronic equipment may contain hazardous substances, it needs to be recycled responsibly in order to minimize any potential harm to the environment and human health. Furthermore, recycling of your electronic waste will help to conserve natural resources.

For additional information on the environmentally safe disposal of electrical and electronic equipment, please contact the relevant local authorities, your household waste disposal service or the retailer where you purchased the product.

For additional information, please visit:
www.veee.bosch-thermotechnologie.com/

7 Operation

7.1 MT20 overview

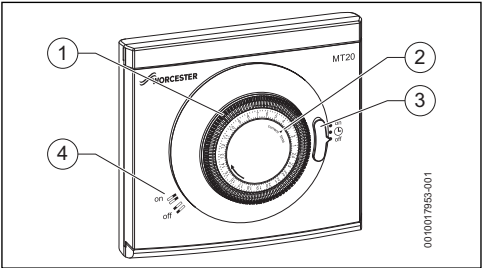


Fig. 8 MT20 overview

1		Outer ring with tappets (Each tappet represents 15 minutes) ON timed periods • Move tappets to inside edge of outer ring for desired period. OFF timed periods • Move tappets to outside edge of outer ring for desired period.
2		Current time arrow (shows the current time)
3		Mode select ON
		Mode select Timed - automatically switches between on and off periods according to tappet settings on outer ring.
		Mode select OFF
4		ON tappet example (moved towards the centre)
		OFF tappet example (moved towards outer)

Table 3 Overview descriptions

7.2 Setting the time

NOTICE:

Risk of damage to mechanical clock

The unit may be damaged if you rotate the outer ring anticlockwise.

- ▶ Only rotate the outer ring clockwise (direction shown on clock face).
- ▶ Rotate outer ring [1] in direction of arrow (clockwise) until the 24 hour pointer [2] displays the correct time.

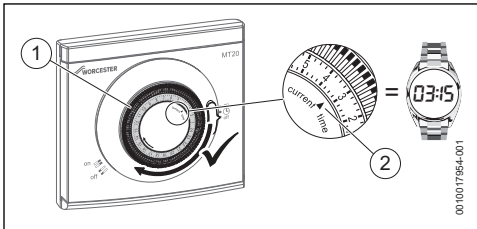


Fig. 9 Setting the current time

7.3 Setting the heating times



Each tappet represents 15 minutes.

Using the 1 to 24 hour marks [1] on the outer ring to set the tappets [2].

- ▶ Move the tappet inwards [3] for ON periods.
- ▶ Move the tappet outwards [4] for OFF periods.

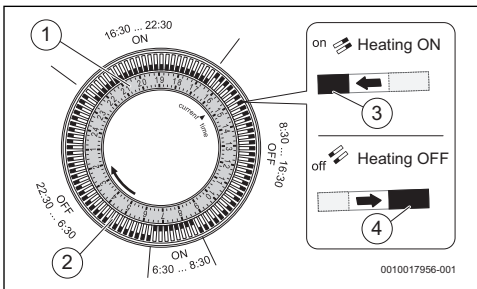


Fig. 10 Setting the heating times

Operation	Pre-set	User defined times		
ON	06:30			
OFF	08:30			
ON	16:30			
OFF	22:30			
ON	-			
OFF	-			
ON	-			
OFF	-			

Table 4 Times

7.4 Operating mode selection

- ▶ Move the selector switch [1] to set the required mode:
 - OFF
 - Constant off (no heating)
 - Timed ⌚
 - Switches between and uses both ON and OFF periods according to the tappets.
 - ON
 - Constant on (available for a heating demand, in conjunction with a room thermostat)

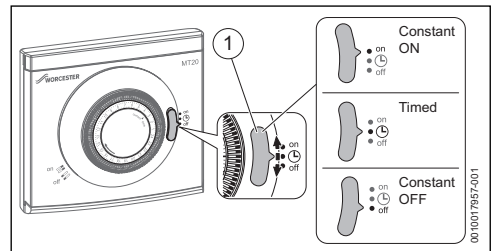


Fig. 11 Operating mode selection

8 Maintenance

8.1 General maintenance

- ▶ Wipe outer casing with a clean dry cloth, do not use polish or detergents.

9 Troubleshooting

9.1 General troubleshooting

Should you experience a lose of power to the appliance or household:

- please check that the time setting is correct.

Should the existing unit fail to function correctly, check:

- the clock time and heating time settings are correct.
- the third party room thermostat is not set too low.
 - Refer to manufacturers instructions for the room thermostat.

10 Short operating instructions

Setting the time

- ▶ Rotate outer ring in direction of arrow (clockwise) until the clock face and the 24 hour pointer display the correct time.

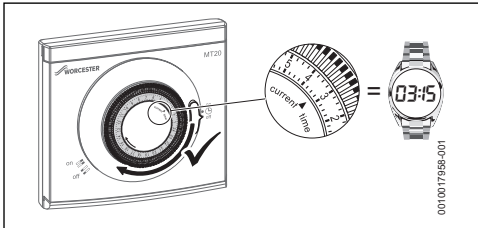


Fig. 12

Setting the heating time

- ▶ Move the tappet inwards [1] for ON periods.
- ▶ Move the tappet outwards [2] for OFF periods.

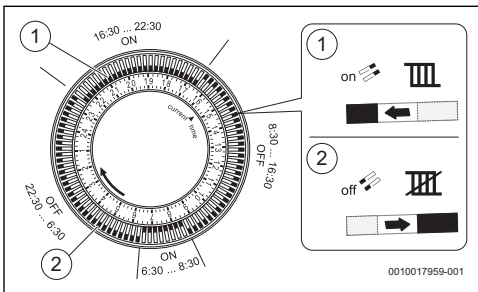


Fig. 13

Selecting the operating mode

- ▶ Move the selector switch to set required mode.
 - Constant ON [on]
 - Timed [⌚]
 - Constant OFF [off]

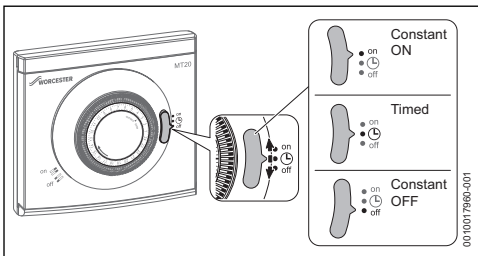


Fig. 14

TECHNICAL SUPPORT: 0330 123 3366
RENEWABLE SUPPORT: 0330 123 9229
CONTROLS AND CONNECTIVITY TEAM: 0330 123 3641
APPOINTMENTS: 0330 123 9339
SPARES: 0330 123 9779
LITERATURE: 0330 123 9119
TRAINING: 0330 123 0166
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