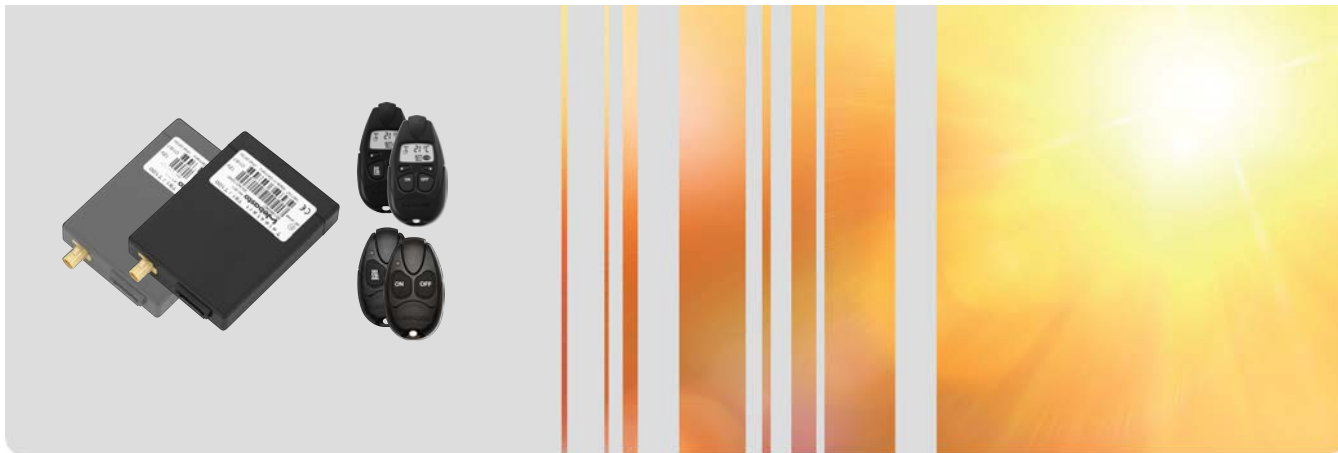


Installation Instructions

Telestart



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1 About this document

1.1 Purpose of the document

These instructions are part of the product and contain all the information required to ensure correct and safe installation.



NOTE

The actual availability of these functions depends on each installed heater.



NOTE

Carefully read through and follow the heater Installation Instructions and the safety information contained therein.

1.2 Using this document



The requirements of this document must be observed when installing the heater. The workshop manual must be followed when carrying out work to the heater.

To access further documents use one of the following options:

The Webasto Dealer Portal

(<https://dealers.webasto.com>)

Webasto Service app (for installation)

To download this app:

- scan the QR code below or



- go to:
<https://apps.apple.com/> (Apple App Store) or
<https://play.google.com/> (Google Play Store) as appropriate.

To use the Webasto Service App and access the online Webasto technical documentation, scan the QR code or the barcode on your Webasto product box.

Operating instructions are also available from the Webasto website at www.webasto.com. These instructions are available in a variety of other national languages on the Webasto website.

2 Use of symbols and highlighting

Texts with the symbol refer to separate documents which are enclosed or are available from Webasto at <https://dealers.webasto.com>.

- Texts with the symbol refer to technical features.
- Texts with the symbol or refer to possible material damage, risk of accident or injury.

- Texts with the symbol describe a requirement for the following necessary action.
- Texts with the symbol describe an action.

3 Warranty and liability

Webasto shall not assume liability for defects or damage that are the result of the installation and operating instructions, and the instructions in this document, being disregarded. This liability exclusion particularly applies for:

- mechanical damage to the equipment
- Maintenance by untrained personnel
- Conversion of the unit without permission from Webasto.
- Improper use.
- Use of non-genuine replacement units.
- Repairs or device replacement not carried out by a Webasto service workshop.
- Use of unsuitable accessories.
- Insufficient coolant supply before, during and after heating mode.

4 Intended use

The control element Telestart is currently approved for the following applications: Switching Webasto water heaters on and off.

5 General safety information



DANGER

Danger of explosion

In environments with combustible vapours, flammable dust and hazardous goods (e.g., petrol stations, tank facilities, fuel store, coal bunkers, timber yard or grain warehouses).

- ▶ Do not switch on or operate the heater.



DANGER

Danger of poisoning and suffocation

Do not operate the heater in closed rooms that do not have an exhaust extraction unit.

- ▶ Do not switch on or operate the heater, also not with programmed heating start.



DANGER

Risk of injury from the defective unit

Do not operate a defective heater. Put it out of service by removing the fuse.

- ▶ Contact a Webasto service workshop.



DANGER

Danger of scalding from leaking hot coolant

Scalding on opening the coolant circuit. The vehicle coolant circuit is pressurised.

- ▶ Allow the coolant to cool before working on the vehicle coolant system.



DANGER

Hazardous material vehicles (ADR) must not be switched on or off using a timer control or remote control.



DANGER

Overheating possible

An emergency off switch may only be actuated in the event of danger since the heater will be switched off without after-running period.



WARNING

Overheating

Insufficient bleeding can lead to a malfunction resulting from overheating in heating mode.

Take care when bleeding the coolant system.

Always bleed:

- Before first commissioning the heater
- After replacing the coolant



NOTE

Correct bleeding can be identified by the fact that the coolant pump is making very little noise.



DANGER

Risk of fire from flammable materials or liquids in the hot air flow.

- ▶ Keep the hot air flow clear.

**NOTE****Incorrect handling**

- ▶ Protect the heater against mechanical stress (e.g. dropping, impacts or knocks).
- ▶ Do not place any objects on top of the heater.
- ▶ Avoid shutting down the heater incorrectly during the after-running period. After switching off via the control element, the fan of the heater keeps running for approx. 60 seconds.
- ▶ Always switch off the heater via the control element.
- ▶ Do not disconnect from the power supply until the after-running period has elapsed.
- ▶ Cables damaged on sharp edges can cause short-circuits.
- ▶ Fit protectors on sharp edges.

6 Installation overview

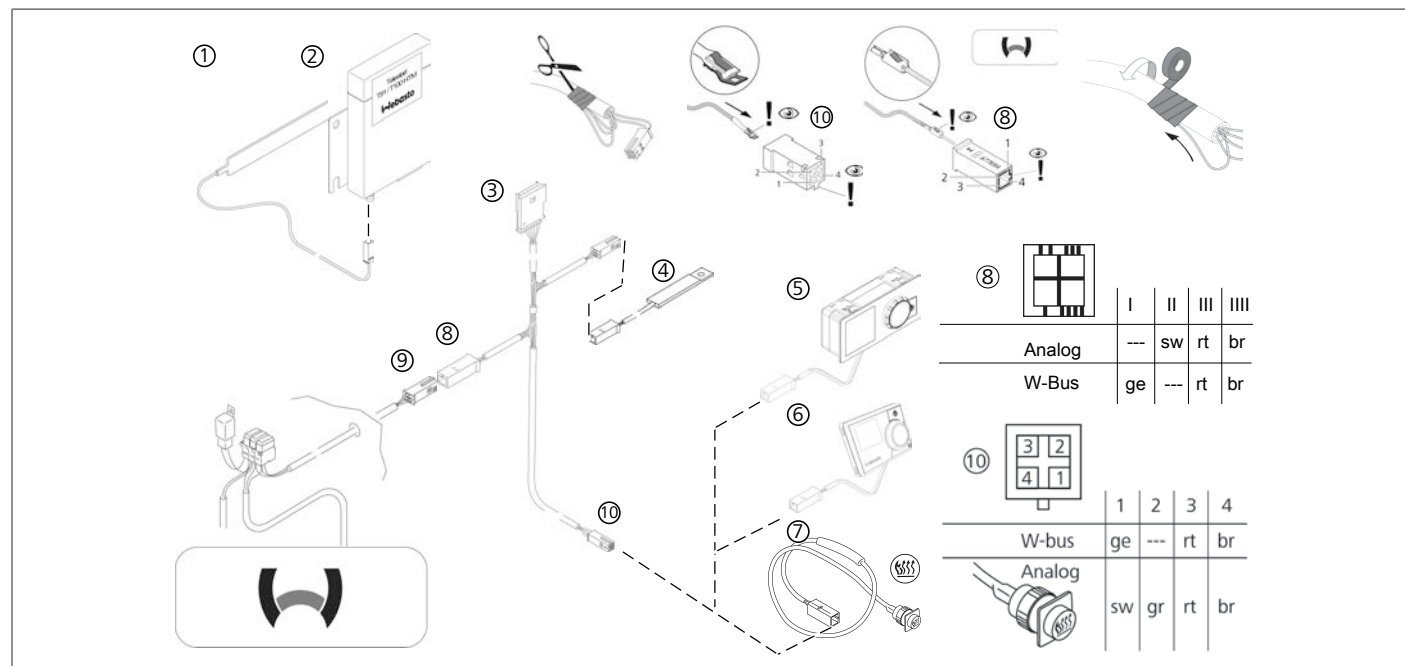


Fig.1 Installation overview

- | | | |
|---|-----------------------------|--------------------------------------|
| 1 Aerial | 5 UniControl (optional) | 9 Connector of heater wiring harness |
| 2 Telestart receiver | 6 MultiControl (optional) | 10 Female connector ESVT cable |
| 3 ESVT adapter (Telestart wiring harness) | 7 Push button (optional) | |
| 4 Temperature sensor (T100 HTM) | 8 Male connector ESVT cable | |

7 General

These installation instructions describe the initial installation and upgrade of a Webasto Telestart receiver for Webasto heaters.



NOTE

If another Webasto control element is not provided, the push button must be installed.



NOTE

The settings of the Telestart that is installed with a push button or with another Webasto control element are different.

See chapter 9.4.1 *Setting the Telestart control*.

8 Scope of Delivery

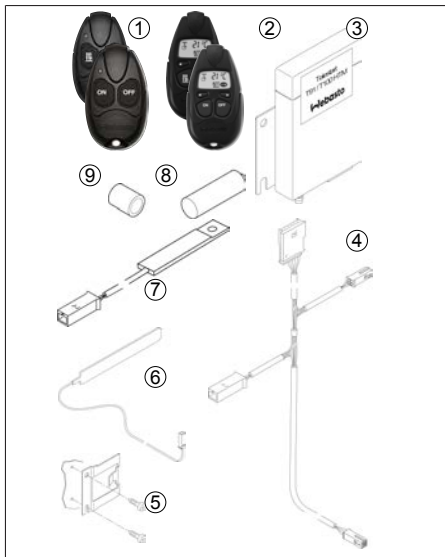


Fig.2 Scope of Delivery

No.	Individual parts	T91	T100 HTM
1	T91 transmitter	x	-
2	T100 HTM transmitter	-	x
3	Telestart (receiver)	x	x
4	ESVT adapter (Telestart wiring harness)	x	x
5	Mounting bracket	x	x
6	Aerial	x	x
7	Temperature sensor	-	x
8	Battery 6 V	-	x
9	Battery 3 V	x	-

- ▶ Remove Telestart from the packaging.
- ▶ Check the completeness of the delivery.
- ▶ Check the complete delivery for damage.

8.1 Control elements (optional)

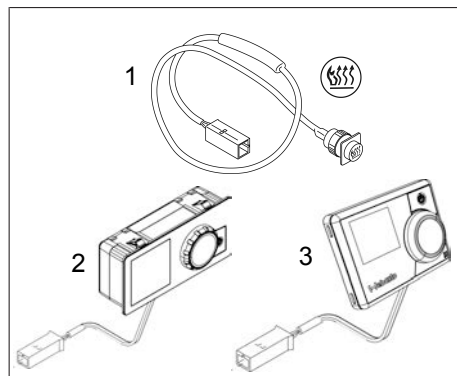


Fig.3 Operation examples

- 1 Push button (optional)
- 2 UniControl (optional)
- 3 MultiControl (optional)



DANGER

Danger of fire and explosion

- One of the control elements shown must be installed in addition to the Telestart to be able to switch off the heater in an emergency.

9 Installation

9.1 Installing the Telestart receiver



NOTE

The Telestart must be installed in the interior of the vehicle.

- Determine the installation location of the Telestart in the passenger compartment of the vehicle (when retrofitting, preferably near the control element or push button).
- Fasten the mounting bracket using self-tapping screws



NOTE

Do not damage any electric cables or pipes while drilling.

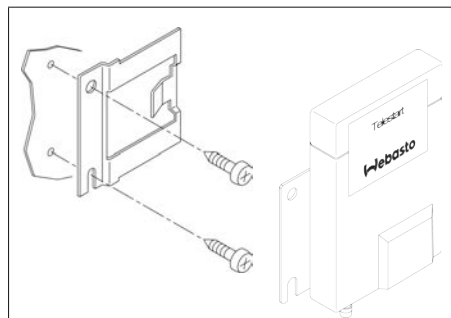


Fig.4 Mounting bracket

- Install the receiver on the mounting bracket.

9.2 Installing the aerial

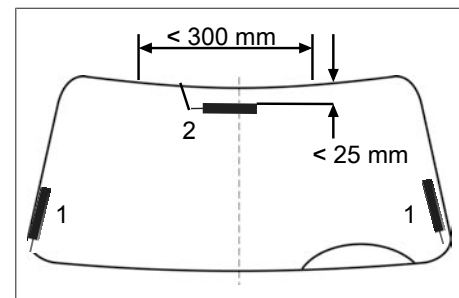


Fig.5 Installation location of the aerial, front or rear window

- 1 Preferred installation position
- 2 Optional installation position



NOTE

The aerial must not be mounted more than 150 mm away from the centre of the window on the left or right side. If it is installed at a different location, a loss of range must be expected.

- Maintain a minimum distance of 20 mm $\pm$ 5 from the body panel (for optimum reception).
- Install the aerial cable as follows: route the aerial cable under the vehicle headliner trim, along the left or right under

the crossbeam trim to under the instrument panel to the Telestart receiver and plug it in.



NOTE

Clean the windscreen with a degreasing cleaner (e.g. spirit).



NOTE

Do not shorten or bend the aerial cable (smallest winding diameter 50 mm).

9.3 Installing the ESVT adapter (Telestart wiring harness)



NOTE

The settings of the Telestart that is installed with a push button or with another Webasto control element are different.

See chapter 9.4.1 *Setting the Telestart control*.

- ✓ The ESVT adapter has been adapted (for W-bus, analogue or push button). The lines at the ESVT adapter were pinned in: see chapter 6 *Installation overview*.
- ▶ Route the ESVT adapter in the passenger compartment under the vehicle's instrument panel.

- ▶ Connect the heater wiring harness: route the 4-pin connector from the heater wiring harness (control element connection) into the vehicle interior. See wiring diagram and installation instructions for the heater.
- ▶ Connect the control element connector: connect the ESVT adapter to the 4-pin connector of the control element or push button.
- ▶ Connect the Telestart receiver: connect the ESVT adapter to the Telestart receiver
- ▶ **Only for the Telestart temperature sensor (T100 HTM option):** connect the ESVT adapter to the temperature sensor

9.3.1 Adjusting the ESVT adapter (Telestart wiring harness) pin assignment



NOTE

The pins are factory mounted on the wires of the ESVT cable.

- ▶ Adjust the ESVT adapter provided by "pinning" it to the existing installation situation (select control elements and heater).
- ▶ Please note chapter 6 *Installation overview*.



For connecting Webasto control elements via W-bus or analogue connection, see the document 'Additional instructions for pin assignment' (<https://dealers.webasto.com>)

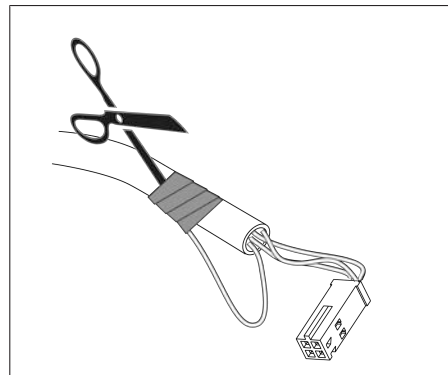


Fig.6 Detaching the ESVT cable insulation

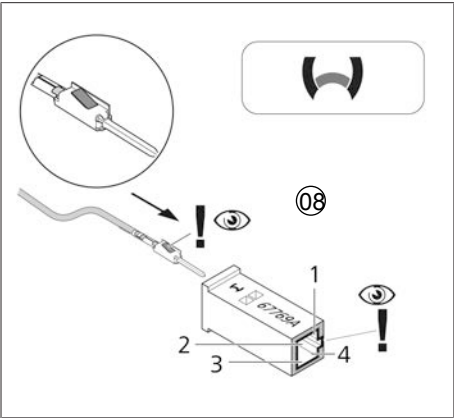


Fig.7 Male connector for heaters

⑧		I	II	III	IIII
Analog		---	sw	rt	br
W-Bus		ge	---	rt	br

Fig.8 Male connector ESVT cable

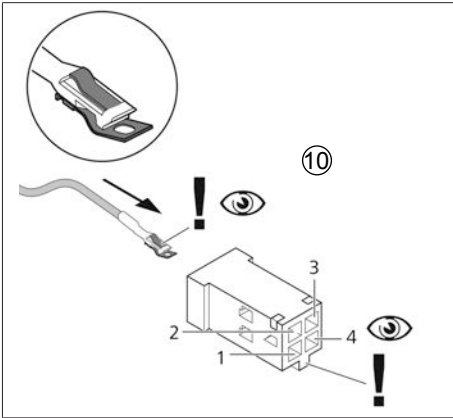


Fig.9 Female connector ESVT cable for second control element

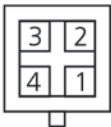
⑩		1	2	3	4
W-bus		ge	---	rt	br
Analog		sw	gr	rt	br

Fig.10 Female connector ESVT cable

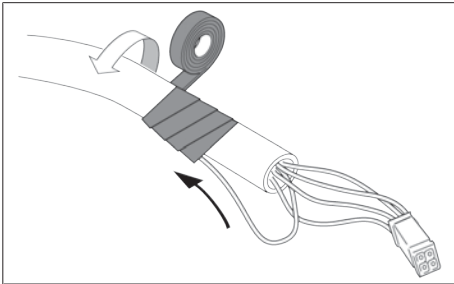


Fig.11

- Observe the following requirements:
1. Strip the tied-back wires, as necessary, at both connectors toward the heater and control element.
 2. Pin the required wires into the connection plugs according to the specifications in the figures.
 3. Tie back and re-insulate the unnecessary wire ends.

9.3.2 Cable colours

Abbrevi- ation	Colour	Abbrevi- ation	Colour
br	brown	rt	red
ge	yellow	sw	black
gr	grey		

9.4 Installing the control element

9.4.1 Setting the Telestart control



NOTE

Only change it if:

- A push button is installed
- A push button is replaced by another Webasto control element

The Telestart factory setting is set at the factory for operation together with a Webasto control element.

The control depends on the heater version (W-bus or analogue).

The Telestart control must be set once during initial start-up:

- Initial start-up for installation with a push button, see chapter 9.4.4 *Changing the switching input to push button*.
- Initial start-up for installation with another Webasto control element: no change is necessary.

9.4.2 MultiControl and UniControl

- ▶ Connect the control element to the connector of the ESVT adapter.

9.4.3 Installing the control element push button

- ✓ Other optional Webasto control element must not be used.

- ✓ The ESVT adapter is pinned according to the specifications for push buttons, see chapter 9.3 *Installing the ESVT adapter (Telestart wiring harness)*.
- ▶ Route and install the ESVT adapter.
- ▶ Drill a 16mm dia. hole at the installation location agreed with the customer.
- ▶ Install the push button
- ▶ Connect the ESVT adapter to the connection plug on the push button.

9.4.4 Changing the switching input to push button

The 4-pin control element connection is fused in the heater wiring harness. The fuse is usually located in the engine compartment next to the main fuse of the heater depending on the installation.

- ✓ The ESVT adapter has been installed and connected (installation with push button).
- ▶ Carry out the following steps:

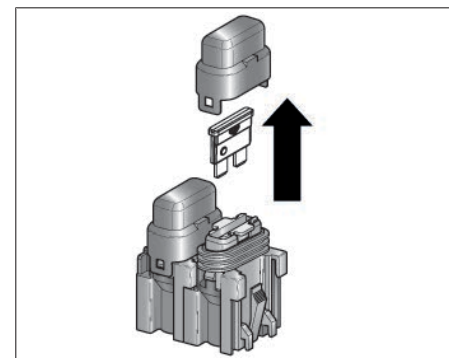


Fig. 12 Pull the fuse (example)

- ▶ Determine the fuse installation position of the Telestart module (image serves as an example, in the heater's wiring harness).
- ▶ Pull the fuse of the Telestart module.

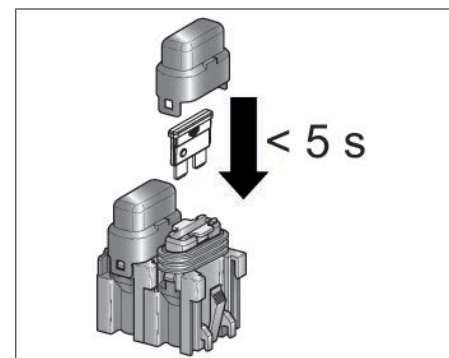


Fig. 13 Reset the fuse (example)

- ▶ Reset the fuse (do not wait longer than 5 s)

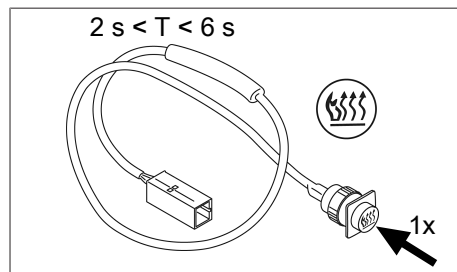
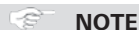


Fig. 14 Press the push button

- ▶ Briefly press the push button 1x after around 2 s, but within 6 s.

The Telestart is now set for operation with a push button.

10 Telestart retrofitting



NOTE

Do not pull the wires.

- ▶ Detaching from the connector and socket.

- ✓ A heater has been installed.
- ▶ Remove the 4-pin connector of the control element
- ▶ Only strip and pin the cable on the ESVT adapter if the heater has an analogue connection.

- ▶ Connect the ESVT adapter between the heater and control element. See chapter 9.3 *Installing the ESVT adapter (Telestart wiring harness)*.

10.1 Changes for retrofitting the control element



NOTE

The control element must only be replaced with a control element with W-bus capability if it is used in an application with a push button:

- ▶ Always have the W-bus line (yellow) pinned to the ESVT adapter.

The 4-pin control element connection is fused in the heater wiring harness. The fuse is usually located in the engine compartment next to the main fuse of the heater depending on the installation.

- ✓ The ESVT adapter has been installed and connected.
- ✓ The push button has been removed and the W-bus or analogue control element is installed.
- ▶ Carry out the following steps:
 - ▶ W-bus heater:
 1. Remove the fuse of the control element connection from the heater fuse holder (receiver voltage interruption).
 2. Wait at least 5 seconds.
 3. Reinsert the fuse.

The Telestart is now set for operation with a W-bus control element.

- ▶ Analogue heater:

1. Remove the fuse of the control element connection from the heater fuse holder (receiver voltage interruption).
2. Wait at least 5 seconds.
3. Reinsert the fuse.
4. Briefly press the "Instant heating" push button on the Webasto control element 1x after around 2 seconds, but within 6 seconds (display lighting illuminates).
5. Briefly press the "Instant heating" push button after 10 seconds (display lighting goes out).

The Telestart is now set for operation with an analogue control element.

11 T100 HTM temperature control

11.1 Installing the temperature sensor

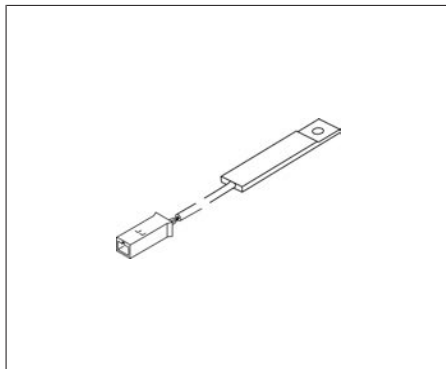


Fig.15 Temperature sensor

- ✓ The representative passenger compartment temperature of the vehicle is to be measured.
- Install the temperature sensor for this as follows:
 - At a location without direct sunlight
 - Not near the air outlet of the vehicle heating system
 - Determine the installation location of the temperature sensor in the passenger compartment of the vehicle (observe the available cable length)

- Fasten the temperature sensor with a 3.5 mm diameter self-tapping screw (max. torque 1 Nm)

11.2 Basic comfort level settings

- Teach the Telestart T100 HTM according to the operating instructions.
- Set the T100 HTM according to the recommended basic settings, the operating instructions and depending on the type of vehicle and heater used (see table).

Max. heat flow of the heater

	4 kW	5 kW	5 kW (1)
Compact car	C3	C2	C1
Mid-size car, minivan, saloon	C4	C3	C2
Full-size car, van, SUV	-	C4	C3

(1): With coolant pump pulsing

12 Statutory regulations governing installation

Regulation	Typ approval number
ECE R10	E1 10R - 047488 for 868 MHz
ECE R10	E1 10R - 046949 for 869 MHz

The stipulations of these regulations are binding in the area covered by Regulation (EU) 2018/858 and should also be observed in countries where there are no specific regulations. Failure to follow the operating and installation instructions and the notes contained therein will lead to all liability being refused by Webasto.



WEEE directive This product must not be disposed of with normal household waste.

Dispose of this product according to the applicable rules and regulations. Information about proper disposal is provided by the municipal authorities, the responsible household waste recycling centre and/or your local distribution partner.

The provisions of these regulations are binding within the scope of EU Regulation 2018/858 and should also be observed in countries where there are no special regulations! Failure to follow the installation instructions and the notes contained therein will lead to all liability being refused by Webasto.

13 Declaration of Conformity

CE-Declaration of Conformity and UKCA-Declaration of Conformity

The Telestart was developed, manufactured, tested and supplied in accordance with the relevant directives, regulations and standards for safety, EMC and environmental compatibility.

Webasto declares that the product Telestart is manufactured and delivered in accordance with the directives and regulations.

The complete CE Declaration of Conformity and UKCA Declaration of Conformity can be found in the download area at <https://dealers.webasto.com>.

14 Technical data

Hand-held transmitter	Telestart				
	T91 868		T91 869	T100 HTM 868	T100 HTM 869
Basic functions	ON, OFF, heating, ventilation (only with W-bus control)			ON, OFF, heating, ventilation (only with W-bus control), HTM (heating time control)	
Size L/W/H [mm]	Approx. 54 x 32 x 16			Approx. 70 x 37 x 18	
Weight [g]	16			45	
Transmitting power [mW]	25			25	
Transmitting frequency [MHz]	868.3	869.0		868.3	869.0
Battery [V]	3 (recommended: Duracell battery DL 1/3N)			6 (recommended: Duracell battery PX28L)	
Indicator	1x multicolour LED			LCD display	
Operating/storage temperature (without batteries) [°C]	0 to +50 / -40 to +85			0 to +50 / -20 to +70	
Receiver				Telestart	
Operating voltage [V]				9 to 15	
Current consumption [mA]				< 1 (no-load current)	
Size L/W/H [mm]				Approx. 85 x 65 x 16	
Reception sensitivity [dBm]				-110	
Range [m]				Typically: 600 m Optimum: 1000 in the open and from an elevated location, transmitter in vertical position	
Aerial connector				FAKRA aerial connector, coding I	
Connections				MQS 6-pin socket housing, Tyco 1-1241370-3	
Operating/storage temperature for receiver [°C]				-40 to +85	
Operating/storage temperature for temperature sensor (HTM)				-40 to +85	
Number of transmitters				Up to 4 hand-held transmitters can be taught	

This is a translation from the original German installation instructions. The German language is binding.

To request this documentation in another language, please locate and contact your local Webasto dealer. You can find your nearest dealer at: <https://dealerlocator.webasto.com/en-int>. To provide feedback (in English or German), please email: feedback2tdt@webasto.com

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