

# Operating Instructions Speed Regulator



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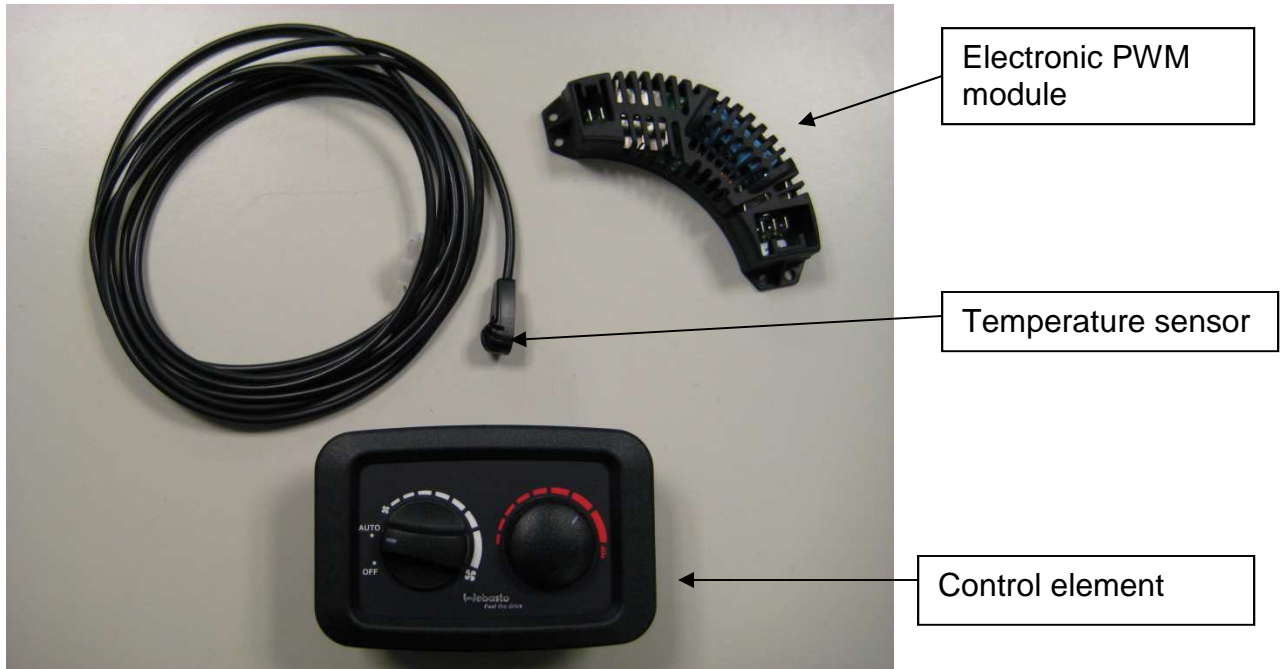


## 1. Warning

The speed regulator has been constructed in accordance with the latest technology and recognised safety technology rules. Nevertheless, inappropriate use may cause physical injury to the user or third parties i.e. damage to the equipment and other items. The speed regulator is only to be used for controlling fans.

## 2. Scope of delivery

The speed regulator is an electronic control element to regulate the number of revolutions depending on the temperature. It is supplied together with a control element, a temperature sensor, an electronic PWM module and connectors.

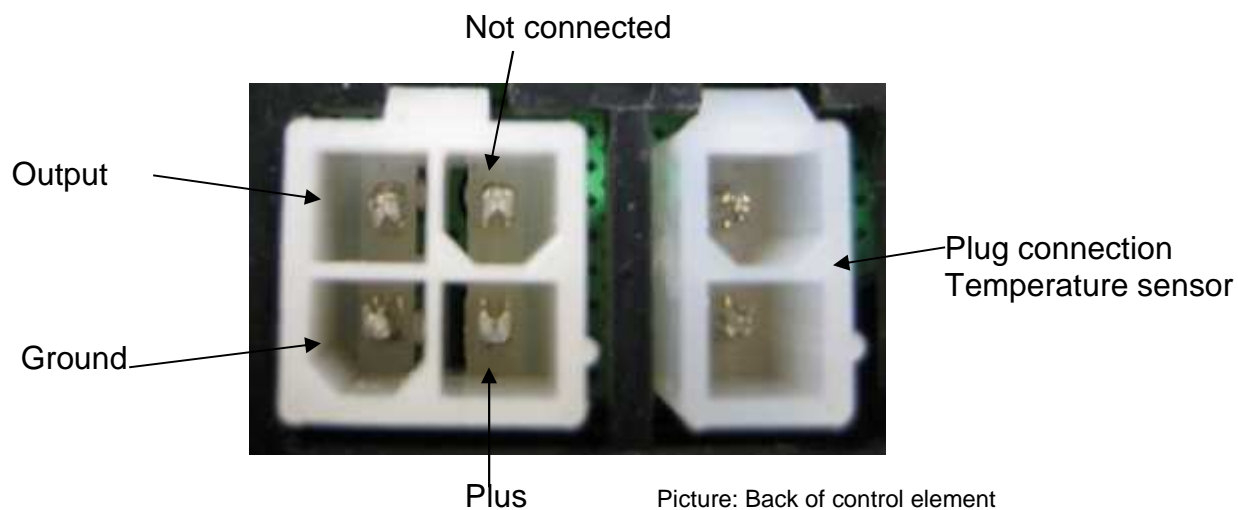


## 2.1 Control element



The rotary knob has 7 settings for the fan speed: Off, Automatic and five settings for manual control of the fan. The knob for temperature setting is variable. The indicators of both knobs light up in red.

At the back there are 2 plug connections, one 4-pole and one 2-pole.



## 2.2 Temperature sensor

The temperature sensor is supplied with a pre-assembled plug and a 3 metre cable.



The temperature sensor's housing is provided with a mounting hole.

## 2.3 Electronic module (diagram on page 8 refers)



The supply cables to the motor must be as short as possible (10 cm). The module is not dirt or moisture resistant which ought to be taken into consideration when choosing its installation location.


## 3. Use

### Automatic

When set to “Auto” the speed regulator will regulate room temperature by varying the fan's speed. The higher the difference in temperature measured by the temperature sensor and the set temperature on the temperature selector, the faster the fan will turn.

The number of revolutions will decrease when room temperature approaches the set temperature.

### Manual

Using manual settings  you can select five different revolution numbers. The number of revolutions increases or decreases evenly once a selection has been made.

The position of the temperature selector no longer affects the temperature setting.

## 4. Installation

### 4.1 Control element

Determine the installation position and make a hole measuring 98 x 63 mm (width x height). Remove the control element's cover by hooking your fingers behind it and pulling it off carefully.



Mounting holes

Attach the 4-pole and 2-pole plugs to the corresponding connections. Tighten the control element by fastening it with least 2 screws diagonally opposite to each other.

### 4.2 Temperature sensor

The temperature sensor must be installed inside the room to be heated to a convenient location.

Pay attention to the following:

- Mount the sensor at a height of approx. 1.5 metres
- Not in direct sunlight
- Not in draughty locations
- Not in front of a heater's outlet

Select a fitting screw with a diameter of 3 mm max, of which the head does not exceed 5.5 mm. Do not fasten the screw too tight as this may damage the sensor's housing. Connect the sensor to the control element.


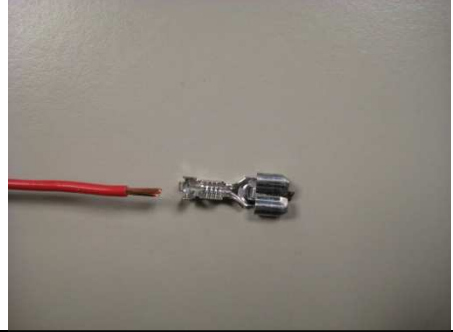

### 4.3 Electronic module

Choose a suitable installation place for the electronic module. Ensure that dirt and moisture cannot enter the module. Place the module as close to the motor as possible making the cables leading to the motor as short as possible (10 cm).



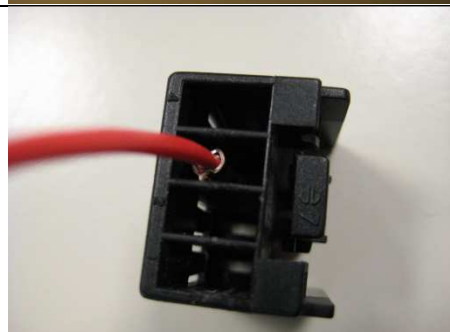
Fit the module to the housing using screws or bolts. Ensure, when fastening or drilling, that sensitive parts such as cables, hoses or radiators are not damaged.

When connecting the module use cables with the same diameter as used for the motor.

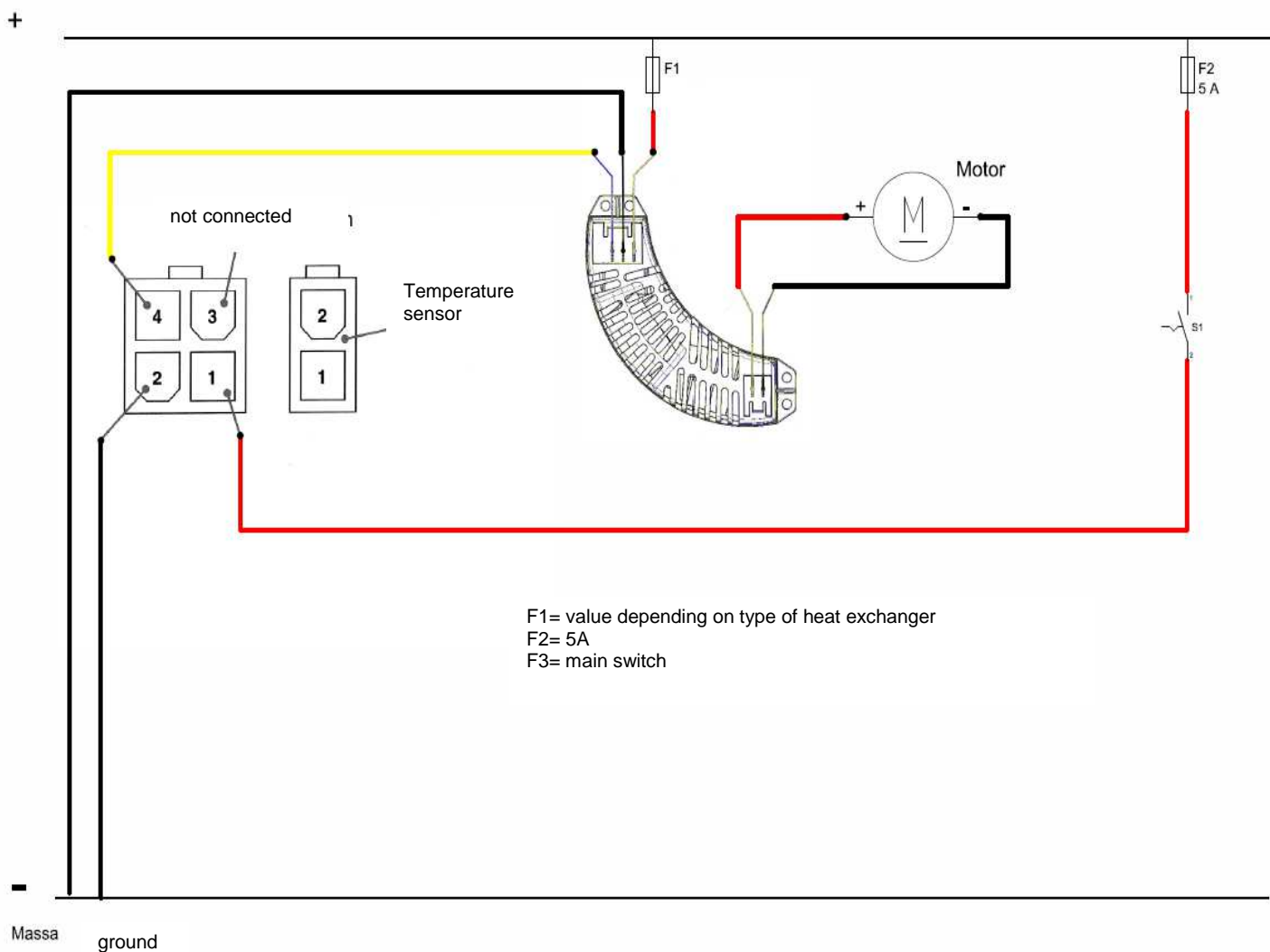
### 4.4 Instructions for producing plug connections

1		<ul style="list-style-type: none"> <li>• Separate the cable lugs</li> </ul>
2		<ul style="list-style-type: none"> <li>• Strip off approx. 5 mm of the end of the wire.</li> </ul>
3		<ul style="list-style-type: none"> <li>• Connect the cable end to the lug.</li> </ul>



4		<ul style="list-style-type: none"><li>• Shrink the lug on the cable.</li></ul>
5		<ul style="list-style-type: none"><li>• Ensure a connection as depicted; the insulation must also be clamped into the lug.</li></ul>
6		<ul style="list-style-type: none"><li>• Connect the lug to the plug.</li><li>• Check whether the lug has interlocked properly by pulling the cable.</li></ul> <p>Steps 1 to 6 also apply to the white plug of the control element.</p>

### 4.5 Wiring diagram



## 5. Overview of Webasto heat exchangers which can be used with the speed regulator.

Description	Article no.	Voltage (V)	Dimensions (lxwxh)	Regulator's position (suggested)	Wire diameter (mm <sup>2</sup> )
Florida 5 without control	3200681A 3200744A 3200682A 3200745A	12 12 24 24	269x122x198		2
Viking	72004000 72005000	12 24	390x195x135		2.5
BB4	71174000 71174500	12 24	310x150x150		1.5
BB8	71172000 71173000	12 24	480x305x170		2.5

There are application possibilities for other heat exchangers such as the Madera 3, 4 and 8 but a direct installation on the housing is not possible.

**Warning:** Ensure, when fastening or drilling the PWM module, that sensitive parts such as cables, hoses or fans are not damaged.

## 6 Trouble shooting list

<b>symptom</b>	<b>cause</b>	<b>remedy</b>
The fan is not turning The light of the rotary knobs is not working	No voltage	Check the connections Check the power supply.
The fan is not turning when in Automatic mode	Temperature sensor not connected or interrupted	Measure the sensor's resistance value: approx. 11Ω at 20 °C room temperature.
The fan shows delayed reaction when turning the knobs	This is normal	

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15-02-2018