

# Flue Gas Thermostat Manual

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## **1 Introduction**

The exhaust gas temperature monitor ATW is maintenance-free. It does not contain any components that need to be repaired or replaced by you.

In these instructions you will find important information on mounting the device on the flue pipe, information on the electrical connection and safety instructions as well as all important technical data..

## **2 Field of Application**

The flue gas temperature monitor is used to monitor the flue gas temperature in the flue pipe of heat generating systems for the applications described below:

Bivalent operation with gas or oil heating to lock it when the solid fuel boiler is in operation.

Monitoring tasks to shut off the exhaust system in rooms with open or closed fireplaces to prevent exhaust gases from being sucked back into the rooms when the fireplace is burning.

Monitoring and control tasks such as controlling the storage tank charging pump . Indicator light for the fuel boiler burnout.

### 3 Function

The sensor of the ATW consists of a metal tube and a metal rod arranged in it with different coefficients of expansion, which result in a difference in length when the temperature changes. This acts on a precision microswitch which interrupts the circuit above a fixed limit temperature. After the temperature at the sensor has dropped by approx. 15 K, the microswitch switches back and the circuit is closed again.

### 4 Technical Data

<b>Limit value range</b>	Limit value between 0°C and 400°C factory set and sealed
<b>Switching accuracy</b>	± 7 K
<b>Switching differential</b>	approx.15 K
<b>Operating medium</b>	Air or flue gas
<b>Perm. ambient temperature</b>	max. 180°C at switch housing
<b>Medium temperature</b>	0°C - 500°C
<b>Time constant</b>	< 45 seconds
<b>Mounting position</b>	any

<b>Storage temperature</b>	-15°C - 50°C
<b>Protection class acc. to DIN EN 60529</b>	IP 40
<b>Type of switch</b>	Spring-loaded switch
<b>Switching function</b>	changes when the set limit value is exceeded
<b>Switching capacity</b>	16(4) A 400V at cos = 1(0,6)
<b>Required electrical fuse protection</b>	16A
<b>Mode of operation acc. to DIN EN 60730-1</b>	Type2 BL=automatic operation with microcircuit. The function is without external auxiliary power.
<b>Approval/Mark of conformity</b>	ATW1234 DIN CERTCO according to DIN EN 14597:2012-09

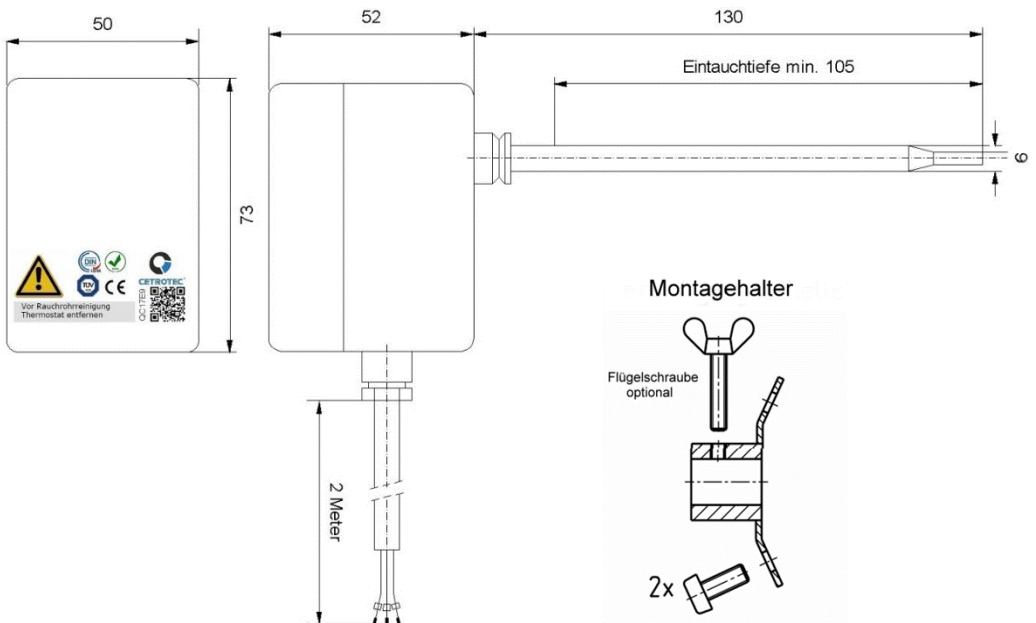
## 5 Extended safety

If the sensor is damaged (e.g. by progressive violent bending), the switching point drops steadily until the switch (terminal 1 + 2) remains permanently open.

## 6 Switching reliability

The switching contacts are designed for a high switching voltage and switching capacity. To ensure permanent switching reliability, the operating voltage must be at least 24 V AC/DC and the switching current must not fall below a minimum of 20 mA.

## 7 Dimensions



## 8 Mounting

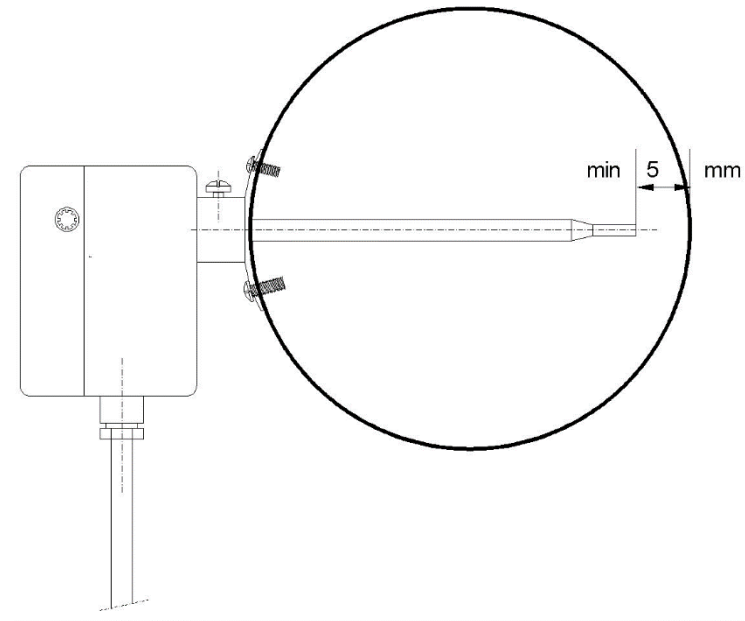


**Read these instructions completely before commissioning and pass them on to any subsequent users of the module.**

**Keep these instructions in a place where they are accessible to all users.**

1. The flue gas temperature monitor is mounted on the side of the flue gas pipe. Side mounting is also advisable for horizontal flue gas pipes, as higher ambient temperatures occur when mounted above the pipe.
2. The mounting location should be easily accessible and vibration-free.
3. The mounting bracket is placed centrally on a 7-8 mm hole in the flue gas pipe and the fastening holes are marked on the flue pipe.
4. At these marked points, drill holes with a diameter of 4.5 mm are drilled and the holder is fastened to the flue pipe using the DIN 7500 M 5 x 12 self-tapping screws supplied.
5. The sensor is inserted through the holder of the mounting bracket and the switch head is fixed with the mounted locking screw.
6. The connecting cable must not touch the flue pipe and must be secured accordingly.
- 7.





8. The expansion rod must have a safety distance of at least 5 mm on the opposite side of the flue pipe to ensure a safe switching function.



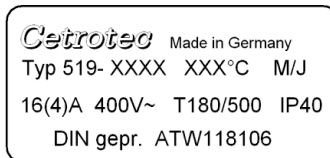
**The entire length of the sensor must be immersed in the medium to be monitored. The sensor may only be used without an immersion sleeve and only in unpressurized media.**



**If the sensor has been bent or crushed, the thermostat must be replaced.**

## 9 Nameplate

All important thermostat data are stamped on the housing shell. The type designation, date of manufacture, test number and switching point can be read from this.



## 10 Electrical connection



The electrical connection may only be carried out by qualified personnel. The VDE 0100 regulations must be observed.

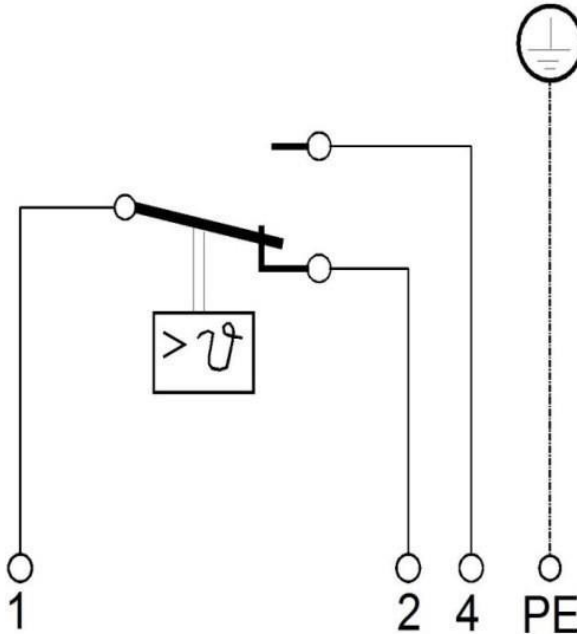


The heating system must be disconnected from the power supply and secured against being switched on again. The device corresponds to protection class I.



**Only operate the unit with a properly connected protective earth conductor.**

The ATW is provided with a silicone-insulated connection cable at the factory. The connections are marked 1,2 and 4 and the protective conductor is green/yellow.



Contact types

1 + 2 NC normally closed

1 + 4 NO normally open contact

If only the NC contact is connected, the connection cable with the number 4 is missing.

The connection cable from the switch head to the connection on the boiler must be laid in such a way that the cable does not

exert any pull on the switch head and when cleaning the flue pipe, the sensor of the ATW can be pulled out of the mounting bracket without disassembling cable fastenings.

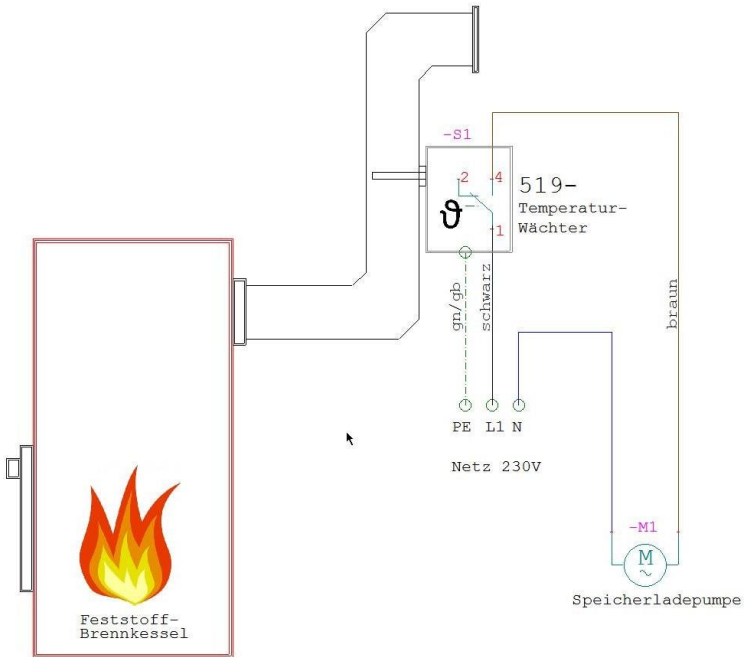
Before wiring the connection cable, it is essential that the system is disconnected from the power supply and secured against being switched on again.



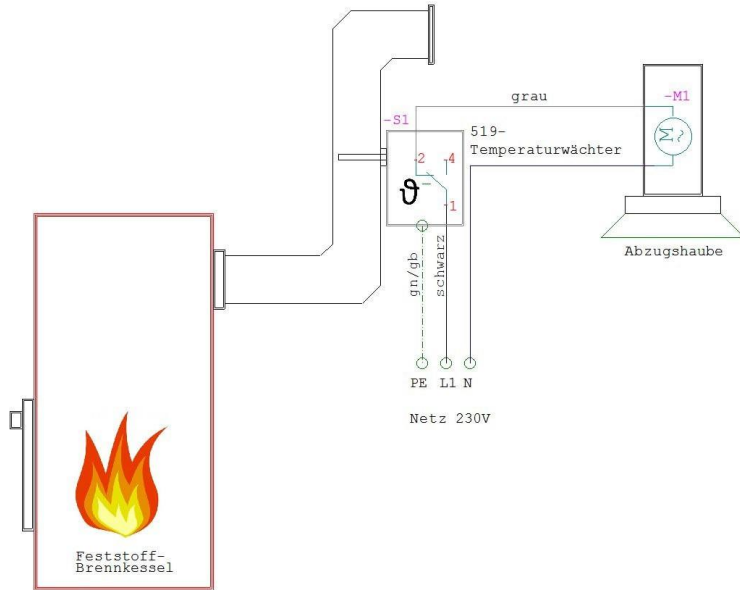
**The NO contact connection 1 + 4 may only be used for control or signal functions, but not as a guard contact (no extended safety in case of cable break).**

## 11 Wiring diagram

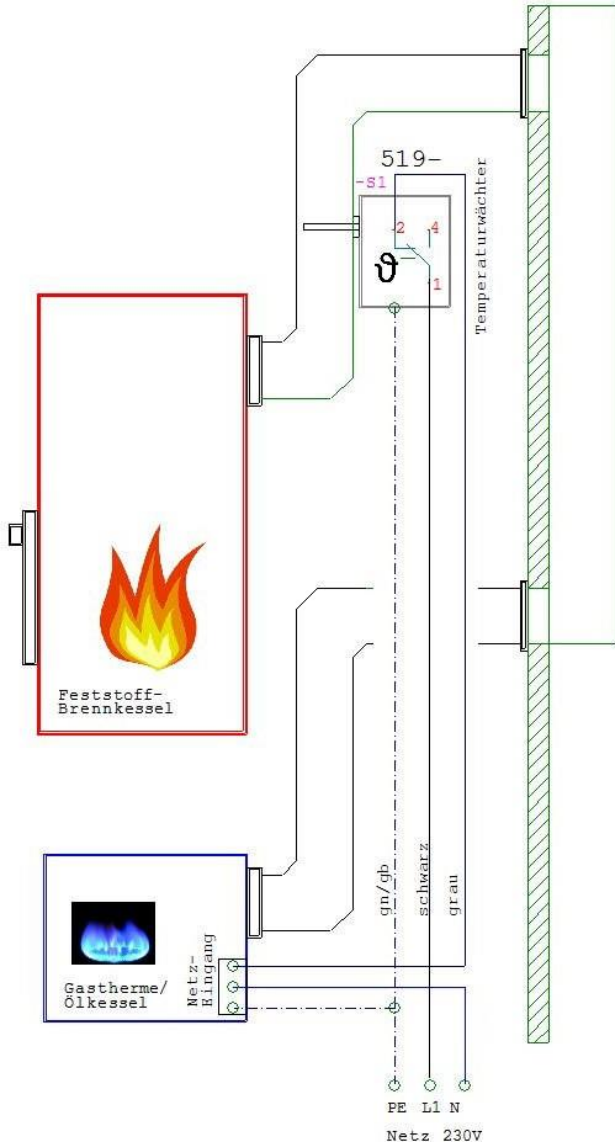
### 11.1 Storage tank charging pump



## 11.2 Exhaust air control



### 11.3 Boiler interlock



## 12 Important Notes



When burning unsuitable fuels (e.g. plastics), aggressive gases may be produced which can destroy the sensor. It must be ensured that the solid fuels are approved for combustion in accordance with the 1st Federal Immission Control Regulations.



Before cleaning the flue pipe, the sensor must be removed from the pipe. During the subsequent installation, make sure that the switch head is pressed completely against the mounting bracket before tightening the locking screw.



If there is a fire in the smoke pipe, there is a risk of overheating for the sensor, which can lead to failure of the monitor.



## 13 Warranty

The two-year warranty applies to the flue gas thermostat purchased from RadonTec GmbH or authorized dealers.

This covers defects in material or workmanship under normal use for a period of one year after receipt of the product. Contamination due to dirt or improper use is not covered by the warranty. During the warranty period, the product will be repaired or replaced at no charge.

Any damage caused by non-observance of these operating instructions will void the warranty. We cannot accept any liability for consequential damage.

\*Exclusions:

This warranty does not cover damage caused by misuse, neglect or abuse. This includes damage caused by drops, impacts or penetrations. It is also void if the product has been repaired or altered by another EIC Inc.

Do not open thermostat, do not tamper with unit.

To obtain this warranty service, please contact us at:  
[info@radontec.de](mailto:info@radontec.de)

## **14 Support and Contact**

### **14.1 Troubleshooting/FAQ**

You will find answers to the most frequently asked questions on our website:

<https://www.radontec.de>

### **14.2 Contact Us**

Should you have any further questions or require further help and technical support, please do not hesitate to contact us.

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