Flue gas thermostat

type 519

B160124.01

User Manual

Before printing, think about the environment

1. Introduction

Thank you for purchasing a proven product, which meets the highest requirements. This product was manufactured with modern production and testing technology in Waiblingen, Germany.

The flue gas thermostat is maintenance free. It doesn't contain any components requiring to be repaired or replaced by the customer.

This Manual includes important instructions for assembling the device to a flue tube, declarations for electronic wiring and safety instructions as well as all important technical specifications.

All damage caused by ignoring the instructions of this manual will void warranty. We can't take responsibility for subsequent damage.

2. Application

The flue gas thermostat is used for monitoring the exit flue temperature in a flue tube of heat-generating units for the following applications:

- Bivalent operation with gas and oil heating to latch these when the solid fuel boiler is in operation.
- Monitoring tasks like turning off the exhaust system in rooms with open or closed fireplaces to prevent aspiration of flue while the fireplace is active.
- Controlling tasks like storage charge pump regulation.
- Indicator lamp for fuel boiler burnout.

3. Feature

The probe of the flue gas thermostat is made of a metal tube containing a metal rod with varying coefficients of expansion. Change in temperature leads to a difference in its length. A high-precision micro switch suspends the electric circuit when the temperature is above the limit temperature. As the temperature at the probe drops by approx. 15K, the micro switch toggles back and closes the electric circuit again.

4. Specifications

Limit range	limit between 0° C und 400° C adjusted and plumbed ex works
Switching accuracy	± 7 K
Switching differential	approx.15 K
Operating medium	air or flue gas
Ambient temperature limit	max. 180° at Case
Medium temperature	0...500° C
Time constant	< 45 seconds
Mounting position	optional
Storage temperature	-15° C...50° C
Degree of protection EN 60529	IP 40
Switch design	spring switch
Switching function	switches when adjusted limit is exceeded
Switching capacity	16(4) A 400V~ at cosφ = 1(0,6)
Required electronic protection	16A
Effectiveness acc. DIN EN 60730-1	Type2 BL automatic operation with micro switch. The function is without auxillary power.
Approval/Compliance:	ATW1234 DIN CERTCO According to DIN EN 14597:2012-09

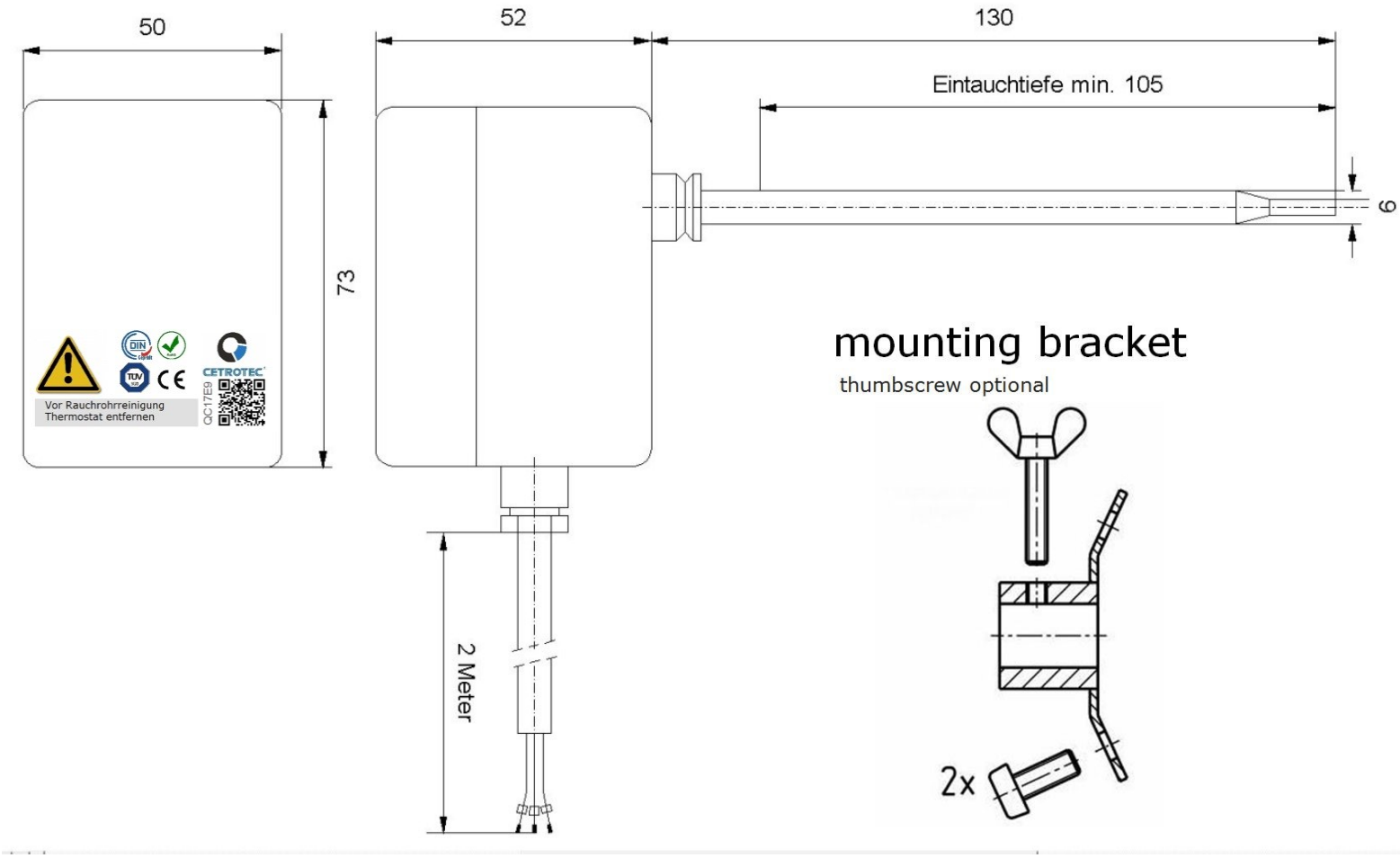
5. Advanced security

Damage dealt to the probe (e.g. by bending) leads to a continuous drop of the switching point. In conclusion the switch will remain open.

6. Switching reliability

The switching contacts are designed to sustain high switching voltage and capacity. To maintain stable switching security, a minimum working voltage of 24 V AC/DC and a minimum switching current of 20 mA may not be underrun.

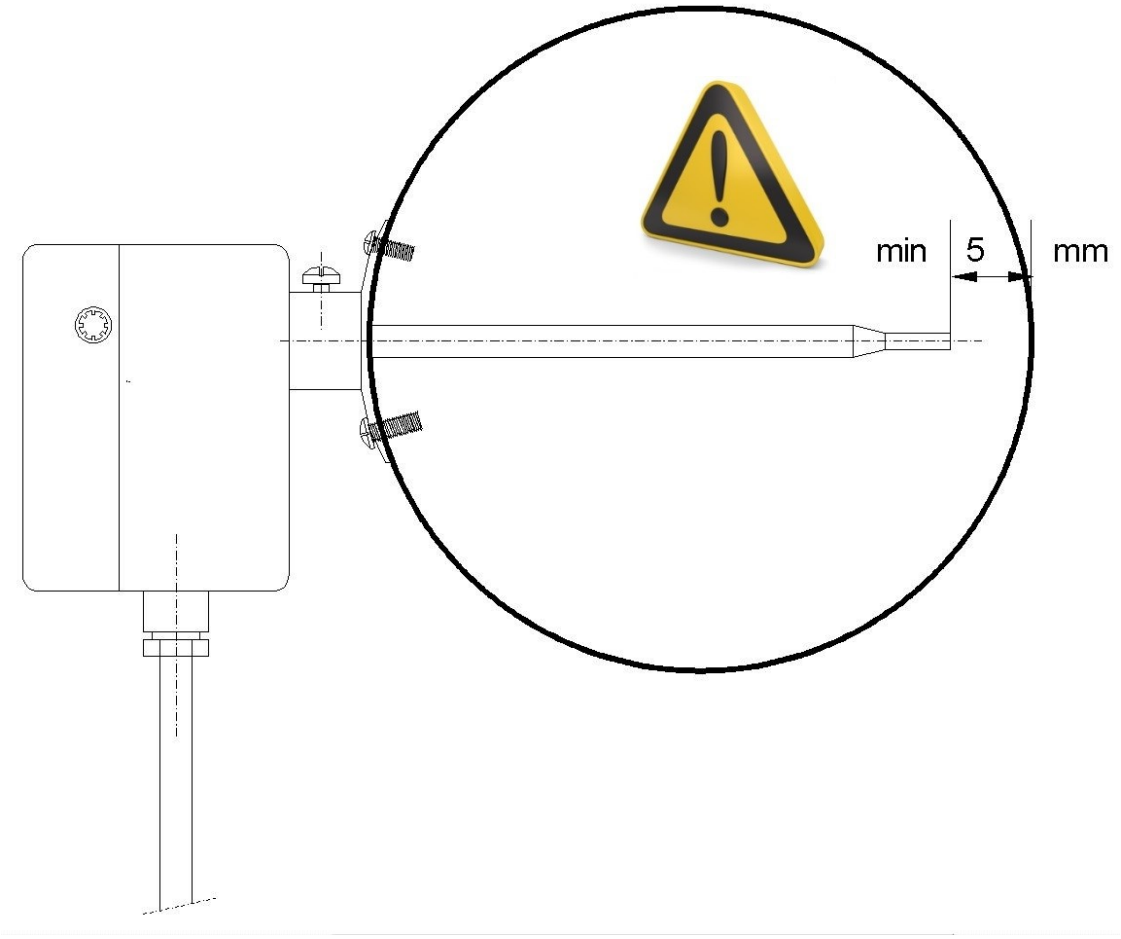
7. Dimensions



8. Installation:

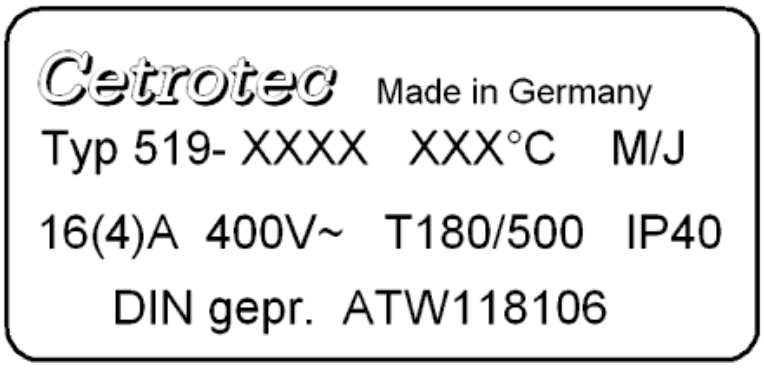
The flue gas thermostat is mounted at the side of a flue pipe. For horizontal pipes, a mounting on the side is reasonable because higher ambient temperature arises on top of the pipe. The installation site should be accessible and vibration-free. Place the bracket centered on a 7-8mm drill hole in the flue pipe. Mark the fastening bores and drill ∅ 4,5mm holes. Fix the bracket with enclosed DIN 7500 M 5 x 12 screws. Stick the probe through the entry of the bracket and fix it with the mounted locking screw. The connector cable may not touch the flue pipe and requires to be fixed in place.

The Probe needs to keep a safety gap of at least 5mm to the opposite side of the flue pipe to ensure its switching function.



9. Type label

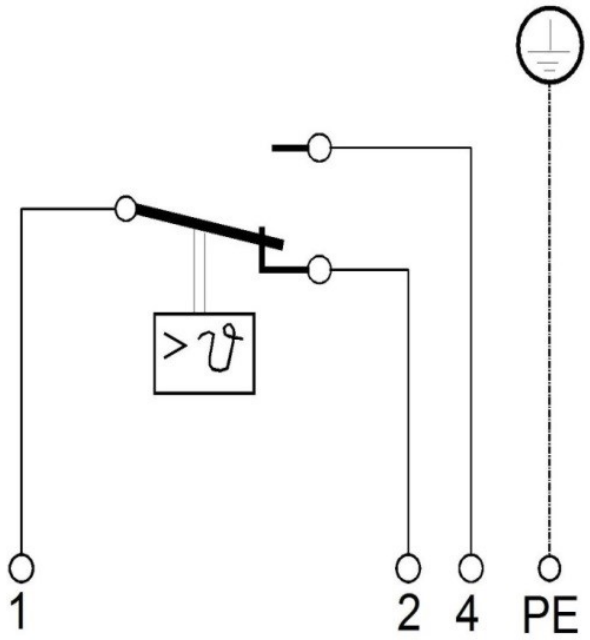
Important thermostat data is stamped on the case. This data includes classification, date of manufacture, test number and switching limit.



10. Electrical connection

The electrical connection may be executed by qualified personnel only.
Attention to instructions of VDE 0100 regulations is required.
The heating system must be de-energized and protected from resetting before wiring.
This device conforms protection class I.
Run the device only with a flawless connected protective conductor.

The flue gas thermostat is supplied with a silicon isolated connector cable.
Contacts are marked with 1,2 and 4. Protective conductor is green/yellow.



Contact type:

1 + 2 NC Break contact
1 + 4 NO Closing contact

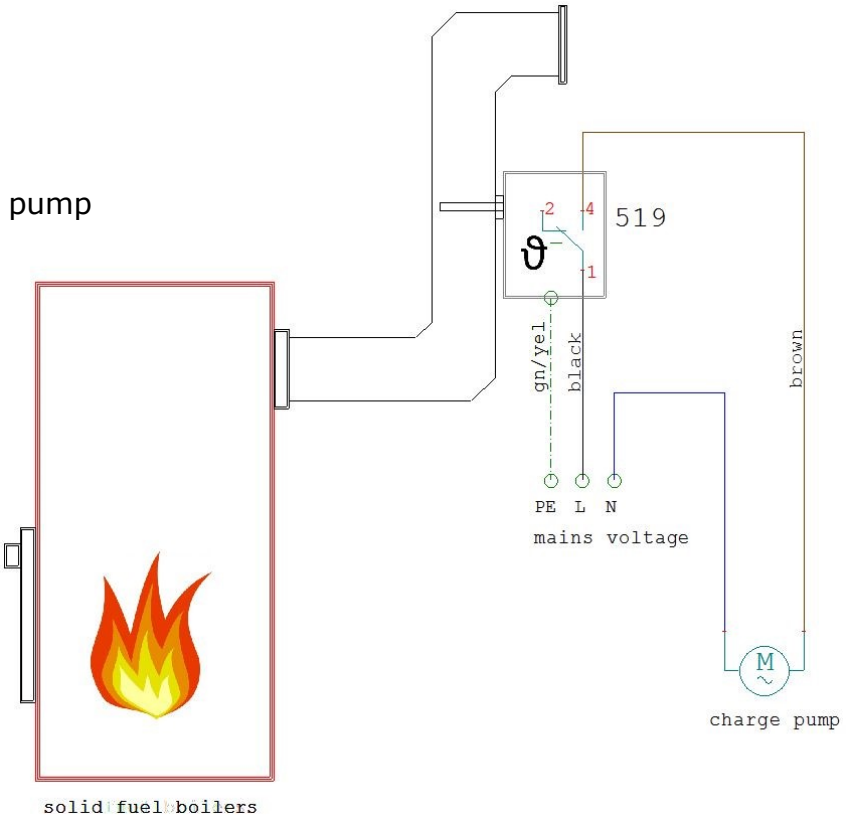
With single connection of the break contact, connection number 4 is missing.

Lay and fix the cable to avoid any pressure on the device. Pulling out the thermostat may be possible without removing cable fixation when cleaning flue pipe.

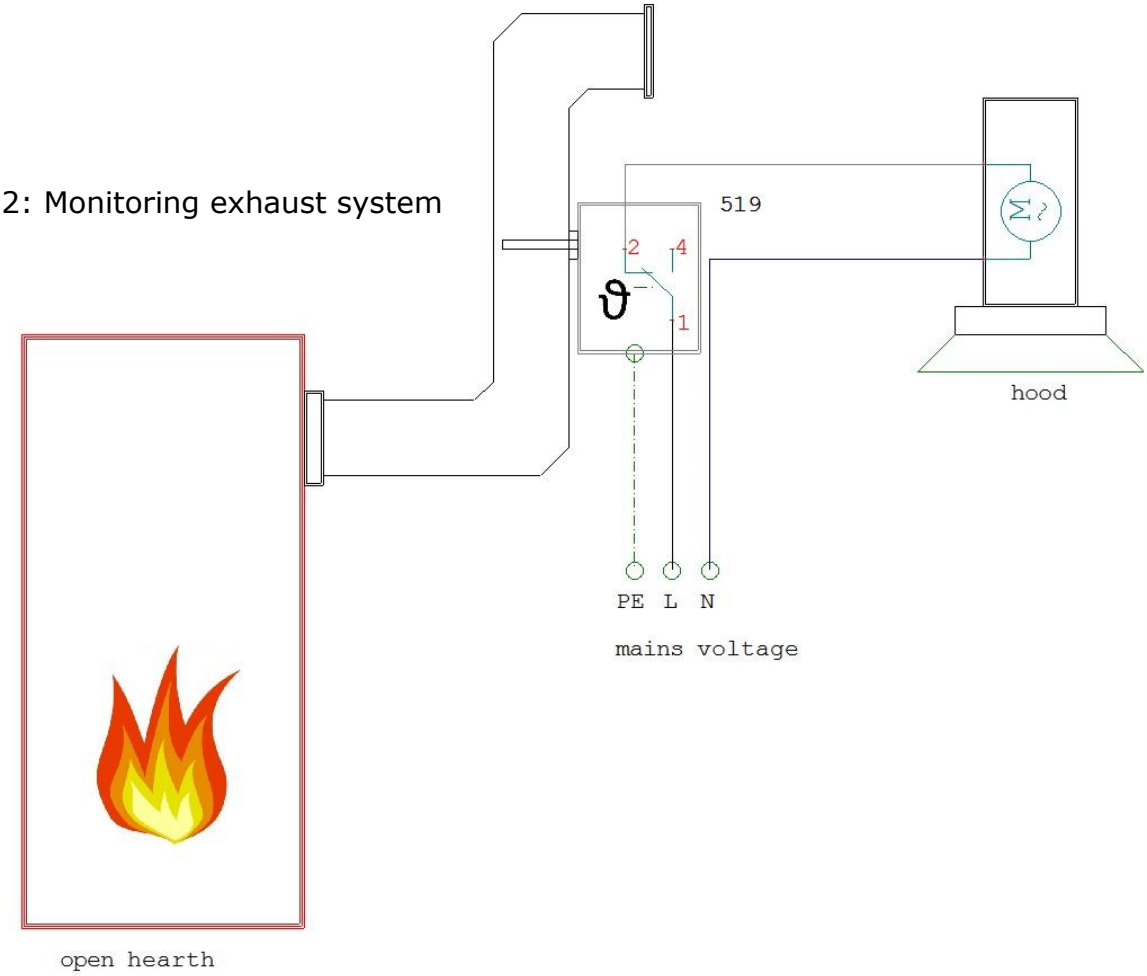
The heating system must be de-energized and protected from resetting before wiring.

11. Connection diagram

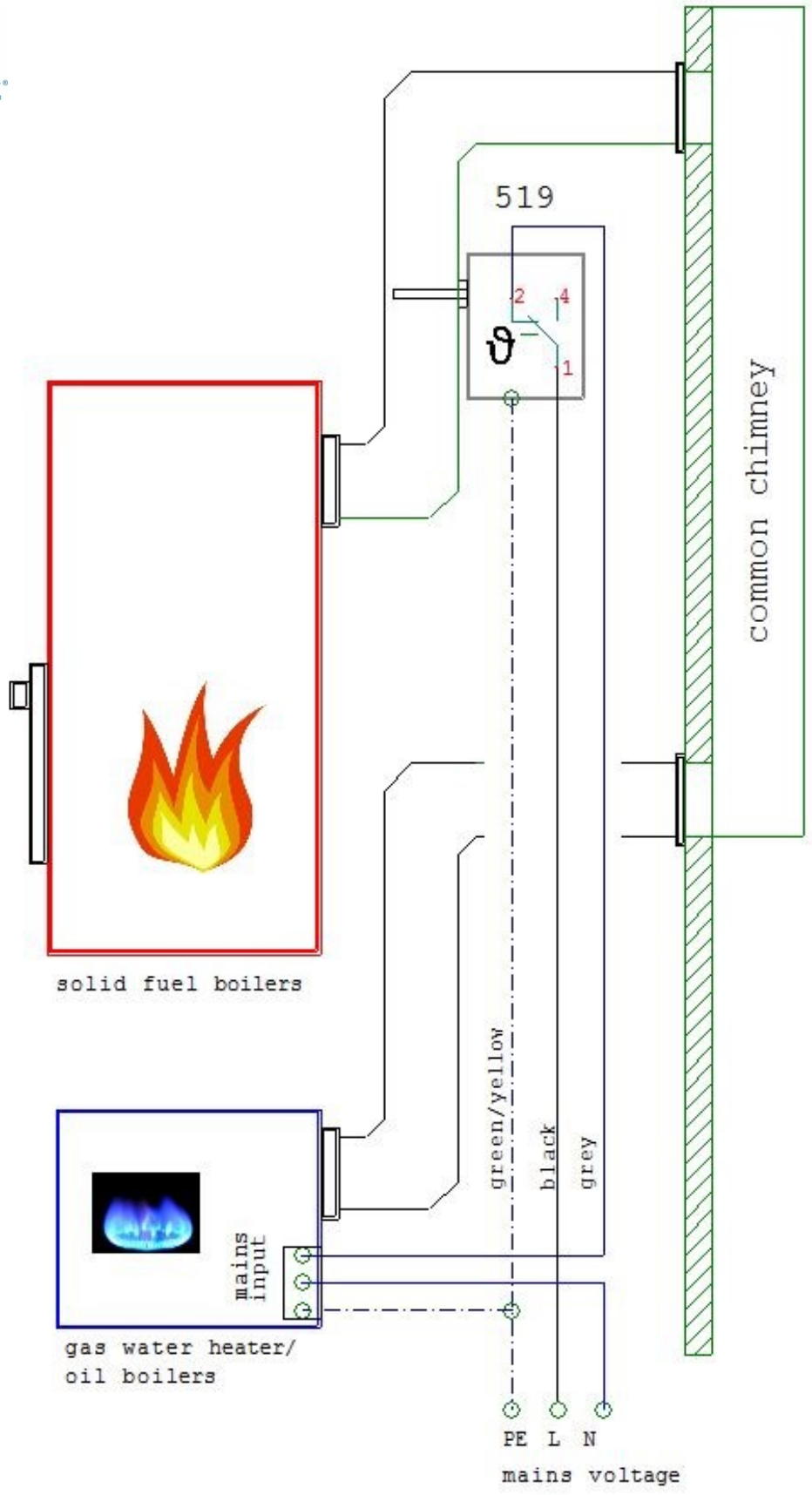
Application 1: Storage charge pump



Application 2: Monitoring exhaust system



Application 3: Control bivalent operation



12. Further important instructions

The probe must be dipped in the medium by its entire length.

Do not use probe with immersion sleeve and only in pressure less media.

By burning unsuitable fuel (e.g. synthetic material) aggressive gas can destroy the probe. Use only authorized solid fuel.

Before cleaning flue pipe it is urgent to completely remove the probe from the pipe. When reattaching make sure the case is properly seated in bracket.

Fire in the flue pipe can overheat the probe and cause a failure of the thermostat.

Der Schließer Anschluss 1 + 4 darf nur für Steuer bzw. Signalfunktionen, nicht aber als Wächterkontakt verwendet werden (keine erweiterte Sicherheit bei Kabelbruch).

Replace thermostat if bent or squeezed.

Do not open or manipulate device (warranty void).

13. Customer service :

In case of questions or malfunction contact your retailer or the manufacturer.

This manual conforms technical state of the date of print. Technical specifications are subject to change. Repair will be accomplished in our factory only.

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