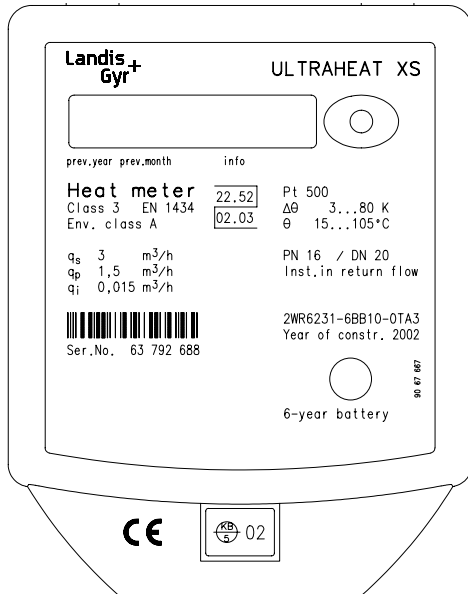


These operating instructions have to be handed over to the end user

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**Introduction**

The ULTRAHEAT® XS heat meter is a measuring instrument for physically correct recording of heat consumption. It is required to be certified by law in Germany and many other countries. The device consists of a volume measuring unit, two permanently connected temperature sensors, and an electronic unit that calculates the heat consumption from the volume flow and temperature difference.

The volume measuring unit is a non-wearing ultrasonic measuring device without mechanically moving parts. The long-life battery is designed for the calibration validity period. ULTRAHEAT® XS cannot be opened without breaking the calibration seal.

The heat meter must only be operated under the conditions stated in the device sheet and on the rating plate.

**Information on the Display**

The displays of the heat meter are structured on several levels and may deviate from the standard described here. Each short press of the button switches to the next display of the user loop (level 1).

▼ indicates what sort of display it is.

**User Loop**

<b>0054567</b>	<b>kWh</b>	Cumulated heat quantity	
<b>00065.43</b>	<b>m³</b>	Cumulated volume	
<b>888888</b>	<b>kWh</b>	Segment test	Info
<b>F - - -</b>		Error message on fault with fault number	Info

Pressing the button for 10 seconds switches from the user loop to the **service loop** (level 2).

**Exiting the service loop** by pressing the button for 3s or automatically after 30 minutes.

**Service Loop**

<b>0.534</b>	<b>m³/h</b>	Current flow rate	
<b>22.9</b>	<b>kW</b>	Current heat power	
<b>84 47</b>	<b>°C</b>	Current supply-return temperature	
<b>04.06.02</b>	<b>D</b>	Date	
<b>786</b>	<b>Bh</b>	Operating hours	
<b>56</b>	<b>Fh</b>	Missing hours	
<b>3792701</b>	<b>G</b>	Device number, 7-digit	Info
<b>PULSE</b>	<b>CH</b>	Remote reading option (optional)	Info
<b>123</b>	<b>A</b>	Primary address when option M-Bus	Info
<b>2345678</b>	<b>K</b>	Customer number, 7-digit	Info
<b>18.02.01</b>	<b>F0</b>	Date stamp for F0 prewarning	Info
<b>3- 01</b>	<b>FW</b>	Firmware version	Info
<b>31.12.01</b>	<b>V</b>	Previous year's day of storage	Prev. year
<b>0034321</b>	<b>kWh</b>	Heat previous year on set day	Prev. year
<b>00923.12</b>	<b>m³</b>	Volume previous year on set day	Prev. year
<b>12</b>	<b>Fh</b>	Missing hours previous year	Prev. year
<b>- - - - -</b>	<b>C</b>	Code entry for parameterization	Info
<b>01.06.02</b>	<b>M</b>	Previous month's 1-15 day of storage	Prv. month
<i>After pressing button for 3s:</i>			↻
<b>0034321</b>	<b>kWh</b>	Heat previous month on set day	Prv. month
<b>00923.12</b>	<b>m³</b>	Volume previous month on set day	Prv. month
<b>12</b>	<b>Fh</b>	Missing hours previous month on set day	Prv. month

**Monthly Values**

The calculator stores the following values for 15 months at each end of month

- Heat (meter reading)
- Volume (meter reading)
- Missing hours (meter reading)

From the month set day display, press the service button for 3s to enter the previous month's values.

The month values can also be read out via the optical interface.

**Fault Codes and IDs**

The heat meter constantly performs self-diagnosis and can display various faults.

Fault Code	Fault	Measures
FL nEG	Wrong flow direction	Check / correct flow or mounting direction
	<b>Eventually changing with</b>	
DIFF nEG	Negative temperature difference	Check / exchange mounting position of sensors
	<b>Eventually changing with</b>	
F0	No flow rate can be measured	Air in the measuring unit/pipe, vent pipe (as-delivered state)
F1	Interruption in the supply sensor	Contact service
F2	Interruption in the return sensor	Contact service
F3	Electronics for temperature evaluation defective	Contact service
F4	Battery empty	Contact service
F5	Short-circuit in the supply sensor	Contact service
F6	Short-circuit in the return sensor.	Contact service
F7	Fault in internal storage operation	Contact service
F8	Fault F1, F2, or F3 or F5, F6 pending for longer than 8 hours, detection of fraud attempts. No more measurements are performed.	This F8 error message must be reset by service.
F9	Fault in the electronics	Contact service

If the response thresholds are exceeded and the flowrate and temperature are positive, the heat quantity and volume will be summated. The segment test displays all display segments for test purposes.

On the yearly set day, the meter readings for heat quantity, volume, and missing time are placed in a previous year memory each year.

The flowrate, heat power, and temperature difference are recorded signed. Values below the response threshold are preceded by a "u". The current temperatures are displayed together as integer °C values on one display line.

The 8-digit customer number (secondary address for M-bus operation) can be set in parameterization mode. The most significant digit is suppressed on the display. The device number is assigned by the manufacturer.

The operating hours are counted from initial connection of the power source. Missing hours are summated if a fault is pending that prevents the heat meter from measuring. The date is incremented daily.

The firmware version number is assigned by the manufacturer.

### Technical Data:

#### Technical Data Electronic Unit:

Ambient temperature	5 - 55°C
Power supply	Battery for 6 or 11 years or 24V AC/DC external (special version)
Temperature sensor	Pt 500
Communication	Optical interface standard, M-bus or pulse output optional
Protocol	IEC870, 300 baud in Nb
Splittability	Always removable, cable length 1 m

### Technical Data of the Flowrate Measuring Unit

Type	Dimensions	
q <sub>p</sub>		
0.6	110mm (3/4")	190mm(1")
1.0	110mm (3/4")	190mm(1")
1.5	110mm (3/4")	190mm(1")
2.5	130mm (1")	190mm(1")

Temperature range	15 - 105°C
Nom. pressure	1.6 MPa (PN 16)
Overload	q <sub>s</sub> = 2 x q <sub>p</sub> , permanent
Mounting position	Horizontal or vertical
Measurement range	1:100 approved, calibrated 1:50
Measurement accuracy:	EN 1434 cl. 3

### Technical Data Temperature Sensor:

Temperature sensor	Pt 500 acc. to EN 60751, not removable
Connection	2-wire, permanent.
Type	DS direct short, M10 x 27.5mm acc. to EN1434 or rod sensor 45 x 5.2 dia. mm
Cable length	1.5m standard, 5 m optional
Max. temperature	105 °C
Installation supply sensor	Mounting element for DS 1/2" x M10, ball valves for DS, brass pocket 1/2" for rod sensor
Installation return sensor	Integrated (when meter is for installation in return)

#### Notes:

Observe national calibration laws when replacing the battery. Batteries must not be opened, come into contact with water, or be exposed to temperatures above 80 °C. Dispose of used batteries at suitable collection centers.

The transport of the heat meter is permitted only in the original package. If the meter needs to be sent by air freight then the battery must be removed prior to shipping!

Latest information about our heat meters you may also find in the internet: [www.landisgyr.com](http://www.landisgyr.com)

### EC Declaration of conformity

Landis+Gyr herewith declares that this product complies with the relevant requirements of the following directives:

- 2004/22/EC Measuring instruments directive
- 89/336/EEC Electromagnetic compatibility
- 73/23/EEC Low voltage directive

EC type-examination certificate  
**DE-06-MI004-PTB007**

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