

Measuring technology for thermal energy  
District Heating / District Cooling

Landis  
Gyr+  
manage energy better



FUTURE



Ultrasonic Heat Meter / Cooling Meter

ULTRAHEAT / ULTRACOLD

T550 (UH50...)

**The Professional:**  
High-precision, modularity,  
reliable technology  
for all applications



## Developed for all applications

The ULTRAHEAT®T550 thermal energy meter has been designed specifically for the many different applications in which heat metering can be used meeting the particular needs of district and communal heating systems, building energy management technology and cooling applications. Whether the meter is destined for use in a block of flats, consumers on a special tariff, or more general use the T550 has the ability in terms of range of sizes and choice of functions. Different software settings make the meter a highly modular, flexible solution that can be tailored to your own particular needs and applications.



### Key features

- Ultrasound principle ensures extremely accurate and stable measuring results
- No moving parts, so no mechanical wear
- Logbook included as standard
- Approved measuring range 1:100
- No straight lengths of pipe required
- All-metal volume measuring components
- Batteries have a service life of up to 16 years
- Power supply units available from 24 V AC/DC to 230 V
- Optical interface acc. to EN 62056-21:2002
- Two slots for communication modules
- wM-Bus 868 MHz certified according OMS v4.1.2
- Allows data from 60 preceding months to be read
- Wealth of tariff functions allow the unit to be customized to individual requirements
- Accurate, rugged, non-wearing
- Automatic self diagnosis and fault detection
- Optional extra: programmable data logger for system monitoring

- Heat Meter
- Cooling Meter
- Combined Heat- / Cooling Meter
- Multi-Tariff Meter
- Flow Sensor





## General

Approval	EN 1434 class 2 / 3	Temperature range	5-130	[°C]
Protection class (flow part)	IP 54/ (IP65)	Max. diff. of temp.	120	[K]
LCD	7-digit	Min. diff. of temp.	3	[K]
Energy units	kWh / MWh or MJ / GJ	Switch-off limit	0.2	[K]

## Technical Data - threaded connection

Nominal flow qp	0.6	1.5	0.6	1.5	2.5	2.5	3.5	6.0	10	[m³/h]
Maximum flow qs	1.2	3.0	1.2	3.0	5.0	5.0	7.0	12	20	[m³/h]
Minimum flow qi (1:100)	6	15	6	15	25	25	35	60	100	[l/h]
Response threshold (variable)	2.4	6	2.4	6	10	10	14	24	40	[l/h]
Length	110	110	190	190	130	190	260	260	300	[mm]
Thread	G¾	G¾	G1	G1	G1	G1	G1¼	G1¼	G2	--
Pressure loss at qp	150	150	150	160	200	200	60	180	100	[mbar]

## Technical Data - flanged connection

Nominal flow qp	0.6	1.5	2.5	3.5	6.0	10	15	25	40	60	[m³/h]
Maximum flow qs	1.2	3.0	5.0	7.0	12	20	30	50	80	120	[m³/h]
Minimum flow qi (1:100)	6	15	25	35	60	100	150	250	400	600	[l/h]
Response threshold (variable)	2.4	6	10	14	24	40	60	100	160	240	[l/h]
Length	190	190	190	260	260	300	270	300	300	360	[mm]
Flange	DN20	DN20	DN20	DN25	DN25	DN40	DN50	DN65	DN80	DN100	--
Pressure loss at qp	125	160	195	60	180	165	100	105	160	115	[mbar]

## Communication possibilities - Your access to smart metering

The ULTRAHEAT T550 allows you to read out data and integrate it into different systems. Wired or wireless M-Bus, pulse or radio - we offer you a wide range of communication modules.

All modules are basically easy to retrofit or replace during operation.

Two slots are available per unit.

- Wireless M-Bus module (868 MHz) / OMS v4.1.2 mode C1 or T1 (certified by OMS) encryption mode 5 or 7 (AES 128)
- BACnet module
- Modbus module
- GPRS module for connecting 8 M-Bus meters
- Pulse module, 2 channels
- M-Bus module
- M-Bus with two pulse inputs
- Current loop module
- Analog module, 2 channels



### **Low installation and operating costs**

Operating costs are kept to an absolute minimum through the use of non-wearing parts, automatic self diagnosis and fault detection, plus the unit is so simple to operate. Because it is so easy and quick to install, start-up costs are really low.

### **Investment costs are kept to a minimum and the security of your investment is ensured**

By using plug-and-play modules as the communication interface; the meter has future compatibility in terms of new communication solutions. Flexibility is provided by two module slots. The meter has a rugged design with non-wearing parts to give the long service life that makes the T550 such a good investment. There is no need for any straight lengths of pipe before or after the meter resulting in both space and cost savings. ULTRAHEAT offers a wealth of impressive features.

### **DuraSurface – reliable measurements with a profile**

The innovative DuraSurface internal contour is setting new standards for measurement stability. This has been achieved by providing small volume measurement components up to qp 2.5 with the DuraSurface internal profile and has the effect of permanently filtering out disruptive reflections from the measurement channel, thus making the meter resistant to coating and dirt deposits.

This pioneering innovation will deliver reliable measurements and provide maintenance-free use for many years.

### **Quality – assured and checked**

The quality of all our heat meters is guaranteed. Every meter is tested before leaving the factory and certified to quality and environmental management systems standards conforming to ISO 9001 and ISO 14001.

Our quality management system is approved in accordance with the EU Measuring Instruments Directive by the PTB (Federal Institute for Physics and Metrology).



### **List of tariffs: Tariffs can be adjusted on an individual basis**

A variety of tariff functions enable the system to be set for specific tariff frameworks. Whether for power, flow rate, return or flow temperature, tariffs can be set with up to three threshold values. A dual-tariff system is possible, either time-pulsed or remote-controlled via M-Bus.

The use of the flexible tariff functions can create incentives for making district heating systems more efficient by formulating tariff-dependent prices for heating and cooling.

### **Logbook for better diagnosis**

The logbook function enables 24 different events to be recorded and selected using the Service Software. Diagnosis of operational malfunctions can be recorded. Events, operating status and changes to the device are recorded over an extended period and are made readily accessible.

### **Data logger: monitoring and analysis**

The optional data logger continually saves measured values. These values are recorded in parallel in four time cycles ranging from hourly to annually. Each of these archives contains up to eight optional measured values. Service software is also provided, enabling a measured value to be individually assigned and easily retrieved and displayed. This enables monitoring of the system and performs a technical analysis of the operating mode.

### **Self diagnosis provides greater protection**

A safety package is provided which enables early detection of any manipulation or potential problems in the system. The T550 records and reports on any buildup of dirt in the system, and also reliably detects any manipulation of the temperature sensors. The log book, which is supplied as standard, complements this function perfectly. Entries in the log book cannot be deleted. Also, monthly values provide plausibility and traceability of consumption figures and other parameters.

## Manage energy better

Landis+Gyr is the leading global provider of integrated energy management solutions for the utility sector. Offering one of the broadest portfolios, we deliver innovative and flexible solutions to help utilities solve their complex challenges in smart metering, grid edge intelligence and smart infrastructure. With sales of USD 1.8 billion, Landis+Gyr employs approximately 5,600 people in over 30 countries across five continents, with the sole mission of helping the world manage energy better. More information is available at [www.landisgyr.eu](http://www.landisgyr.eu).

### Landis+Gyr in short

- Swiss HQ with 5'600 employees in 30+ countries worldwide
- Serving 3'500+ utilities worldwide
- Over USD 1b of self-funded R&D investment since 2011
- Over 90 million connected intelligent devices deployed
- More than 14 million meter points under managed services
- TWorld's largest smart grid IoT project with 300+ million devices globally
- Frost & Sullivan Global AMI Company of the Year 2017 - the 4th consecutive year

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