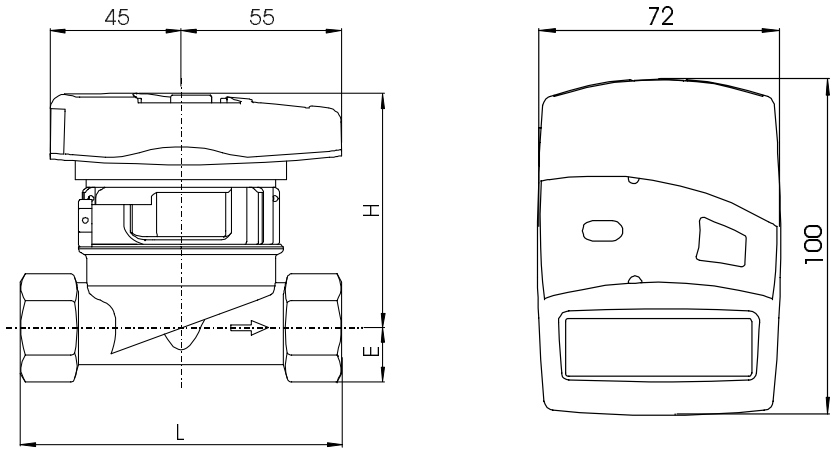
Dimensions

Dimensions			
Height :	H E max	mm mm	80 18,5
Width heat computer:		mm	72
Length heat computer:		mm	100
Overall length EAS body	L	mm	110 (130)



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N°98W033_020204_GB

Operating manual
Heat meter zelsius®

ZENNER®
... because every drop of water counts.

Electronic Heat Meter

zelsius®

Heat meter 2” with coaxial-measuring capsule
Qn 2,5 / 1,5 / 0,6 m³/h

Please hand out this manual to the end customer!

Subject to modifications and errors excepted!

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General information

Thank you for having purchased ***zelsius®*** one of the most modern heat meters available on the market today.

A lot of helpful functions and menus will assist you in getting better acquainted with your use of energy and your pattern of consumption.

With time, you will be able to save costs, because of having the possibility of controlling your own pattern of consumption.

Expressive symbols in the display and a simple user interface and menu navigation also make working with zelsius® a pleasure (see the display overview also).
zelsius® is operated using a single colored button.
It is equipped with a long-life battery, designed for operation over one calibration period, including a buffer time of at least a year.

Certification

The seal resp. the label with the year of first calibration is located on the front of the heat meter. The calibration validity is 5 years (in Germany; other countries may have different regulations).
Should the device be opened unauthorized guarantee and calibration validity of the meter expire.

Interference potential

The heat meter is constructed to comply with the national and international requirements on interference resistance.
To avoid further interferences, no fluorescent tubes, switch boxes or consumers of electricity, such as motors or pumps are to be installed in the vicinity of the meter (minimum clearance 1 m). Cables from the meter may not be laid parallel to the line voltage carrying cables (230V) (clearance at least 0,2 m).

Care instructions

Clean the plastic surface only with a damp cloth. Do not use any scrubbing or aggressive detergents!!

Operating manual
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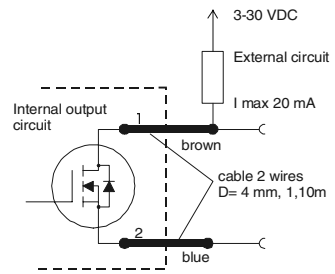
Remote readout output (optional)

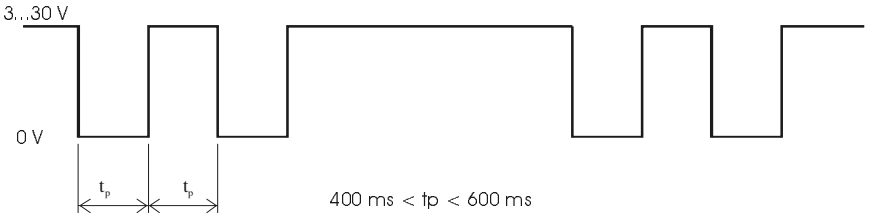
External counting inputs from pulse counters can be accessed using the option „remote readout output“ (see the type plate on the side).
For the use of this option, a firmly connected cable is included in delivery. You must take care of the external circuits yourself (see drawing on the right).



Remote readout output

Data remote readout output	
Load	max. 30VDC / 20 mA
Switching output 1,2	Open Drain, n-canal FET
Cable	D= 4 mm, 2 wires
Cable length	1,10 m (standard)

The outputs emit a pulse with an output frequency of 1 Hz and a pulse with factor of approx. 1:1.



M-Bus (optional)

The name of the version is imprinted on the type plate, on the side of the device.

- Baud rate 9600/2400 switchable (optical interface 2400 Baud)
- Compliant with the standard according to EN 1434
- Connection of cable wires any

Status Displays

The status messages display the operational status of the meter in an easily understandable manner (see table below).

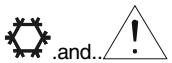
Note :

The status messages in the table below only appear in the main display (energy)!

In all cases, in which the warning triangle represents a status message, you should check first whether the problem is permanent or occurs only temporarily.

If the symbol appears permanently, a service company should be called!

A few displays can be conditional upon the system and do not necessarily mean that the meter is defect. The warning display disappears after a short period when the system is operating properly.

Symbol	Status	Display	Event / Reaction
	Flow existent		System is operating.
	Indicator for a possible defect!	Always on	If warning triangle appears permanently, please notify a service company.
	Data transfer on the interface	Only on when data is being transmitted	
	Emergency operation!	Always on	Energy is still being displayed and calculated correctly. All other displays however, are blocked and the button also no longer reacts. Notify service company

Operating manual
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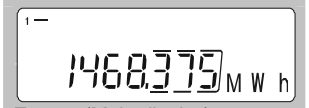
Technical Data

Type		zelsius		
Temperature range HC*	°C	1 ...130		
Temperature range VMU**	°C	15 ... 90		
Temperature difference range	Kelvin	3 ...100		
Type of temperature sensor		Pt 500		
Temperature range sensor	°C	0 ... 130 (Silicon)		
Dimensions sensor	mm	5,0 / 5,2 (cable 1,5 m)		
Nominal flow rate	Qp m³/h	0,6	1,5	2,5
Nominal diameter	DN mm	15	15	20
Highest flow rate	Qs m³/h	1,2	3,0	5,0
Transitional flow rate Qt (Class A)	l/h	120	150	250
Minimum flow Qmin (Class A)	l/h	24	60	100
Nominal pressure	bar	16		
Media temperature VMU	Tmax °C	90		
Pressure loss at Qp	bar	≤ 0,25		
Starting flow rate typical				
Horizontal	ca. l/h	4	4	6
Display range LC-Display		8 positions, 3 after comma		
Battery	V	3,0 (Lithium)		
Battery life	years	≥ 6		
Protection class		IP 54		
Ambient temperature	°C	0 ...55		
Weight measuring capsule	g	ca. 680		
Connecting thread capsule	inch	G 2 B		

* HC = heat computer
** VMU = volumetric measuring unit

Level 1



Energy (Main display)

Volume

Segment test

Supply temperature

Return temperature

Temperature difference

Flow rate

Actual power

S

Level 2

Energy on S.R.D.

Date S.R.D.

Consumption previous year

Current monthly consumption

Serial number

Customer number (optional)

S

A change in level can take place from any display in the menu.

Monthly statistics

Date 1. Monthly value

Energy to 1. Monthly value

Date 2. Monthly value

Further to the previous month

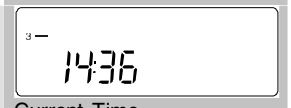
S

Level 3

Type of sensor and installation location

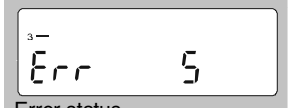
Type number

End of calibration validity

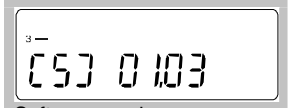


Current Time

Current Date



Error status



Software version

S

Legend:

S — Press button briefly (S), usually used to scroll from top to bottom. After the last menu display has been reached, a jump is automatically made to the top (first) menu item (loop).

L — Press button for approx. 2 sec.(L), wait until the door symbol (upper right in the display) appears and then release the button. Then the menu is updated resp. a jump is made to the submenu.

H — Hold button (H) until the level is changed or a return from the submenus occurs.

Note:

According your meter's model, it's displays can differ in number and sequence from those represented here.

A complete and detailed operating manual can be downloaded from our support area under

http://www.zenner.de