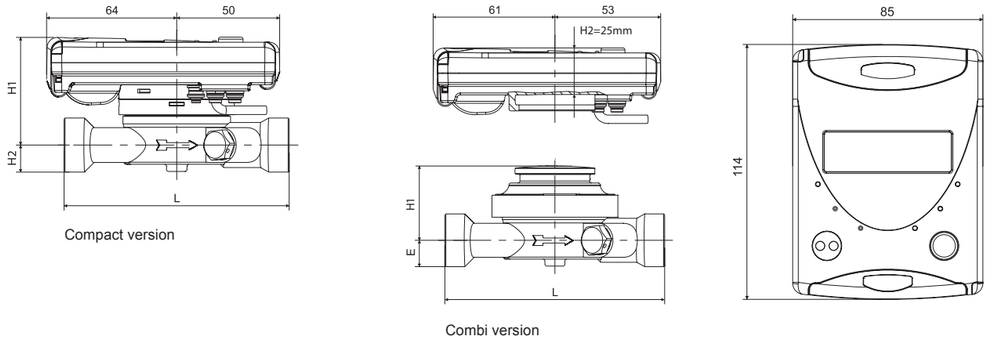

Compact version

Combi version

Dimensions		
Compact version:	H_{max} = 55 mm	
	E_{max} = 21 mm	
Combi version (H1+H2):	H_{max} = 65 mm	
	E_{max} = 21 mm	

Connecting sizes					
Nominal flow	q_p	m³/h	0,6	1,5	2,5
Connection	DN	mm	15	15	20
Overall length	L	mm	110	110	130
Height	H1	mm	40	40	40
Required minimum free space between meter and ceiling			min. = 30 mm		

Further zelsius® C5-versions:

zelsius® C5-CMF
Compact meter with coaxial measuring capsule (CMF)

zelsius® C5-IUF
Compact meter with ultrasonic flow sensor (IUF)

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EnergyMetering

zelsius® C5-ISF

The new zelsius® generation

Electronic compact meter
for heating or cooling energy
with single-jet flow sensor (ISF)
Optionally with M-Bus,
wM-Bus and 3 inputs / outputs
q_p 0,6/1,5/2,5 m³/h

To use as version „Glycol meter“ for water, glycol heat transfer medium in heat pumps and solar systems.
Glycol type (Propylene or Ethylen-glycol) as well as mixture ratio are programmable on site on the meter.

ZENNER
All that counts.

zelsius® C5-ISF

The new zelsius® generation

The new generation of electronic compact meter with single-jet flow sensor (ISF)

The new zelsius® C5 ISF with single-jet flow sensor combines efficiency with compact design, highest precision and most advanced communication interfaces for M-Bus and wireless M-Bus.

Specially designed for consumption-based energy billing, zelsius® C5 ISF is very well prepared to be used in all real estate with central heat supply:

- industrial and business buildings
- apartment buildings and residential complexes
- multi-family buildings

The advantages of zelsius® C5 ISF can be observed even by the installation. With its compact design zelsius “adapts” easily to nearly any installation situation. The Combi version with removable calculator allows installation even in the smallest distribution boxes.
zelsius® C5 ISF can be easily operated via one single button. The application-oriented display offers an optimum of readability and practical demonstration of relevant operating conditions.

Reliability and high dynamic range ensure optimal measurement results during the entire operating time.

zelsius® C5 ISF is a threaded meter, equipped with a rugged single-jet flow sensor (ISF) with reaction-free electronic impeller detection, simple to replace and available in all common sizes.

Performance characteristics in overview

- Can be delivered as heat, cooling or combined heat/cooling energy meter as well as glycol meter
- Lowest design height
- Optionally available with M-bus or wireless M-bus
- Optionally available with 3 inputs / outputs
- For horizontal and vertical installation
- Storage of all monthly values during the entire operating time
- Extensive maximal value storage of thermal output, flow rate and other parameters
- Optionally available with 11-years battery lifetime
- Precise and long-stable
- Very wide dynamic range
- According to MID, class 3

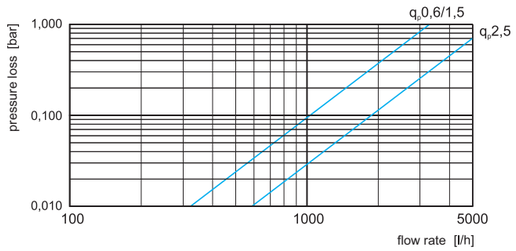
Technical data flow sensor ISF

Nominal flow qp	m³/h	0,6	1,5	2,5
Maximum flow qs	m³/h	1,2	3,0	5,0
Minimum flow qi horizontally*	l / h	12 / 24	30 / 60	50 / 100
Minimum flow qi vertically*	l / h	12 / 24	30 / 60	50 / 100
Starting flow horizontally ca.	l/h	4	4	5
Pressure loss at qp	bar	<= 0,25 bar		
Temperature range	°C	10°C <= θ_q <= 90°C		
Minimum pressure (to avoid cavitation)	bar	0,3		
Measurement accuracy class		3		
Nominal pressure	PS/PN	16		
Nominal diameter	DN	15	15	20
Installation length	mm	110	110	130
Installation position		horizontally or vertically, no upside down installation		
Installation		return flow optionally forward flow		
Cable length up to calculator (in combi version)	m	1,2		
Installation place temperature sensors		M10 x 1		
Heat carrier (Medium)		water (water-glycol, without conformity assessment)		

* Standard: Ratio 25; optionally R50 but not for qp=0,6 and non-symmetrical temperature sensors installation

Technical data temperature sensors

Platinum resistance		Pt 1000
Sensor diameter/type	mm	Standard: 5,0 (DS according to EN 1434); other sizes on demand
Temperature range	°C	0 - 105
Cable length	m	1,5 (opt. 5)
Installation	VL	by direct immersion or by immersion sleeves (in case of existing measuring points)
	RL	by direct immersion or by immersion sleeves (in case of existing measuring points); optionally integrated in flow sensor



Typical accuracy curve

Technical data calculator

Temperature range	°C	0…105**
Temperature difference range	K	3…80
Display		LCD 8-digit + additional character
Storage temperature	°C	-20...65
Ambient temperature	°C	5...55
Minimum temperature diffence	K	3 (cooling or change-over: 2)
Resolution temperature	°C	0,01
Measurement frequency	s	adjustable ex works, beginning with 2s, standard 30s
Unit to read the heat consumption		Standard MWh; optionally kWh, GJ
Data backup		1 x daily
Due date values		Storage of all monthly values during the entire operating time
Maximum value storage		extensive storage of flow rate, performance and other parameters
Interface	standard	optical interface (ZVEI, IrDA)
	optional	M-Bus, wM-Bus, RS485, radio
Supply		3,6 V lithium battery (different capacities)
Battery lifetime	years	> 6, opt. > 11 (changeable during the operation time)
Protection class		IP54
EMC		C
Ambient conditions / climatic influencing (valid for complete compact meter)	- climatic	Highest permissible ambient temperature 55°C Lowest permissible ambient temperature 5°C Humidity class IP54
	- mechanical class	M1
	- elektro-magnetic class	E1

**approx. -20…105°C for Glycol meter (without Conformity assessment)

On-site programmable heat transfer medium for Glycol meter version.

Water-Ethyleneglycol-mixture:
Proportion of Ethylene Glycol 20, 25, 30, 35, 40, 45 or 50%

Water-Propylenglycol mixture:
Proportion of Propylene Glycol 20, 25, 30, 35, 40, 45 or 50%