

zelsius® C5-CMF

The new zelsius® generation

Electronic compact meter for heating or cooling energy with coaxial measuring capsule (CMF)

Optionally with M-bus, wM-Bus and 3 inputs /outputs

q_p 0,6/1,5/2,5 m³/h



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The new generation of electronic compact meter with coaxial measuring capsule (CMF)

The new zelsius® C5 CMF with coaxial measuring capsule combines compactness with rugged construction, flexibility and most advanced communication interfaces for M-Bus and wireless M-Bus.

Specially designed for consumption-based energy billing, zelsius® C5 CMF is well prepared for use in all real estate with central heat supply:

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

With zelsius® C5 CMF Zenner offers a compact heat meter, which can be flexible installed in different connecting points (EAS) depending on the version.

The advantages of zelsius® C5 CMF 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 CMF 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 large dynamic range ensure optimal measurement results during the entire operating time. With the reaction-free electronic impeller detection, zelsius® C5 CMF meets the current metrological requirements for compact heat meter and due to concentric measuring capsule it is available for different connections points (IST, M60, TE1) according to DIN EN 14154.

Performance characteristics in overview

- Available as heating/cooling meter or in Combi version for heating/cooling
- Lowest design height
- Optionally available with M-bus or wireless M-bus
- Optionally available with 3 inputs / outputs
- For horizontal and vertical installation position
- 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, long-stable
- Wide dynamic range
- According to MID

Technical data flow sensor CMF

(Values for symmetrical temperature sensors installation)

Nominal flow q_p	m ³ /h	0,6	1,5	2,5
Maximum flow q_s	m ³ /h	1,2	3	5
Minimum flow q_i horizontally	l/h	24	30 / 60	50 / 100
Minimum flow q_i vertically	l/h	24	30 / 60	50 / 100
Starting flow horizontally ca.	l/h	5	5	7
Pressure loss at q_p	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		
Connecting point*		M60, IST, TE1		
Nominal pressure	PS/PN	16		
Nominal diameter	DN	depending on the connecting interface		
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		water		

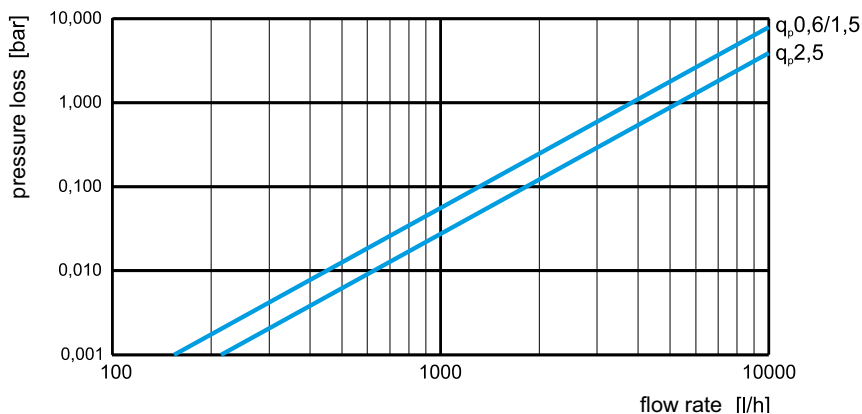
* optionally

Technical data temperature sensors

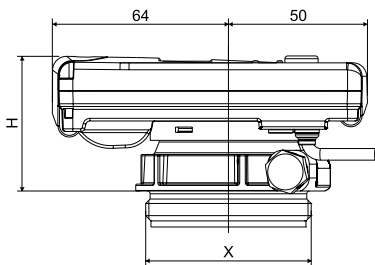
Platinum resistance		Pt 1000
Sensor diameter/type	mm	Standard: 5,0 (DS according to EN 1434); other sizes on demand
Temperature range	°C	0 - 105
Cable length	m	1,5 (opt. 5)
Installation	forward flow	by direct immersion or by immersion sleeves (in case of existing measuring points)
	return flow	by direct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

Technical data calculator

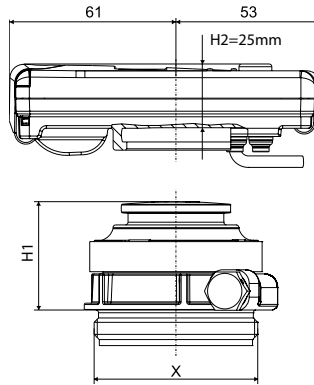
Temperature range	°C	1...105
Temperature difference range	K	3...80
Display		LCD 8-digit + additional character
Ambient temperature	°C	5...55
Minimum temperature difference	K	3
Resolution temperature	°C	0,01
Measurement frequency	s	adjustable ex works beginning with 2s, standard 30s
Unit to read the heat consumption		Standard MWh; optionally kWh, GJ
Data storage		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 operating 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
	- elektromagnetic class	E1



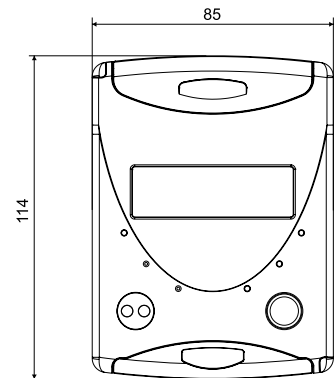
Typical accuracy curve



Compact version



Combi version



Dimensions

Height Compact version:	H = 50 mm
Höhe Kombivariante (H1+H2):	= 65 mm

Connecting sizes

Nominal flow	q _p	m ³ /h	0,6	1,5	2,5
Connection	DN	mm	15	15	20
Overall length	L	mm	110	110	130
Pipe connection	"		3/4	3/4	1

Size X depends on the kind of concentric flow sensor (IST, M60, TE1)

Further zelsius® C5 versions:



zelsius® C5-ISF
Compact meter with single-jet
flow sensor (ISF)



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

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