

SIEMENS



BT International

Selection Guide Energy Meters & Accessories

ULTRAHEAT T230
ULTRAHEAT UH50

www.siemens.com/hvac

Contents

1	Introduction.....	5
1.1	Overview	7
2	Technique.....	9
2.1	T230 flow part & calculator	9
2.2	UH50 flow part & calculator	12
3	Offering	19
3.1	T230	19
3.1	Flow part & calculator	19
3.2	UH50	21
3.3	Flow part & calculator	21
3.4	Power supply.....	24
3.5	Communication modules	24
3.6	Accessories	24
3.7	Ordering information on radio module 868 MHz (wireless M-Bus)	26
4	Programming software	27
4.1	UltraAssist.....	27
4.2	Connection computer – energy meter	27
5	M-Bus overview	29
5.1	M-Bus system	29
6	Ordering	31
6.1	Modular concept (only UH50)	31
6.2	Order example	31
7	Battery information	32
8	Documentation	32
9	Marketing material / Training.....	32

1 Introduction

The ULTRAHEAT product portfolio is today's solution for accurate energy measurement. It complies with all important rules and regulations like MID, EN1434 etc. and satisfies highest market demand through high reliability, long term stability and high accuracy. The portfolio contains two different types of meters. A smaller and price efficient line called T230 with a composite-flow part and the well known and highly flexible UH50 line. With this wide meter portfolio we cover most of our customer needs.

The **T230** is the new generation of ultrasonic heating or cooling meter. Especially developed and optimized to meet residential needs. The meter has impressive features; light in weight, robust, economic efficiency, user-friendliness, and its new individuality. All the T230 have a build in M-Bus module and a non-replaceable 11 years battery. Two diameters (G $\frac{3}{4}$ and 1") are available with three different nominal flow rates.

The **UH50** heat / cold meter has been designed to cover a wide field of applications in which energy measurement is required. The UH50 meets the particular needs of district and communal heating systems, building energy management technology and cooling metering. Whether the meter is destined for use in a block of flats, consumers on a special tariff, or more general use the **UH50** 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 particular needs and applications. The UH50 is available from G $\frac{3}{4}$ " to DN100.

These meters are designed for circulating water of cooling / heating or combined systems and shall not be used for potable water.

1.1 Overview

1.1.1 Diameter comparison

Type	G $\frac{3}{4}$ "	G1"	G $\frac{5}{4}$ "	G2"	DN40	DN50	DN65	DN80	DN100
T230	●	●							
UH50	●	●	●	●	●	●	●	●	●

1.1.2 Meter versions

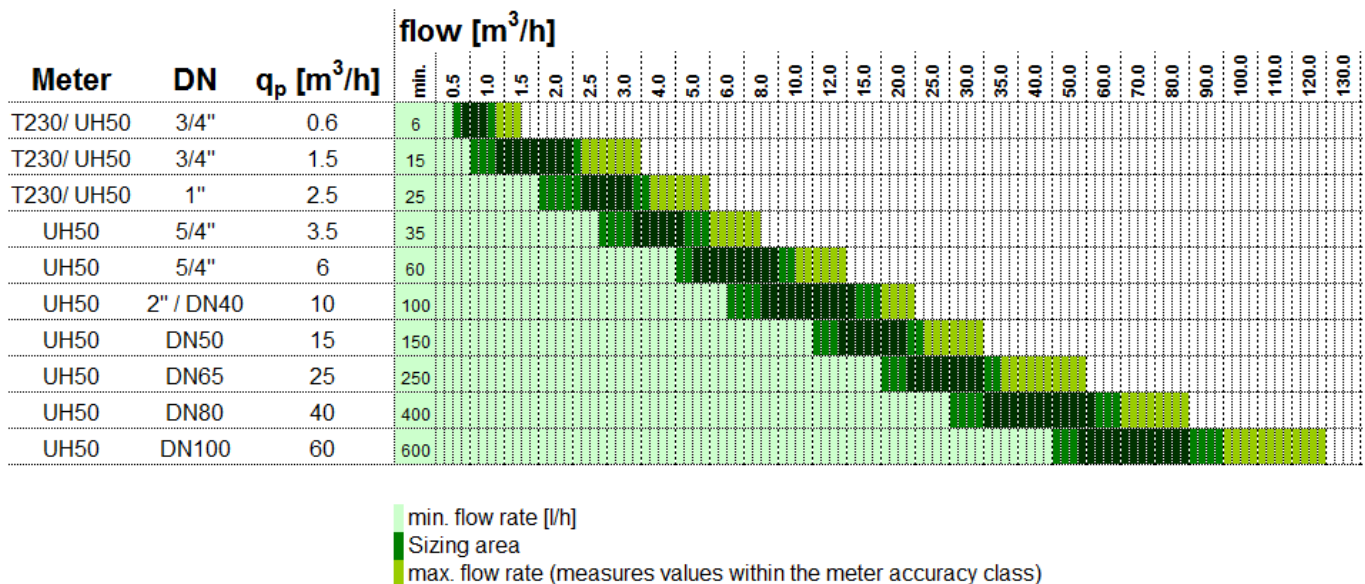
Type	Heat t = 5...90 °C Location: return	Heat t = 10...130 °C Location: return	Cold t = 12 °C / 6 °C Location: return	Combi Cold & Heat Location: return	Flow
T230	●		●		
UH50		●	●	●	●

1.1.3 Modules

Type	M-Bus	Wireless M-Bus	GSM	Pulse	Analog	Power Supply	Changeable battery	Disposable meter
T230	●							●
UH50	●	●	●	●	●	●	●	

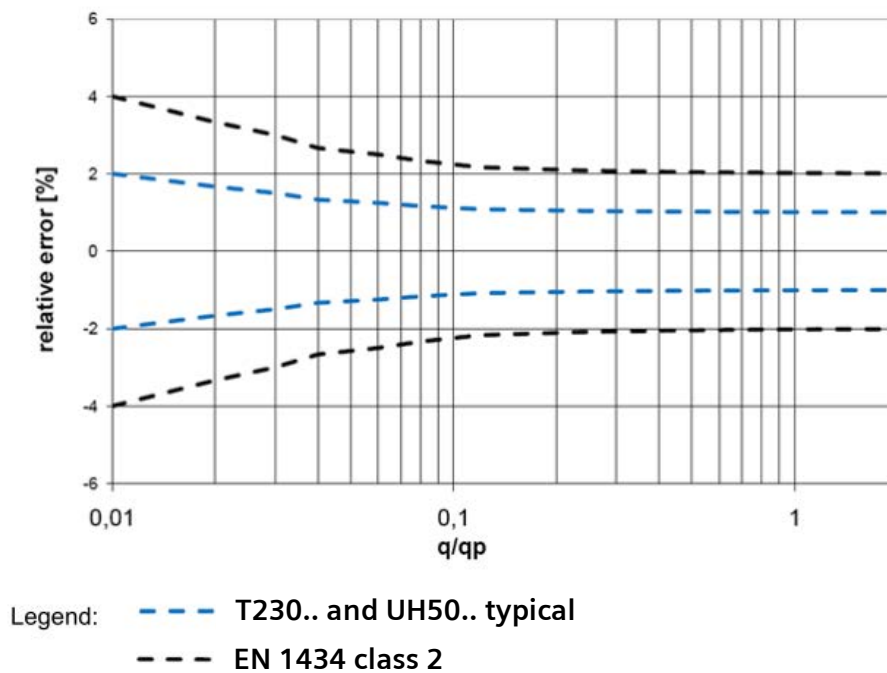
1.1.4 Flow rate chart

The table below shows you the correct flow sizing volumes and the flow limits.



1.1.5 Metering accuracy as per EN 1434

The diagram below shows a typical metering accuracy of the T230 and the UH50.. in comparison with the error limits as per to EN 1434, class 2.



2 Technique

2.1 T230 flow part & calculator

2.1.1 Flow part

Measuring accuracy EN 1434 (Class 3)

Environment class A (EN 1434) for indoor installation

All volume measuring units	
Mounting location	Return flow
Mounting orientation	Any
Settling section	None
Metrological class	1:100
Temperature range	5...90 °C
Maximum overload	2 x q_p
Nominal pressure	PN16
Material of the tube	GRP (glass reinforced plastic)
Protection data	Safety class III / IP 65 (only flow part)

Flow measure unit

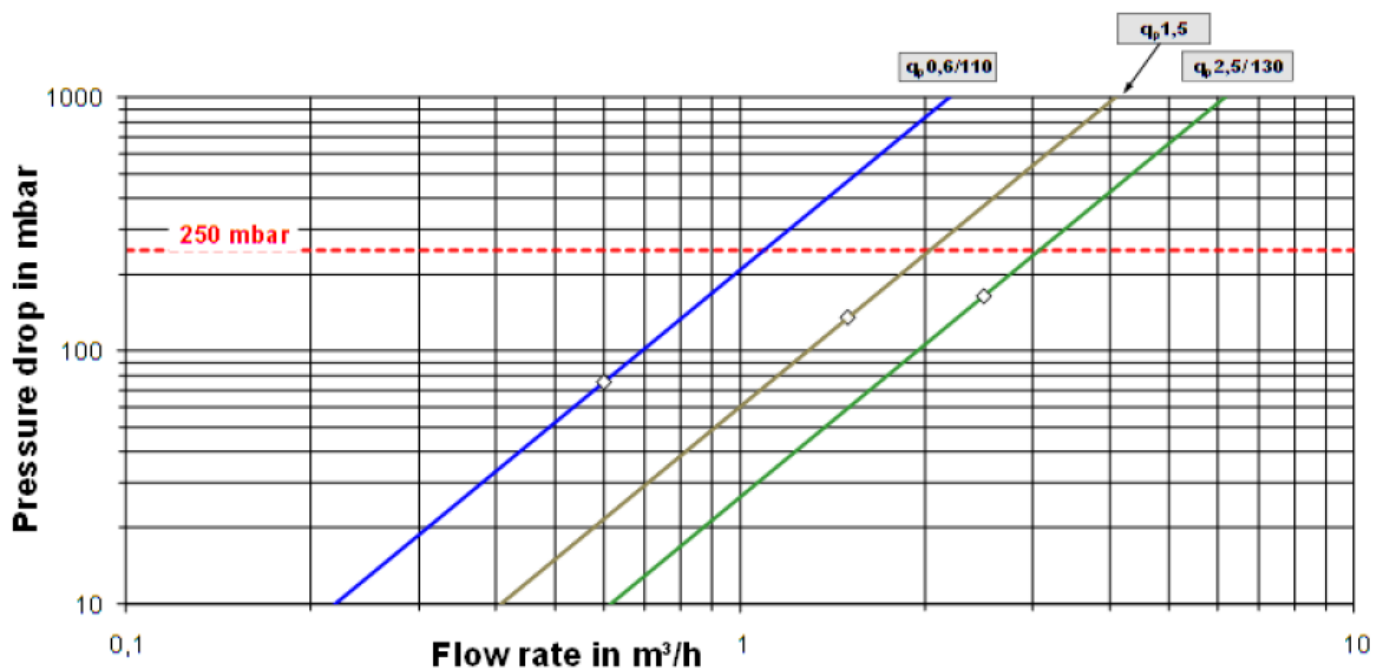
q_p (m³/h)	Overall length and connection	
0,6	110mm (¾")	
1,5	110mm (¾")	130mm (1")
2,5		130mm (1")

Flow range

The table below shows you the correct flow sizing volumes and the flow limits.

Nominal flow rate	q_p (m³/h)	0,6	1,5	2,5
Max. flow	q_s (m³/h)	1,2	3	5
Min. flow	q_i (m³/h)	0,006	0,015	0,025

Pressure drop in mbar

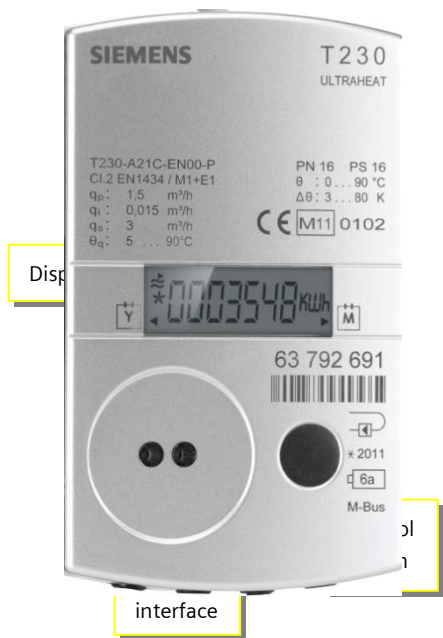


2.1.2 Electronic unit

Highlights

- 7 digit LCD
- 1 button user interface

Storage temperature	- 20...60 °C
Maximum altitude	Min. 700 hPa, corresponding to max. 2000 m above sea level
Ambient temperature	5...55 °C
Ambient humidity	< 93 % relative humidity @ 25 °C non condensing
Protection data	Safety class III / IP 54 (only electronic unit)
Power Supply	Battery for up to 11 years
Optical interface	as standard, EN62056-21
Communication	Built in M-Bus
Measuring range	0...180 °C
Range of temperature differential $\Delta\theta$	3...80 K
Temperature response threshold	0.2 K



Operating Elements

- Sophisticated one button interface (Loops)
- Standard equipped with an optical communication interface which facilitates readout and parameterization on site with the help of the optical read head WZR-OP-USP and UltraAssist software

Loops

Loop 0	User loop	Energy quantity, Volume and Error code
Loop 1	Current values	
Loop 2	Previous months values	
Loop 3	General / Communication	
Loop 4	Other	

Sensors Type

qp 0,6 – 2,5 m ³ /h	Non-removable from calculator	
	Sensor type	Pt500
	Thread / diameter	Ø 5.2 mm
	Length	45 mm
	Cable length	1,5 m



2.1.3 Accessories

For Sensors

qp 0,6 – 2,5 m ³ /h	Accessories	ASN	
	Ball valve for sensor		
		WZT-K12 WZT-K34 WZT-K1	G½", L= 64 mm G¾", L= 72,5 mm G1", L= 85,5 mm
	(pack size: 1 pc incl. gasket)		
	Adapter for sensor		
		WZT-A12 WZT-A34	G½", L= 11,5 mm G¾", L= 14 mm
	(pack size: 1 pc incl. gasket)		
	Kit with plastic adapter		
		9956230	G½", L= 64 mm
	(pack size: 1x adapter for sensor, 2x O-ring gaskets, 1x grooved pin)		
	Protection pocket		
		WZT-M35	G½", L = 35 mm
	(pack size: 1 pc incl. cooper sealing disc)		

2.2 UH50 flow part & calculator

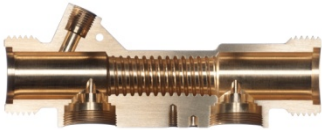

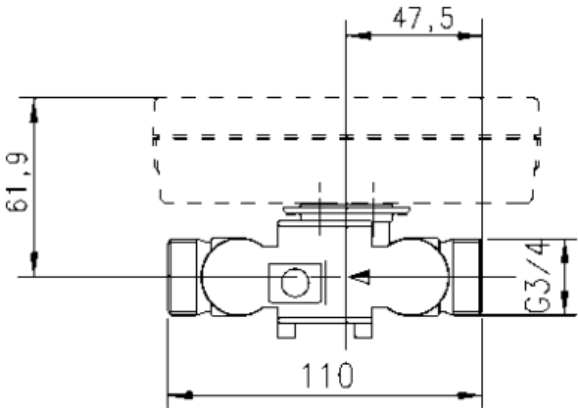
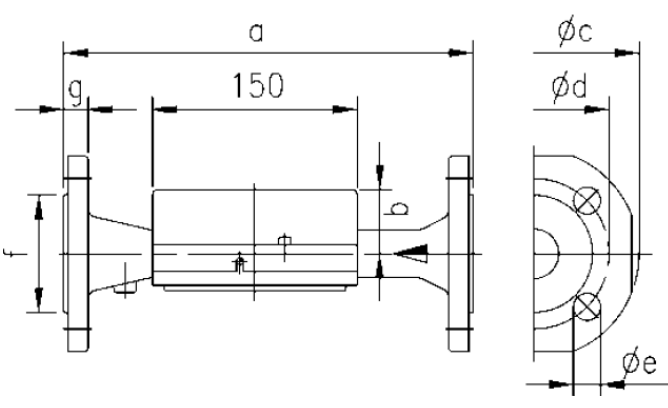
2.2.1 Flow part

Measuring accuracy Class 2 (EN 1434)

Environment class A (EN 1434) for indoor installation

All volume measuring units	
Mounting location	Return flow
Mounting orientation	Any
Settling section	None
Metrological class	1:100
Temperature range	5...130 °C
Recommended for heat application	10...130 °C
Recommended for cooling application	5...50 °C
Maximum temperature	150 °C for 2000 h
Maximum overload	2.8 x q_p
Nominal pressure	T = PN16, F = PN25

Technical Design Flow part (UH50)

Dura Surface ($q_p \leq 2,5 \text{ m}^3/\text{h}$)	Helical sound path ($q_p \geq 3,5 \text{ m}^3/\text{h}$)
	
	

HIGHLIGHTS

Dura Surface ($q_p \leq 2,5 \text{ m}^3/\text{h}$)

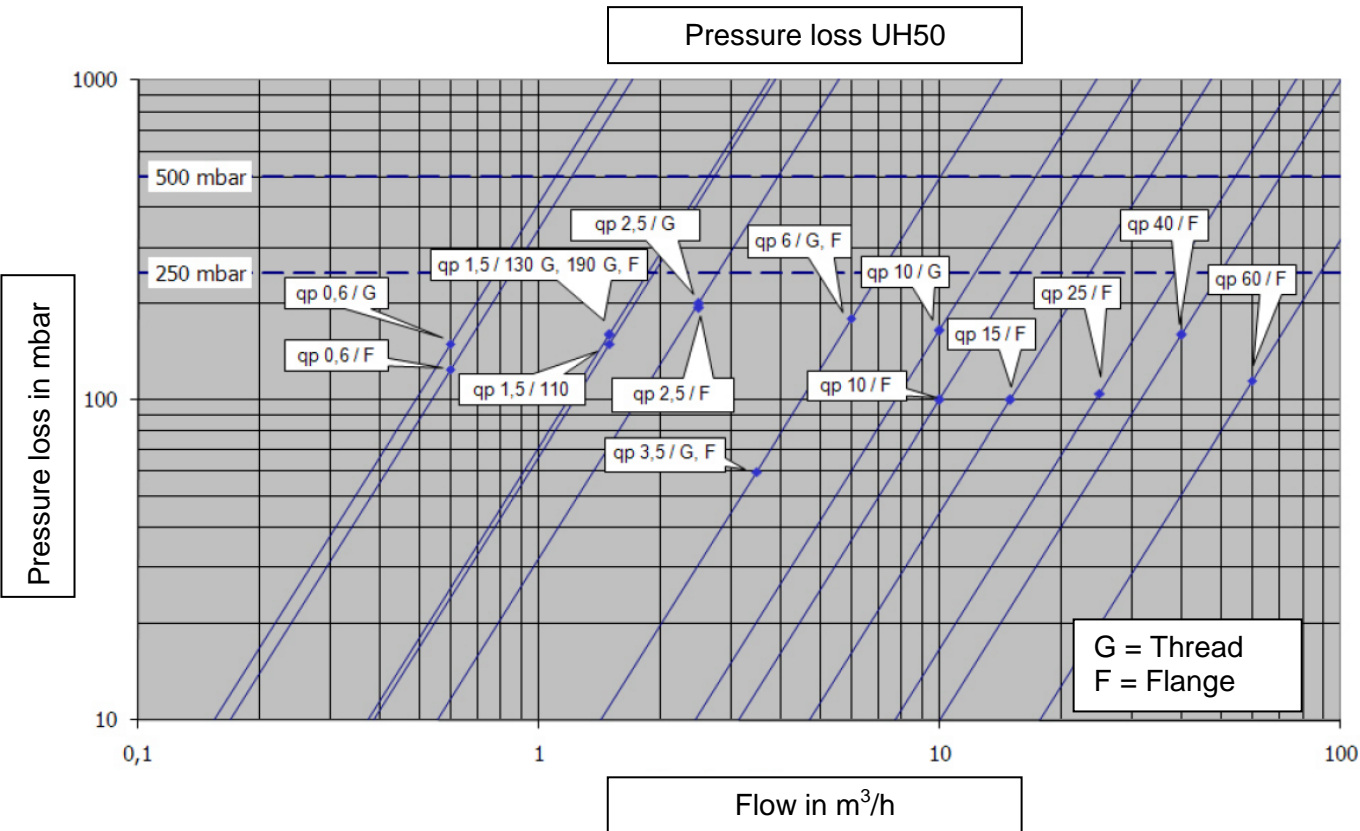
With the design of the flow part we succeeded to get even higher measurement accuracy and long term stability plus a higher resistance to soiling. The special internal profile (DuraSurface) ensures that interfering reflections in the measurement channel are filtered out from the outset. That makes the meter more resistant to dirt deposits and ensures a maintenance free operation for many years.

Helical sound path ($q_p \geq 3,5 \text{ m}^3/\text{h}$)

The Helical sound path ensures the high accuracy for the bigger size meters. With this design and ultrasonic sound path the meter will measure exact values independent of the flow, both laminar as well as turbulent and transition phase will not influence the measuring accuracy. Soiling of the meter is automatically detected and the signal strength increased to guarantee an accurate and consistent measurement.

Pressure loss chart (UH50)

The table shows the relation between the flow through the meter and the resulting pressure loss.



2.2.2 Electronic unit

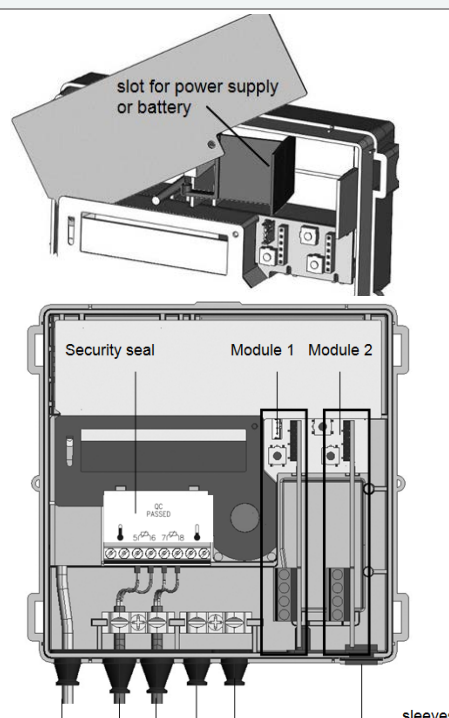
Highlights

- 2 slots for communication modules
- Flexible in power source

Storage temperature	- 20...60 °C
Maximum altitude	Min. 700 hPa, corresponding to max. 2000 m above sea level
Ambient temperature	5...55 °C
Ambient humidity	< 93 % relative humidity @ 25 °C non condensing
Protection data	Housing: Safety class II / IP 54
	Power pack AC 110 / 230 V: Safety class II
	Power pack AC / DC 24 V: Safety class III (SELV)
Slots for Comm module	2 slots
Measuring range	0...180 °C
Range of temperature differential $\Delta\Theta$	3...80 K
Temperature response threshold	0.2 K



*) Accessible after removal of the cover





Operating elements

- Button 1 ("Loop"); advances to the next loop
- Button 2; advances to the next line within a loop
- Service button, inside
- The calibration button is additionally protected by an adhesive label
- Standard equipped with an optical communication interface which facilitates readout and parameterization on site with the help of the optical read head WZR-OP-USP and UltraAssist software



Loops

Loop 0	User loop	current values (limited)
Loop 1	Service loop 1	current values
Loop 2	Service loop 2	maximal values
Loop 3	Service loop 3	monthly values
Loop 4	Service loop 4	unit parameters

Sensors Type

qp 0,6 – 6,0 m³/h		qp 10 – 60 m³/h	
			
Removable from calculator			
Sensor type	Pt500	Sensor type	Pt500
Thread	M10x1 mm	Diameter	Ø 6 mm
Length	27,5 mm	Length	100 mm
Location	Internal; direct	Location	external
Cable length	2,5 m	Cable length	2,0 m

2.2.3 Power supplies

Power supply modules	
 24 V AC/DC	Pollution degree per EN 61010 (no or only dry, non conductive soiling) Ambient temperature + 5...50 °C Storage temperature - 20...60 °C Back-up time during power failure (power reserve) > 20 minutes
 110 V AC, 230 V AC	

Battery variants	Battery type / Life time	
Requirements		
(for measuring time base Q=4s [MWh] and measuring time base T=30s [°C])	AA-cell	D-cell
<ul style="list-style-type: none"> • no M-Bus fast read-out • without controller function 	6 years	11 years *
<ul style="list-style-type: none"> • M-Bus fast read-out or fast pulses • or analogue module / or radio module 	--	6 years*

* The factory setting is always standard pulse (meaning D-cell has a life time of 11 years)

NOTE:

The UH50 can be powered either by power supply or with a battery, a combination is not possible.

2.2.4 Communication module

The meter is equipped with an optical interface in accordance with EN 62056-21:2002 as standard. It's possible to add up to two communication modules.

Available modules:

- Pulse module
- M-Bus module (most common)
- CL (current loop) module
- GPRS module
- GSM module
- Radio module 868 Mhz (wireless M-Bus)
- Zigbee module



Permissible combinations of modules

		Step 1: Slot for module #2 is equipped with..						
		Pulse module		M-Bus	CL	GPRS	GSM	RF 868 MHz
		"standard"	"fast" *)					
Step 2 Slot for module #1 can be equipped with..	Pulse module **)	Yes (3)	Yes (2)	Yes	Yes	Yes	Yes	Yes
	M-Bus	Yes	Yes	Yes	Yes (1)	Yes	Yes	Yes
	CL	Yes		Yes (1)	No	Yes	Yes	Yes
		Yes	Yes	Yes (1)	No	Yes	Yes	Yes

Restrictions:

*) only 1 module with fast pulses is possible;

only permissible on slot 2;

min. pulse duration:

- 2 ms, if pulse module 1 not fitted

- 5 ms, if pulse module 1 fitted

- must be equipped with D-cell battery or power supply

**) Subsequent mounting of a further pulse module in module slot 1 can result in changed output values for module 2!

(1) For M-Bus with controller coupling, the CL read-out can take up to 40 s


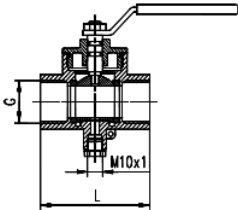



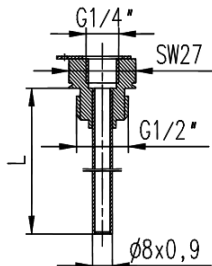
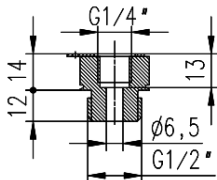

(2) Pulse length of the fast pulses min. 5 ms

Modules and it's power





M-Bus	Essential: D-cell or power supply
GPRS	Power Supply is included in the package!
RF 868MHz	Essential: D-cell or power supply
ZigBee	Essential: Power supply

2.2.5 Accessories



For Sensors

For meter with qp 0,6 – 6,0 m³/h	Accessories	ASN	
 Pt500 M10x1 mm 27.5 mm	Ball valve for sensor		
		WZT-K12 WZT-K34 WZT-K1	G½", L= 64 mm G¾", L= 72,5 mm G1", L= 85,5 mm
	(pack size: 1 pc incl. gasket)		
	Adapter for sensor		
		WZT-A12 WZT-A34	G½", L= 11,5 mm G¾", L= 14 mm
(pack size: 1 pc incl. gasket)			
Welding sleeve			
		WZT-G10	M10x1 mm
(pack size: 1 pc)			
For meter with qp 10 – 60 m³/h	Accessories	ASN	
 Pt500 Ø 6mm 100 mm	Protection pocket		
		WZT-S100 WZT-S150	G½", L = 100 mm G½", L = 150 mm
	(pack size: 1 pc incl. gasket)		
	Adapter for sensor		
		WZT-A100	G½"
(pack size: 1 pc incl. gasket)			
Welding sleeve			
		WZT-G12 WZT-GLG	G½", 45° G½", 90°
(pack size: 1 pc incl. gasket)			

For the flow part

For meter with qp 0,6 – 6,0 m³/h	Accessories	ASN	
	Kit extension for meters with 110 mm length		
		WZM-V130.G1	G¾-G1", L= 110-130 mm
	(pack size: pair with gaskets)		
		WZM-V190	G¾-G1", L= 110-190 mm
	(pack size: pair with gaskets)		
	Spacer for meter PN16		
		WZM-G110 WZM-G130 WZM-G260 WZM-G300.1	G¾", L= 110 mm G1", L= 130 mm G5/4", L= 260 mm G2", L= 300 mm
(pack size: 1 pc incl. gaskets)			
For meter with qp 10 – 60 m³/h	Accessories	ASN	
	Spacer for meter PN16		
		WZM-F270 WZM-F300 WZM-F300.65 WZM-F300.80 WZM-F360.100-16	DN50, L= 270 mm DN40, L= 300 mm DN65, L= 300 mm DN80, L= 300 mm DN100, L= 360 mm
	(pack size: 1 pc incl. gaskets)		

Sensor replacements

For meter with qp 0,6 – 6,0 m ³ /h	Accessories	ASN	
	Temperature sensor short		
		WZU5-2825	Pt500 L= 27,5 mm Direct Short M10x1 Cable length 2,5 m
	(pack size pair with gasket)		
For meter with qp 10 – 60 m ³ /h	Accessories	ASN	
	Temperature sensor long		
		WZU5-1020	Pt500 L= 100 mm x Ø 6 mm Pocket Long Cable length 2,0 m
	(pack size 1 pc. incl. gasket)		

3 Offering

3.1 T230

The offering of the T230 is limited by four different types of meters. The types are specified and offered as heat meter only and cooling meter only with 11 years batteries and an M-Bus communication module.

3.1 Flow part & calculator

Standard offering	
mounting location	return (two wire measurement sensor connection)
0,6 to 2,5 m³/h	Threaded connection (PN16)
Calculator mounting	split 1,5 m cable
Language	English
Logo	Siemens
Temperature sensor	
0,6 to 2,5 m³/h	internal direct (fixed) Ø 5.2 mm, length 45 mm, 1,5 m cable
Certification/Conformity	Tested acc. to CEN 1434 class2
Energy unit	kWh

Type Code T230 Energy meters

Ultrasonic Energy meter

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
T230				-														

Meter version and location

Meter version	Sensor connection	Location
Heat meter	Two wire measurement	Return
Cold meter 12 °C / 6 °C (water)	Two wire measurement	Return

Flow sensor

Small heat meters

Flow rate EN 1434	special units	Length	Nominal pressure	Connection
qp = 0,6 m³/h	qs = 1,2 m³/h	110 mm	PN 16	G¾"
qp = 1,5 m³/h	qs = 3 m³/h	110 mm	PN 16	G¾"
		130 mm		G1"
qp = 2,5 m³/h	qs = 5 m³/h	130 mm	PN 16	G1"

Calculator mounting

Splitable	length of cabel 1,5m (fix)
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Logo

Logo Siemens

Temperature sensor type and mounting

Resistor type	Connection to the calculator	Sensor mounting
Pt500	fixed	internal direct direct

Sensor details

Diameter	Sensor length	Cable length
Ø 5.2 mm	45 mm	1,5 m

Power Supply

with batteries for 11 years

Communication interface

M-Bus interface

Certification / Conformity

Tested acc. to CEN 1434 class 2

Energy unit

	Flow rate [m³/h]	Decimal places	static
kWh	up to qp 2.5	0	static

HEAT METER	
SIEMENS ASN	
T230-A05C06P0HEBT2A	Heat meter q _p 0,6 m ³ /h, T 3/4" PN16, 11y. Batteries, M-Bus
T230-A21C06P0HEBT2A	Heat meter q _p 1,5 m ³ /h, T 3/4" PN16, 11y. Batteries, M-Bus
T230-A26C06P0HEBT2A	Heat meter q _p 1,5 m ³ /h, T 1" PN16, 11y. Batteries, M-Bus
T230-A36C06P0HEBT2A	Heat meter q _p 2,5 m ³ /h, T 1" PN16, 11y. Batteries, M-Bus

COOLING METER	
SIEMENS ASN	
T230-G05C06P0HEBT2A	Cooling meter q _p 0,6 m ³ /h, T 3/4" PN16, 11y. Batteries, M-Bus
T230-G21C06P0HEBT2A	Cooling meter q _p 1,5 m ³ /h, T 3/4" PN16, 11y. Batteries, M-Bus
T230-G26C06P0HEBT2A	Cooling meter q _p 1,5 m ³ /h, T 1" PN16, 11y. Batteries, M-Bus
T230-G36C06P0HEBT2A	Cooling meter q _p 2,5 m ³ /h, T 1" PN16, 11y. Batteries, M-Bus

NOTE:

If you need a test certificate for the meter you can order them additionally.

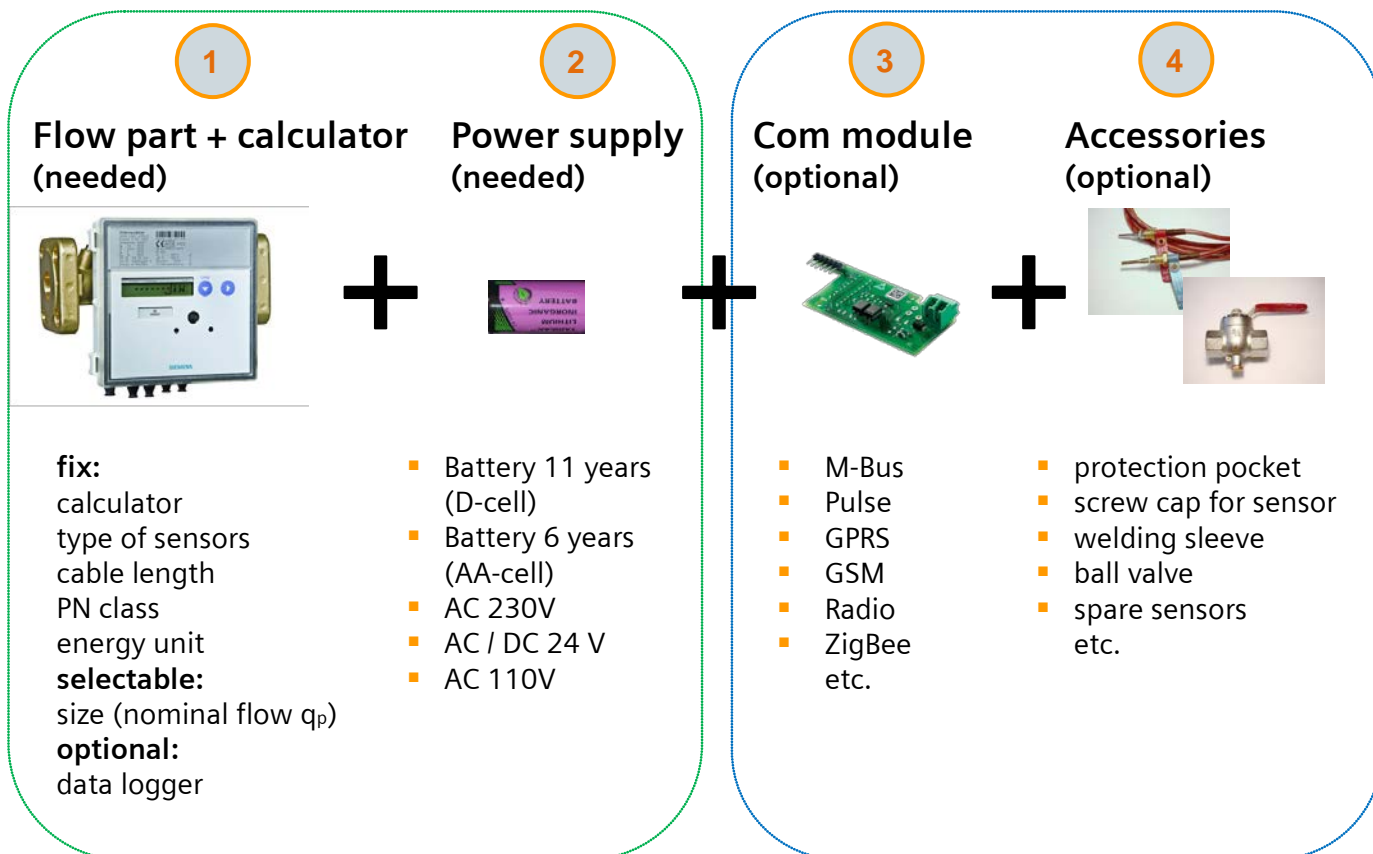
For any further information regarding the test certificate please contact the responsible product manager.

3.2 UH50

The offering of the UH50 is standardized in regards to flow part and calculator. The types are specified and offered as heat meter only, cooling meter only or combined heat and cooling meter with preselected sensors, PN class, cable length etc.

The power supply needs to be ordered separately. They are by standard build into the meter. If the chosen power supply is a D-cell battery please refer to Chapter 7 Battery information.

In addition communication modules and other accessories can be ordered optionally.



3.3 Flow part & calculator

Standard offering	
mounting location	return (two wire measurement sensor connection)
0,6 to 10 m ³ /h	Threaded connection (PN16)
10 to 60 m ³ /h	Flanged connection (PN25)
Calculator mounting	split 1,5 m cable
Language	English
Logo	Siemens
Temperature sensor	
0,6 to 6 m ³ /h	internal direct (removable)
	M10x1, length 27,5 mm, 2,5 m cable
10 to 60 m ³ /h	external (removable)
	Ø 6 mm, length 100 mm, 2,0 m cable
Certification/Conformity	Tested acc. to CEN 1434 class2
Energy unit	MWh

Type Code UH50 Energy meters

Ultrasonic Energy meter

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
					UH50	-											

Meter version and location

Meter version	Sensor connection	Location		
Heat meter	Two wire measurement	Return		A
Comb. Heat and cold meter (water)	Two wire measurement	Return	(only temperature sensor type Pt500)	C
Flowmeter	No Temperature Sensor		(please chose "0" at temp sensor and mounting)	D
Cold meter 12 °C / 6 °C (water)	Two wire measurement	Return	(only temperature sensor type Pt500)	G

Flow sensor

Small meters

Flow rate EN 1434	special units	Length	Nominal pressure	Connection		
qp = 0,6 m³/h	qs = 1,2 m³/h qi = 6 l/h	110 mm	PN 16	G¾"	0	5
qp = 1,5 m³/h	qs = 3 m³/h pi = 15 l/h	110 mm	PN 16	G¾"	2	1
qp = 2,5 m³/h	qs = 5 m³/h qi = 25 l/h	130 mm	PN 16	G1"	3	6

Large meters

qp = 3,5 m³/h	qs = 7 m³/h qi = 35 l/h	260 mm	PN 16	G5/4"	4	5
qp = 6 m³/h	qs = 12 m³/h qi = 60 l/h	260 mm	PN 16	G5/4"	5	0
qp = 10 m³/h	qs = 20 m³/h qi = 100 l/h	300 mm	PN 16	G2"	6	0
			PN 25	DN40	6	1
qp = 15 m³/h	qs = 30 m³/h qi = 150 l/h	270 mm	PN 25	DN50	6	5
qp = 25 m³/h	qs = 50 m³/h qi = 250 l/h	300 mm	PN 25	DN65	7	0
qp = 40 m³/h	qs = 80 m³/h qi = 400 l/h	300 mm	PN 25	DN80	7	4
qp = 60 m³/h	qs = 120 m³/h qi = 600 l/h	361 mm	PN 25	DN100	8	3

Calculator mounting

Version	max. water temp.	Length of control cable		
Split	above 90 °C	1,5 m	fixed	C

Logo

Logo Siemens	0	6
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Temperature sensor type and mounting

Resistor type	Connection to the calculator	Sensor mounting		
Pt500	removable	external		E
		internal direct	not for qp10 or flange versions	F

Sensor details

Thread/ diameter	Sensor length	Cable length		
M10x1	27,5 mm	2,5 m		0 C
Ø 6 mm	100 mm	2,0 m	For external mounting only	0 M

Data logger

Without Data logger	0
Data logger with 8 channels	8

Certification / Conformity

Tested acc. to CEN 1434 class 2	T	2
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Energy unit

	Flow rate [m³/h]	Decimal places		
MWh	up to qp 10	3	static	
	from qp 15	2		B



HEAT METER

SIEMENS ASN	
UH50-A05C06F0C0T2B	Heat meter q_p 0,6 m ³ /h, T ¾" PN16
UH50-A21C06F0C0T2B	Heat meter q_p 1,5 m ³ /h, T ¾" PN16
UH50-A36C06F0C0T2B	Heat meter q_p 2,5 m ³ /h, T 1" PN16
UH50-A45C06F0C0T2B	Heat meter q_p 3,5 m ³ /h, T 5/4" PN16
UH50-A50C06F0C0T2B	Heat meter q_p 6,0 m ³ /h, T 5/4" PN16
UH50-A60C06E0M0T2B	Heat meter q_p 10,0 m ³ /h, T 2" PN16
UH50-A61C06E0M0T2B	Heat meter q_p 10,0 m ³ /h, F DN40 PN25
UH50-A65C06E0M0T2B	Heat meter q_p 15,0 m ³ /h, F DN50 PN25
UH50-A70C06E0M0T2B	Heat meter q_p 25,0 m ³ /h, F DN65 PN25
UH50-A74C06E0M0T2B	Heat meter q_p 40,0 m ³ /h, F DN80 PN25
UH50-A83C06E0M0T2B	Heat meter q_p 60,0 m ³ /h, F DN100 PN25

COOLING METER

SIEMENS ASN	
UH50-G05C06F0C0T2B	Cooling meter q_p 0,6 m ³ /h, T ¾" PN16
UH50-G21C06F0C0T2B	Cooling meter q_p 1,5 m ³ /h, T ¾" PN16
UH50-G36C06F0C0T2B	Cooling meter q_p 2,5 m ³ /h, T 1" PN16
UH50-G45C06F0C0T2B	Cooling meter q_p 3,5 m ³ /h, T 5/4" PN16
UH50-G50C06F0C0T2B	Cooling meter q_p 6,0 m ³ /h, T 5/4" PN16
UH50-G60C06E0M0T2B	Cooling meter q_p 10,0 m ³ /h, T 2" PN16
UH50-G61C06E0M0T2B	Cooling meter q_p 10,0 m ³ /h, F DN40 PN25
UH50-G65C06E0M0T2B	Cooling meter q_p 15,0 m ³ /h, F DN50 PN25
UH50-G70C06E0M0T2B	Cooling meter q_p 25,0 m ³ /h, F DN65 PN25
UH50-G74C06E0M0T2B	Cooling meter q_p 40,0 m ³ /h, F DN80 PN25
UH50-G83C06E0M0T2B	Cooling meter q_p 60,0 m ³ /h, F DN100 PN25

HEAT+COOLING METER

SIEMENS ASN	
UH50-C05C06F0C0T2B	Heat+cooling q_p 0,6 m ³ /h, T ¾" PN16
UH50-C21C06F0C0T2B	Heat+cooling q_p 1,5 m ³ /h, T ¾" PN16
UH50-C36C06F0C0T2B	Heat+cooling q_p 2,5 m ³ /h, T 1" PN16
UH50-C45C06F0C0T2B	Heat+cooling q_p 3,5 m ³ /h, T 5/4" PN16
UH50-C50C06F0C0T2B	Heat+cooling q_p 6,0 m ³ /h, T 5/4" PN16
UH50-C60C06E0M0T2B	Heat+cooling q_p 10,0 m ³ /h, T 2" PN16
UH50-C61C06E0M0T2B	Heat+cooling q_p 10,0 m ³ /h, F DN40 PN25
UH50-C65C06E0M0T2B	Heat+cooling q_p 15,0 m ³ /h, F DN50 PN25
UH50-C70C06E0M0T2B	Heat+cooling q_p 25,0 m ³ /h, F DN65 PN25
UH50-C74C06E0M0T2B	Heat+cooling q_p 40,0 m ³ /h, F DN80 PN25
UH50-C83C06E0M0T2B	Heat+cooling q_p 60,0 m ³ /h, F DN100 PN25

Data logger

DIGIT23=8	Data logger with 8 channels
-----------	-----------------------------

3.4 Power supply

2

Power supply's	
WZU-BA+Gum	Battery 6 years, 2 x AA-cell
WZU-BD	Battery 6 years D-cell fast pulses, 11 years st. pulses
WZU-BDS	Battery 6 years D-cell fast pulses, 11 years st. pulses (EU)
WZU-AC230-15	Power supply AC 240 V, 1,5 m cable
WZU-AC230-50	Power supply AC 240 V, 5,0 m cable
WZU-AC230-100	Power supply AC 240 V, 10,0 m cable
WZU-AC110-15	Power supply AC 110 V, 1,5 m cable
WZU-AC110-50	Power supply AC 110 V, 5,0 m cable
WZU-AC110-100	Power supply AC 110 V, 10,0 m cable
WZU-ACDC24-00	Power supply AC / DC 12..24V, with terminals
WZU-BD-PAL20	Palette of 20 batteries WZU-BD
WZU-BDS-PAL20	Palette of 20 batteries WZU-BDS

3.5 Communication modules

3

Communication modules	
WZU-P2	Pulse module (Config. with UltraAssist light)
WZU-P2L	Pulse module with OptoMOS (Config. UltraAssist light)
WZU-MB-G4	M-Bus module according to EN 1434-3
WZU-MI	M-Bus module with 2 pulse inputs according to EN 1434-3
WZU-CL	Current Loop module according EN1434-3
WZU-GPRS-ANT	GPRS module with ext. antenna (for screw mounting) and T550 (UH50...) power pack 110...230V/ cable inclusive; with interface for up to 8 M-Bus meter to be read over GPRS; amongst others E-mail support
WZU-GM	GSM Module with 2 pulse inputs and battery
WZU-RF-EXT	Radio module 868 MHz acc. EN 13757-4 with external antenna
WZU-ZB-EXT	ZigBee module with external antenna

3.6 Accessories

4

Temperature sensors mounting accessories	
WZT-K12	Ball valve ½" for sensor M10x1, L=28 mm, 130 °C
WZT-K34	Ball valve ¾" for sensor M10x1, L=28 mm, 130 °C
WZT-K1	Ball valve 1" for sensor M10x1, L=28 mm, 130 °C
WZT-A12	M10x1 T element T ½" with drill hole
WZT-A34	M10x1 T element T ¾" with drill hole
WZT-G10	Welding sleeve M10x1 for temperature sensors DS
WZT-G12	Welding sleeve G½", 45° for temperature sensor 100 mm
WZT-GLG	Welding sleeve G½", 90° for temperature sensor 100 mm
WZT-S100	Protection pocket T ½" length 100 mm
WZT-A100	Mounting set G½" x G¼"

Flow Part mounting accessories	
WZM-E34	Kit meter fitting R $\frac{1}{2}$ ", T $\frac{3}{4}$ "
WZM-E1	Kit meter fitting R $\frac{3}{4}$ ", T1"
WZM-E54	Kit meter fitting R1", T5/4"
WZM-E2.1	Kit meter fitting R6/4", T2"
WZM-V130.1	Kit extension 110 mm G $\frac{3}{4}$ " to 130 mm G1"
WZM-V190	Kit extension 110 mm G $\frac{3}{4}$ " to 190 mm G1"
WZM-G110	Spacer for meter G $\frac{3}{4}$ ", 110 mm incl. gaskets
WZM-G130	Spacer for meter G1", 130 mm incl. gaskets
WZM-G260	Spacer for meter G5/4", 260 mm incl. gaskets
WZM-G300	Spacer for meter G2", 300 mm incl. gaskets
WZM-F270	Spacer for meter DN50, 270 mm incl. gaskets
WZM-F300	Spacer for meter DN40, 300 mm incl. gaskets
WZM-F300.65	Spacer for meter DN65, 300 mm incl. gaskets
WZM-F300.80	Spacer for meter DN80, 300 mm incl. gaskets
WZM-F360.100-16	Spacer for meter DN100, 360 mm incl. gaskets
Spare part	
WZU5-2825	Temp. sensor Pt500, 27,5 mm, M10x1, 2,5 m
WZU5-1020	Temp. sensor Pt500, 100 mm, ø6 mm, 2,0 m

Software & optical read head	
PARTNER PORTAL	Software UltraAssist light (parameterization)
WZX-UA-SEU	Software UltraAssist Standard, first licence, CD with USB dongle
WZX-UA-PEU	Software UltraAssist Profi for test centres, first licence, CD with USB dongle
WZR-OP-USB	Optical read head with USB plug for PC interface

NOTE:

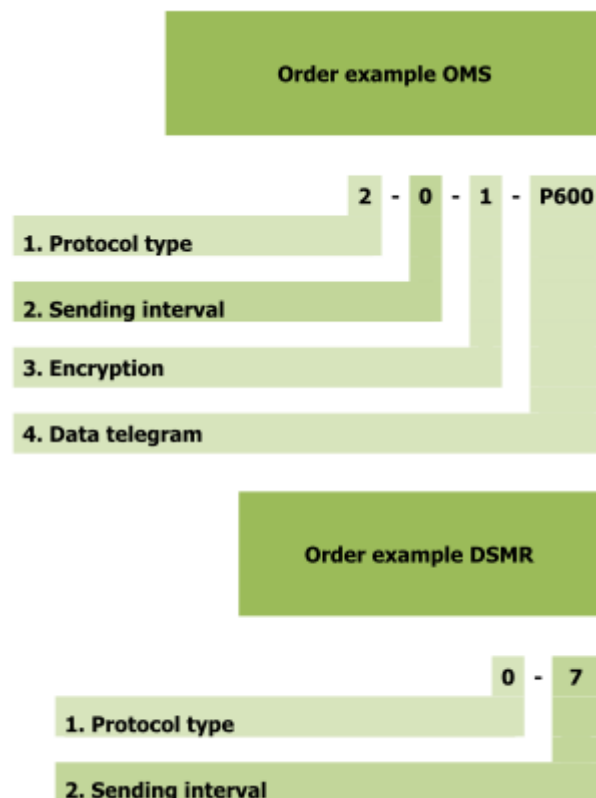
If you need a test certificate for the meter you can order them additionally.

For any further information regarding the test certificate please contact the responsible product manager.

3.7 Ordering information on radio module 868 MHz (wireless M-Bus)

Necessary additional ordering information (OMS or DSMR):

Description	OMS	DSMR
1. Protocol type	Code	Code
Radio DSMR compliant with encrypted time set		0
Radio DSMR similar for pre-binding on dongle with encrypted time set		1
OMS/wireless M-Bus	2	
Radio DSMR compliant with unencrypted time set		4
Radio DSMR similar for pre-binding on dongle with unencrypted time set		5
2. Sending interval	Code	Code
Sending interval of 15 minutes	0	
Sending interval of 30 seconds	2	
Sending interval of 1 minutes	3	
Sending interval of 5 minutes	4	
Sending interval of 12 hours	6	
Sending interval of 60 minutes	7	7
Sending interval of 20 seconds	8	
Sending interval of 12 seconds	9	
3. Encryption	Code	Code
None	0	
AES-128 Bit	1	
4. Data telegram	Code	Code
Telegram radio standard	P600	
Telegram mobile radio	P601	
Telegram mobile radio with tariffs	P602	



Example for OMS:

UH50-A21C06F0C0T2B + WZU-AC230-15 + WZU-RF-EXT + 2-0-1-P600

UH50-A21C06F0C0T2B -> Heat meter q_p 1,5 m³/h, T^{3/4}" PN16
WZU-AC230-15 -> Power Supply AC 240 V, 1,5m cable
WZU-RF-EXT -> Radio module 868 MHz acc. EN 13757-4 with external antenna
2 -> OMS/wireless M-Bus
0 -> Sending interval of 30 seconds
1 -> AES-128 Bit
P600 -> Telegram radio standard

Example for DSMR:

UH50-A21C06F0C0T2B + WZU-AC230-15 + WZU-RF-EXT + 0-7

UH50-A21C06F0C0T2B -> Heat meter q_p 1,5 m³/h, T^{3/4}" PN16
WZU-AC230-15 -> Power Supply AC 240 V, 1,5m cable
WZU-RF-EXT -> Radio module 868 MHz acc. EN 13757-4 with external antenna
0 -> Radio DSMR compliant with encrypted time set
7 -> Sending interval of 60 minutes

ORDER to BT INT

1 pc UH50-A21C06F0C0T2B
1 pc WZU-AC230-15
1 pc WZU-RF-EXT (+x-y-z) or (+x-y)

Add either the OMS code (e.g. +2-0-1-P600) or DSMR code (e.g. +7-0) behind the WZU-RF-EXT in brackets!

4 Programming software

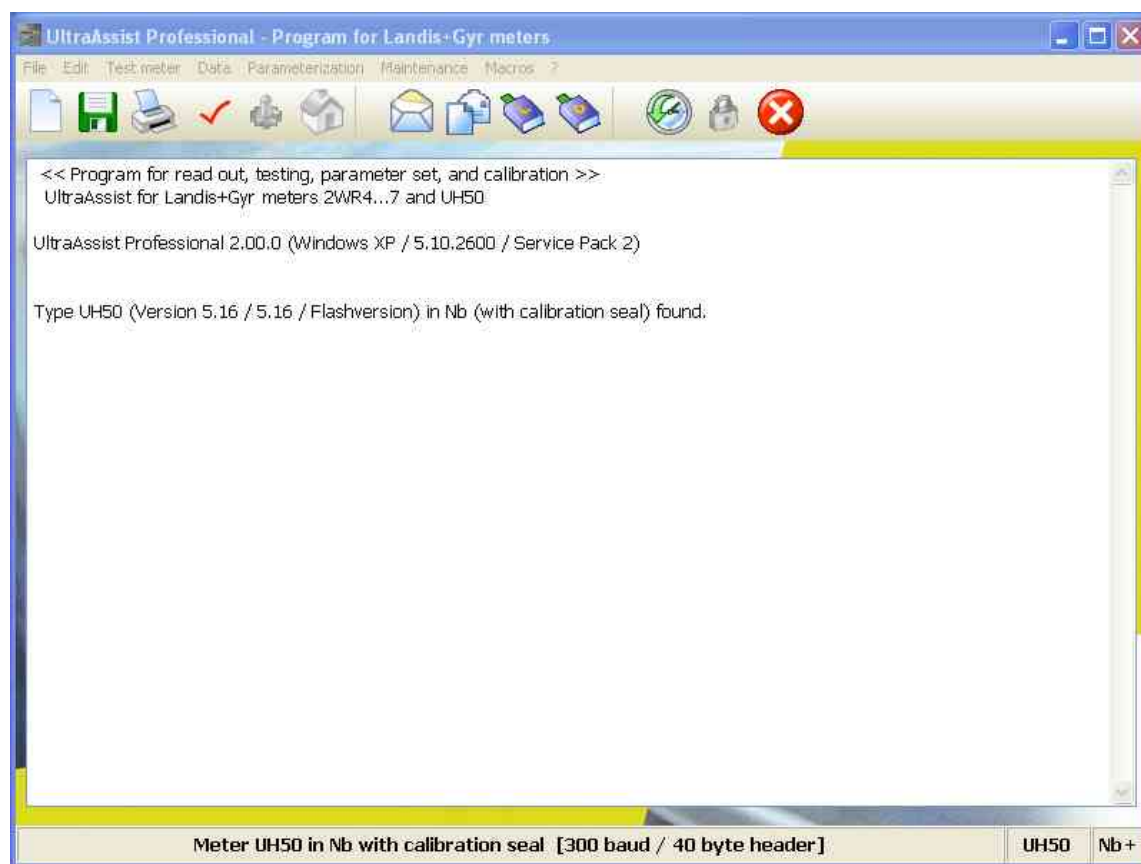
4.1 UltraAssist

UltraAssist is a parameterization-, service- und read out software for the T230 and UH50 meters. UltraAssist is the successor of PappaWin.

UltraAssist is available in three different versions.

UltraAssist Light	for parameterization of tariff- and pulse values for meters
UltraAssist Standard	for read-out, online monitoring with graphic display, testing and setting of system dates
UltraAssist Profi	for read-out, online monitoring with graphic display, testing and setting of system dates, parameterization, configuration and calibration

UltraAssist will identify the connected meter type on program start if it is one of the mentioned types.



4.2 Connection computer – energy meter

The meter is equipped with an optical communication interface, enabling the device to be read and parameterized on site with the help of the WZR-OP-USB optical read head and the UltraAssist software.

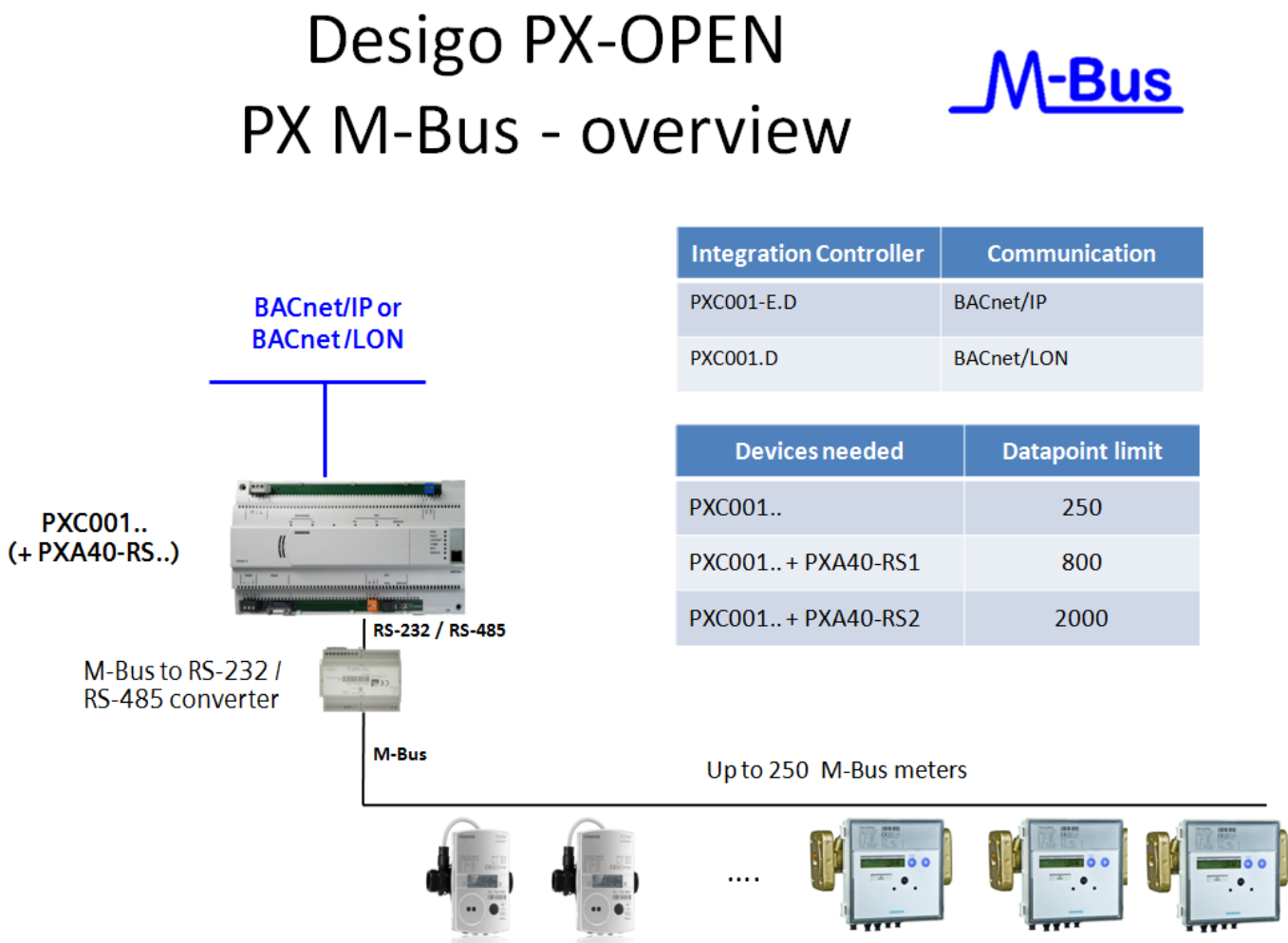
5 M-Bus overview

5.1 M-Bus system

The M-Bus system offers extremely reliable data transmission and a high standard functionality while keeping the engineering effort for commissioning low. M-Bus is a two wire bus specially designed for metering systems.

For the proper meter business, commercially available M-Bus master units can be used. Such M-Bus central units are available from the following suppliers (among others):

- ADFweb (IT): www.adfweb.it
- ELVACO (SE): www.elvaco.com
- RELAY (DE): www.relay.de
- SINAPSI (IT): www.sinapsitech.it



6 Ordering

6.1 Modular concept (only UH50)

The modular concept allows you to select the meter in a straightforward and easy manner and thereby helps to avoid mistakes.

6.2 Order example

Plant information:

$Q = 430 \text{ kW}$

$T_s = 80 \text{ °C}$

$T_R = 55 \text{ °C}$

No main power available

M-Bus communication

Calculation:

$V = 14.8 \text{ m}^3/\text{h} \longrightarrow q_p = 15,0 \text{ m}^3/\text{h}$

Selection / Ordering:

ENERGY METER

1 1 pc **UH50-A65C06E0M0T2B** Heat meter q_p 15,0 m³/h, F DN50 PN25

➔ Optional:
1 pc **DIGIT23=8** Data logger

POWER SUPPLY

2 1 pc **WZU-BDS** D-cell battery for 11 years standard pulse or 6 years fast pulse

COMMUNICATION MODULE (max. 2 per meter)

3 1 pc **WZU-MB-G4** M-Bus module according to EN 1434-3

OTHER ACCESSORIES

4 2 pcs **WZT-S100** Protection pocket T½" length 100 mm
1 pc **WZT-G12** Welding sleeve G½", 45° for temperature sensor 100 mm

ORDER to BT INT

QTY	ASN
1 pc	UH50-A65C06E0M0T2B
1 pc	DIGIT23=8
1 pc	WZU-BDS
1 pc	WZU-MB
2 pcs	WZT-S100
1 pc	WZT-G12

NOTE:

The ordered items will be delivered in a single shipment. Usually the power supply and communication module(s) are build-in at factory side. If the battery is a D-cell please refer to Chapter 7 Battery information.

7 Battery information

The D-cell batteries (WZU-BD & WZU-BDS) are rated from IATA as dangerous good with special requirements for transportation due to the high lithium metal content. It might be possible that the battery will be shipped by land and/or sea way. Therefore the battery is not mounted and needs to be assembled locally. Alternatively a power supply or the WZU-BA+Gum (AA-cell) could be ordered.

If you need any further information about the shipment of dangerous goods please feel free to contact us.

8 Documentation

You will find the datasheets, declaration of conformity and operating instructions in the HIT tool.

NOTE: BT INT offers modified meters optimized for our markets. Therefore you will find differences in the naming of the meters.

Examples:

BT INT UH50-A65C06E0M0T2B → HIT = UH50-A65-00

BT INT T230-A05C06P0HEBT2A → HIT = WSM506-BE

9 Marketing material / Training

- Samples need to be bought and ordered with the standard ordering process
- Training is offered on request
- Pictures for advertisement can be provided
- Presentations are available on request

If you plan marketing activities or you are looking for something special, please get in contact with the responsible product manager. We are looking forward to support you in the best possible way.

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract. The document contains a general product overview. Availability can vary by country. For detailed product information, please contact the company office or authorized partners.

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Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

“ We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”