SIEMENS

Meters and Energy Cost Allocation

M Bus impeller heat and heat/cooling energy meter

WF..5..

Electronic, mains-independent impeller type meters with optional refrigeration range to acquire heat or cooling energy consumption in autonomous heating, cooling or solar plants.

- Nominal flow 0.6 m^3/h, 1.5 m^3/h or 2.5 m^3/h
- Meter with 2 pulse inputs for added up to two water meters
- No settling paths required (neither upstream nor downstream)
- Mounting position horizontal or vertical
- Removable processor
- Setting of device-specific parameters on the meter itself in the field via buttons or operating and parameterization software ACT50
- Optical interface
- Self-diagnostics

CE

Use

The impeller type heat and cooling energy meter is of compact design and used for the physically accurate acquisition of energy consumption. The meter consists of a flow measuring section, 2 connected temperature sensors, and a removable processor unit which calculates energy consumption from the flow and the temperature differential. The device is available for heat, combined heat/cooling, or solar metering.

It is primarily used on plants with central production of heat or cooling energy, where the heating or cooling energy is individually supplied in lines to multiple consumers, for example in:

- Multi-family homes
- Office and administrative buildings

Typical users:

- Service and billing providers
- Housing industry and housing cooperatives
- Building service companies and real estate agencies

Limitations

The meter's temperature sensors and battery cannot be replaced.

The meter is not approved for use in drinking water systems.

Communications modules cannot be setup on existing meters

Functions

Meter design

The meter comprises a flow and return temperature sensor and flow sensor installed in a hot water or cooling water circuit. A processor continuously calculates the temperature differential of flow and return and multiplies the value by the flow rate. The result (current heat or cooling energy output) is added up, displayed, and forwarded by cable via M-Bus to a data processing system. A long-life battery powers the processor for up to 10 years[1].

In addition, a meter equipped with a pulse terminal can connect up to 2 water meters with pulse output (reed contact only, no Namur) to heat energy meters. Consumption values for the water meters are displayed on the meter and supply is forwarded via M-bus.

[1]) Actual battery life depends on operating state and external factors.

Impeller type measuring principle

The meter's flow sensor operates in accordance wit the single-jet impeller sensor principle. The water flow hits the impeller radially. The impeller's speed is scanned electronically.

Incorrect direction of flow is detected and indicated by an error message on the display.

Calculation of heat or cooling energy consumption

Using the acquired temperature differential of flow and return, the measured flow rate as well as the calculated thermal coefficient, the quantity of heat or cooling energy is shown on the display in physical units (kWh or MWh/MJ or GJ) following an internal calculation process. To increase measuring accuracy, the density and enthalpy values are determined for every measurement and included in the calculation.

Consumption from water meter

The water meter separately adds the pulse from the connected water meter (max. 2 water meters) using a pulse value of 1 liter/pulse or 10 liters/pulse and forwards the result to a data processing system via M-bus.

Pulse inputs are inactive by default, i.e. the serial number of the water meters is 0 (not displayed on M-bus). The input become active as soon as the pulse input is assigned water meter's secondary address/serial number.

Processor unit

The same standard electronic unit with a built-in service unit is used for all flow rates. The processor can be separated from the flow measuring section. Conversely, the processor must be separated from the flow measuring section on cooling meters. The control cable is 0.40 m in length.

Infrared interface

Consumption meters with optical close-range interface must be read out on site. The WFZ.IRDA-USB optical reading head and associated ACT50 readout and parameterization software reads out and configures the meter.

Tampering

The meter is protected by a factory-fitted seal.

Measuring functions

The temperature is acquired at 36-second intervals (or optional, every 6 seconds at a shortened battery life of 6 years). The flow is acquired continuously. The amount of energy supplied is displayed in real time. Any errors are immediately displayed.

Display

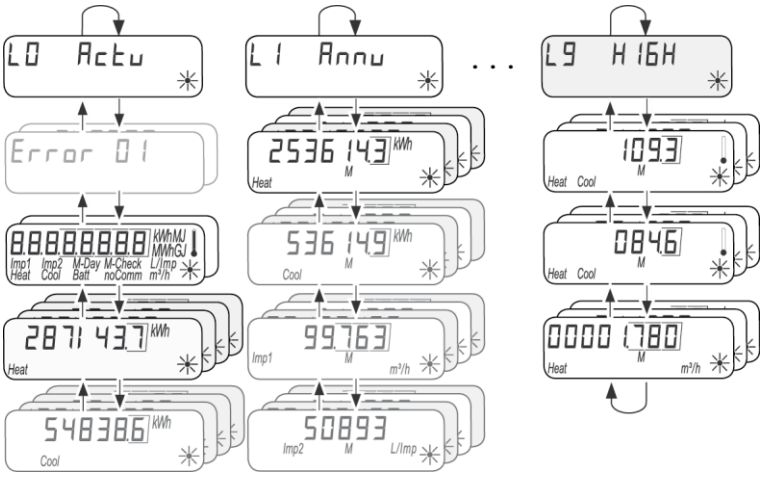
Processor type

The LCD displays meter states, display units, and consumption values on multiple levels.

The meter has 2 buttons to switch between the individual display steps and levels.

1. Button for navigating on a level
2. Button for changing a level

Operation



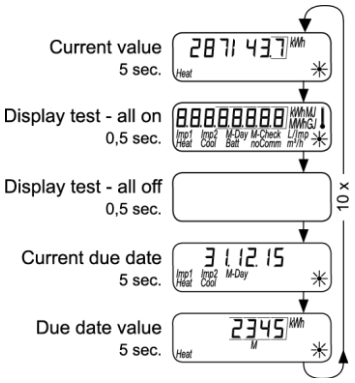
The display is off by default (“Sleep Mode”). Press the button to wake up the device.

The length of the button press selects one of the two display concepts:

- Short press: Quick reading mode
- Press > 3 s: Standard operating concept

Quick reading mode

The meter's display is in sleep mode and only activates when a button is pressed. A single short press of a button repeats the quick read loop 10x. At the end of 10 repetitions, the display returns to sleep mode .

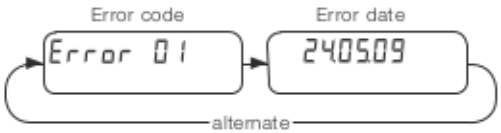


The quick read loop can be canceled at any time by pressing a button > 3 s.

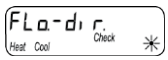
The device goes automatically to the default display levels.

Error messages

For a serious fault, the error code and error data is displayed in front of the meter state display.



The meter state display displays "incorrect flow direction" if it determines that the flow direction is wrong:



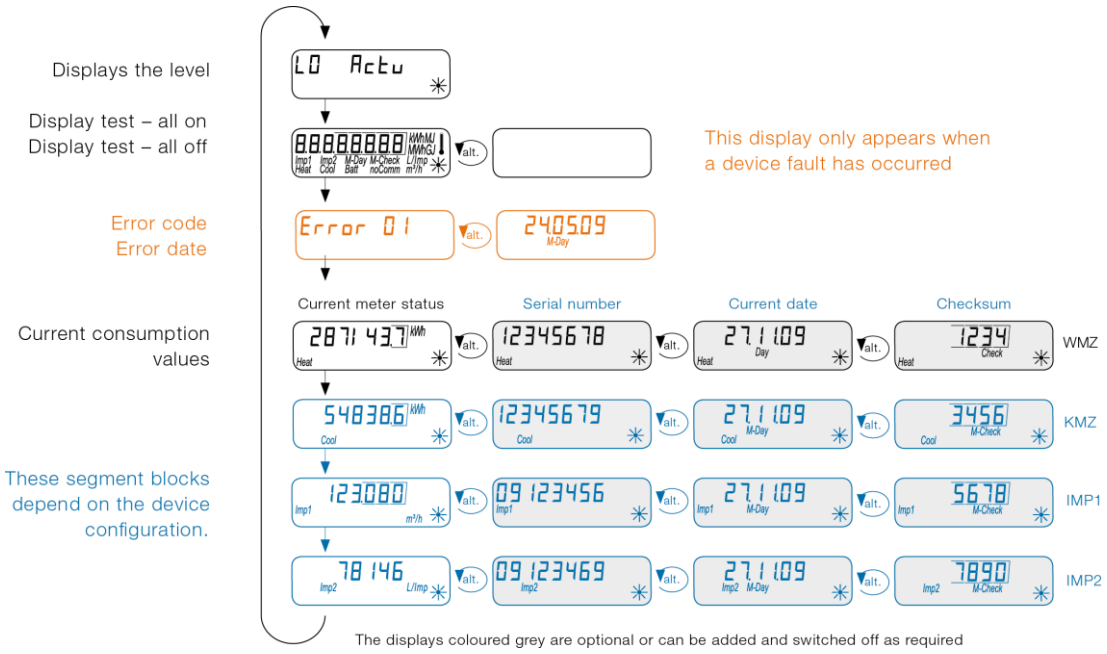
Display levels

The following display levels are available:

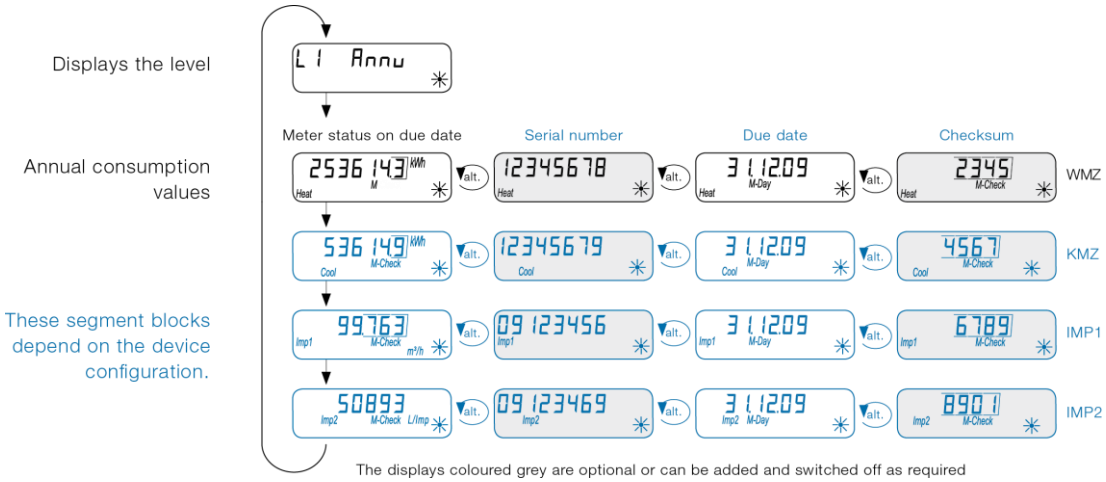
The following display levels are available	
Standard levels	
L0	Current consumption values
L1	Annual consumption values
The levels can be deactivated individually:	
L2	Current values
L3	Parameter
L4	Connections
L5	Monthly values heat
L6	Monthly values cooling energy
L7	Meter number pulse input 1
L8	Meter number pulse input 2
L9	Maximum values

If an error message is pending, it is logged with the respective error code and the date the error occurred and shown on the display (alternating).

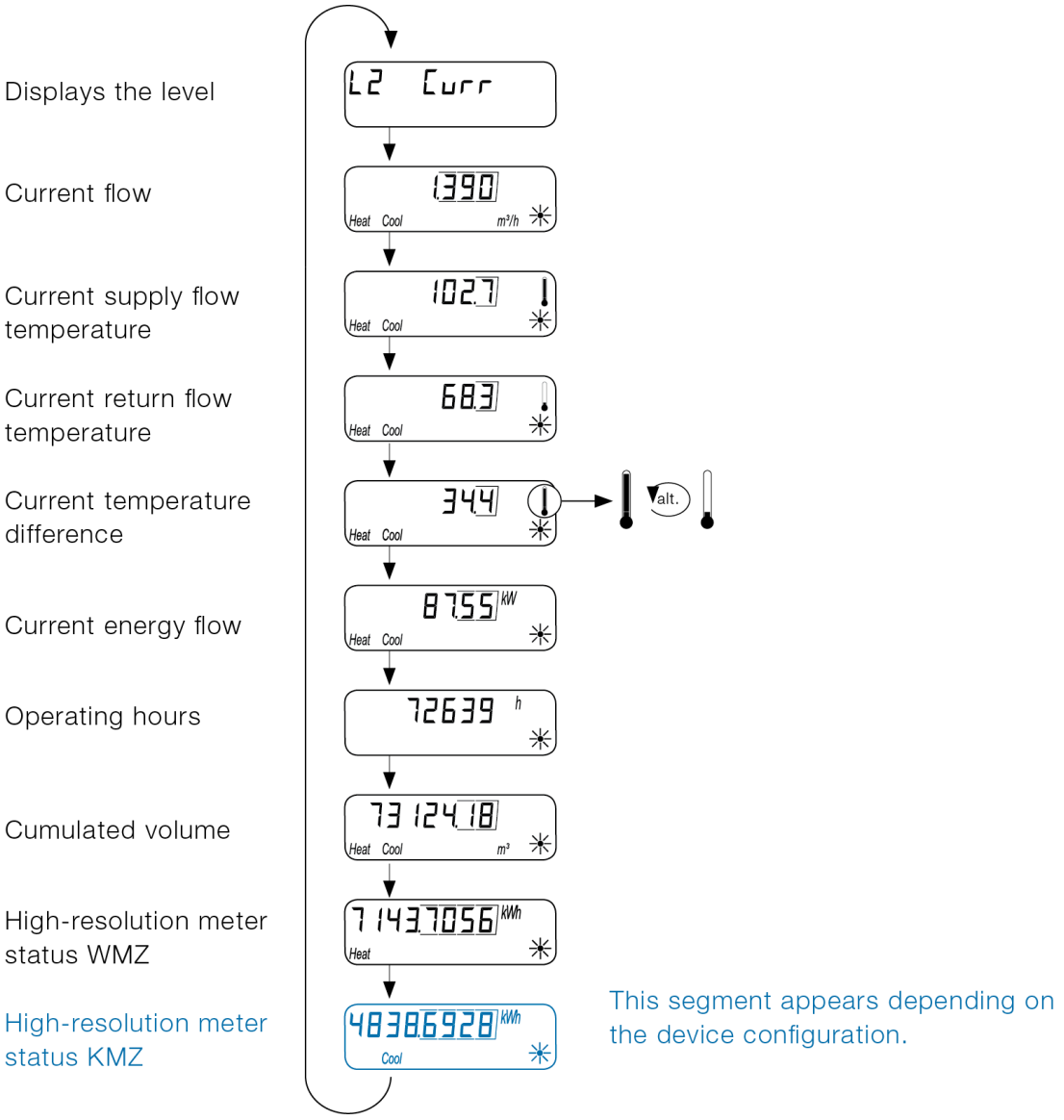
Level L0 - Current consumption values



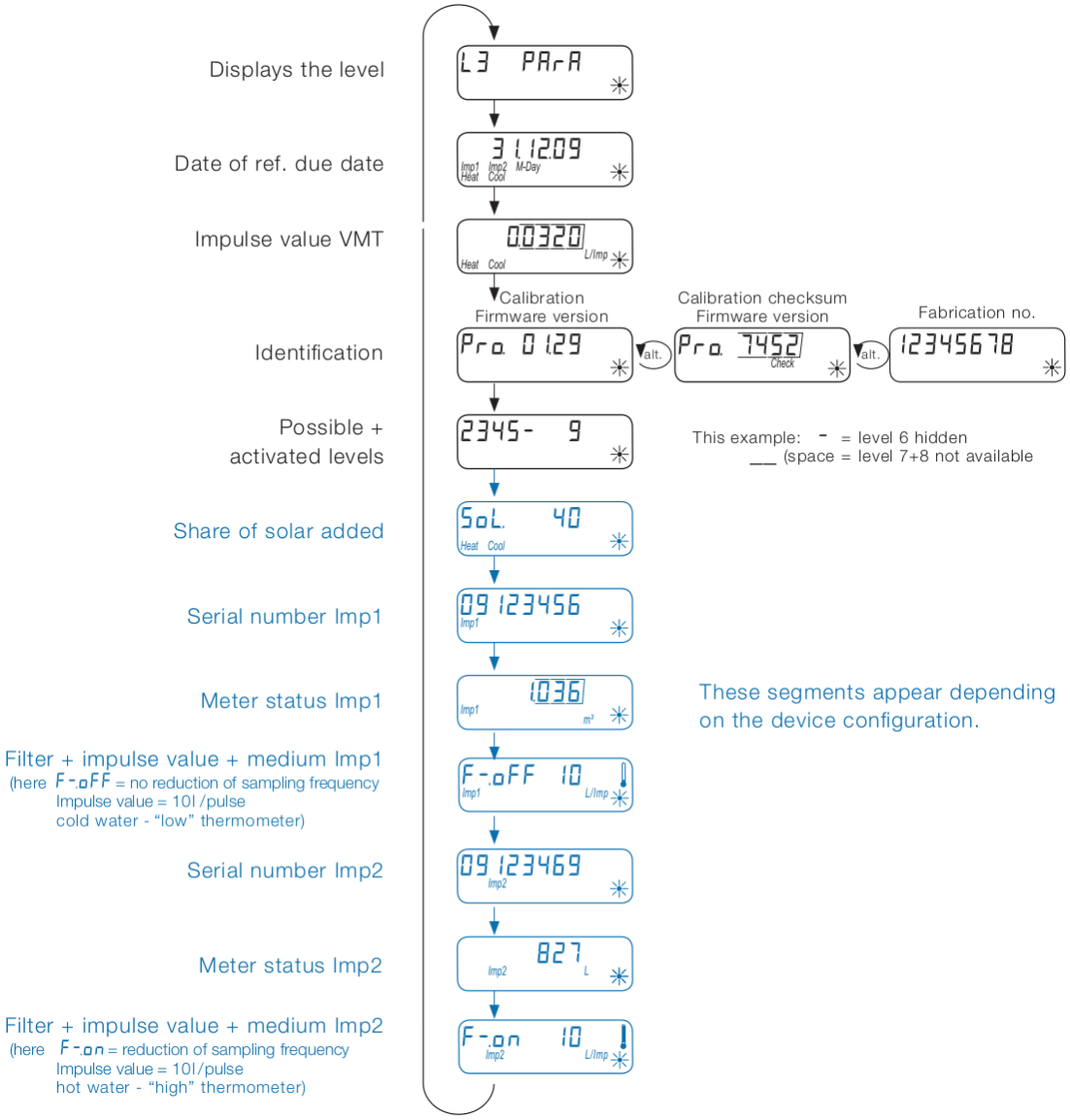
Level L1 - Consumption values on due date



Level L2 - Current values

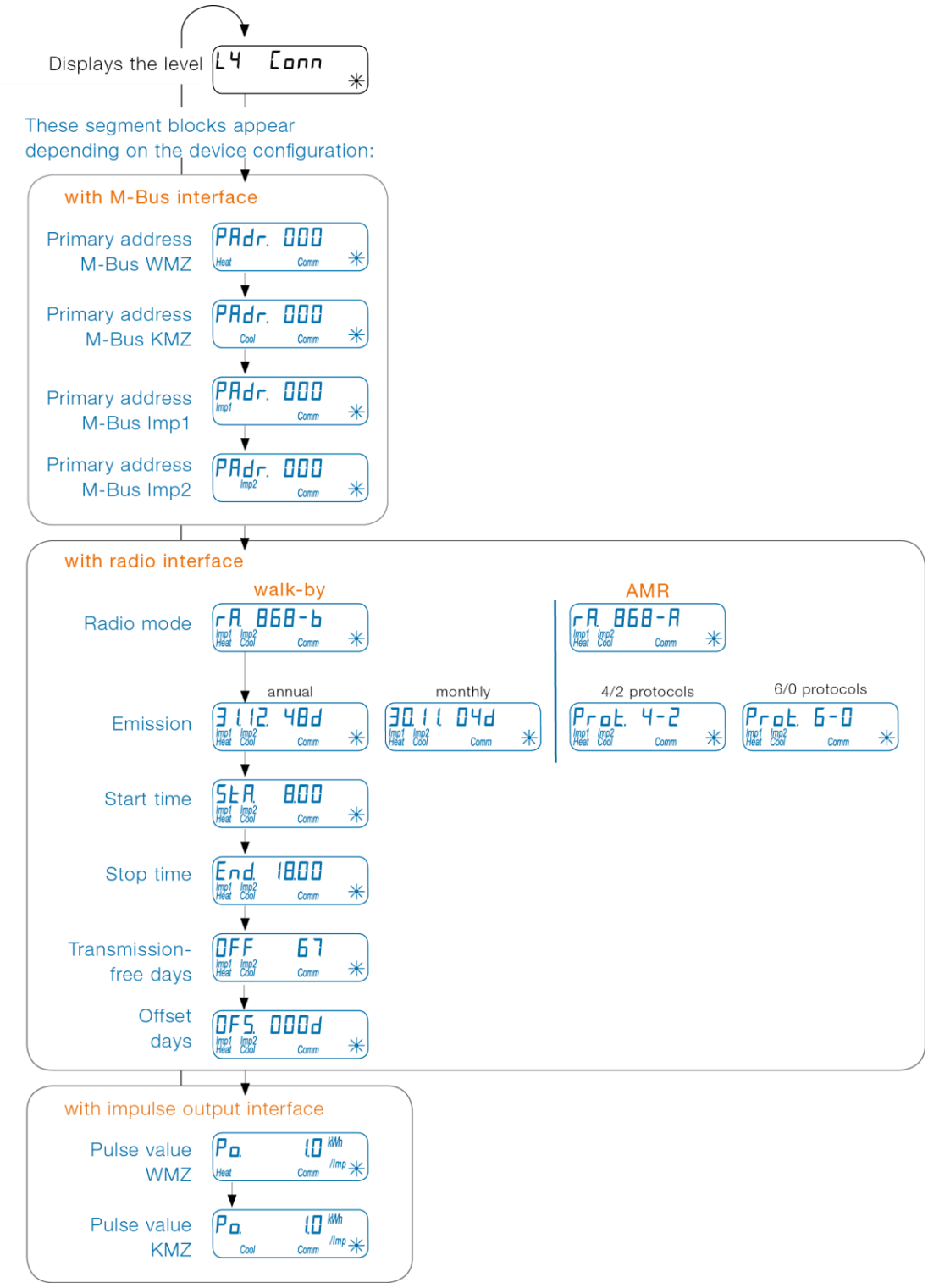


Level L3 - Parameters



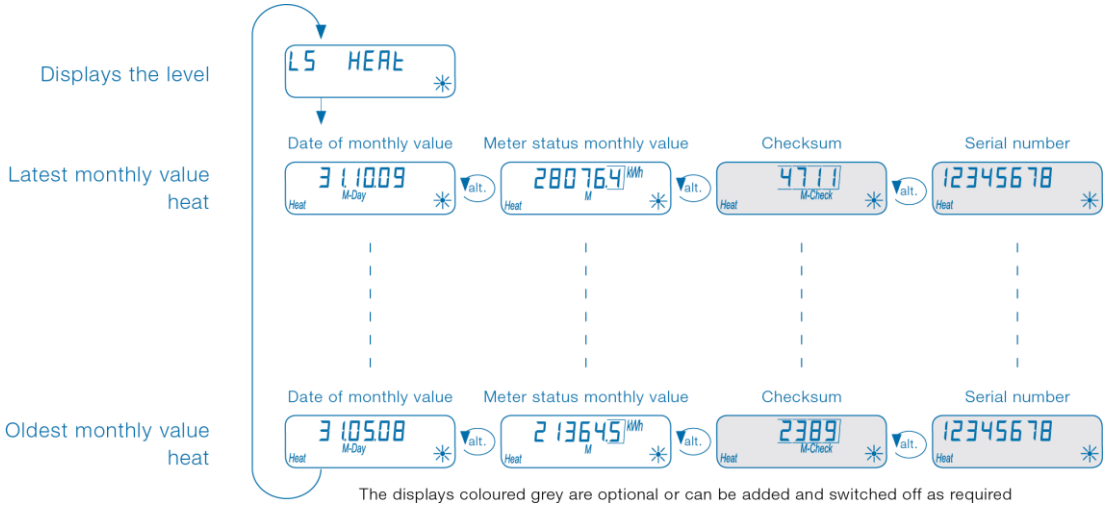
Level L4 - **Connections**

These segment blocks appear depending on the meter's configuration



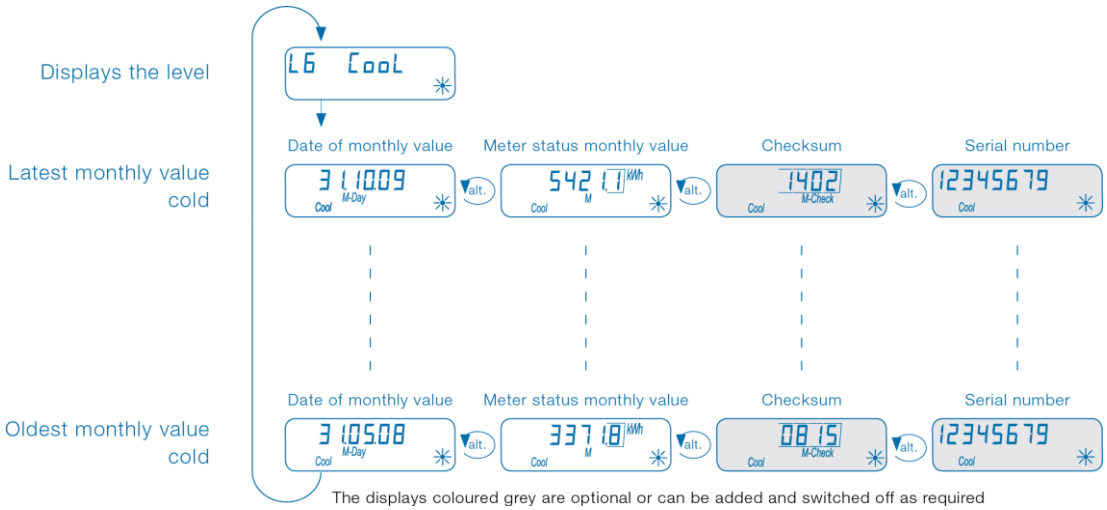
Level L5 - Monthly values heat

This level is displayed only when the meter is configured for metering heat.

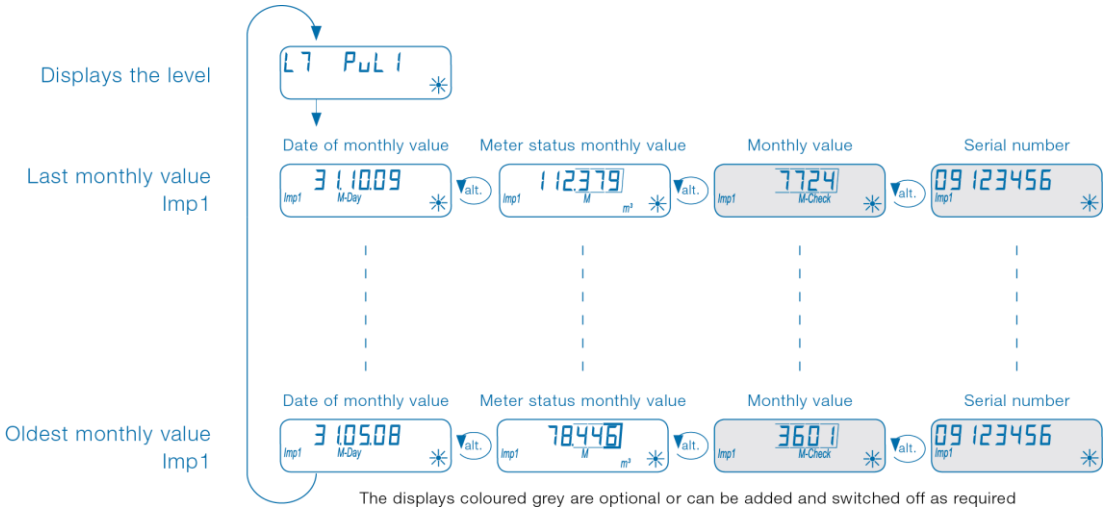


Level L6 - Monthly values cooling

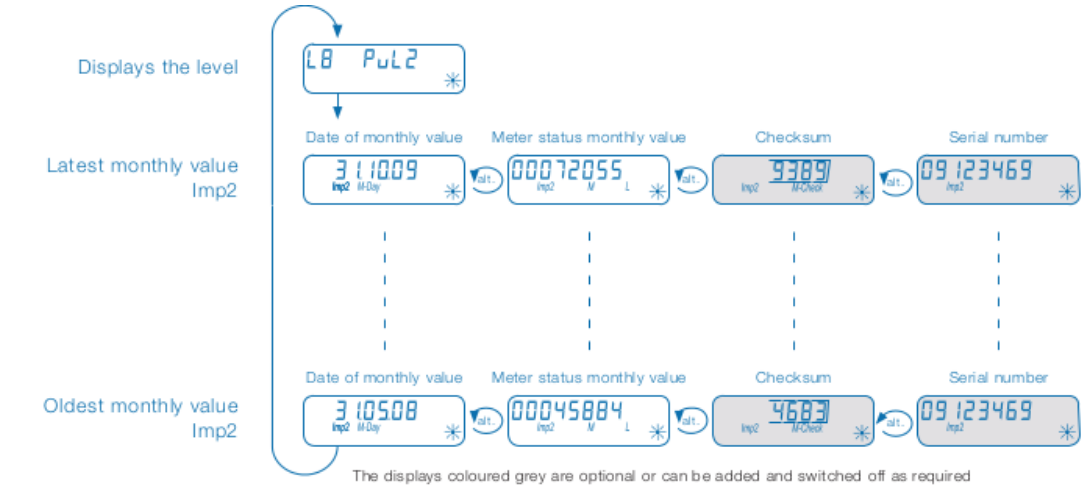
This level is displayed only when the meter is configured for metering cooling energy.



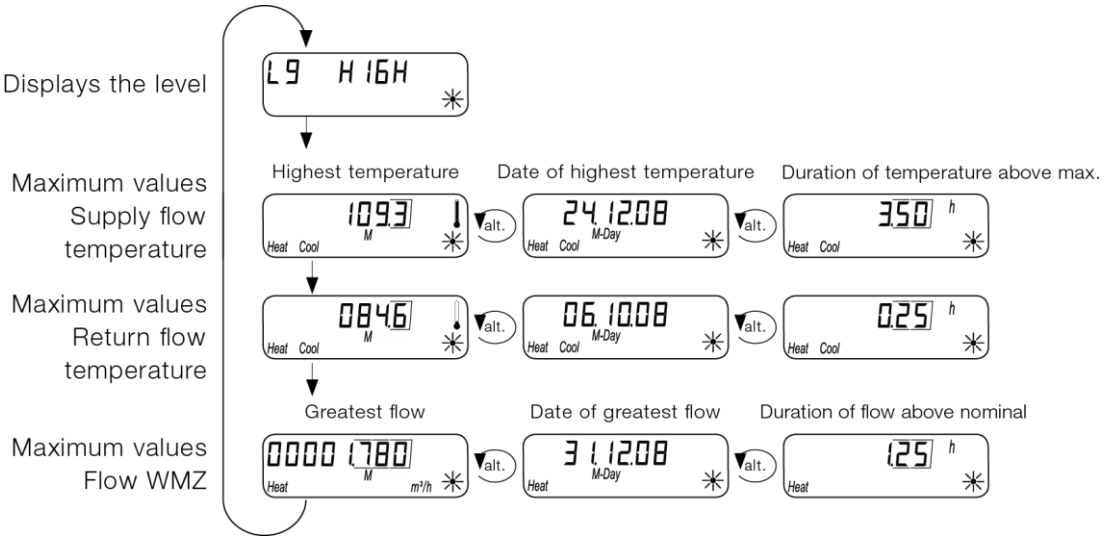
Level L7 - Monthly values pulse input 1



Level L8 - Monthly values pulse input 2



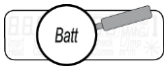
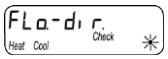
Level L9 - Maximum values



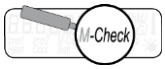
Error messages

Indication of errors	Description of error	Measures/notes
Error 01	Hardware error or damaged software	Check flow sensor, connecting cable and processors for signs of external damage Exchange device
Error 06	Flow sensor is broken	Check the temperature sensor and wires for mechanical damage Exchange device
Error 07	Flow sensor short circuit	Check the temperature sensor and wires for mechanical damage Exchange device
Error 08	Return sensor is broker	Check the temperature sensor and wires for mechanical damage Exchange device
Error 09	Return sensor short circuit	Check the temperature sensor and wires for mechanical damage Exchange device

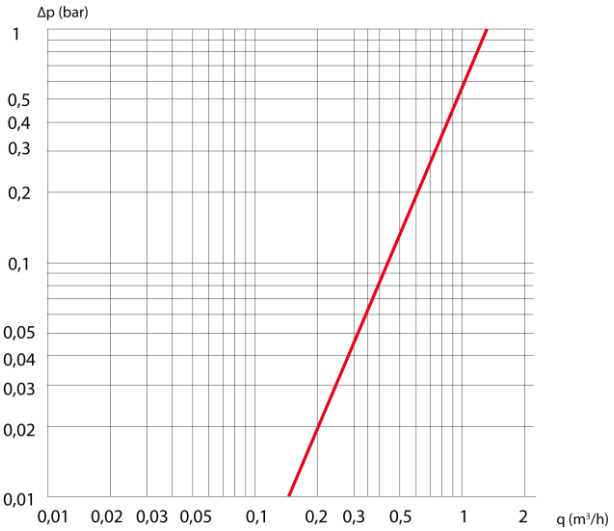
Operating state display

Display	Description	Measures/notes
	Communications credit IrDA	Eliminated after credit period expires (Irda = current month).
	Operating time has expired	Device must be replaced or exchange the battery.
	Comply with all national and country-specific regulations!	
	Flow direction incorrect	Check installation (note arrow on the flow sensor) Check pre-piping Check circulating pumps and thermostats for proper operation
	Temperature sensors are switched around or incorrectly mounted	Check whether the flow sensor was mounted in the correct line or check the temperature sensor

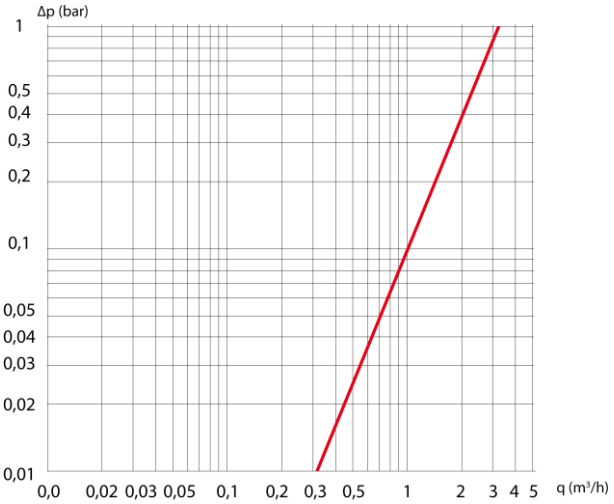
Status display

Display	Description	
	The displayed data applies to:	
	Heat = Wärme	Imp1 = Impulseingang1
	Cool = Kälte	Imp2 = Impulseingang2
	(empty) = Displayed value is the current value	
	M (Memory) = Value at a monthly or due date	
	Displayed value is date:	
	Day = Current date	
	M-Day = Date applies to saved yearly - or monthly value	
	Displayed value is a checksum:	
	Check = Checksum refers to a current consumption value	
	M-Check = Checksum applies to a saved yearly or monthly value	
	Current flow available	
	No energy metering -> No temperature difference	
	Current flow available	
	Energy metering	
	IrDA communication is just active	

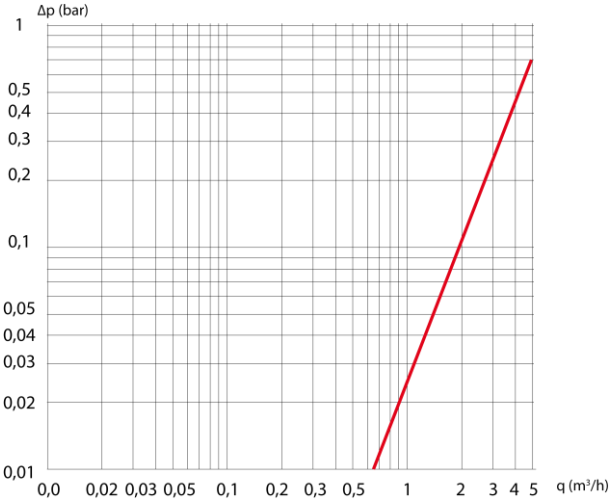
Screw-on pressure loss characteristic 0.6 m³/h, 110 mm



Screw-on pressure loss characteristic 1.5 m³/h, 80 mm and 110 mm



Screw-on pressure loss characteristic 2.5 m³/h, 130 mm



Standard parameters

The unit comes programmed as follows:

- Due date: 31.12.
- Display of consumption in kWh

All display levels are shown.

The heating or cooling energy consumption values are continuously cumulated. The state is stored at 12 am on the due date.

Every time current and annual consumption is stored, the heat meter calculates a checksum. This can be read out together with the due date value and checked in the billing program.

This detects incorrect read outs of the display. The stored due date remains in place for one year.

Readout parameters

The following parameters can be entered directly on the meter using both operating buttons:

General
Next due date
Display of kWh or MWh/MJ or GJ
Selection of levels to be displayed
Display of meter read outs with or without checksum
Serial number of external meters (pulse meters)
Pulse value of the external meters
Initial meters readings of the external meters
Media for pulse inputs, selectable from cold water and hot water
Primary addresses for heat, cold, pulse 1 and pulse 2
In addition for devices with solar modification: Ratio of glycol or brine

The following parameters are read out or set with the ACT50 software via the optical close-range interface:

General
Serial number meters
Serial number of external meters
Primary addresses for heat, cold, pulse 1 and pulse 2
Mounting place
Mounting location
Firmware version
Media heat meter
Media for pulse inputs, selectable from cold water and hot water
Commissioning date
Battery life
Stock number

General
Device date
Heat carrier
Error date
Error code
User name and password for the near field interface
Display of kWh or MWh/MJ or GJ
Selection of levels to be displayed

Device information
Current temperature (return)
Current temperature (flow)
Current temperature difference
Current energy flow
Current flow rate
Total flow rate
Pulse value of the external meters
Initial ,eters readings of the external meters
Device name

Meter reading (with or without checksum)	
Current meter state	
Last due date	
Meter state on last due date	
Next due date	
Flow.	Maximum temperature Date of maximum temperature Duration of upper deviations
Return	Maximum temperature Date of maximum temperature Duration of upper deviations
Flow rate	Maximum flow rate Date of maximum flow rate Duration of upper deviations
Statistical values	15 monthly values with date

Type summary

Features of the impeller type meters listed below:	
Mounting location	In return
Design	Process can be removed, cable length 0.40 m
Rated pressure	PN 16
Sensor mounting	• Return sensor, integrated in the flow measuring section • Meter with installation length 80 mm: Sensor not integrated in the volume measuring part
Sensing type	Pt1000, Ø 5.0 mm, length 45 mm
Temperature sensor cable length	1.5 m
Communication	• M-bus and IrDA communication
Threshold value for:	
• Acquisition of heating	0.2 K.
• Acquisition of cooling energy	0.2 K.
Due date	31.12.
Display	kWh

Heat meter

Options	Order number	Type
0.6 m3/h, mounting length 110 mm, connecting thread G ¾"	S55561-F239	WFM541-G000H0
1.5 m3/h, mounting length 80 mm, connecting thread G ¾"	S55561-F240	WFM542-C000H0
1.5 m3/h, mounting length 110 mm, connecting thread G ¾"	S55561-F241	WFM542-G000H0
2.5 m3/h, mounting length 130 mm, connecting thread G 1"	S55561-F242	WFM543-L000H0

Combined heating/cooling energy meter

Options	Order number	Type
0.6 m3/h, mounting length 110 mm, connecting thread G ¾"	S55561-F243	WFN541-G000H0
1.5 m3/h, mounting length 110 mm, connecting thread G ¾"	S55561-F244	WFN542-G000H0
2.5 m3/h, mounting length 130 mm, connecting thread G 1"	S55561-F245	WFN543-L000H0

Available solar mixtures (on request)

For measuring instruments with solar adjustment[1]), the following solar mixtures are available.

Water + Glythermine P44

Water + Tyfocor L

Water + Tyfocor LS

Water + Tyfocor N

Water + Antifrogen L

Water + Antifrogen N

Water + Yellowbin DC 924

Water + Dowcal 20

[1]) Solar meters outside the European Measuring Instruments Directive

Scope of delivery

The meters come complete with operating and installation instructions in different languages as well as all required mounting materials (gaskets, seals, etc.).

Languages

The Installation Instructions are supplied in the following languages:

Bulgarian, German, English, Finnish, French, Greek, Italian, Croatian, Lithuanian, Dutch, Norwegian, Polish, Romanian, Slovakian, Slovenian, Spanish, Czech, Turkish, and Hungarian.

Accessories

Installation sets, ball valves

Designation	Order number	Type
Installation set Rp ½", consisting of: 2 ball valves Rp ½" with coupling nut G ¾" and flat gasket 2 mm, ¾" 1 ball valve Rp ½" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK001-001	HMXIK001-001
Installation set Rp ¾", consisting of: 2 ball valves Rp ¾" with coupling nut G ¾" and flat gasket 2 mm, ¾" 1 ball valve Rp ¾" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK001-002	HMXIK001-002
Installation set Rp 1", consisting of: 2 ball valves Rp 1" with coupling nut G ¾" and flat gasket 2 mm, ¾" 1 ball valve Rp 1" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK001-003	HMXIK001-003
Installation set Rp 1", consisting of: 2 ball valves Rp 1" with coupling nut G 1" and flat gasket 2 mm, 1" 1 ball valve Rp 1" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK001-004	HMXIK001-004
Installation set Rp ¾", consisting of: 2 ball valves Rp ¾" with coupling nut G 1" and flat gasket 2 mm, 1" 1 ball valve Rp 1" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK001-005	HMXIK001-005

Installation sets fittings

Designation	Order number	Type
Installation set Rp ½", consisting of: 2 fittings Rp½" with coupling nut G¾" and flat gasket 2 mm, ¾" 1 ball valve Rp ½" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK002-001	HMXIK002-001
Installation set Rp ¾", consisting of: 2 fittings Rp ¾" with coupling nut G ¾" and flat gasket 2 mm, ¾" 1 ball valve Rp ¾" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK002-002	HMXIK002-002
Installation set Rp 1", consisting of: 2 fittings Rp 1" with coupling nut G ¾" and flat gasket 2 mm, ¾" 1 ball valve Rp 1" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK002-003	HMXIK002-003
Installation set Rp 1", consisting of: 2 fittings Rp 1" with coupling nut G 1" and flat gasket 2 mm, 1" 1 ball valve Rp 1" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK002-004	HMXIK002-004
Installation set Rp ¾", consisting of: 2 fittings Rp ¾" with coupling nut G 1" and flat gasket 2 mm, 1" 1 ball valve Rp 1" with M10x1 mm for fitting temperature sensor Ø5.0x45 mm	JXF:HMXIK002-005	HMXIK002-005

Spacers

Designation	Order number	Type
Spacer G ¾", length 80 mm	JXF:FKM0070	FKM0070
Spacer G ¾", Length 110 mm	JXF:FKM0074	FKM0074
Spacer G 1", Length 130 mm	JXF:FKM0075	FKM0075

Adapter pieces

Designation	Order number	Type
Adapter set G ¾" to 1", consisting of: 2 adapter pieces G ¾" to G 1" 2 flat gaskets 2 mm, 1"	JXF:HMXIK003-001	HMXIK003-001
Extension set G ¾" x G 1", consisting of: 2 extension set from 110 mm, G ¾" to 130 mm G 1" 2 flat gaskets 2 mm, 1"	JXF:HMXIK003-002	HMXIK003-002
Extension set 110 mm G ¾" to 130 mm G ¾", consisting of: 1 extension 27 mm 2 flat gaskets 2 mm, ¾" 1 gasket made of copper ¾" x 1.5 mm	JXF:HMXIK003-003	HMXIK003-003
Extension set 110 mm G ¾" to 165 mm G ¾", consisting of: 1 extension 27 mm 1 extension 42 mm 2 flat gaskets 2 mm, ¾" 1 gasket made of copper ¾" x 1.5 mm	JXF:HMXIK003-004	HMXIK003-004
Extension set 110 mm G ¾" to 190 mm G 1", consisting of: 2 extension set from 110 mm G ¾" to 190 mm G 1" 2 flat gaskets 2 mm, 1" 1 gasket made of copper ¾" x 1.5 mm	JXF:HMXIK003-005	HMXIK003-005

Fittings

Designation	Order number	Type
Fittings R ½" x G ¾", without gasket	JXF:FKM0018	FKM0018
Fittings R ¾" x G ¾", without gasket	JXF:FKM0019	FKM0019
Fittings R 1" x G ¾", without gasket	JXF:FKM0020	FKM0020
Fittings R ¾" x G 1", without gasket	JXF:FKM0021	FKM0021
Fittings R 1" x G 1", without gasket	JXF:FKM0022	FKM0022

Ball valves

Designation	Order number	Type
Ball valve Rp ½" with temperature sensor fitting M10x1 mm for sensor Ø5.0x45 mm	JXF:FKM0023	FKM0023
Ball valve Rp ¾" with temperature sensor fitting M10x1 mm for sensor Ø5.0x45 mm	JXF:FKM0024	FKM0024
Ball valve Rp 1" with temperature sensor fitting M10x1 mm for sensor Ø5.0x45 mm	JXF:FKM0025	FKM0025
Ball valve Rp ½" with coupling nut G ¾" and temperature sensor fitting M10x1 mm for Sensor Ø5.0x45 mm, without gasket	JXF:FKM0076	FKM0076
Ball valve Rp ½" with coupling nut G ¾", without gasket	JXF:FKM077	FKM0077
Ball valve Rp 1" with coupling nut G ¾", without gasket	JXF:FKM0078	FKM0078
Ball valve Rp ¾" with coupling nut G 1", without gasket	JXF:FKM0079	FKM0079
Ball valve Rp 1" with coupling nut G 1", without gasket	JXF:FKM0080	FKM0080

Accessories

Designation	Order number	Type
Flat gasket ¾", thickness 2 mm	JXF:FKS0005	FKS0005
Flat gasket 1", thickness 2 mm	JXF:FKS0006	FKS0006
T-piece R ½" x G ¼"	JXF:FKM0035	FKM0035
T-piece R ¾" x G ¼"	JXF:FKM0036	FKM0036
T-piece R 1" x G ¼"	JXF:FKM0037	FKM0037
Protection pocket G ¼" for sensor Ø5.0 x 45 mm, without gasket	JXF:FKM0038	FKM0038
Protection pocket M10x1 mm for sensor Ø5.0x45 mm, without gasket	JXF:FKM0051	FKM0051
Temperature sensor sleeve G ¼" for sensor Ø5.0x45 mm and Ø5.2x45 mm	JXF:FKM0049	FKM0049
Temperature sensor sleeve M10x1 mm for sensor Ø5.0x45 mm and Ø5.2x 45 mm	JXF:FKM0050	FKM0050
Temperature sensor screwed made of brass for sensor Ø5.0 mm and Ø5.2 mm, directly or indirectly immersed	JXF:HMXIK004-001	HMXIK004-001
Wall bracket for WFx5 Heat meter	JXF:HMRIK001-001	HMRIK001-001
Seal, wire length 250 mm	JXF:FNS0001	FNS0001
Temperature sensor accessory set for 5.0 and 5.2 mm temperature sensors consisting of fittings, gasket, and lead seal.	JXF:BOZ5005	BOZ5005
M-Bus cable for WF.54..	JXF:FKL0012	FKL0012
Pulse cable for WF.54..	JXF:FKL0013	FKL0013

Programming and readout accessories

Designation	Order number	Type
Mobile read out and parameterization tool	S55563-F161	WTT726-FE7300
Mobil Data Logger	JXF:WTT665-BD5000	WTT665-BD5000
Infrared read head (with USB interface)	JXF:WFZ.IRDA-USB	WFZ.IRDA-USB
Triggering tool for radio telegrams	JXF:WFZ.PS	WFZ.PS
Readout and parameterization software	JXF:ACT50	ACT50

Product documentation

Related documents such as environmental declarations, CE declarations, etc., can be downloaded at the following Internet address:

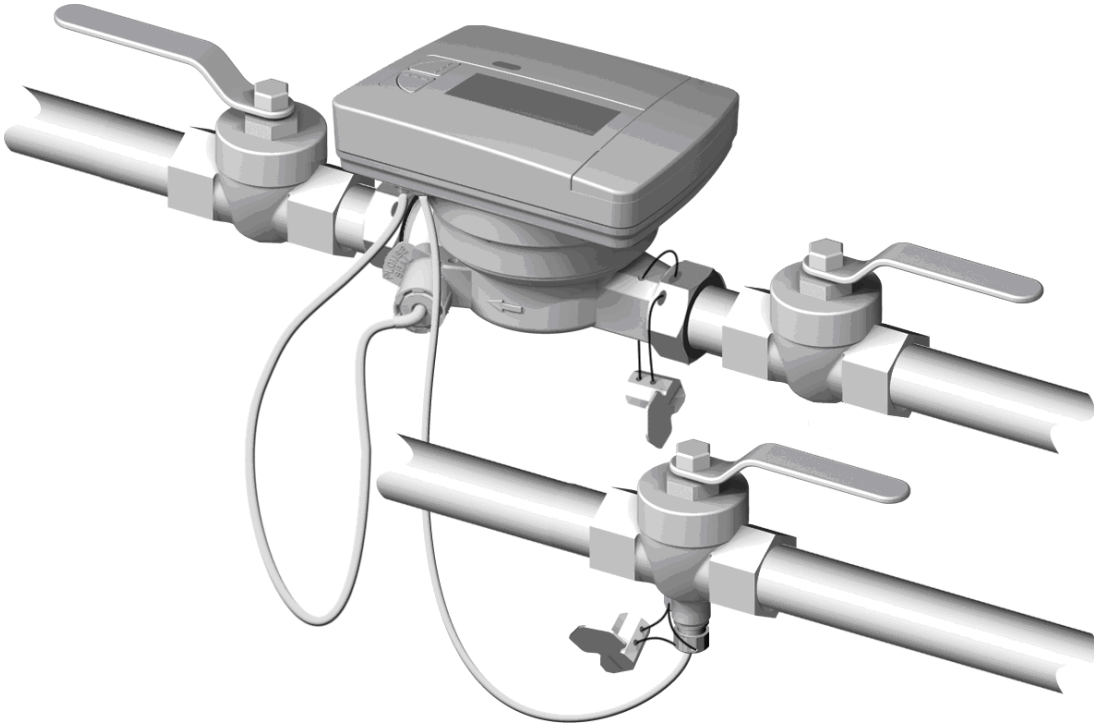
http://siemens.com/bt/download

Flow measuring section

The meter can be mounted in any position (exception: installation above head is not allowed). The installation location (return or flow) is based on meter type. Settling paths are not required, neither upstream of nor downstream from the meter. If the meter is installed in the common return of 2 heating circuits (e.g. space heating and DHW), the mounting location must be at an adequate distance from the T-piece (min. 10 x DN) to allow the different water temperatures to properly mix.

Thoroughly flush the plant prior to installing the meter.

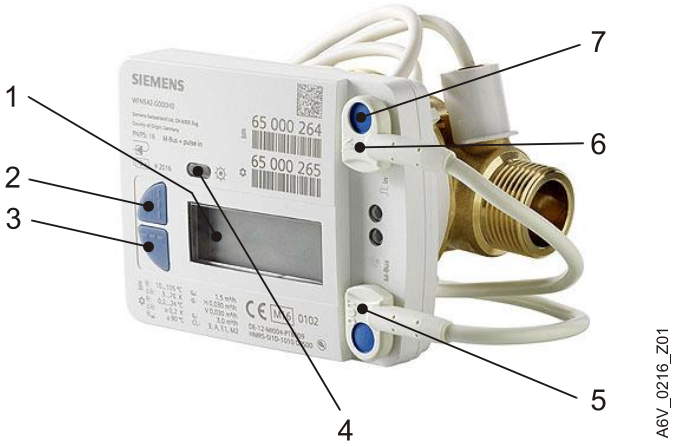
Mount the flow measuring section between 2 shutoff valves with the arrow on the measuring section pointing in the direction of flow. The sensors must be mounted in the same water circuit as the flow measuring section (observe mixing). The sensors can be fitted in T-pieces or ball valves, or can be immersed, either directly or in pockets (observe all national regulations). In any case, the end of the sensors' probe must extend to at least the pipe center. Temperature sensors and fittings must be sealed to prevent tampering.



Mounting with ball valves

Processor unit

The meter's processor is designed as follows:



1. LCD
2. Button to navigate on a level
3. Button to change between levels
4. IrDA interface
5. M-bus interface
6. Pulse inputs (interface lead sealed)
7. Mounting holes with cover and seals

The processor's ambient temperature cannot exceed 55 °C. Avoid direct sunlight.

The meter is a split device. The processor can be removed from the flow measuring section to be fitted on the wall with the mounting bracket at a distance of 40 cm.

Device sealing

After mounting the meter, seal all components to prevent tampering (observe national regulations):

- The flow measuring section with its fitting (inlet)
- The flow temperature sensor with the ball valve or the protection pocket, the protection pocket with the pipe and, if required,

Maintenance

The meters are maintenance-free. Observe national calibration regulations.

Disposal

	This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation. See Siemens disposal information for additional information.

Warranty service

The application-specific technical data is guaranteed only in combination with the Siemens products listed in the 'Device combinations' section. If third-party products are used, any guarantee provided by Siemens will be invalidated.

Processor unit

Power supply	
Battery type	Lithium battery CR AA (cannot be replaced)
Number of batteries	1 pc.
Battery voltage	3.0 V
Battery life	Measuring cycle every 36 s: Up to 10 years with reserve [2] Measuring cycle every 6 s: Up to 6 years with reserve [2]

[2] Battery life up to 6 / 10 years as of commissioning when stored less than one year prior to commissioning. Actual battery life depending on operating state and external factors.

Functional data	
Measuring range	
● Heat meter	10...105 °C
● Optional cooling range	0.2…24 °C
Temperature differential range ∆ t	3...70 K
Temperature response threshold	
● Heating	0.2 K.
● Cooling	0.2 K.
Thermal coefficient	Shifting compensated

Temperature sensors	
Sensing element	Pt1000 to EN 60751
Mechanical design	Type DS (installed directly)
Diameter	Ø 5.0 x 45 mm (standard)
Cable length	1.5 m (standard) (3 m optional)

Display	
Display	8-digit LCD + pictograms
Energy display based on device configuration	kWh/MWh (kWh: Decimal with 1 decimal place) (MWh: Decimal with 3 decimal places) MJ / GJ (MJ: Decimal with 1 decimal place) (GJ: Decimal with 3 decimal places)

Communication		
Optical interface	Basic design	Relying on EN 62056-21
	Protocol	
M-bus interface	Per EN 13757-2	
Voltage Vmax.	50 V	
Power consumption	1 M-bus load	
Addressing	Primary or secondary	
Baud rate	300 or 2400 baud	
Max. permissible reading frequency	Typically 1x per day	
Protocol	Per EN 13757-3, EN 1434-3	
Pulse inputs	As per EN 1434-2, class IB	
Number of inputs	2	
Switching threshold at low level	Max. 0.25 V	
Max. pulse frequency	Standard ≤ 5 Hz, 2.5 Hz when filter is active	
Min. pulse duration:	> 100 ms	
Source current	≤ 0.1 mA	
Pulse inputs ● Solenoid switches ● Integrated circuit ● NAMUR circuit	 Reed contact Open collector Not possible	
Pulse value (both identical)	10 liters per pulse (factory setting) 1 liters per pulse (factory setting)	
Connection cable length and cross section	4x 0.22 mm² M-bus: 3 m Pulse: 1 m	

Flow measuring section Screw-type water meter				
Temperature range (national approvals may differ)	10...90 °C			
Maximum temperature tmax.	90 °C			
Nominal pressure (max. permissible operational pressure)	16 bar (PN 16)			
Min. system pressure to prevent cavitation	1.1 bar	1.1 bar	1.3 bar	1.1 bar
Nominal flow qp (m³/h)	0.6	1.5	1.5	2.5
Mounting length (mm)	110	80	110	130
Connecting thread	G ¾ B	G ¾ B	G ¾ B	G 1 B

Flow measuring section Screw-type water meter				
Meterological class (qp/qi).				
Horizontal	25:1	50:1	50:1	50:1
Vertical	25:1	50:1	50:1	50:1
Maximum flow qs (m³/h)	1.2	3.0	3.0	5.0
Minimum flow qi				
Horizontal	24	30	30	50
Vertical	24	30	30	50
Ratio qs/qi	2:1			
Threshold (l/h)	3...4	4…5	4…5	6…7
Pressure drop at qp				
● Mounting length 80 mm Δp (mbar)	-	230	-	-
● Mounting length 110 mm Δp (mbar)	210	-	230	-
● Mounting length 130 mm Δp (mbar)	-	-		170
Flow rate at Δp = 1 bar, Kv (m³/h)	3.0	3.1	3.1	5.2
Mounting position	Horizontal/vertical			
Connecting cable - processor to volume measuring element	40 cm			

Housing type	
Protection class	III
Degree of protection	
● Processor unit	IP65 as per EN 60529
● Flow measuring section	IP65 as per EN 60529

Environmental conditions			
	Operation	Transportation	Storage
Temperature	5...55 °C	-25...+70 °C	-5...+45 °C
Humidity	<95 % r.h. at 25 °C (non-condensing)	<95 % r.h. at 25 °C (non-condensing)	<95 % r.h. at 25 °C (non-condensing)

Standards and guidelines	
EU conformity (CE)	
Processor unit	See EU declaration of conformance *)
Heating media quality	VDI guideline 2035
Type approval as per	EN 1434-4 Electromagnetic class E1 Mechanical class M2 Environment class A Measuring accuracy class 3
Product standards	DIN EN 1434-1 (heat meters)
European Measuring Instruments Directive (MID)	2014/32/EU

*) The documents can be downloaded at http://siemens.com/bt/download.

Environmental compatibility
The product environmental declaration *) contains data on environmentally compatible product design and assessments (RoHS compliance, material composition, packaging, environmental benefit, and disposal).

*) The documents can be downloaded at http://siemens.com/bt/download.

Material	
Dimensions (W x H x D)	
• Processor unit	101.5 x 78 mm
• Flow measuring section	See "Dimensions"
Processor housing	ABS + PC
Processor housing colors	RAL 9016

Weight (device packed complete with inserts)	
0,6 m³/h	1087 g
1,5 m³/h (80 mm)	1008 g
1,5 m³/h (110 mm)	866 g
2,5 m³/h	1206 g

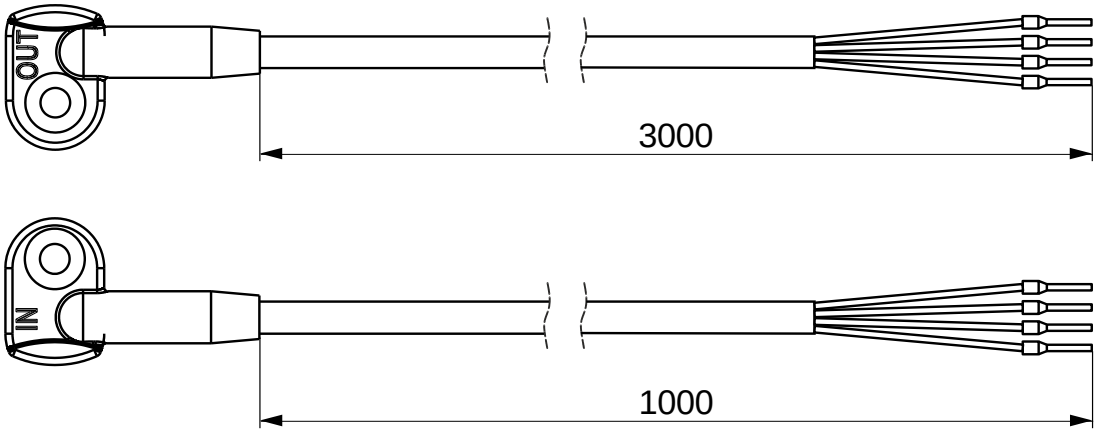
Dimensions

Dimensions in mm

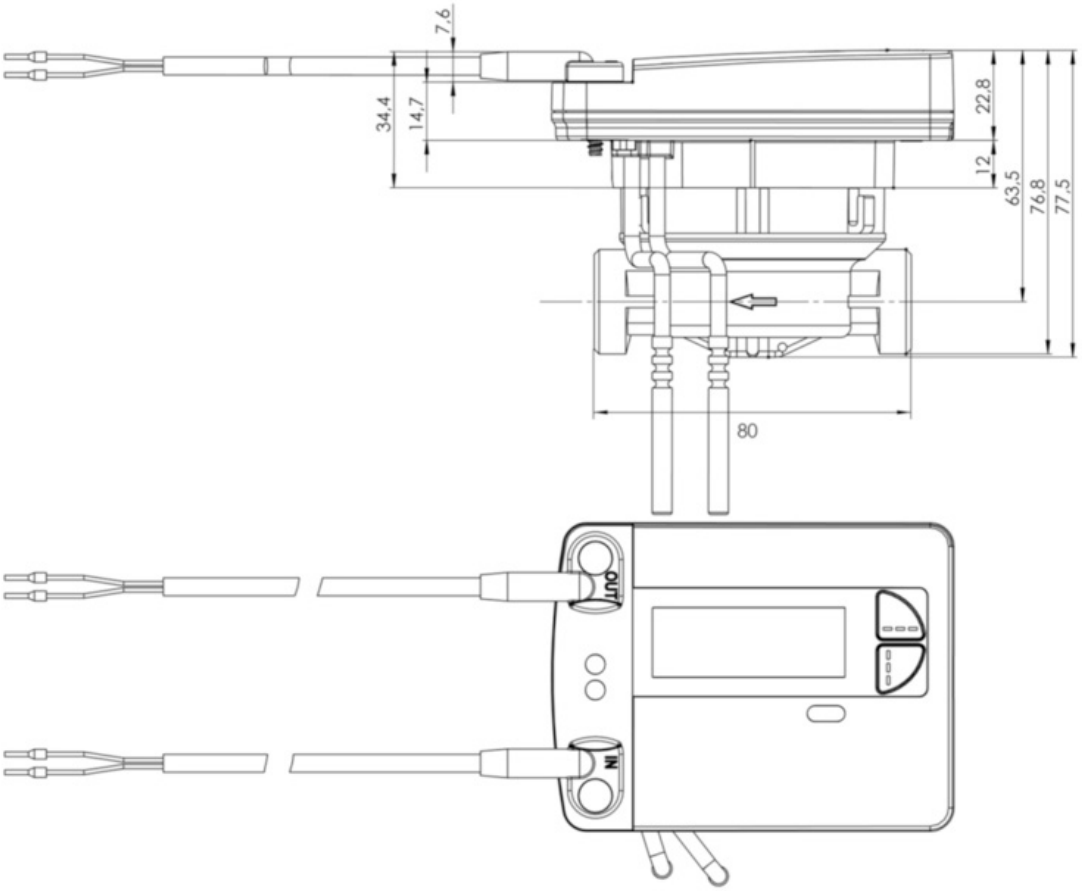
Dimension drawings with integrated communication interface

Dimensions in mm

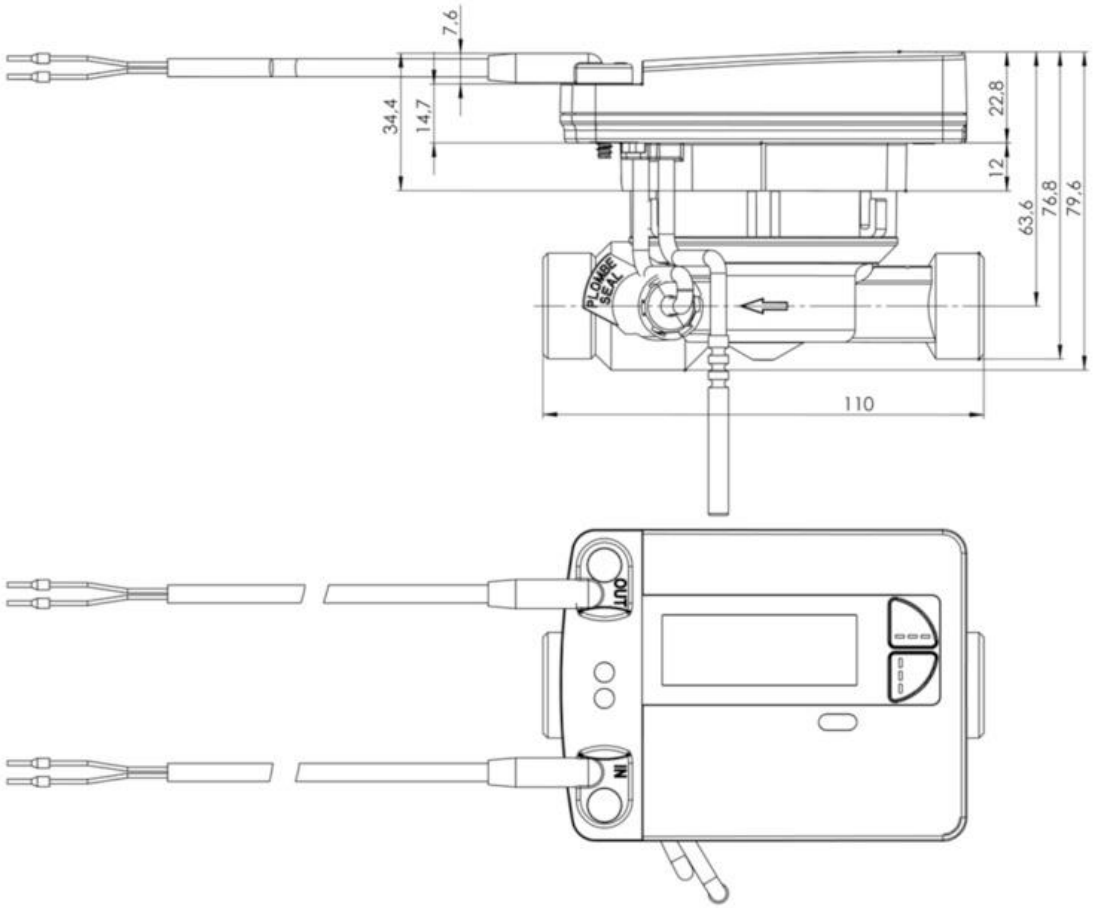
Input/output simulator



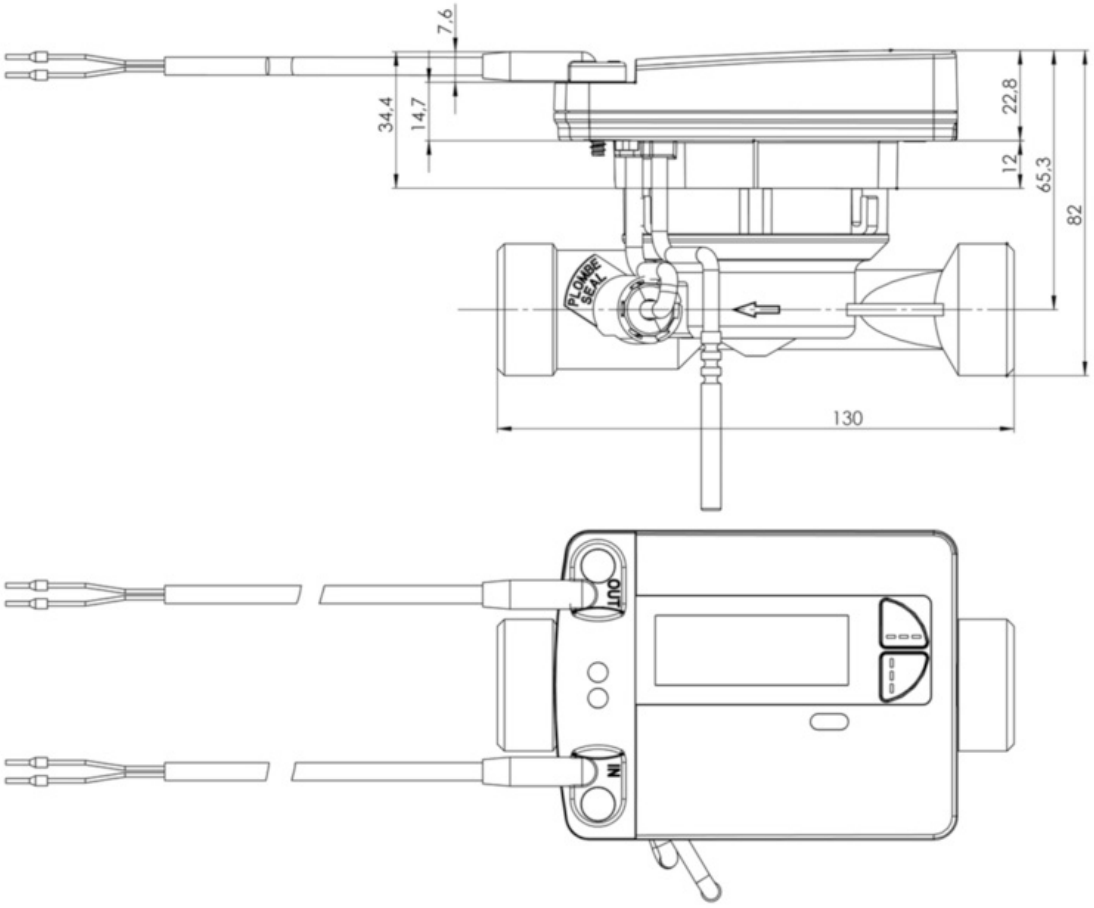
Installation length 80 mm, thread 3/4 inch - (1.5 m³/h):



Installation length 110 mm, thread 3/4 inch - (0.6 m³/h):



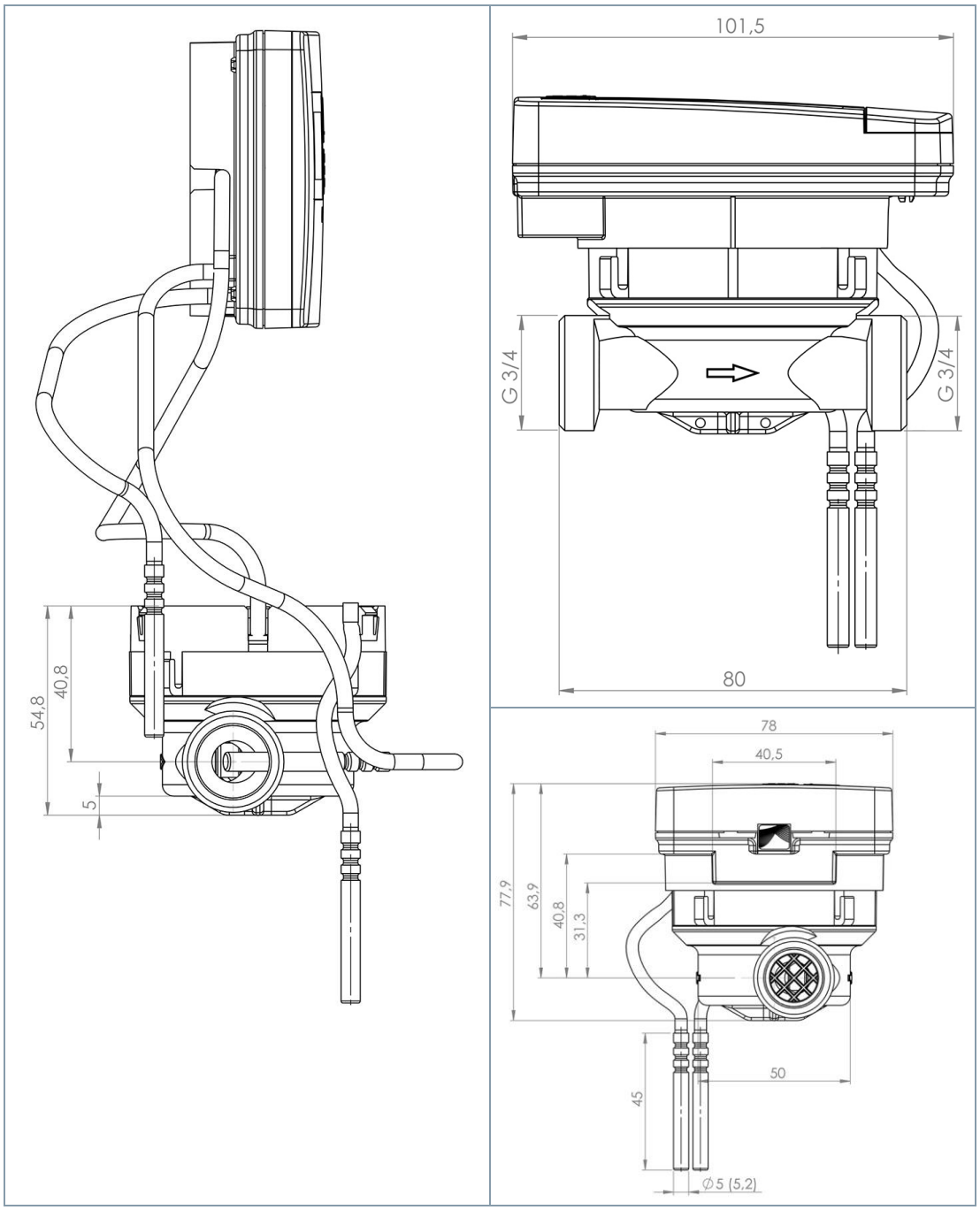
Installation length 130 mm, thread 3/4 inch - (2.5 m³/h):



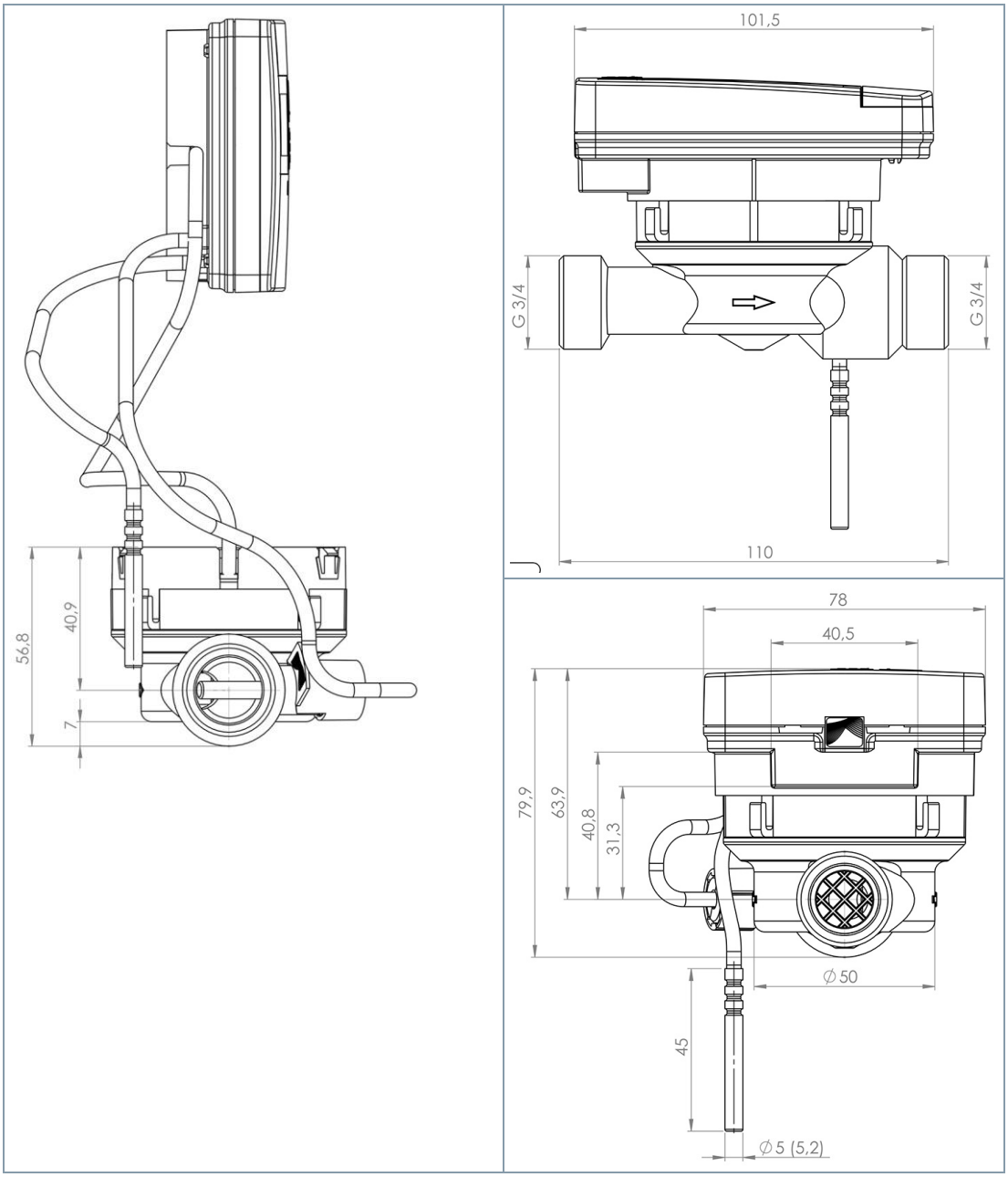
Heat meter with optional cooling range

Dimensions in mm

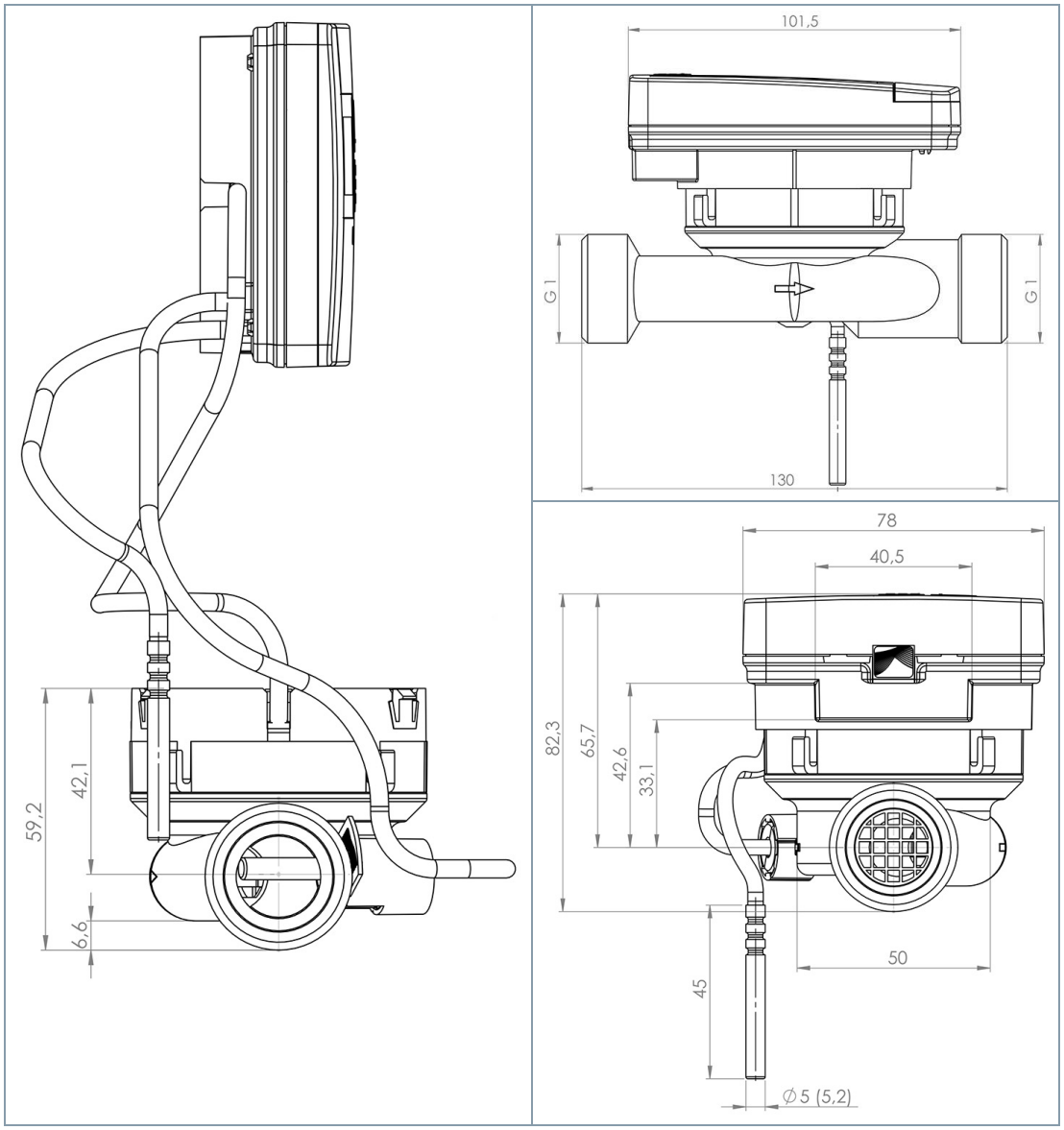
Installation length 80 mm, thread 3/4 inch - (1.5 m³/h):



Installation length 110 mm, thread 3/4 inch - (0.6 m³/h):



Installation length 130 mm, thread 3/4 inch - (2.5 m³/h):



Issued by
Siemens Switzerland Ltd
Smart Infrastructure
Global Headquarters
Theilerstrasse 1a
CH-6300 Zug
+41 58 724 2424
www.siemens.com/buildingtechnologies

© Siemens Switzerland Ltd, 2016
Technical specifications and availability subject to change without notice.

Document ID A6V10800216_en--_c

Edition 2022-12-15