

Data sheet

SonoMeter 30

Energy Meters

Description

The Danfoss SonoMeter 30 is a range of ultrasonic, compact energy meters intended for measuring energy consumption in heating and cooling applications for billing purposes. The meters are designed for remote meter read-out (AMR).

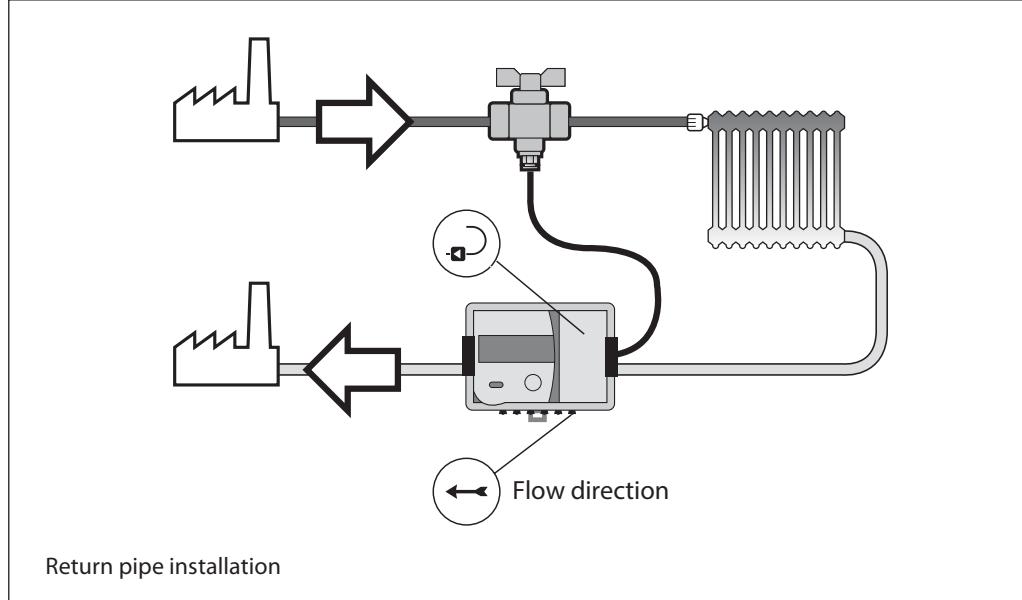
SonoMeter 30 energy meters consist of an ultrasonic flow sensor, a pair of Pt500 temperature sensors and a calculator with integrated circuits for temperature measurement, flow calculation and energy calculation.

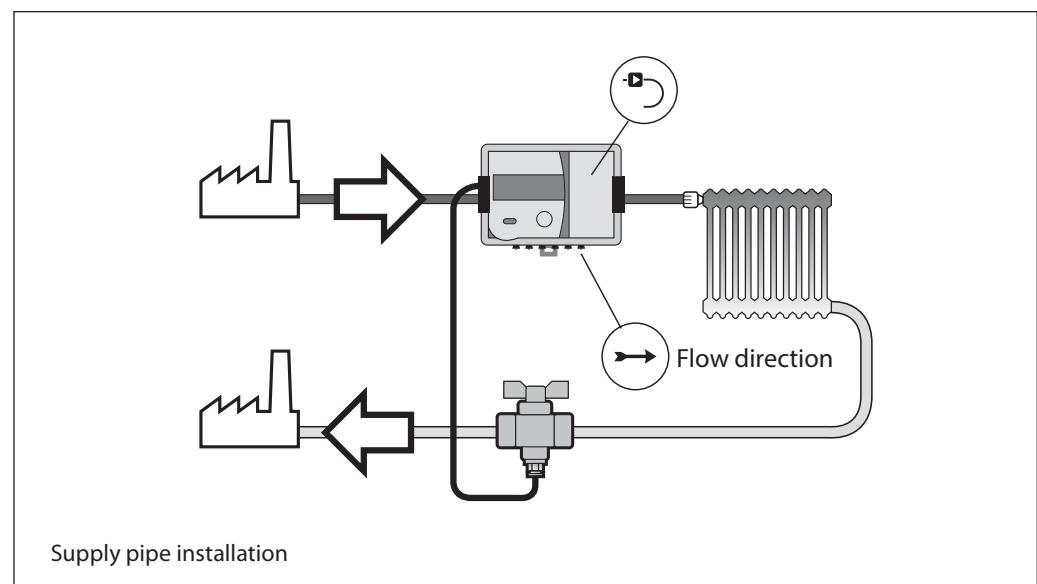
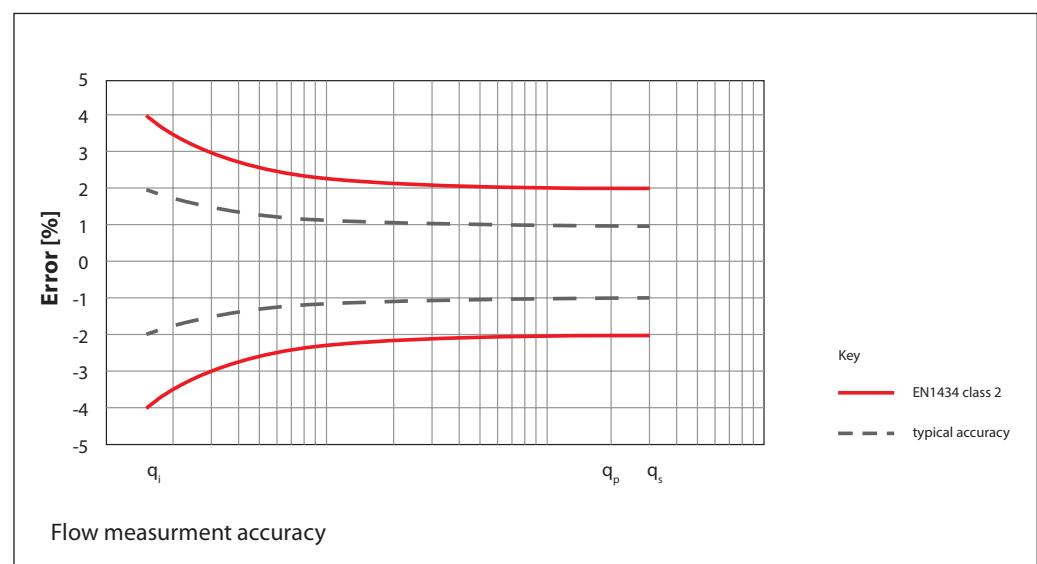
Features

- Available in nominal flow rates q_p 0.6, 1.5, 2.5, 3.5, 6.0, 10.0, 15.0, 25.0, 40.0 and 60 m^3/h
- Housings with thread (G3/4 to G2) or flange (DN 20 to DN 100) connections
- MID approval for ultrasonic energy meter with dynamic range of 1:100 ($q_i:q_p$) in class 2
- Optional MID approved dynamic range of 1:250 in class 2 for q_p 1.5, 2.5, 6.0, 10 and 15 m^3/h
- Temperature range 5 - 130 °C, PN 16 or 25 bar
- Short overload temperature up to 150 °C
- Glycol mixtures as option up to incl. DN 50 (not MID certified)
- Calculator with IP 65 protection class as standard
- Flow sensor with IP 65 protection class as standard (IP67 for combine heating and cooling applications)
- Return or supply pipe installation, for vertical or horizontal mounting
- Battery lifetime for at least 11 years
- Low pressure loss, insensitive to dirt
- No calming sections needed before or after the flow sensor (DN 15-DN 50)
- For DN 65 to DN 100 calming sections are needed (5 x DN on inlet and 3 x DN on outlet of flow sensor)
- Remote reading via M-Bus, radio OMS 868 MHz, RS 485 Modbus, BACnet, pulse output or optical interface
- Two pulse inputs or outputs as standard (default delivered as pulse output - can be changed)

Technical specifications

Diameter	DN 15	DN 20		DN 15	DN 20			DN 20			DN 25		DN 25		DN 40		DN 50	DN 65	DN 80	DN 100
Connection type	G 3/4B	G 1B	FL	G 3/4B	G 1B	FL	G 1B	G 1B	FL	G 1 1/4B	FL	G 1 1/4B	FL	G 2B	FL	FL	FL	FL	FL	
Overall length, mm	110	190		110	190		130	130	190		260		260		300	270	300	300	360	
Flow rate:																				
Nominal (m³/h)	0.6		1.5			2.5			3.5		6		10		15		25		40	
Maximum (m³/h)	1.2		3			5			7		12		20		30		50		80	
Standard min. (l/h)	6		15			25			35		60		100		150		350		400	
Pressure loss at q _p (mbar)	70	9	171	58	72	198	94		40		100		180		120	200	180	180		
K _{vs} values (for nominal flow)	2.27	6.32	3.63	6.23	5.59	5.62	8.15		17.50		18.97		23.57		43.50	55.9	94.3	141.4		
Max. operating pressure	16 bar / 25 bar																			
Flow sensor temp. range	5 to 130 °C (short overload to 150 °C)																			
Flow sensor cable length	1.2m, 2.5m and 5m (optional)																			
Medium	Water quality with pH 7 to 9.5																			
Measuring cycles	Volume every 1 sec., energy, temperature sensors and display update every 16 sec.																			
Temperature sensors	Pt 500 ø 5.2 mm with 2-wire leads																			
Temp. sensor cable length	1.5 m optional 3 m, 5 m and 10 m cable																			
Max. temp. diff. (Δθmax)	150 K																			
Min. temp. diff. (Δθmin)	3.0 K																			
Starting temp. diff. (Δθ)	0.15 K																			
Temp. measuring range	0 to 180 °C																			
Supply voltage	3.6 V DC Lithium-battery (AA cell) / Mains supply 24 V AC/DC. Mains supply 230 V AC (with external 230 V AC to 24 V AC transformer).																			
Battery life time	min. 11 years (including AMR communication)																			
Approval	EN1434 class 2																			
Environmental class	EN1434 class C																			
Ambient class	class E2 + M1																			
Protection class	Calculator: IP 65; Flow sensor: IP 65 (IP67 for heat and cooling meter)																			
Ambient operating temp.	Calculator: 5 to 55 °C; Flow sensor: -30 to 55 °C																			
Ambient storage and transportation temp.	5 to 55 °C																			
Max. ambient humidity	93% rel. humidity																			
Display	LCD, 8-digit																			
Display units	MWh - kWh - GJ - Gcal - °C - m³/h																			
Display values	Energy - volume - flow rate - power - temperatures																			

Application drawings


**Application drawings
(continuous)****Accuracy**

Design and function**Optical interface**

Optical interface is integrated into the front panel of the calculator. It is designed for data reading via M-bus protocol and parameterization of the meter using SonoMeter 30 UserConfig software and optical head OG-1-USB.

The optical interface is activated by pressing the control button and shuts automatically off 5 minutes after the last pressing button or after completing data transmission via interface.

Wired M-Bus interface

The energy meter has 1 slot for an additional communication module. The internal M-Bus module provides data reading possibility via M-Bus protocol:

- M-Bus protocol according to EN13757-3 standard
- 2-wire with polarity reversal protection
- Electrical isolation
- Maximum voltage 50 V DC
- Current drawn: one M-Bus load (1.5 mA)
- Primary or secondary addressing
- Baud rate 2400 bps
- Battery lifetime min. 11 years (2 AA cell)
- Battery supply communication is limited on every 15 min at 2400 baud rate or faster, 70 meters on bus
- Fastest reading interval at mains supply: no limits

Radio OMS 868.95 MHz interface

- The module can provide data reading via radio module:
- Wireless M-Bus protocol according to EN13757-4
- OMS (open metering system) compatible, compliant to OMS 4.0.2
- T1 mode (unidirectional)
- Sending interval every 90 seconds (suitable for 'walk by' readings)

Modbus RS-485 module

RS-485 module is Modbus RTU protocol and a serial interface for communication with external devices.

Baud rate	1200, 2400, 4800, 9600(default), 38400, 56000, 57600, 115200 bps
Power supply	Polarity independent connection for power supply – connectors 60 and 61. Voltage 12-24 V AC/DC. Maximum power consumption 2 W max. Typical supply current 50 mA.

BACnet

Baud rate	9600, 19200, 38400 –default, 57600, 76800, 115200 bps
Power supply	Polarity independent connection for power supply – connectors 60 and 61. Voltage 12-24 V AC/DC. Maximum power consumption 2 W max. Typical supply current 50 mA.

2 pulse inputs or 2 pulse outputs (set up by jumpers)

There is a connector J on the calculator plate between the temperature sensors and pulse input / output connection terminals. By means of connecting or opening the connector contacts, the pulse inputs or outputs are activated.

Note: On delivery the heat meter is configured with two outputs.

Pulse inputs (not default, jumper set needed)

Number of pulse inputs	2
Measurement units	m3 (51, 52), kWh (52, 53) or MWh, GJ, GCal
Pulse value	programmable by SonoMeter 30 UserConfig Software
Min. pulse time	100 ms
Pulse type	IB by class IB according to EN1434-2
Max. frequency of input pulses	3 Hz
Max. voltage of input pulses	3.6 V

**Design and function
(continuous)**
Pulse outputs (default, no jumper set)

Number of pulse outputs	2
Measurement units	m3 (51, 52), kWh (52, 53) or MWh, GJ, GCal,
Pulse value	according to the table below
Pulse type	open collector, permissible current up to 20 mA, voltage up to 50 V, class OB according to EN1434-2
Max. frequency of output pulses	3 Hz
Pulse duration	100 ms in normal mode, 1.6 ms in the test mode

Energy pulse output values (V1)

Energy units	kWh or MWh	GJ	Gcal
Pulse value of thermal energy	1 kWh/pulse	0.005 GJ/pulse	0.001 Gcal/pulse

Volume pulse output values (V2)

Nominal flow rate (qp), m ³ /h	0.6 - 6	10; 15
Pulse value, l/pulse	1	10

Data logger
Data logger

Following hourly, daily and monthly parameter values are recorded in energy meter memory (can be configured by SonoMeter 30 UserConfig software):

- 1 Integrated heating energy
- 2 Integrated cooling energy
- 3 Integrated energy of tariff 1
- 4 Integrated energy of tariff 2
- 5 Integrated volume of liquid
- 6 Integrated pulse value in pulse input 1
- 7 Integrated pulse value in pulse input 2
- 8 Maximum thermal power value for heating and date
- 9 Maximum thermal power value for cooling and date
- 10 Maximum flow rate value and date
- 11 Maximum value of flow temperature of heat conveying liquid and date
- 12 Maximum value of return temperature of heat conveying liquid and date
- 13 Minimum value of flow temperature of heat conveying liquid and date
- 14 Minimum value of return temperature of heat conveying liquid and date
- 15 Minimum value of temperature difference and date
- 16 Average value of flow temperature of heat conveying liquid
- 17 Average value of return temperature of heat conveying liquid
- 18 Operating time without an error of thermal energy calculation
- 19 Total error code
- 20 Time when the flow rate exceeded 1.2 q_s
- 21 Time when the flow rate was less than q_i

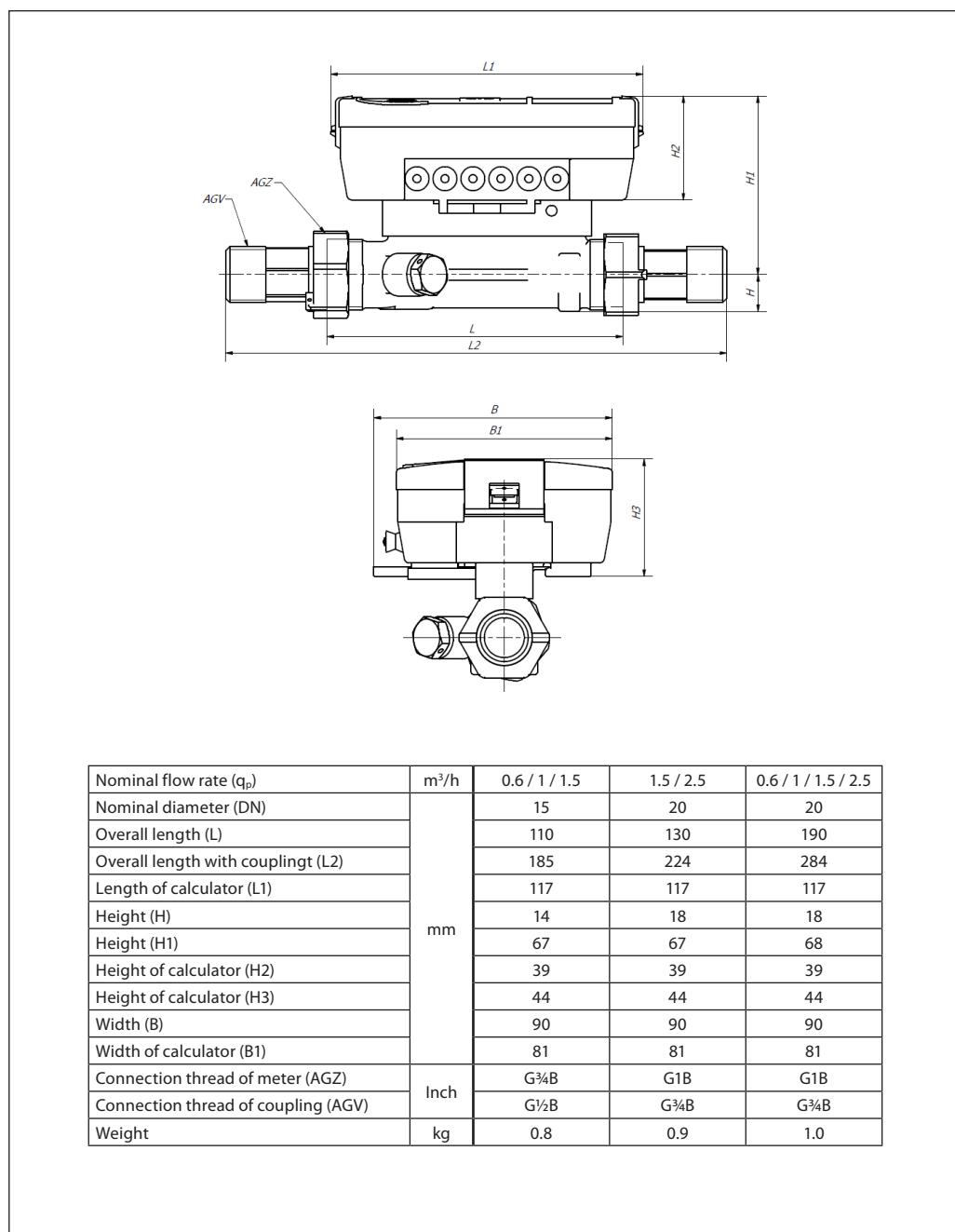
Data logger capacity

- up to 1480 h - for hourly records
- up to 1130 days - for daily records
- up to 36 last months - for monthly records
- Storage time of measured integrated parameters even if device is disconnected from power supply: not less than 15 years

All data from archive can be read by means of the remote reading. In addition data logger records of monthly parameters can be seen on the display.

Power supply
Power supply (one of following depending on meter configuration):

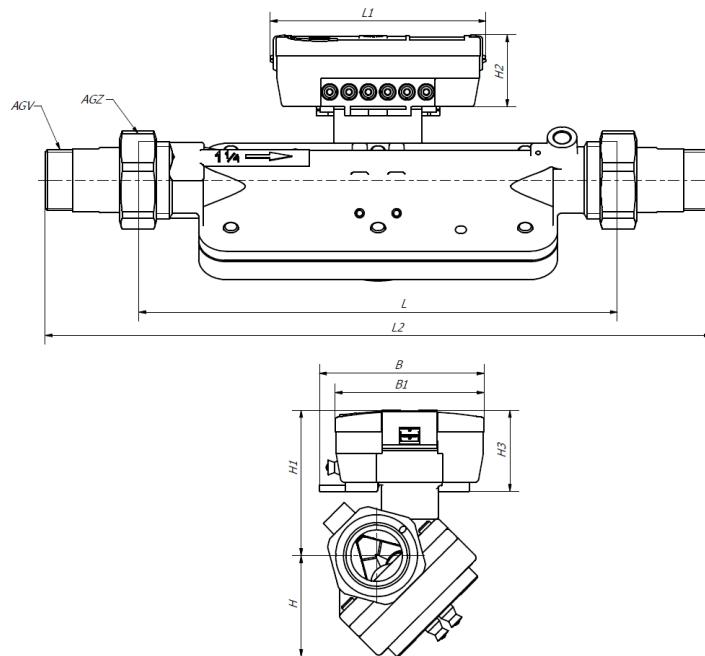
- 2 AA cell battery 3.6 V DC, 2.4 Ah (Li-SOCl₂) lithium battery, life time at least 11 years
- Mains power supply 12 V AC to 36 V AC (50/60 Hz) or 12 V DC to 42 V DC:
 - The mains power supply 24V AC/DC module is mounted inside in the meter
 - Consumption is max 20 mA
 - Galvanically isolated + internal backup battery size AA cell, 3.6 V, 2.4 Ah, lithium battery (Li-SOCl₂). When the external power supply is turned off, the battery life time is not less than 11 years (without data reading via a digital interface)
- Mains power supply 230 V AC (+10% / -30%) 50/60Hz:
 - The meter should be equipped with an internal power supply unit and an external transformer. The 230 V AC to 24 V AC transformer is used for connection to mains power supply 24 V AC/DC module inside the meter
 - Consumption is max 10 mA

**Dimensions,
DN15, DN20 thread**


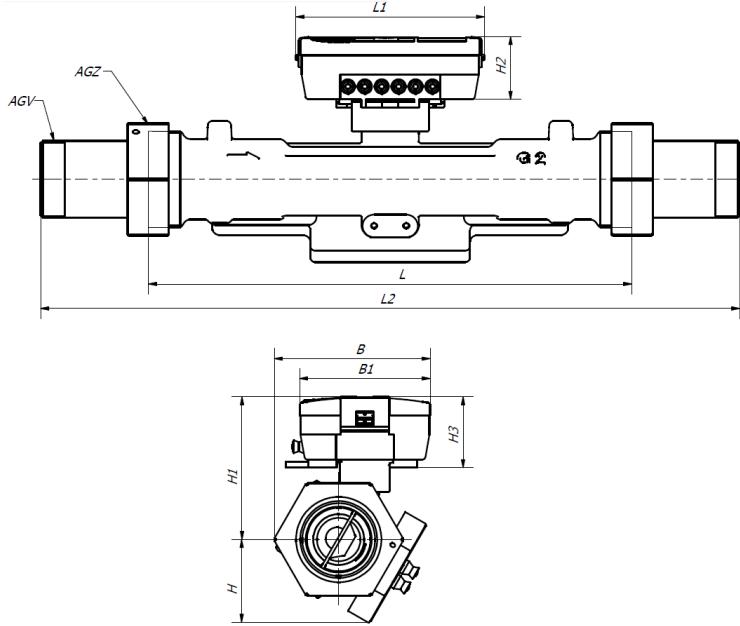
Data sheet

SonoMeter 30

**Dimensions,
DN25 thread**



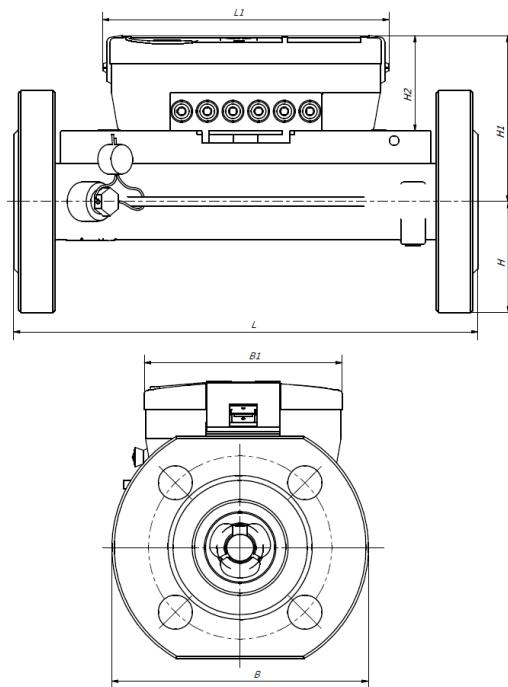
Nominal flow rate (q_p)	m^3/h	3.5 / 6
Nominal diameter (DN)		25
Overall length (L)		260
Overall length with couplingt (L2)		360
Length of calculator (L1)		117
Height (H)	mm	55
Height (H1)		79
Height of calculator (H2)		39
Height of calculator (H3)		44
Width (B)	mm	90
Width of calculator (B1)		81
Connection thread of meter (AGZ)	Inch	G1¼B
Connection thread of coupling (AGV)		G1B
Weight	kg	3.6

Dimensions,
DN40 thread

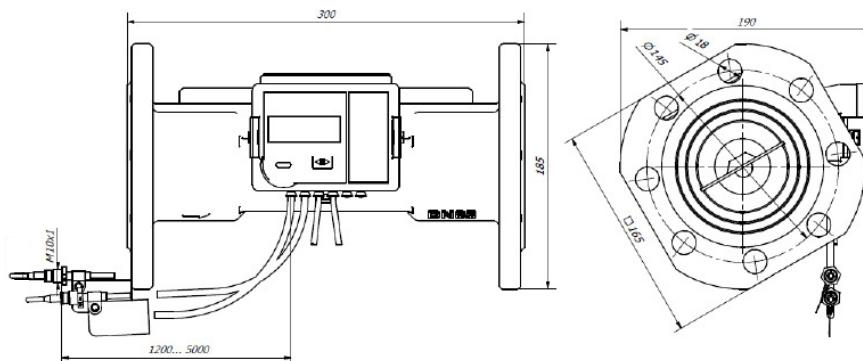
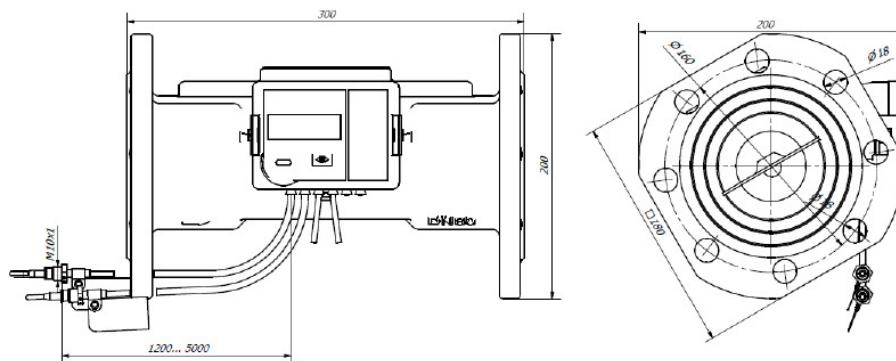
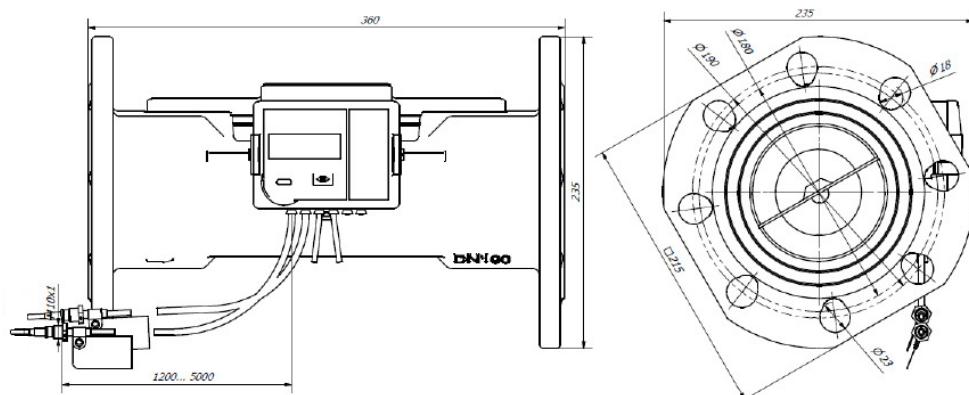
Nominal flow rate (q_p)	m^3/h	10
Nominal diameter (DN)		40
Overall length (L)		300
Overall length with coupling (L2)		437
Length of calculator (L1)		117
Height (H)	mm	51
Height (H1)		89
Height of calculator (H2)		39
Height of calculator (H3)		44
Width (B)		97
Width of calculator (B1)		81
Connection thread of meter (AGZ)	Inch	G2B
Connection thread of coupling (AGV)		G1½B
Weight	kg	7.2

Data sheet**SonoMeter 30**

**Dimensions,
DN20, DN25, DN40, DN50
flange**



Nominal flow rate (q_p)	m ³ /h	0.6 / 1 / 1.5 / 2.5	3.5/6	10	15
Nominal diameter (DN)	mm	20	25	40	50
Overall length (L)		190	260	300	270
Length of calculator (L1)		117	117	117	117
Height (H)		46	58	73	79
Height (H1)		68	78	91	90
Height of calculator (H2)		39	39	39	39
Width (B)		105	116	150	159
Width of calculator (B1)		81	81	81	81
Connection flange of meter (DNFL)		20	25	40	50
Weight	kg	2.5	5.6	6.8	8.5

**Dimensions,
DN65, DN80, DN100**
DN 65

DN 80

DN 100


Nominal flow rate (q_p)	m^3/h	25	40	60
Nominal diameter (DN)		65	80	100
Overall length (L)	mm	300	300	360
Length of calculator (L1)		117	117	117
Height of calculator (H2)		44	44	44
Width (B)		165	180	180
Width of calculator (B1)		90	90	90
Holes		18	18	18
Central pipe diameter		145	160	190
Weight	kg	13	15	18

Ordering

Energy meter application	Nominal flow, size and connection type	Comm. module	Energy unit	Installation	Temp. Sensor cable	PN (bar)	Power supply	Code no.
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3106
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3210
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3001
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3002
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3003
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3004
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3005
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3006
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3007
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3008
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3009
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3010
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3011
Heating	DN15 qp1.0m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3014
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3015
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3016
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3017
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3018
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3019
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3020
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3021
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3022
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3023
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3024
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3025
Heating	DN20 qp1.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3026
Heating	DN20 qp1.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3027
Heating	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3029
Heating	DN20 qp2.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3030
Heating	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3031
Heating	DN20 qp2.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3032
Heating	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3033
Heating	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3034
Heating	DN20 qp2.5m ³ /h G1 130mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3035
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3036
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3037
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3038
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3039
Heating	DN20 qp2.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3040
Heating	DN20 qp2.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3041
Heating	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3043
Heating	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3044
Heating	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3045
Heating	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3046
Heating	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3047
Heating	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	no module	kWh	Supply	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3048
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3050
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3051
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3052
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3053
Heating	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3057
Heating	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3058
Heating	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3059
Heating	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3060
Heating	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3061
Heating	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	no module	kWh	Supply	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3062
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3064
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3065
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3066
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	Radio OMS 868.95	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3067

Energy meter application	Nominal flow, size and connection type	Comm. module	Energy unit	Installation	Temp. Sensor cable	PN (bar)	Power supply	Code no.
Heating	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3071
Heating	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3072
Heating	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3073
Heating	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3074
Heating	DN40 qp10m ³ /h G2 300mm	no module	MWh	Supply	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3075
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3078
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3079
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3080
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3081
Heating	DN40 qp10m ³ /h threaded flange 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3085
Heating	DN40 qp10m ³ /h threaded flange 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3086
Heating	DN40 qp10m ³ /h threaded flange 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3087
Heating	DN40 qp10m ³ /h threaded flange 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3088
Heating	DN40 qp10m ³ /h threaded flange 300mm	no module	MWh	Supply	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3089
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3092
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3093
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3094
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3095
Heating	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3099
Heating	DN50 qp15m ³ /h flange 270mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3100
Heating	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3101
Heating	DN50 qp15m ³ /h flange 270mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3102
Heating	DN50 qp15m ³ /h flange 270mm	no module	MWh	Supply	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3103
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3107
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3108
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	Radio OMS 868.95	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3109
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3130
Heating	DN20 qp1.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3131
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3132
Heating	DN20 qp1.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3133
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3134
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3135
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3136
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3137
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3138
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3139
Heating	DN15 qp1.5m ³ /h G3/4 110mm	Wired M-Bus	MWh	Return	1.5m	PN25	Mains unit 230V AC (external module)	187F3173
Heating	DN20 qp2.5m ³ /h G1 190mm	Wired M-Bus	MWh	Return	1.5m	PN25	Mains unit 230V AC (external module)	187F3174
Heating	DN25 qp3.5m ³ /h G1 1/4 260mm	Wired M-Bus	MWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3175
Heating	DN25 qp6.0m ³ /h G1 1/4 260mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3176
Heating	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3177
Heating	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3178
Heating	DN25 qp6.0m ³ /h threaded flange 260mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3179
Combined heating and cooling	DN25 qp3.5m ³ /h G1 1/4 260mm	Wired M-Bus	kWh	Supply	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3141
Combined heating and cooling	DN25 qp6.0m ³ /h G1 1/4 260mm	Wired M-Bus	kWh	Supply	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3142
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Supply	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3042
Heating	DN25 qp3.5m ³ /h threaded flange 260mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3143
Heating	DN15 qp1.5m ³ /h G3/4 110mm	no module	kWh	Supply	3.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3241
Heating	DN20 qp2.5m ³ /h G1 130mm	no module	kWh	Supply	3.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3242
Heating	DN25 qp3.5m ³ /h G1 1/4 260mm	no module	kWh	Supply	3.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3243
Heating	DN25 qp6.0m ³ /h G1 1/4 260mm	no module	kWh	Supply	3.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3244
Heating	DN40 qp10m ³ /h G2 300mm	no module	MWh	Supply	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3245
Heating	DN50 qp15m ³ /h flange 270mm	no module	MWh	Supply	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3246
Heating	DN15 qp1.5m ³ /h G3/4 110mm	RS-485 Modbus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3283
Heating	DN15 qp1.5m ³ /h G3/4 110mm	Wired M-Bus	kWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3276

Data sheet
SonoMeter 30

Energy meter application	Nominal flow, size and connection type	Comm. module	Energy unit	Installation	Temp. Sensor cable	PN (bar)	Power supply	Code no.
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3277
Heating	DN20 qp2.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3278
Heating	DN25 qp3.5m ³ /h G1½ 260mm	Wired M-Bus	kWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3279
Heating	DN25 qp6.0m ³ /h G1½ 260mm	Wired M-Bus	kWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3280
Heating	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3281
Heating	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3282
Heating	DN20 qp1.5m ³ /h G1 130mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3140
Heating	DN20 qp2.5m ³ /h G1 130mm	RS-485 Modbus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3284
Combined heating and cooling	DN20 qp2.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3285
Combined heating and cooling	DN20 qp1.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3286
Heating	DN20 qp1.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3287
Heating	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Supply	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3293
Heating	DN25 qp3.5m ³ /h G1½ 260mm	Wired M-Bus	kWh	Supply	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3294
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Supply	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3296
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Supply	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3628
Heating	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3640
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3641
Heating	DN50 qp15m ³ /h flange 270mm	Radio OMS 868.95	kWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3642
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	Radio OMS 868.95	kWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3643
Heating	DN15 qp0.6m ³ /h G¾ 110mm	Wired M-Bus	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3644
Heating	DN15 qp1.5m ³ /h G¾ 110mm	Wired M-Bus	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3645
Heating	DN25 qp3.5m ³ /h G1½ 260mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3646
Heating	DN25 qp6.0m ³ /h G1½ 260mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3647
Heating	DN15 qp0.6m ³ /h G¾ 110mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3648
Heating	DN15 qp1.5m ³ /h G¾ 110mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3649
Heating	DN20 qp2.5m ³ /h G1 130mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3654
Heating	DN20 qp2.5m ³ /h G1 190mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3655
Heating	DN25 qp3.5m ³ /h G1½ 260mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3656
Heating	DN25 qp6.0m ³ /h G1½ 260mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3657
Heating	DN40 qp10m ³ /h G2 300mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3658
Heating	DN40 qp10m ³ /h threaded flange 300mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3659
Heating	DN50 qp15m ³ /h flange 270mm	no module	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3660
Heating	DN15 qp1.5m ³ /h G¾ 110mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 24V AC	187F3661
Heating	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 24V AC	187F3662
Combined heating and cooling	DN20 qp2.5m ³ /h G1 190mm	Wired M-Bus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3663
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	kWh	Supply	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3664
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	Wired M-Bus	kWh	Supply	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3665
Heating	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	5.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3666
Heating	DN25 qp6.0m ³ /h threaded flange 260mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3667
Cooling meter Antifreeze PG44	DN25 qp6.0m ³ /h G1½ 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3668
Cooling meter Antifreeze PG44	DN25 qp3.5m ³ /h G1½ 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3669
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	5.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3670
Heating	DN65 qp25m ³ /h flange 300mm	no module	MWh	Supply	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3671
Heating	DN65 qp25m ³ /h flange 300mm	no module	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3672
Heating	DN65 qp25m ³ /h flange 300mm	Wired M-Bus	MWh	Supply	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3673
Heating	DN65 qp25m ³ /h flange 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3674
Heating	DN65 qp25m ³ /h flange 300mm	Radio OMS 868.95	MWh	Supply	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3675
Heating	DN65 qp25m ³ /h flange 300mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3676
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3677
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3678
Heating	DN80 qp40m ³ /h flange 300mm	no module	MWh	Supply	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3679
Heating	DN80 qp40m ³ /h flange 300mm	no module	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3680
Heating	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3640
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Radio OMS 868.95	kWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3641
Heating	DN100 qp60m ³ /h flange 360mm	Radio OMS 868.95	MWh	Supply	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3691
Heating	DN100 qp60m ³ /h flange 360mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3692
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	Wired M-Bus	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3693
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3694
Heating	DN65 qp25m ³ /h flange 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3845
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3846

Energy meter application	Nominal flow, size and connection type	Comm. module	Energy unit	Installation	Temp. Sensor cable	PN (bar)	Power supply	Code no.
Heating	DN80 qp40m ³ /h flange 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3847
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3848
Heating	DN100 qp60m ³ /h flange 360mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3849
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3850
Cooling meter Antifreeze PG34	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3851
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	GJ	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3852
Heating	DN25 qp3.5m ³ /h G ^{1/4} 260mm	Wired M-Bus	GJ	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3853
Combined heating and cooling	DN25 qp3.5m ³ /h G ^{1/4} 260mm	Wired M-Bus	GJ	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3854
Heating	DN25 qp6.0m ³ /h G ^{1/4} 260mm	Wired M-Bus	GJ	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3855
Combined heating and cooling	DN25 qp6.0m ³ /h G ^{1/4} 260mm	Wired M-Bus	GJ	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3856
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	Wired M-Bus	GJ	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3869
Heating	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	GJ	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3870
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	Wired M-Bus	GJ	Return	1.5m	PN16	Battery 3.6V DC (2 AA-cell)	187F3871
Cooling meter Antifreeze EG38	DN50 qp15m ³ /h flange 270mm	Wired M-Bus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3872
Cooling meter Antifreeze EG38	DN80 qp40m ³ /h flange 300mm	Wired M-Bus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3873
Cooling meter Antifreeze EG38	DN25 qp3.5m ³ /h G ^{1/4} 260mm	no module	kWh	Return	5.0m	PN16	Mains unit 230V AC (external module)	187F3874
Cooling meter Antifreeze EG38	DN25 qp6.0m ³ /h G ^{1/4} 260mm	no module	kWh	Return	5.0m	PN16	Mains unit 230V AC (external module)	187F3875
Cooling meter Antifreeze EG38	DN40 qp10m ³ /h G2 300mm	no module	MWh	Return	5.0m	PN16	Mains unit 230V AC (external module)	187F3876
Cooling meter Antifreeze EG38	DN65 qp25m ³ /h flange 300mm	no module	MWh	Return	5.0m	PN16	Mains unit 230V AC (external module)	187F3877
Cooling meter Antifreeze EG38	DN80 qp40m ³ /h flange 300mm	no module	MWh	Return	5.0m	PN16	Mains unit 230V AC (external module)	187F3878
Cooling meter Antifreeze EG38	DN100 qp60m ³ /h flange 360mm	no module	MWh	Return	5.0m	PN16	Mains unit 230V AC (external module)	187F3879
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	GJ	Return	2.0m	PN25	Battery 3.6V DC (2 AA-cell)	187F3880
Cooling meter Antifreeze EG25	DN50 qp15m ³ /h flange 270mm	RS-485 Modbus	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3887
Heating	DN65 qp25m ³ /h flange 300mm	no module	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3889
Heating	DN65 qp25m ³ /h flange 300mm	no module	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3890
Heating	DN65 qp25m ³ /h flange 300mm	Wired M-Bus	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3891
Heating	DN65 qp25m ³ /h flange 300mm	Radio OMS 868.95	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3892
Heating	DN65 qp25m ³ /h flange 300mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3893
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3894
Heating	DN80 qp40m ³ /h flange 300mm	no module	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3895
Heating	DN80 qp40m ³ /h flange 300mm	no module	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3896
Heating	DN80 qp40m ³ /h flange 300mm	Wired M-Bus	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3897
Heating	DN80 qp40m ³ /h flange 300mm	Radio OMS 868.95	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3898
Heating	DN80 qp40m ³ /h flange 300mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3899
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3900
Heating	DN100 qp60m ³ /h flange 360mm	no module	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3901
Heating	DN100 qp60m ³ /h flange 360mm	no module	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3902
Heating	DN100 qp60m ³ /h flange 360mm	Wired M-Bus	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3903
Heating	DN100 qp60m ³ /h flange 360mm	Radio OMS 868.95	MWh	Supply	3.0m	PN25	Mains unit 230V AC (external module)	187F3904
Heating	DN100 qp60m ³ /h flange 360mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3905
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	Radio OMS 868.95	MWh	Return	3.0m	PN25	Mains unit 230V AC (external module)	187F3906
Cooling meter Antifreeze EG47	DN25 qp3.5m ³ /h G ^{1/4} 260mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3907
Cooling meter Antifreeze EG38	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3932
Cooling meter Antifreeze EG38	DN20 qp2.5m ³ /h G1 130mm	Wired M-Bus	kWh	Return	2.0m	PN16	Battery 3.6V DC (2 AA-cell)	187F3933
Heating	DN15 qp0.6m ³ /h G ^{3/4} 110mm	RS-485 Modbus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3934
Heating	DN20 qp1.5m ³ /h G1 130mm	RS-485 Modbus	kWh	Return	1.5m	PN16	Mains unit 230V AC (external module)	187F3935
Heating	DN25 qp6.0m ³ /h G ^{1/4} 260mm	RS-485 Modbus	kWh	Return	2.0m	PN16	Mains unit 230V AC (external module)	187F3936
Heating	DN40 qp10m ³ /h G2 300mm	RS-485 Modbus	kWh	Return	2.0m	PN25	Mains unit 230V AC (external module)	187F3937
Heating	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Radio OMS 868.95	kWh	Return	1.5m	PN25	Battery 3.6V DC (2 AA-cell)	187F3941
Heating	DN20 qp2.5m ³ /h G1 130mm	Radio OMS 868.95	kWh	Return	1.5m	PN25	Battery 3.6V DC (2 AA-cell)	187F3942
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F3943
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F3944
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F3945
Combined heating and cooling	DN25 qp3.5m ³ /h G ^{1/4} 260mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F3946
Combined heating and cooling	DN25 qp6.0m ³ /h G ^{1/4} 260mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F3947
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	RS-485 Modbus	kWh	Return	10m	PN25	Mains unit 230V AC (external module)	187F3948
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	RS-485 Modbus	kWh	Return	10m	PN25	Mains unit 230V AC (external module)	187F3949
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	RS-485 Modbus	kWh	Return	10m	PN25	Mains unit 230V AC (external module)	187F3950
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F3951
Combined heating and cooling	DN20 qp2.5m ³ /h G1 190mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F3952
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	RS-485 Modbus	MWh	Return	10m	PN25	Mains unit 230V AC (external module)	187F3953

Energy meter application	Nominal flow, size and connection type	Comm. module	Energy unit	Installation	Temp. Sensor cable	PN (bar)	Power supply	Code no.
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	RS-485 Modbus	MWh	Return	10m	PN25	Mains unit 230V AC (external module)	187F3954
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	RS-485 Modbus	MWh	Return	10m	PN25	Mains unit 230V AC (external module)	187F3955
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 24V AC	187F3956
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 24V AC	187F3957
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 24V AC	187F3958
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 24V AC	187F3959
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 24V AC	187F3960
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	RS-485 Modbus	kWh	Return	10m	PN25	Mains unit 24V AC	187F3961
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	RS-485 Modbus	kWh	Return	10m	PN25	Mains unit 24V AC	187F3962
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	RS-485 Modbus	kWh	Return	10m	PN25	Mains unit 24V AC	187F3963
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 24V AC	187F3964
Combined heating and cooling	DN20 qp2.5m ³ /h G1 190mm	RS-485 Modbus	kWh	Return	10m	PN16	Mains unit 24V AC	187F3965
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	RS-485 Modbus	MWh	Return	10m	PN25	Mains unit 24V AC	187F3966
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	RS-485 Modbus	MWh	Return	10m	PN25	Mains unit 24V AC	187F3967
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	RS-485 Modbus	MWh	Return	10m	PN25	Mains unit 24V AC	187F3968
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	no module	kWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3969
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	no module	kWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3970
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	no module	kWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3971
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	no module	kWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3972
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	no module	kWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3973
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	no module	MWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3974
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	no module	MWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3975
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	no module	MWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3976
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	no module	MWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3977
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	no module	MWh	Return	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3978
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3979
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3980
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3981
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3982
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	no module	kWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3983
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	no module	MWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3984
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	no module	MWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3985
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	no module	MWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3986
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	no module	MWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3987
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	no module	MWh	Supply	1.5m	PN16	Battery 3.6V DC (1 AA-cell)	187F3988
Cooling meter Antifreeze PG34	DN15 qp1.5m ³ /h G ^{3/4} 110mm	Wired M-Bus	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3989
Cooling meter Antifreeze PG34	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	kWh	Supply	2.0m	PN16	Mains unit 230V AC (external module)	187F3990
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3991
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3992
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3993
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3994
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3995
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	BACnet	kWh	Supply	1.5m	PN25	Mains unit 230V AC (external module)	187F3996
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	BACnet	kWh	Supply	1.5m	PN25	Mains unit 230V AC (external module)	187F3997
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	BACnet	kWh	Supply	1.5m	PN25	Mains unit 230V AC (external module)	187F3998
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F3999
Combined heating and cooling	DN20 qp2.5m ³ /h G1 190mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 230V AC (external module)	187F7000
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	BACnet	MWh	Supply	1.5m	PN25	Mains unit 230V AC (external module)	187F7001
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	BACnet	MWh	Supply	1.5m	PN25	Mains unit 230V AC (external module)	187F7002
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	BACnet	MWh	Supply	1.5m	PN25	Mains unit 230V AC (external module)	187F7003
Combined heating and cooling	DN15 qp0.6m ³ /h G ^{3/4} 110mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 24V AC	187F7004
Combined heating and cooling	DN15 qp1.5m ³ /h G ^{3/4} 110mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 24V AC	187F7005
Combined heating and cooling	DN20 qp2.5m ³ /h G1 130mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 24V AC	187F7006
Combined heating and cooling	DN25 qp3.5m ³ /h G1 ^{1/4} 260mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 24V AC	187F7007
Combined heating and cooling	DN25 qp6.0m ³ /h G1 ^{1/4} 260mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 24V AC	187F7008
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	BACnet	kWh	Supply	1.5m	PN25	Mains unit 24V AC	187F7009
Combined heating and cooling	DN40 qp10m ³ /h threaded flange 300mm	BACnet	kWh	Supply	1.5m	PN25	Mains unit 24V AC	187F7010
Combined heating and cooling	DN50 qp15m ³ /h flange 270mm	BACnet	kWh	Supply	1.5m	PN25	Mains unit 24V AC	187F7011
Combined heating and cooling	DN20 qp1.5m ³ /h G1 130mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 24V AC	187F7012
Combined heating and cooling	DN20 qp2.5m ³ /h G1 190mm	BACnet	kWh	Supply	1.5m	PN16	Mains unit 24V AC	187F7013

Data sheet**SonoMeter 30**

Energy meter application	Nominal flow, size and connection type	Comm. module	Energy unit	Installation	Temp. Sensor cable	PN (bar)	Power supply	Code no.
Combined heating and cooling	DN65 qp25m ³ /h flange 300mm	BACnet	MWh	Supply	1.5m	PN25	Mains unit 24V AC	187F7014
Combined heating and cooling	DN80 qp40m ³ /h flange 300mm	BACnet	MWh	Supply	1.5m	PN25	Mains unit 24V AC	187F7015
Combined heating and cooling	DN100 qp60m ³ /h flange 360mm	BACnet	MWh	Supply	1.5m	PN25	Mains unit 24V AC	187F7016
Combined heating and cooling	DN25 qp6.0m ³ /h G1½ 260mm	Wired M-Bus	kWh	Return	10m	PN16	Mains unit 230V AC (external module)	187F7017
Combined heating and cooling	DN40 qp10m ³ /h G2 300mm	Wired M-Bus	kWh	Return	10m	PN25	Mains unit 230V AC (external module)	187F7018

¹⁾ Cable length between flow sensor and energy calculator.

DN 15 and DN 20 meters with thread has one temperature sensor mounted in the body.

All above codes are battery powered meters with two 3.6 V AA cell batteries (lifetime min 11 years).

More standard codes are available at www.danfoss.com.

Codes with special specifications are available as build up codes - if needed contact your local department.

Accessories

Product	Designation	Quantity	Code no.
Optical head	Optical head	1 pc.	187F3112
Power supply	Battery 3.6 V DC (AA cell)	1 pc.	187F3113
Power supply	Mains unit 230 V AC (external module)	1 pc.	187F3114
Power supply	Mains unit 24 V AC	1 pc.	187F3115
Communication module	M-Bus module	1 pc.	187F3116
Communication module	Radio OMS 868.95 MHz	1 pc.	187F3117
Communication module	RS-485 Modbus	1 pc.	187F3118
Communication module	SonoMeter 30 BACnet module	1 pc.	187F3417
Temperature sensor	Pt 500 / f 5.2 mm / 1.5 m cable, MID	1 pc.	187F3125
Temperature sensor	Pt 500 / f 5.2 mm / 2 m cable, MID	1 pc.	187F3126
Temperature sensor	Pt 500 / f 5.2 mm / 3 m cable, MID	1 pc.	187F3127
Sensor pockets	Ø 5.2 mm, brass, 35 mm length	1 pair	087G6053
Sensor pockets	Ø 5.2 mm, brass, 52 mm length	1 pair	087G6054
Sensor pockets	Ø 5.2 mm, brass, 85 mm length	1 pair	087G6055
Sensor pockets	Ø 5.2 mm, brass, 120 mm length	1 pair	087G6056
Sensor pockets	Ø 5.2 mm, stainless steel, 85 mm length	1 pair	087G6057
Sensor pockets	Ø 5.2 mm, stainless steel, 120 mm length	1 pair	087G6058
Tailpiece connection set	Tailpiece connection set DN15 G3/4"-R1/2" PN25 130 °C	pair	087G6071
Tailpiece connection set	Tailpiece connection set DN 20 G1"-R3/4" PN25 130 °C	pair	087G6072
Tailpiece connection set	Tailpiece connection set DN 25 G1 1/4"-R1" PN25 130 °C	pair	087G6073
Adapter for temperature sensor	R½ x M10 x 1	1 pc.	087G6075
Adapter for temperature sensor	R½ x M10 x 1	32 pcs.	087G6076
Plastic installation set for temperature sensors	Fittings PN16 95 °C	20 pcs.	087G6077
Brass installation set for temperature sensors	Fittings PN16 130 °C	20 pcs.	087G6078
Ball valve	G½" internal thread, Pt sensor connection M10	1 pc.	187F0593
Ball valve	G½" internal thread, Pt sensor connection M10	12 pcs.	087H0118
Ball valve	G¾" internal thread, Pt sensor connection M10	1 pc.	187F0592
Ball valve	G¾" internal thread, Pt sensor connection M10	12 pcs.	087H0119
Ball valve	G1" internal thread, Pt sensor connection M10	1 pc.	187F0591
Ball valve	G1" internal thread, Pt sensor connection M10	12 pcs.	087H0120
Brass-pockets, 40 mm, f6.0 pair	Fittings PN25 130 °C	pair	087G6061
Brass-pockets, 85 mm, f6.0 pair	Fittings PN25 130 °C	pair	087G6062
Brass-pockets, 120 mm, f6.0 pair	Fittings PN25 130 °C	pair	087G6063
Stainless steel-pockets, 85mm f6.0 pair	Fittings PN25 130 °C	pair	087G6064
Stainless steel-pockets, 120mm f6.0 pair	Fittings PN25 130 °C	pair	087G6065
Stainless steel-pockets, 155mm f6.0 pair	Fittings PN25 130 °C	pair	087G6066
Stainless steel-pockets, 210mm f6.0 pair	Fittings PN25 130 °C	pair	087G6067

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