

Data Sheet

# SonoSelect 10 and SonoSafe 10 energy meters

## Description

The Danfoss SonoSelect 10 and SonoSafe 10 are 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).

The energy meters consist of an ultrasonic flow sensor, a pair of Pt1000 temperature sensors and a calculator with integrated circuits for temperature measurement, flow calculation and energy calculation.



### Feature highlights:

- Proven ultrasonic measuring principle designed for long operating life time
- No calming section or inlet/outlet restrictions
- Low pressure drop down to 0.03 bar at  $q_p$
- Large 85 x 35 mm LCD display with 8 digits (11.5 mm high), guiding menu and info panel
- Compact design
- Extensive change and error log
- Memory: 2 years of data, yearly and monthly values stored (incl. pulse input)
- Upgradable with communication modules
- Battery is replaceable
- Communication baud rate 300, 2400, 4800 and 9600 bps
- SonoApp usable for Android (Bluetooth LE via dongle)

Special features:	SonoSelect 10	SonoSafe 10
<b>Battery</b>	• 16 + 1 years battery life (from production date)	• 10 + 1 years battery life
<b>Flexibility</b>	<ul style="list-style-type: none"> <li>• Heating or cooling</li> <li>• Supply and return can be configured on site</li> <li>• Energy units can be configured on site</li> <li>• Slot for communication upgrade</li> <li>• 1.5 m cable PUR between calculator and flow sensor allow for flexible installation, e.g. in flat stations</li> </ul>	<ul style="list-style-type: none"> <li>• Heating</li> <li>• Energy units can be configured on site</li> <li>• Slot for communication upgrade</li> <li>• 0.5 m cable PVC between calculator and flow sensor</li> </ul>
<b>Safe</b>	<ul style="list-style-type: none"> <li>• EN1434 class 2 + flow and energy calculated every 0.5 second</li> <li>• Tamper monitor sets alarm if meter is opened by unauthorized personnel</li> <li>• Diagnostic function to secure confidence in meter data</li> <li>• IP65 calculator</li> <li>• Reverse flow indication</li> </ul>	<ul style="list-style-type: none"> <li>• EN1434 class 2 + flow and energy calculated every 2 seconds</li> <li>• IP54 calculator</li> </ul>
<b>SonoApp</b>	<ul style="list-style-type: none"> <li>• Installer tool (Guides and configure e.g. AMR, Pulse, units, supply/return)</li> <li>• Commissioning tool (Link location to serial number)</li> <li>• Operation tool (data read out and display function + diagnostic)</li> </ul>	<ul style="list-style-type: none"> <li>• Installer tool (Guides and configure e.g. AMR, Pulse, units)</li> <li>• Operation tool (data read out and display function)</li> <li>• Commissioning tool (Link location to serial number)</li> </ul>

**Technical specifications,  
Complete energy meter**

Application	Heating	
Medium	Water quality with pH 7 to 9.5 VDI 2035, VdTÜV TCh 1466	
Approvals, heating	EN1434 class 2 and 3, MID (DK-0200-MI004-034), CPA according to JJG225 -2010	
Approvals, cooling	TS 27.02 010	
Measuring cycle	Flow: 0.5 sec. (SonoSelect 10), 2 sec. (SonoSafe 10) Energy: 0.5 sec. (SonoSelect 10), 2 sec. (SonoSafe 10) Temperature: 4 sec. (SonoSelect 10), 10 sec. (SonoSafe 10)	
Approved meteorological range	$\Delta\Theta$ : 3 - 90K	$\Theta$ : 5 - 95°C
Temperature limits (accounting)	$\Delta\Theta$ : 0.25 - 100K	$\Theta$ : 0 - 105°C
IP	65 (SonoSelect 10), 54 (SonoSafe 10)	
Cable strain relief	Withstand more than 5 kg	
Ambient operating temperature	Class A: 5 - 55° C indoor installation non condensing	
Ambient storage temperature	-25 - 60° C	
Temperature media	5 - 95° C	
Mechanical environment	Class M2	
Electromagnetic environment	Class E1	

**Technical specifications,  
Calculator**

Power supply	3.6 V DC lithium battery (2 AA SonoSelect 1 AA SonoSafe)
Battery life time*	16+1 years (SonoSelect 10), 10+1 years (SonoSafe 10)
Display	<ul style="list-style-type: none"> <li>• 85 x 35 mm LCD display with 8 digits (11.5 mm high main characters)</li> <li>• Menu guide and info panel</li> <li>• 16 years of operation at qp, 45K without display overflow</li> </ul>
Units	MWh - kWh - GJ - Gcal - °C - K - m <sup>3</sup> - m <sup>3</sup> /h - l/h
Memory	2 years of data, yearly and monthly values stored (incl. pulse input)
Optical interface	Optical acc. to EN61107. Data protocol acc. to EN13757-3, supports 2400 or 4800 baud.
Communication	Wired M-Bus to EN13757-3, supports 300, 2400, 4800, 9600 baud. Delivered with 1 m cable (SonoSelect 10: PUR, SonoSafe 10: PVC)
Additional communication	1 slot for communication module (delivered from factory or later upgrade)

\* Battery life time measured under following preconditions: enclosure temp. 45° C, communication every 15 min. at 2400 baud or faster, 80 meters on bus. Please contact Danfoss for further information.

**Technical specifications,  
Flow sensor**

DN		15	15	20	20	25	25	32
Nominal flow q <sub>p</sub>	[m <sup>3</sup> /h]	0.6	1.5	1.5	2.5	3.5	6.0	6.0
Max flow q <sub>s</sub>	[m <sup>3</sup> /h]	1.2	3	3	5	7	7	12
Minimum flow (1:100) q <sub>i</sub> *	[m <sup>3</sup> /h]	0.006	0.015	0.015	0.025	0.035	0.035	0.06
Cut off flow q <sub>c</sub>	[m <sup>3</sup> /h]	0.0012	0.003	0.003	0.005	0.007	0.007	0.012
Overflow q <sub>ss</sub>	[m <sup>3</sup> /h]	1.32	3.3	3.3	5.5	7.7	12.3	12.3

\*(1:250) q<sub>i</sub> on request

DN		15	15	20	20	25	25	32
Connection		G <sup>3</sup> / <sub>4</sub> " 110 mm		G1" 130 mm		G1 <sup>1</sup> / <sub>4</sub> " 160 mm	G1 <sup>1</sup> / <sub>4</sub> " 260 mm	G1 <sup>1</sup> / <sub>2</sub> " 260 mm
Pressure	PN [bar]	16						
Pressure drop (at q <sub>p</sub> 50° C)	[mbar]	30	150	150	160	130	220	220
IP	[EN60529]	65						
Temperature limits	[°C]	0 to 105						
Cable length		1.5 m (SonoSelect 10: PUR), 0.5 m (SonoSafe 10: PVC)						
Mounting		Any position, no inlet or outlet restrictions						

**Technical specifications,  
Temperature sensor**

Type	Pt1000 direct short, 2 wire
Size	Diameter: Ø5.2 mm, length: 26 mm
Nipple	M10 x 1 mm brass, with pin lock
Cable length	1.5 m
Accuracy	Class B (EN60751)
Temperature range	Θ: 0 - 105° C (SonoSelect 10), 5 - 95° C (SonoSafe 10)
IP	65
Approved temperature range to EN60751	Θ: 0 - 105° C
Difference temperature EN60751	ΔΘ: 3 - 105K
Pressure	25 bar

**Communication  
modules**
**Modules in general**

To adapt the meter for various applications SonoSelect 10 and SonoSafe 10 features a slot for mounting communication modules.

Each module features its own  $\mu$ -controller and is powered by its own battery.

Modules have their own parameter set which is saved in the module  $\mu$ -controller flash memory. A local copy of the energy meter parameters used for communication is stored in the module.

Data from module is updated in meter every 10 minutes.

Power: Lithium Thionyl Chloride battery (half of AA size).

2 pulse inputs have common ground.

Modules are galvanically isolated from main Energy Meter circuitry

**Wired M-Bus module with 2 pulse inputs**

Once installed the meter will display the icon for wired communication and pulse inputs in loop 2 of the display.

Wired M-Bus is galvanically isolated from  $\mu$ -controller and pulse inputs.

The two pulse inputs can be programmed independently of each other (see specification for pulse input module).

M-Bus (primary)	Lithium Thionyl Chloride battery (half of AA size)
M-Bus (secondary)	M-Bus supply
Baud rate supported	300, 2400, 4800, 9600
Communication protocol	According to EN1434-3 & EN13757-3
Battery life time	16+1 year

**Wireless OMS communication module, 868.95MHz with 2 pulse inputs**

Once installed the meter will display the icon for wireless communication and pulse inputs in loop 2 of the display. The two pulse inputs can be programmed independently of each other (see specification for pulse input module).

Standard	Open Metering System (OMS) issue 4.0.2
Frequency	868.95 MHz
Antenna	Internal
Transmission power	10mW (Max. 25mW; 13,9 dBm)
Mode	T1 mode
Encryption	AES 128 bit encryption (mode 5), Parameterized Static key
Sending interval	Fixed network: 15 min.
Telegram	Standard telegram*
Battery life time	16+1 year (with pulse inputs off)

\* See section with data telegram.

**Communication modules**

**2 pulse input module**

Once installed the meter will display the icon for pulse inputs in menu 2 of the display. Accumulated volume is only readable by communication. The two pulse inputs can be programmed independently of each other (see specification for pulse input module).

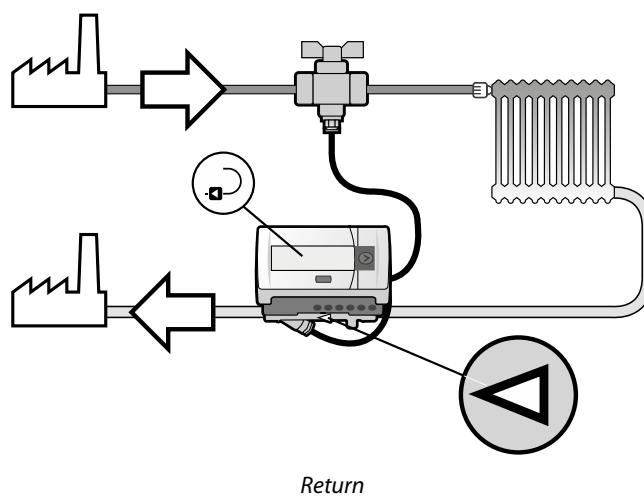
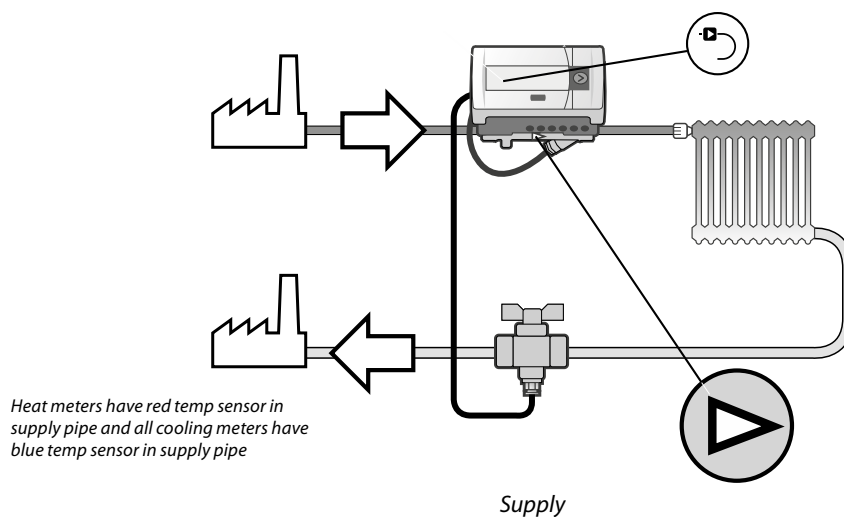
Pulse 1*	+ terminal 50, - terminal 51
Pulse 2*	+ terminal 52, - terminal 53
Pulse value	0.001 m <sup>3</sup> to 1 m <sup>3</sup> per pulse
Voltage supply	≤ 6.0 V
Source current	≤ 0.1 mA
High level input threshold	≥ 2 V
Low level input threshold	≤ 0.5 V
Pull-up resistor	100 kΩ
Pulse length	≥ 100 ms
Maximum frequency	≤ 5 Hz
Pulse inputs	According to EN1434-2, section 7.1.5 (Classification of pulse input devices Class IB)
Battery life time	16+1 year

\* Suitable for both electronic switch and Reed contact.

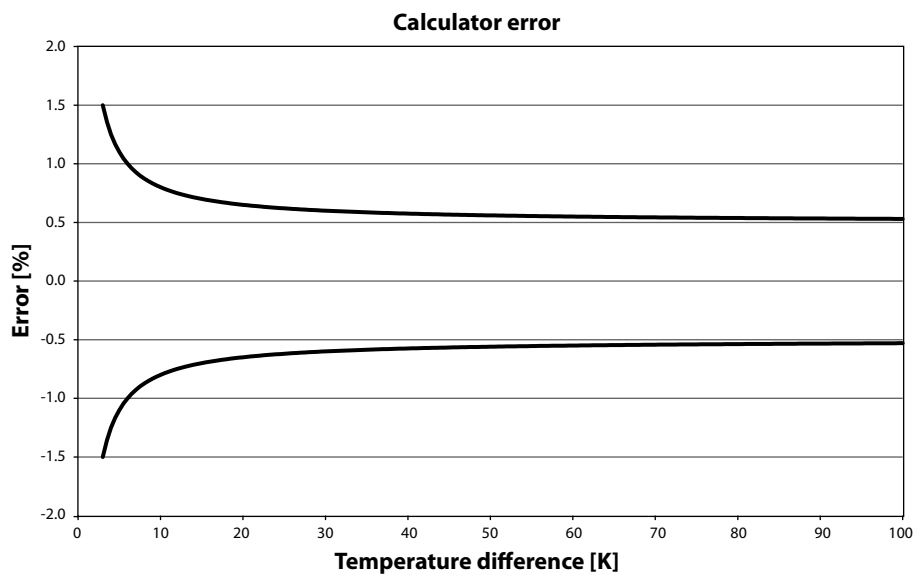
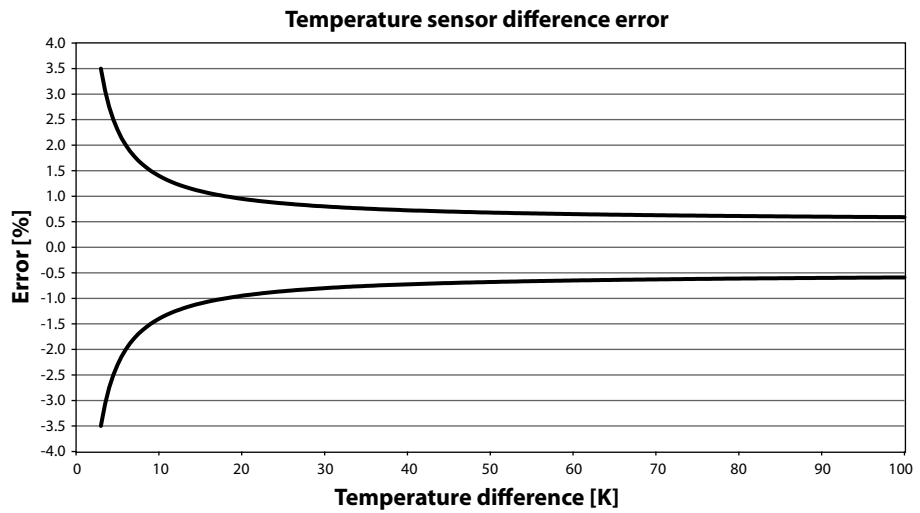
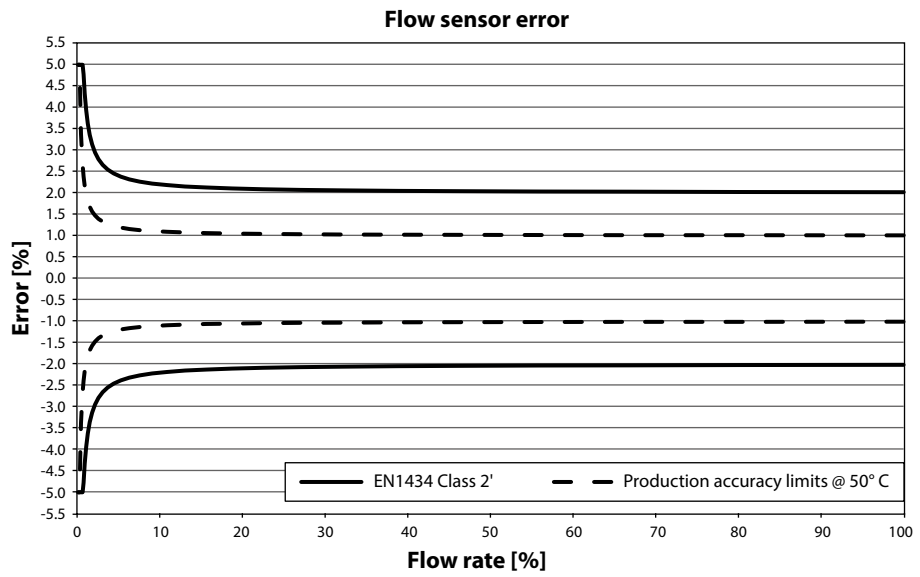
**Data telegram**

<p><b>Wired M-bus</b> Standard telegram:</p> <ul style="list-style-type: none"> <li>• Accumulated energy</li> <li>• Accumulated volume</li> <li>• Current flow</li> <li>• Current power</li> <li>• Supply temperature</li> <li>• Return temperature</li> <li>• Difference temperature</li> <li>• Enclosure temperature</li> <li>• Current time</li> <li>• Hour counter factory</li> <li>• Hour counter OK</li> </ul>	<p><b>Wireless M-bus (OMS)</b> Standard telegram fixed network:</p> <ul style="list-style-type: none"> <li>• Energy</li> <li>• Volume</li> <li>• FlowRate</li> <li>• Power</li> <li>• SupplyTemperature</li> <li>• ReturnTemperature</li> <li>• CurrentTime</li> </ul>
--	--

Application drawings

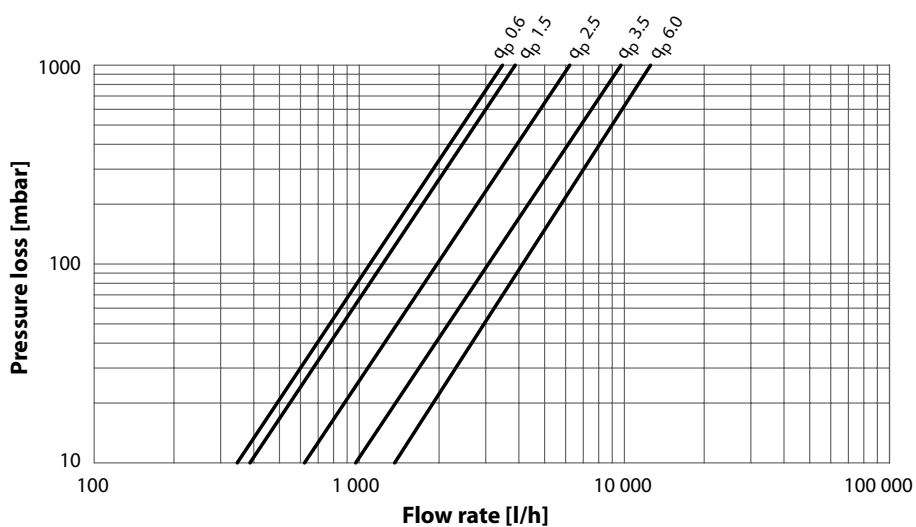


Accuracy

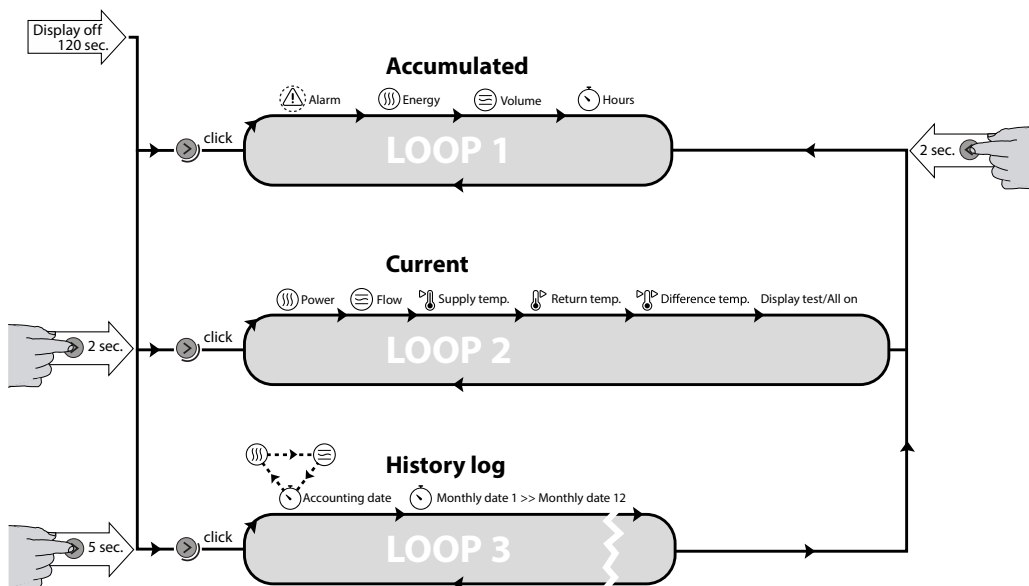


In accordance with EN1434.

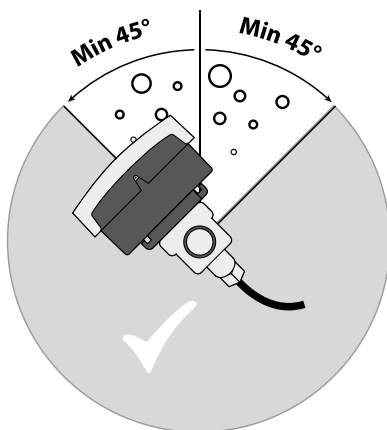
Pressure loss



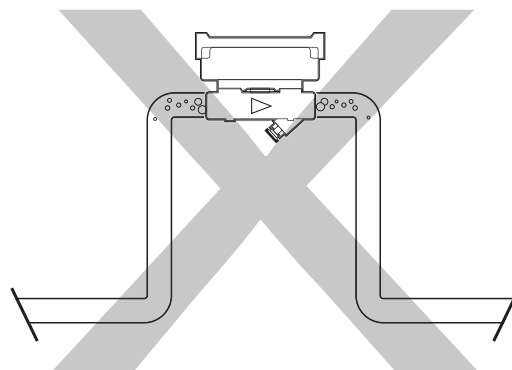
Menu structure



Mounting

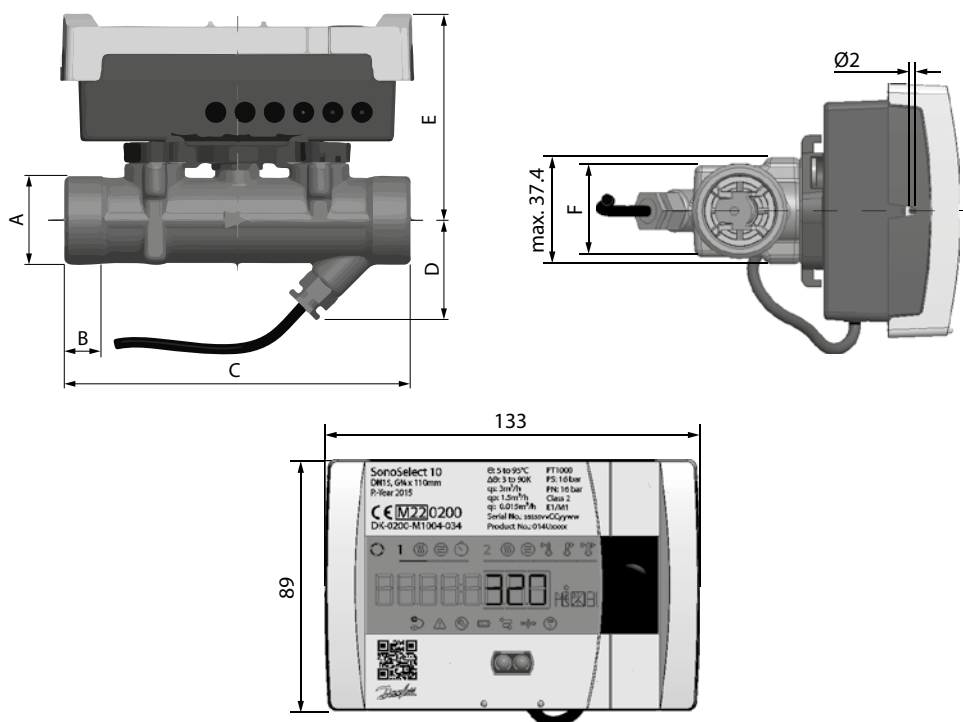


Rotation in pipe axis.



Pipe position: No limitations, but avoid position where air can be collected.

Dimensions



Dimension	DN15	DN20	DN20 + extension pipe 014U1957	DN25	DN25	DN32
A	G $\frac{3}{4}$ A	G1A	G1A	G1 $\frac{1}{4}$ A	G1 $\frac{1}{4}$ A	G1 $\frac{1}{2}$ A
B	12 mm	14 mm	14 mm	16 mm	16 mm	18 mm
C	110 mm	130 mm	190 mm	160 mm	260 mm	260 mm
D	33.5 mm	38 mm	38 mm	40.5 mm	40.5 mm	40.5 mm
E	74.5 mm	77.5 mm	77.5 mm	80.5 mm	80.5 mm	80.5 mm
F	32 mm	32 mm	32 mm	41 mm	41 mm	41 mm
Weight	700 g	800 g	1100 g	1100 g	1500 g	1600 g



**Ordering SonoSelect 10 - Heating**

Meter size	Installation	Cable length	Power supply	Integrated communication	Modules	Energy unit	Sales Number
DN15 qp0.6 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0183
DN15 qp0.6 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0184
DN15 qp1.5 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0185
DN15 qp1.5 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0186
DN20 qp1.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0187
DN20 qp1.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0188
DN20 qp2.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0189
DN20 qp2.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0190
DN25 qp3.5 G1¼A 160mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0191
DN25 qp3.5 G1¼A 160mm	Supply	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0192
DN25 qp6.0 G1½A 260mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0270
DN25 qp6.0 G1½A 260mm	Supply	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0271
DN32 qp6.0 G1½A 260mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0280
DN32 qp6.0 G1½A 260mm	Supply	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0281
DN15 qp0.6 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0165
DN15 qp0.6 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0166
DN15 qp1.5 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0167
DN15 qp1.5 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0168
DN20 qp1.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0169
DN20 qp1.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0170
DN20 qp2.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0171
DN20 qp2.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0172
DN25 qp3.5 G1¼A 160mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0173
DN25 qp3.5 G1¼A 160mm	Supply	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0174
DN25 qp6.0 G1½A 260mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0272
DN25 qp6.0 G1½A 260mm	Supply	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0273
DN32 qp6.0 G1½A 260mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0282
DN32 qp6.0 G1½A 260mm	Supply	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U0283
DN15 qp0.6 G¾A 110mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0068
DN15 qp0.6 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0069
DN15 qp0.6 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0070
DN15 qp0.6 G¾A 110mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0071
DN15 qp1.5 G¾A 110mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0081
DN15 qp1.5 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0082
DN15 qp1.5 G¾A 110mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0083
DN15 qp1.5 G¾A 110mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0084
DN20 qp1.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0094
DN20 qp1.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0095
DN20 qp1.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0096
DN20 qp1.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0097
DN20 qp2.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0107
DN20 qp2.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0108
DN20 qp2.5 G1A 130mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0109
DN20 qp2.5 G1A 130mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0110
DN25 qp3.5 G1¼A 160mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0120
DN25 qp3.5 G1¼A 160mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0121
DN25 qp3.5 G1¼A 160mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0122
DN25 qp3.5 G1¼A 160mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0123

**Ordering SonoSelect 10 - Heating**

Meter size	Installation	Cable length	Power supply	Integrated communication	Modules	Energy unit	Sales Number
DN25 qp3.5 G1¼A 260mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0133
DN25 qp3.5 G1¼A 260mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0134
DN25 qp3.5 G1¼A 260mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0135
DN25 qp3.5 G1¼A 260mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	GJ	014U0136
DN25 qp6.0 G1¼A 260mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0268
DN25 qp6.0 G1¼A 260mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0269
DN32 qp6.0 G1½A 260mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0278
DN32 qp6.0 G1½A 260mm	Supply	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0279
DN15 qp1.5 G¾A 110mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS WB 868.95 MHz with 2 pulse inputs	kWh	014U0253

**Ordering SonoSafe 10 - Heating**

Meter size	Installation	Cable length	Power supply	Integrated communication	Modules	Energy unit	Sales Number
DN15 qp0.6 G¾A 110mm	Return	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0203
DN15 qp0.6 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0204
DN15 qp1.5 G¾A 110mm	Return	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0205
DN15 qp1.5 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0206
DN20 qp1.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0207
DN20 qp1.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0208
DN20 qp2.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0209
DN20 qp2.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0210
DN25 qp3.5 G1¼A 160mm	Return	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0211
DN25 qp3.5 G1¼A 160mm	Supply	PVC 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U0212
DN15 qp0.6 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0001
DN15 qp0.6 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0002
DN15 qp0.6 G¾A 110mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0003
DN15 qp0.6 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0004
DN15 qp1.5 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0005
DN15 qp1.5 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0006
DN15 qp1.5 G¾A 110mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0007
DN15 qp1.5 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0008
DN20 qp1.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0009
DN20 qp1.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0010
DN20 qp1.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0011
DN20 qp1.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0012
DN20 qp2.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0013
DN20 qp2.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0014
DN20 qp2.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0015
DN20 qp2.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0016
DN25 qp3.5 G1¼A 160mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0017
DN25 qp3.5 G1¼A 160mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0018
DN25 qp3.5 G1¼A 160mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0019
DN25 qp3.5 G1¼A 160mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0020
DN25 qp3.5 G1¼A 260mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0021
DN25 qp3.5 G1¼A 260mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0022
DN25 qp3.5 G1¼A 260mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0023
DN25 qp3.5 G1¼A 260mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0024
DN15 qp0.6 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	None	None	GJ	014U0026
DN15 qp0.6 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	None	GJ	014U0027
DN15 qp0.6 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0028
DN15 qp0.6 G¾A 110mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0029
DN15 qp1.5 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	None	None	GJ	014U0033
DN15 qp1.5 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	None	GJ	014U0034
DN15 qp1.5 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0035
DN15 qp1.5 G¾A 110mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0036
DN20 qp1.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	None	None	GJ	014U0040
DN20 qp1.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	None	None	GJ	014U0041

**Ordering SonoSafe 10 - Heating**

Meter size	Installation	Cable length	Power supply	Integrated communication	Modules	Energy unit	Sales Number
DN20 qp1.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0042
DN20 qp1.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0043
DN20 qp2.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	None	None	GJ	014U0047
DN20 qp2.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	None	None	GJ	014U0048
DN20 qp2.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0049
DN20 qp2.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0050
DN25 qp3.5 G1¼A 160mm	Supply	PVC 1.5m	3.6V DC	None	None	GJ	014U0054
DN25 qp3.5 G1¼A 160mm	Return	PVC 1.5m	3.6V DC	None	None	GJ	014U0055
DN25 qp3.5 G1¼A 160mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0056
DN25 qp3.5 G1¼A 160mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0057
DN25 qp3.5 G1¼A 260mm	Supply	PVC 1.5m	3.6V DC	None	None	GJ	014U0061
DN25 qp3.5 G1¼A 260mm	Return	PVC 1.5m	3.6V DC	None	None	GJ	014U0062
DN25 qp3.5 G1¼A 260mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0063
DN25 qp3.5 G1¼A 260mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	GJ	014U0064
DN25 qp6.0 G1½A 260mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0264
DN25 qp6.0 G1½A 260mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0265
DN25 qp6.0 G1½A 260mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0266
DN25 qp6.0 G1½A 260mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0267
DN32 qp6.0 G1½A 260mm	Return	PVC 1.5m	3.6V DC	None	None	kWh	014U0274
DN32 qp6.0 G1½A 260mm	Supply	PVC 1.5m	3.6V DC	None	None	kWh	014U0275
DN32 qp6.0 G1½A 260mm	Return	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0276
DN32 qp6.0 G1½A 260mm	Supply	PVC 1.5m	3.6V DC	M-Bus	None	kWh	014U0277
DN15 qp0.6 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0235
DN15 qp0.6 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0236
DN15 qp1.5 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0237
DN15 qp1.5 G¾A 110mm	Supply	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0238
DN20 qp1.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0239
DN20 qp1.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0240
DN20 qp2.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0241
DN20 qp2.5 G1A 130mm	Supply	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0242
DN25 qp3.5 G1¼A 160mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0243
DN25 qp3.5 G1¼A 160mm	Supply	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0244
DN25 qp3.5 G1¼A 260mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0245
DN25 qp3.5 G1¼A 260mm	Supply	PVC 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U0246
DN15 qp0.6 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS WB 868.95 MHz with 2 pulse inputs	kWh	014U0250
DN15 qp1.5 G¾A 110mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS WB 868.95 MHz with 2 pulse inputs	kWh	014U0251
DN20 qp2.5 G1A 130mm	Return	PVC 1.5m	3.6V DC	None	Wireless OMS WB 868.95 MHz with 2 pulse inputs	kWh	014U0252

**Ordering SonoSelect 10 - Cooling**

Meter size	Installation	Cable length	Power supply	Integrated communication	Modules	Energy unit	Sales Number
DN15 qp0,6 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U1400
DN15 qp1,5 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U1401
DN20 qp1,5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U1402
DN20 qp2,5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U1403
DN25 qp3,5 G1¼A 160mm	Return	PUR 1.5m	3.6V DC	M-Bus	None	kWh	014U1404
DN15 qp0,6 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U1405
DN15 qp1,5 G¾A 110mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U1406
DN20 qp1,5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U1407
DN20 qp2,5 G1A 130mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U1408
DN25 qp3,5 G1¼A 160mm	Return	PUR 1.5m	3.6V DC	M-Bus	2 pulse inputs	kWh	014U1409
DN15 qp0,6 G¾A 110mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U1410

**Ordering  
SonoSelect 10  
- Cooling**

Meter size	Installation	Cable length	Power supply	Integrated communication	Modules	Energy unit	Sales Number
DN15 qp1,5 G $\frac{3}{4}$ A 110mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U1411
DN20 qp1,5 G1A 130mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U1412
DN20 qp2,5 G1A 130mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U1413
DN25 qp3,5 G1 $\frac{1}{4}$ A 160mm	Return	PUR 1.5m	3.6V DC	None	Wireless OMS 868.95 MHz with 2 pulse inputs	kWh	014U1414

**Accessories**

Product	Designation	Quantity	Code no.
Tail piece set PN25 130°C	DN15 R $\frac{1}{2}$ x G $\frac{3}{4}$	1 set	<b>087G6071</b>
Tail piece set PN25 130°C	DN20 R $\frac{3}{4}$ x G1	1 set	<b>087G6072</b>
Tail piece set PN25 130°C	DN25 R1 x G1 $\frac{1}{4}$	1 set	<b>087G6073</b>
Tail piece set PN16 95°C	Tail Piece DN15 G $\frac{3}{4}$ "-R1/2" PN16 95°C	1 set	<b>014U1936</b>
Tail piece set PN16 95°C	Tail Piece DN20 G1"-R3/4" PN16 95°C	1 set	<b>014U1937</b>
Tail piece set PN16 95°C	Tail Piece DN25 G1 1/4"-R1" PN16 95°C	1 set	<b>014U1938</b>
Tail piece set PN16 95°C	Tail Piece DN32: G1 1/2"-R5/4" PN16 95°C	1 set	<b>014U1939</b>
Adaptor for temperature sensor	Adaptor R $\frac{1}{2}$ " to M10x1 (32pcs.)	32 pcs	<b>014U1935</b>
Adaptor for temperature sensor	Adaptor R1/2" to M10x1 (1pcs)	1 pc	<b>014U1941</b>
Tee fitting	T-fitting DN15: G $\frac{1}{2}$ ", G $\frac{1}{2}$ ", G $\frac{1}{2}$ " PN25 130°C	1 pc	<b>014U1959</b>
Tee fitting	T-fitting DN20: G $\frac{3}{4}$ ", G $\frac{1}{2}$ ", G $\frac{3}{4}$ " PN25 130°C	1 pc	<b>014U1960</b>
Tee fitting	T-fitting DN25: G1", G $\frac{1}{2}$ ", G1" PN25 130°C	1 pc	<b>014U1961</b>
Adaptor for temperature sensor	R $\frac{1}{2}$ x M10 x 1	1 pc.	<b>014U1935</b>
Adaptor for temperature sensor	R $\frac{1}{2}$ x M10 x 1	32 pcs.	<b>014U1941</b>
Ball valve	G $\frac{1}{2}$ " internal thread, Pt sensor connection M10	1 pc.	<b>187F0593</b>
Ball valve	G $\frac{1}{2}$ " internal thread, Pt sensor connection M10	12 pcs.	<b>087H0118</b>
Ball valve	G $\frac{3}{4}$ " internal thread, Pt sensor connection M10	1 pc.	<b>187F0592</b>
Ball valve	G $\frac{3}{4}$ " internal thread, Pt sensor connection M10	12 pcs.	<b>087H0119</b>
Ball valve	G1" internal thread, Pt sensor connection M10	1 pc.	<b>187F0591</b>
Ball valve	G1" internal thread, Pt sensor connection M10	12 pcs.	<b>087H0120</b>
Wall mounting kit	Calculator wall mounting	1 set	<b>014U1945</b>
Cable	M-Bus 2 wire cable, 1 m PVC, ferrules	1 pc.	<b>014U1946</b>
Cable	M-Bus 2 wire cable, 2.5 m PVC, ferrules	1 pc.	<b>014U1947</b>
Cable	M-Bus 2 wire cable, 5 m PVC, ferrules	1 pc.	<b>014U1948</b>
Cable	M-Bus 2 wire cable, 9.75 m PVC, ferrules	1 pc.	<b>014U1949</b>
Cable	Pulse 2 wire cable, 2.5 m PVC, ferrules	1 pc.	<b>014U1950</b>
Cable	Pulse 2 wire cable, 5 m PVC, ferrules	1 pc.	<b>014U1951</b>
Cable	Pulse 2 wire cable, 9.75 m PVC, ferrules	1 pc.	<b>014U1952</b>
Extension pipe, L = 60 mm	DN20 x G1	1 pc.	<b>014U1957</b>
Extension pipe, L = 100 mm	DN25 x G1 $\frac{1}{4}$	1 pc.	<b>014U1958</b>
Gasket	DN15	1 set	<b>014U1964</b>
Gasket	DN20	1 set	<b>014U1965</b>
Gasket	DN25	1 set	<b>014U1966</b>
Gasket	DN32	1 set	<b>014U1942</b>
O-ring mounting kit	O-ring Ø4.3 x 2.4 + assembly tool	1 set	<b>014U1967</b>
Battery	Battery pack 1 AA cell	1 pc.	<b>014U1968</b>
Battery	Battery pack 2 AA cell	1 pc.	<b>014U1969</b>
Communication module	M-Bus module with 2 pulse inputs	1 pc.	<b>014U1998</b>
Communication module	Wireless OMS 868.95MHz with 2 pulse inputs	1 pc.	<b>014U1999</b>
Communication module	2 pulse inputs	1 pc.	<b>014U1995</b>
Bluetooth dongle	IR2BLE	1 pc.	<b>014U1963</b>
Sealing kit	4 x wire with + 4 x snap lock seal	1 set	<b>014U1962</b>

**Danfoss A/S**

Energy Meters • Ulvehavevej 61 • DK-7100 Vejle • Denmark  
Phone: +45 7488 8500 • Fax: +45 7488 8501  
heating@danfoss.com • www.heating.danfoss.com

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.