Sontex

Superstatic 749

The New Fluidic Oscillation Compact Heat Meter

Superstatic 749
The new fluidic oscillation
compact heat meter

One more successful development of the fluidic oscillation technology

The new compact fluidic oscillation heat meter **Superstatic 749** is the ideal complement to the already successfully introduced and very popular **Superstatic 449**.

The **Superstatic 749** is even more compact and seamlessly fits into the Superstatic product range. The **Superstatic 749** is a fluidic oscillation meter designed for less demanding applications where the wealth of functionalities is not needed, as known from the Superstatic 440 and the Superstatic 449.

The **Superstatic 749** uses the fluidic oscillation measuring principle brought to perfection by Sontex with its convincing advantages in terms of measurement stability and accuracy. This has been repeatedly confirmed in the AGFW heat meter testing program.

The **Superstatic 749** meets all requirements and is homologated according to the European Measurement Instruments Directive MID 2004/22/EC module B and D and the standard EN 1434 Class 2.

Superstatic 749
Versatile and flexible

The **Superstatic 749** is available in flow rates q_p 0.6 m³/h; q_p 1.5 m³/h; q_p 2.5 m³/h and in the lengths 110 mm, 130 mm and 190 mm. The integrator can be separated from the flow sensor, providing an optimum flexibility for the installation.

The **Superstatic 749** can be used as heating, cooling or combined heating/cooling meter at operating temperatures between 5°C - 90°C. Over two additional pulse inputs (option) additional meters (e.g. a warm and cold water meter) can be read out directly or remotely via the heat meter **Superstatic 749**.

Versions

The **Superstatic 749** is available in the following versions:

- Flow sensor q_p 0,6 m³/h; q_p 1,5 m³/h; q_p 2,5 m³/h
    - Fluidic oscillation flow sensor
- Standard version of the integrator
    - Heat meter MID, temperature sensors Ø 5 mm with 1,5 m cable
    - Optical interface
    - Battery 6+1 years

Superstatic 749 options

Option																						
Temperature sensors Ø 5,2 mm or Ø 6 mm	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Battery 12+1 years	■		■	■	■	■		■	■	■		■	■	■	■		■	■	■		■	■
M-Bus, powered over M-Bus line		■					■				■					■						
Radio Sontex Supercom			■					■					■					■				
Radio Wireless M-Bus and OMS				■					■					■					■			
Two pulse outputs * °					■					■					■					■		■
Two pulse inputs						■	■	■	■	■							■	■	■	■	■	
Cooling or combined heating / cooling											■	■	■	■	■	■	■	■	■	■	■	■

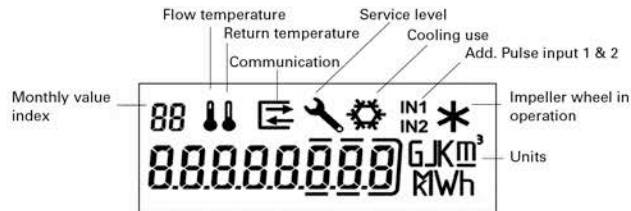* Heat meter: Heating energy and volume

* Cooling meter: Cooling energy and volume

° Combined Heat/Cooling meter: Heating energy and cooling energy

Superstatic 749
All data always within reach

Flow temperature · **Return temperature** · **Communication** · **Service level** · **Cooling use** · **Add. Pulse input 1 & 2** · **Impeller wheel in operation** · **Monthly value index** · **Units**

88 ⁞⁞ ⮂ 🔧 ⚙ IN1 IN2 ✳
8.8.8.8.8.8.8.8 GJ K m³ kWh

To help the reader, the 8-digit LCD display of the **Superstatic 749** was designed large and clear. Easy-to-read icons simplify recognition of the different display sequences.

The integrator with its IP65 protection is fully rotatable and removable and thus enables a simple and reliable reading even in difficult installation conditions.

The billing-related values such as cumulative energy, date, volume, and error messages are displayed on the top menu level.

Data storage

Device parameters and cumulative values of energy and volume, cooling energy, all monthly values, set day values, additional meters 1 and 2, hours of operation, types of errors are stored in non-volatile memory (EEPROM). Every hour the cumulative values are updated in the EEPROM.

At the end of month, the monthly values are stored. Depending on the version, 18 monthly values for thermal energy, volume, cooling energy and the two additional pulse inputs are stored in the integrator.

Main features
- Accurate and stable measurement thanks to the fluidic oscillation technology
- Direct pick-up of the fluidic oscillation jet without reflectors
- Heat meter, cooling meter or combined heat/cooling meter
- Detachable integrator
- Two pulse inputs
- More than 50 pre-programmed cooling liquids (glycols)
- The **Superstatic 749** has a large number of optional interfaces for remote data reading:
  - Optical interface, M-Bus powered over M-bus line, bidirectional Radio Sontex Supercom, wireless M-Bus, OMS, two pulse outputs
- 18 monthly values for heating energy, volume, cooling energy and two extra pulse inputs
- Battery lifetime 6+1 or 12+1 years
- Approval for asymmetrical temperature sensor installation
- Easy to operate readout concept
- Self-monitoring and error display
- Software for commissioning protocol and configuration
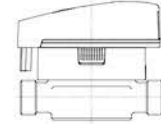
Fluidic oscillation flow sensor

Nominal flow qp	Threaded connection		Mounting length	Material	PN	Maximum flow qs	Minimum flow qi	Low flow threshold value (50°C)	Threaded hole for sensor	Weight	Kvs value (20°C)	Pressure loss at qp
m³/h	G"	DN	mm		Bar	m³/h	l/h	l/h		kg	m³/h	bar
0,6	3/4"	(15)	110	Br	16	1,2	6	4	Yes	1,2	1,4	0,19
1,5	3/4"	(15)	110	Br	16	3,0	15	10	Yes	1,3	3,4	0,20
1,5	1"	(20)	130	Br	16	3,0	15	10	Yes	1,4	3,4	0,20
1,5	1"	(20)	190	Br	16	3,0	15	10	Yes	1,6	3,4	0,20
2,5	1"	(20)	130	Br	16	5,0	25	16	Yes	1,4	5,6	0,20
2,5	1"	(20)	190	Br	16	5,0	25	16	Yes	1,6	5,6	0,20

Description of the measuring principle

In the oscillator the liquid is directed to a nozzle and accelerated to a jet (Oscillating jet). Opposite of the nozzle the jet is redirected by a separator to the left or right into a channel that leads to the measuring head with a piezoelectric sensor. The pressure of the liquid on the sensor generates an electrical pulse. The liquid flows back to the pipe through a return loop and redirects the jet into the other channel where the action is repeated and fluidic oscillation is created.

The frequency of the fluidic oscillation, i.e. the generated electrical pulses by the sensor, is linear proportional to the flow thus the flow can be calculated. A positive side effect is a self-cleaning of the oscillator due to the increased speed of the oscillating jet.

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