



Data sheet

SVM F2 calculator

A small competent calculator for compact or wall mounting

Application field

F2 is designed for metering and monitoring of heating and cooling.

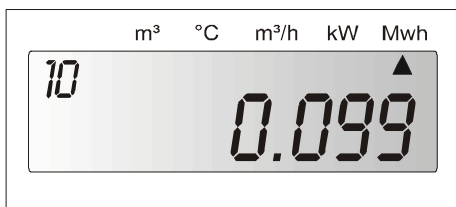
Measurement

F2 measures the difference between the flow and return temperatures for each volume pulse. The sampling time is between 5 to 60 seconds, depending on the pulse frequency. When pulses are emitted every 5 seconds or more often, the temperatures are measured every 5 seconds. If pulses are emitted less frequent than every 5 seconds, the temperature measurement takes place every time a volume pulse is registered.

The energy content in the volume measured by the flow meter is calculated from the measured temperature difference. If the time between the volume pulses exceeds 60 seconds, the temperatures are updated every 60 seconds.

Display

F2 is equipped with an LCD. As optional feature the LCD can be equipped with background light.



The F2 LCD, showing accumulated energy.

Pulse outputs/pulse inputs

The F2 is equipped with two pulse outputs for energy and volume of the type "open collector".

Alternatively the F2 can be equipped with two pulse inputs. The pulse inputs may be used as pulse registers for e.g. domestic water meters. The pulse registers can easily be read over M-Bus or directly on the LCD.

Communication

F2 is equipped with an M-Bus data output in accordance with EN1434-3 as a standard configuration. Read out is possible either via an OPTO-interface or a bus connection.

As an option, the M-Bus in the F2 can be replaced by a SIOX-bus output. The SIOX-protocol is compatible with the 820 calculators, meaning that all superior systems that today, communicate with 820 calculators, can also communicate with F2.

Data

The following data (among others) are accessible on the LCD and over the M-Bus in F2 calculators:

- Accumulated energy
- Accumulated volume for the extra pulse inputs
- Error code and accumulated time for the relevant error
- Momentary power
- Momentary flow
- Flow temperature
- Return temperature
- Temperature difference
- Total operating time
- Meter number
- Manufacturing number
- Real time clock with date function
- Pulse value
- Flow sensor placing (high or low temp.)
- Accumulated volume according to flow sensor
- Accumulated volume registered in conjunction with energy calculation
- Total error time
- Preceding error code and accumulated time for this error
- Up to 37 monthly registers (same values as for account days, see below)
- Recommended date for battery replacement.
- Two account days. On each account day the following values are stored:
 - Date
 - Accumulated energy
 - Accumulated volume according to the flow sensor
 - Accumulated volume registered during energy calculation
 - Accumulated volume for the extra pulse inputs
 - Possible error code at the time of saving and accumulated time for the relevant error

Service

F2 has a built-in service function that facilitates alteration of certain parameters in the field without a special service tool.

The following parameters can be altered:

- Time and date
- Pulse value
- Account days

- Communication address
- Flow sensor placing, high or low temperature
- Recommended date for battery replacement.

Furthermore, the total error time can be reset.

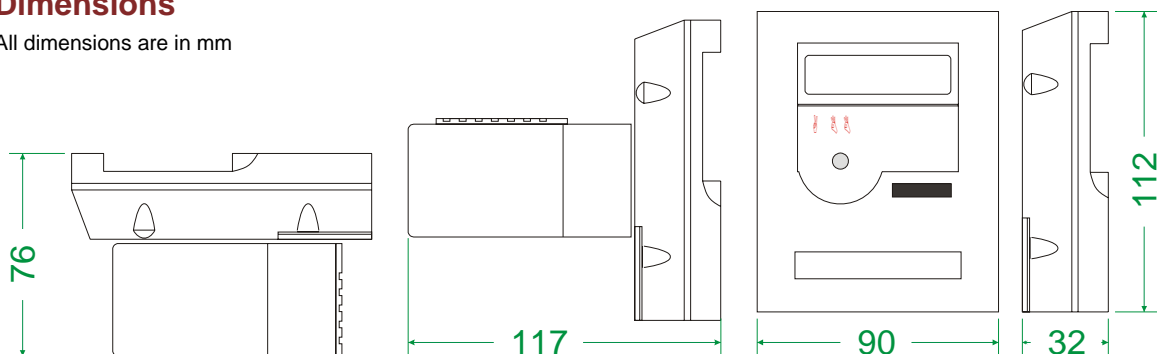
All parameters in F2 can be altered through a PC-program

Technical data

Flow sensors (with pulse output)		Temperature sensors	
Max. frequency	12 Hz	Max. cable length	Approved and matching pairs type Pt100 or Pt500 are to be used. 2.5 m at 0.22 mm ² cable area 5.0 m at 0.50 mm ² cable area 7.5 m at 0.75 mm ² cable area 15.0 m at 1.50 mm ² cable area
Min. pulse length	40 ms	Max. sensor current	4 µA (RMS) for Pt 100
Max. voltage	3 V	Display 7 + 2 digit LCD (back light as an option)	
Max. cable length	15 m		
Pulse value	0.0001 - 9999 l/p	Temperature Range 0 - 190° C Difference 2 - 120 K	
Power supply		Pulse outputs Open collector	
Battery	3V - 2.2 Ah Operation time max. 10 years	Pulse length	250 ms
Mains	230 V ± 10%, 45-65 Hz, battery 0.2 Ah as a spare	Max voltage	30 V
Bus	Supplied from M-bus master, 2 slave loads required	Max current	20 mA
Data output M-Buss (EN1434-3)	Via OPTO-interface (EN60870-5) and via bus connection (terminal)	Pulse inputs	
Ambient temperature Operation	+5°C to +55°C	Max. frequency	12 Hz
Storage/transport	-20° C till +70° C	Min. pulse length	40 ms
Protection class	IP54	Max. voltage	3 V
Environmental class C according to EN1434.		Alarm output	Open collector
		Pulse length	250 ms

Dimensions

All dimensions are in mm



F2 mounted vertically on an adapter for flow sensor

F2 mounted horizontally on an adapter for flow sensor

F2 front view

F2 Article number key

By combining the correct letters in the table below the correct article number is acquired for F2.

F2 ABCDEFGHIJ KLM

A	1	Pt100 2-wire measurement, flow in low temperature
A	2	Pt100 2-wire measurement, flow in high temperature
A	5	Pt500 2-wire measurement, flow in low temperature
A	6	Pt500 2-wire measurement, flow in high temperature
B	1	Battery supply
B	2	Bus supply (2 slave loads required)
B	3	Mains supply 230VAC
B	5	24 VAC
C	1	Kt Input 2.5 l/p
C	2	Kt Input 25 l/p
C	3	Kt Input 250 l/p
C	4	Kt Input 2500 l/p
C	5	Kt Input 1 l/p
C	6	Kt Input 10 l/p
C	7	Kt Input 100 l/p
C	8	Kt Input 1000 l/p
D	0	KWh
D	1	MWh
D	2	GJ
D	3	MBTU
E	-	Standard order
E	S	Special, Extra information at the order, e.g. customer information
F	1	Pulse Inputs, 2.5 l/p, dec. 2
F	2	Pulse Inputs, 25 l/p, dec. 1
F	3	Pulse Inputs, 250 l/p, dec. 0
F	5	Pulse Inputs, 1 l/p, dec. 3
F	6	Pulse Inputs, 10 l/p, dec. 2
F	7	Pulse Inputs, 100 l/p, dec. 1
F	8	Pulse Inputs, 1000 l/p, dec. 0
F	9	Pulse Outputs
G	0	Backlight on display (not recommended on battery supplied meters)
G	1	No Backlight
H	0	For wall mounting, with adapter incl.
H	1	Compact mounted with Hydrometer BR431
H	2	Compact mounted with other flow sensor, with adapter incl.
H	3	With adapter for BR471
H	4	With out adapter
I	-	Standard
J	1	Standard
K	1	Country code, 3 = Standard English
L	0	Standard
M	0	Standard

Article number key

To acquire the article number just fill in the blanks

F2	A	B	C	D	E	F	G	H	I	J	K	L	M
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