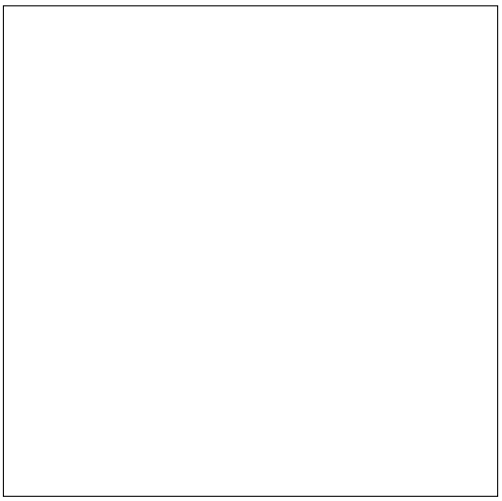
Data sheet

INFOCAL 8
Energy calculator

Description/Application

MID examination certificate
no.: DE-10-MI004-PTB008



The INFOCAL 8 is an energy calculator e.g. for combination with SONO 1500 CT and SONO 2500 CT especially designed for heating, cooling or combined heating/cooling application in local and district heating systems.

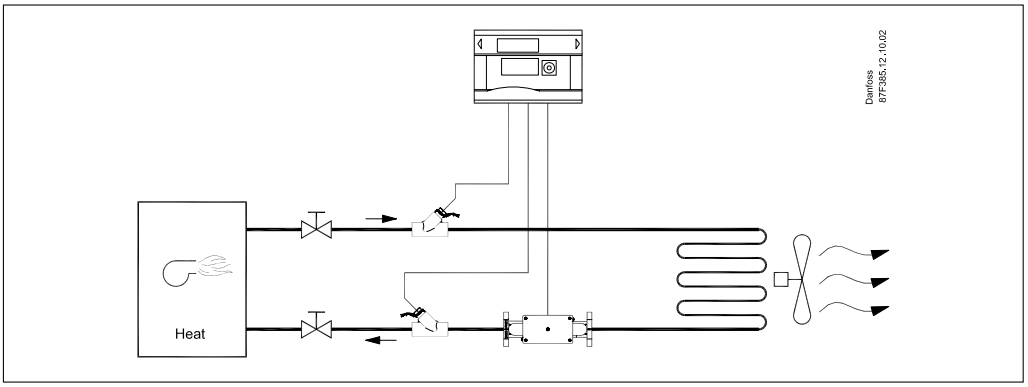
The INFOCAL 8 has been approved according to MID.

Features

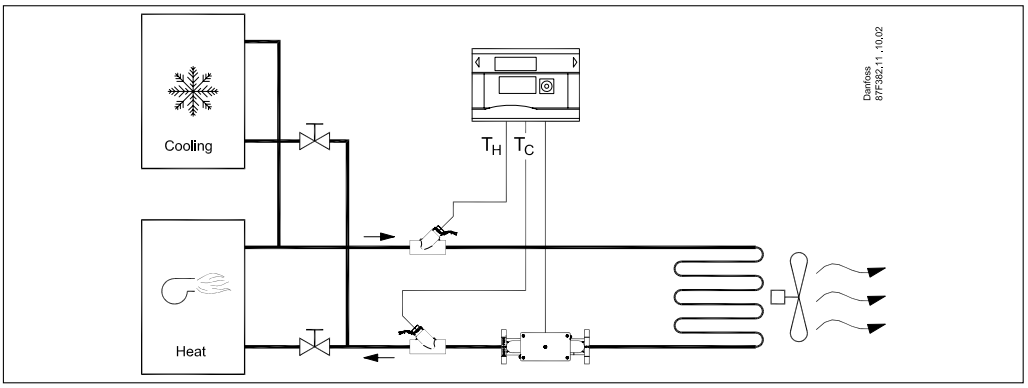
- Lithium battery with lifetime typical 11 years or 16 years optional (depending on selected functionality and connected flow sensor)
- Temperature range: –20 to +190 °C
- Power save mode
- NOWA test capability
- connection possibility of 2- and 4-wire temperature sensor pairs
- Remote reading via M-Bus, L-Bus, RS 232, RS 485, Radio or optical interface
- Integrated Radio (868 or 434 Hz), Real Data or Open Metering Standard (OMS)
- Individual remote reading (Automatic Meter Reading) with add on modules Plug&Play
- 2 communication ports (e.g. M-Bus + M-Bus)
- Improved radio performance
- Individual tariff functions
- History memory for 24 months
- Extensive diagnostic displays
- IZAR@SET parameterization software on Windows basis guarantees optimum adaptation to the user's specific needs

Description/Application, continued

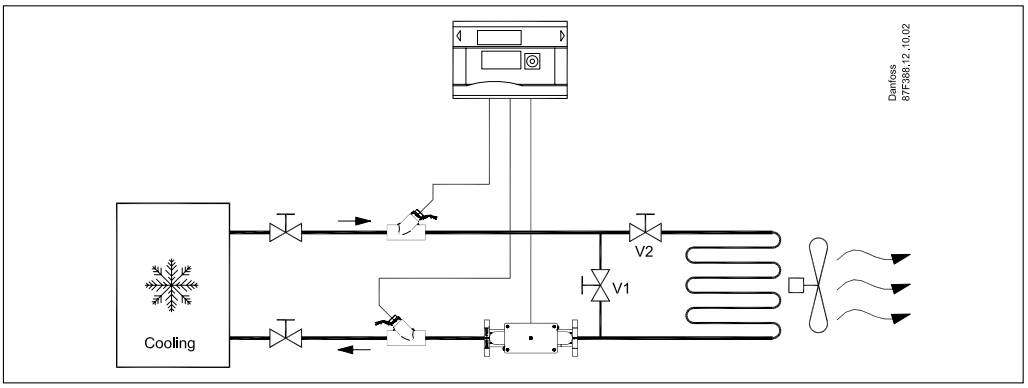
The INFOCAL 8 is able to handle 3 types of applications:



District heating/boiler application



Combined heating/cooling application



Chilled water application

Ordering:

The ordering code no. consists of both dummy code and ordering code.
Dummy code: 087G6013
Ordering code

AAA	BB	-	C	D	E	F	G	H	P	-	I	J	K	L	M	-	NN	O
		-	0	0						-					0	-		

AAA - application

Energy calculator for heating	3HE
Energy calculator for cooling [1,2]	3CO
Energy calculator for heating/cooling [1]	3HC

[1] includes potting and special temperature sensors for cooling or heating/cooling application
[2] meter without type approval

BB - (for) flow sensor (type SONO 1500 CT)

qp 0.6 m³/h/110 mm thread/DN 15/G¾B/1 litre/pulse	1A
qp 0.6 m³/h/130 mm thread/DN 20/G1B/1 litre/pulse	1B
qp 0.6 m³/h/190 mm thread/DN 20/G1B/1 litre/pulse	1C
qp 1.0 m³/h/110 mm thread/DN 15/G¾B/1 litre/pulse	1D
qp 1.0 m³/h/130 mm thread/DN 20/G1B/1 litre/pulse	1E
qp 1.0 m³/h/190 mm thread/DN 20/G1B/1 litre/pulse	1F
qp 1.5 m³/h/110 mm thread/DN 15/G¾B/1 litre/pulse	1G
qp 1.5 m³/h/130 mm thread/DN 20/G1B/1 litre/pulse	1H
qp 1.5 m³/h/190 mm thread/DN 20/G1B/1 litre/pulse	1I
qp 2.5 m³/h/130 mm thread/DN 20/G1B/1 litre/pulse	1J
qp 2.5 m³/h/190 mm thread/DN 20/G1B/1 litre/pulse	1K
qp 3.5 m³/h/260 mm thread/DN 25/G1¼B/10 litre/pulse	1L
qp 6 m³/h/260 mm thread/DN 25/G1¼B/10 litre/pulse	1M
qp 10 m³/h/300 mm thread/DN 40/G2B	1N
qp 0.6 m³/h/190 mm flange DN 20/1 litre/pulse [1]	2A
qp 1.0 m³/h/190 mm flange DN 20/1 litre/pulse [1]	2B
qp 1.5 m³/h/190 mm flange DN 20/1 litre/pulse [1]	2C
qp 2.5 m³/h/190 mm flange DN 20/1 litre/pulse [1]	2D
qp 3.5 m³/h/260 mm flange DN 25/10 litre/pulse [1]	2E
qp 3.5 m³/h/260 mm flange DN 32/10 litre/pulse [1]	2F
qp 6 m³/h/260 mm flange DN 25/10 litre/pulse [1]	2G
qp 6 m³/h/260 mm flange DN 32/10 litre/pulse [1]	2H
qp 10 m³/h/300 mm flange DN 40/10 litre/pulse [1]	2I
qp 15 m³/h/270 mm flange DN 50/10 litre/pulse [1]	2J
qp 25 m³/h/300 mm flange DN 65/10 litre/pulse [1]	2K
qp 40 m³/h/300 mm flange DN 80/100 litre/pulse [1]	2 L
qp 60 m³/h/360 mm flange DN 100/100 litre/pulse [1]	2 M

[1] only PN 25 possible

BB - (for) flow sensor (type SONO 2500 CT)

qp 3.5 m³/h/260 mm flange DN 25/25 pulse/litre	2U
qp 6 m³/h/260 mm flange DN 25/25 pulse/litre	2V
qp 10 m³/h/300 mm flange DN 40/10 pulse/litre	2W
qp 15 m³/h/270 mm flange DN 50/7.5 pulse/litre	2X
qp 25 m³/h/300 mm flange DN 65/4.5 pulse/litre	2Y
qp 40 m³/h/300 mm flange DN 80/2.5 pulse/litre	2Z

BB - 380 EN

qp 15 m³/h/DN 50/1 litre/pulse	4A
qp 25 m³/h/DN 65/1 litre/pulse	4B
qp 40 m³/h/DN 80/2.5 litre/pulse	4C
qp 60 m³/h/DN 100/2.5 litre/pulse	4D
qp 100 m³/h/DN 125/2.5 litre/pulse	4E
qp 150 m³/h/DN 150/10 litre/pulse	4F
qp 250 m³/h/DN 200/10 litre/pulse	4G
qp 400 m³/h/DN 250/10 litre/pulse	4H
qp 560 m³/h/DN 300/50 litre/pulse	4I
qp 750 m³/h/DN 350/50 litre/pulse	4J
qp 950 m³/h/DN 400/50 litre/pulse	4K
qp 1475 m³/h/DN 500/100 litre/pulse	4L
qp 2150 m³/h/DN 600/100 litre/pulse	4M
qp 2900 m³/h/DN 700/100 litre/pulse	4N
qp 3800 m³/h/DN 800/100 litre/pulse	4O

BB - 380 Std

qp 30 m³/h/DN 50/1 litre/pulse	5A
qp 50 m³/h/DN 65/1 litre/pulse	5B
qp 80 m³/h/DN 80/2.5 litre/pulse	5C
qp 120 m³/h/DN 100/2.5 litre/pulse	5D
qp 200 m³/h/DN 125/2.5 litre/pulse	5E
qp 300 m³/h/DN 150/10 litre/pulse	5F
qp 500 m³/h/DN 200/10 litre/pulse	5G
qp 800 m³/h/DN 250/10 litre/pulse	5H
qp 1120 m³/h/DN 300/50 litre/pulse	5I
qp 1500 m³/h/DN 350/50 litre/pulse	5J
qp 1900 m³/h/DN 400/50 litre/pulse	5K
qp 2950 m³/h/DN 500/100 litre/pulse	5L
qp 4300 m³/h/DN 600/100 litre/pulse	5M
qp 5800 m³/h/DN 700/100 litre/pulse	5N
qp 7600 m³/h/DN 800/100 litre/pulse	5O

BB - 3000 EN

qp 15 m³/h/DN 50/1 litre/pulse	6A
qp 25 m³/h/DN 65/1 litre/pulse	6B
qp 40 m³/h/DN 80/2.5 litre/pulse	6C
qp 60 m³/h/DN 100/2.5 litre/pulse	6D
qp 100 m³/h/DN 125/2.5 litre/pulse	6E
qp 150 m³/h/DN 150/10 litre/pulse	6F
qp 250 m³/h/DN 200/10 litre/pulse	6G
qp 400 m³/h/DN 250/10 litre/pulse	6H

BB - 3000 Std

qp 36 m³/h/DN 50/1 litre/pulse	7A
qp 60 m³/h/DN 65/1 litre/pulse	7B
qp 100 m³/h/DN 80/2.5 litre/pulse	7C
qp 180 m³/h/DN 100/2.5 litre/pulse	7D
qp 250 m³/h/DN 125/2.5 litre/pulse	7E
qp 360 m³/h/DN 150/10 litre/pulse	7F
qp 600 m³/h/DN 200/10 litre/pulse	7G
qp 1000 m³/h/DN 250/10 litre/pulse	7H
qp 1500 m³/h/DN 300/50 litre/pulse	7I
qp 2000 m³/h/DN 350/50 litre/pulse	7J
qp 2500 m³/h/DN 400/50 litre/pulse	7K
qp 3000 m³/h/DN 500/50 litre/pulse	7L
qp 3500 m³/h/DN 600/50 litre/pulse	7M
qp 4000 m³/h/DN 700/50 litre/pulse	7N
qp 4500 m³/h/DN 800/100 litre/pulse	7O
qp 5000 m³/h/DN 1000/100 litre/pulse	7P
qp 6000 m³/h/DN 1200/100 litre/pulse	7Q

E - installation

low temperature	L
high temperature	H

F - power supply

battery 3.6 V DC (A-cell)	1
battery 3.6 V DC (D-cell) [1]	2
mains unit 230 V AC	3
mains unit 24 V AC	4

[1] standard for integrated radio

GH - interface modules

	modules slot 1
0	no module in slot 1
A	Analogue output module (4-20 mA) [1]
B	Combined module (2 pulse inputs/1 pulse output)
C	Pulse input module (2 inputs)
D	M-Bus module
E	L-Bus module (use for external radio)
F	RS232 module
G	RS485 module
	modules slot 2
0	no module in slot 2
A	Pulse output module [2]
B	Combined module (2 pulse inputs/1 pulse output) [2]
C	Pulse input module (2 inputs) [2]
D	M-Bus module [2]
E	L-Bus module (use for external radio) [2]
F	RS232 module [2]
G	RS485 module [2]

[1] only one module possible
[2] integrated radio is not available

P - version of communication

0	without radio
1	Radio 868 MHz Real Data
2	Radio 434 MHz Real Data
3	Radio 868 MHz Open Metering Standard
4	Radio 434 MHz Open Metering Standard

I - energy units

A	kWh (without digit after comma)
B	MWh (with 1 digit after comma)
C	MWh (with 2 digit after comma)
D	MWh (with 3 digit after comma)
E	GJ (with 1 digit after comma)
F	GJ (with 2 digit after comma)
G	GJ (with 3 digit after comma)
H	Gcal (with 1 digit after comma) [1]
I	Gcal (with 2 digit after comma) [1]
J	Gcal (with 3 digit after comma) [1]
K	MBtu (with 1 digit after comma) [1]
L	MBtu (with 2 digit after comma) [1]
M	MBtu (with 3 digit after comma) [1]

[1] not applicable for MID approved meters

J - temperature sensors (pair)

N	Pt 500/ø 5.2 mm/2 m cable, MID and 22.77/08.04 (standard)
O	Pt 500/ø 5.2 mm/3 m cable, MID and 22.77/08.04
P	Pt 500/ø 5.2 mm/5 m cable, MID and 22.77/08.04
Q	Pt 500/ø 5.2 mm/10 m cable, MID and 22.77/08.04 [1]
T	Pt 500/ø 6.0 mm/2 m cable, MID [2]
U	Pt 500/ø 6.0 mm/3 m cable, MID [2]
V	Pt 500/ø 6.0 mm/5 m cable, MID [2]
W	Pt 500/ø 6.0 mm/10 m cable, MID [1,2]

[1] only available as an accessory
[2] not available for Heating/Cooling and Cooling

L - accessories/pocket

0	without

for ø 5.2 mm temperature sensors (pair [1])

F	brass-pockets, 35 mm, MID [2]	DN 15-32
G	brass-pockets, 52 mm, MID	DN 40-65
H	brass-pockets, 85 mm, MID	DN 80-125
I	brass-pockets, 120 mm, MID	DN 150-200
3	stainless steel-pockets, 85 mm, MID	DN 80-125
4	stainless steel-pockets, 120 mm, MID	DN 150-200
5	stainless steel-pockets, 155 mm, MID	DN 200-250
6	stainless steel-pockets, 210 mm, MID	DN 300

[1] versions with one sensor pocket on request
[2] max temperature: 105°C
temperature sensor pockets are packaged in an extra box

for ø 6.0 mm temperature sensors (pair)

V	brass-pockets, 40 mm MID	DN 25-65
W	brass-pockets, 85 mm MID	DN 80-125
X	brass-pockets, 120 mm MID	DN 150-200
Y	stainless steel-pockets, 85 mm MID	DN 80-125
Z	stainless steel-pockets, 120 mm MID	DN 150-200
1	stainless steel-pockets, 155 mm MID	DN 200-250
2	stainless steel-pockets, 210 mm MID	DN 300

temperature sensor pockets are packaged in an extra box

Accessories (1 piece) [3]

R	ball valve DN 15 - ½" for direct sensor
S	ball valve DN 20 - ¾" for direct sensor
T	ball valve DN 25 - 1" for direct sensor
U	adapter for mounting direct sensor R½" M 10x1

[3] not possible for ø 6.0 mm sensors
ball valves packaged in an extra box

NN - country code

00	Neutral code with docs in English (standard)
AT	Austria
BA	Bosnia
BG	Bulgaria
CN	China
DK	Denmark
CZ	Czech Republic
DE	Germany
GB	United Kingdom
HR	Croatia
IE	Ireland
IT	Italy
KZ	Kazakhstan
LV	Latvia
MD	Moldova
PL	Poland
RO	Romania
RU	Russia
CS	Serbia
SK	Slovak Republic
SI	Slovenia
TR	Turkey
UA	Ukraine

O - verification

0	without approval mark, no test reports
1	compliant according to national regulations PTB K 7.2 for cooling
4	compliant to MID. With letter of conformity [1]

[1] test reports on request

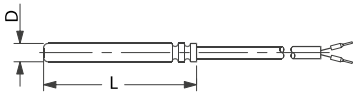
Ordering continued

Modules

	Designation	Code No.
Communication	M-Bus module	**3022071**
	L-Bus module (use for external radio)	**3022072**
	RS232 module	**3022100**
	RS485 module	**3022101**
Function	Analogue output module (4-20 mA)	**3022106**
	Combined module (2 pulse inputs/1 pulse output)	**3022075**
	Pulse input module (2 inputs)	**3022074**
	Pulse output module (2 outputs)	**3022073**
Supply voltage	battery 3.6 V DC (A-cell)	**3022102**
	battery 3.6 V DC (D-cell)	**3022103**
	mains unit 230 V AC	**3022076**
	mains unit 24 V AC	**3022079**

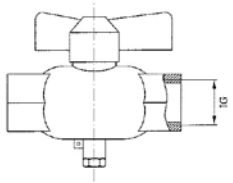
Accessories

Temperature sensors



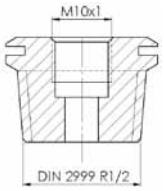
Temperature sensors (pair)	pair	Code No.
Pt 500/ø 5.2 mm/10 m cable, MID	1	**3002679**
Pt 500 / ø 6.0 mm / 10 m cable, MID	1	**3004697**

Ball valves



Dimension (IG)	Set	Code No.
G ½"	12 pcs	**087H0118**
G ¾"	12 pcs	**087H0119**
G 1"	12 pcs	**087H0120**

Adapter for mounting temperature sensors



Coupling thread	Sensor thread	Set	Code No.
R ½"	M 10 x 1	32 pcs	**087H0107**

Software

The IZAR@SET parameterization software on windows basis is a convenient tool for handling the energy meter.
The IZAR@SET software is available on web site www.hydrometer.de.

It is used for:
- commissioning
- reading out measured values
- printing out energy meter logs
- energy meter configuration
- application analysis
- print the meter protocol

Technical data

INFOCAL 8

Basic data	Ambient class			EN 1434 class E1 +M1
	Protection class			IP 54
Display indication	Display			LCD, 8-digit
	Units			MWh - kWh - GJ - Gcal - MBtu - gal - GMP - °C - °F - m^3 - m^3/h
	Total values			99 999 999 - 9999 999.9 - 999 999.99 - 99 999.999
	Values displayed			Power - energy - flow rate - temperature - volume
Temperature	Ambient		°C	0 - 55
	Storage			-25 - +70
Input	Temperature sensors	Type		Pt 500 with 2-wire leads < 10 m
	Sensor current		mA	Pt 500 peak < 2; rms < 0.012
	Measuring cycle	T	s	Mains unit supply: 2 A-cell battery: 16; D-cell battery: 4
	Max. temp. difference	$\Delta\theta_{max}$	K	177
	Min. temp. difference	$\Delta\theta_{min}$	K	3
	Starting temp. difference	$\Delta\theta$	K	0.125
	Absolute temp. measuring range	θ	°C	-20...190
Battery supply	3.6 VDC, A cell, 11 years lifetime 3.6 VDC, D cell, 16 years lifetime			
Mains supply	24 VAC, 230 VAC/0.15 W			

Design and function

The INFOCAL 8 is an ultrasonic energy meter especially designed for heating, cooling or combined heating/cooling application in local and district heating systems.

Calculator

The calculator contains all the necessary circuits for recording the flow rate and temperature as well as for calculating, logging and displaying the data. The calculator housing can be mounted directly on the volume measuring component or on the wall. At application with medium temperature above 90 °C or at temperatures $T_{water} < T_{environment}$ the calculator has to be removed from the flowmeter.

The calculator can be conveniently read from a single line 8-digit display with units and symbols. A push-button provides user-friendly control of the various display loops. All failures and faults are recorded automatically and shown on the LC display. To protect the reading data, all the relevant data are saved in a non-volatile memory (EEPROM). This memory saves the measured values, device parameters and types of error at regular intervals.

Design and function, continued

Temperature Sensors
Pairs of Pt 500 temperature sensors with 2-wire or 4-wire leads are used.

Integrated Radio
Integrated Radio is an interface for communication with radio receiver.
- Frequency band: 868 or 434 MHz
- Type of radio telegram: Real Data or Open Metering Standard (OMS)
- Transmission data updating: Online - no time delay between value measurement and data transmission
- Data transmission: Unidirectional
- Sending interval: 12...20 s; depending on length of telegram (duty cycle)

Interfaces
- Optical: ZVEI interface as standard, for communication and testing, M-Bus protocol.
- M-Bus: Configurable telegram, according to EN1434-3. Data reading and parametrization are via two wires with polarity reversal protection.
- L-Bus: Adapter for external radio module; configurable telegram, according to EN1434-3. Data reading and parametrization are via two wires with polarity reversal protection. M-Bus protocol.
- RS232: Serial interface for communication with external devices. A special data cable is required. M-Bus protocol.
- RS485: Serial interface for communication with external devices. Power supply with 12V ± 5V. M-Bus protocol.
- Pulse output: Module with 2 Open Collector pulse outputs (potential-free), 4 Hz (pulse width 125ms), 100 Hz (pulse width ≥5ms), ratio: pulse duration / pulse break ~ 1:1. Configurable via IZAR@SET software. Possible pulse output values are Energy, Volume, Tariff energy 1, Tariff energy 2, Tariff condition 1, Tariff condition 2, Energy error and Volume error.
- Pulse input: Module with 2 pulse inputs, max. 20 Hz with minimum pulse duration of 10 msec, input resistance 2.2 M Ohms, terminal voltage 3V DC, cable length up to maximum 10m. The pulse value and the unit is configurable for energy, water, gas or electrical meter by IZAR@SET. Data can be transferred remotely. Also two accounting day's are available for both inputs.
- Combined pulse input / output: Module with 2 pulse inputs and 1 pulse output. Configurable via IZAR@SET software.
- Analogue output: Module for 4...20 mA with 2 programmable passive outputs, programmable value in case of error. Output values can be power, flow rate, temperatures. Configurable via IZAR@SET software.

Slot 1
- Analogue output module (4-20mA)
- Combined module (2 pulse inputs/1 pulse output)
- Pulse input module (2 inputs)
- M-Bus module
- L-Bus module (use for external radio)
- RS232 module
- RS485 module

Slot 2
- Pulse output module
- Combined module (2 pulse inputs/1 pulse output)
- Pulse input module (2 inputs)
- M-Bus module
- L-Bus module (use for external radio)
- RS232 module
- RS485 module

Event Memory
Events such as changes and faults are stored in a non-volatile memory with a capacity of up to 127 entries. The following events are recorded:
- Checksum error
- Temperature measurement error
- Start and end of test mode
- Changing of the main configuration

Monthly Memory
The INFOCAL 8 has a history memory of 24 months. The following values are stored in the EEPROM on the programmable interval (daily, weekly, monthly):
- Date/ Time
- Cumulated energy
- Tariff energy 1
- Tariff energy 2
- Tariff definition 1
- Tariff definition 2
- Cumulated volume
- Error hour counter
- Value of max. flow
- Time max. flow
- Date max. flow
- Value of max. power
- Time max. power
- Date max. power
- Pulse input counter 1
- Pulse input counter 2
- Pulse 1 definition
- Pulse 2 definition
- Operating days
- Max. forward temperature
- Time max. forward temperature
- Date max. forward temperature
- Max. return temperature
- Time max. return temperature
- Date max. return temperature

Design and function, continued

Log Memory
The large two log memory blocks are used to store consumption values. The storage frequency can be selected from various storage intervals (1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60 minutes or the default setting of 24 hours, Day in the month, Day of the week, (1024 seconds), 15th or end of month).

The data saved in the log memory can be used for the following analyses:
- Reading the calculator on a certain day.
  Example: If the day for reading is 01.10, the calculator reading is displayed for the period from 01.10 of the previous year to 30.09 of the current year.
- Comparison of the last consumption period with the preceding period

Extract of possible log memory settings

Memory block	Storage interval	Values	Date block size example	Number of data records	Recording period
area 1	1 hour	Error status, overload time temperature, overload time flow rate, supply temperature, return temperature, date and time, energy, tariff energy 1, tariff energy 2, tariff definition 1, tariff definition 2, volume, error day counter	16 byte	556	23 days
area 2	24 hours		16 byte	299	299 days
area 1	1 hour		8 byte	1113	46 days
area 2	24 hours		8 byte	599	599 days

Accounting date
The calculator includes two independent memories in which the accumulated energy at two programmable dates is stored.
- Last Accounting Date;
- Last but one Accounting Date;
- Values stored:
- Energy;
- Volume;
- Tariff counter 1;
- Tariff counter 2;
- Pulse counter 1;
- Pulse counter 2;
- Date.

Max. Actual Values Memories
The calculator creates maximum values for power, flow rate and temperatures based on consumption time, which are stored in the EEPROM. The integration intervals are adjustable to 6, 15, 30 or 60 minutes, 24 hours (and 1024 seconds). Default setting is 60 minutes.

Tariff Function
The calculator offers four optional tariff memories for monitoring plant load states for limit tariffs. Here it concerns threshold value tariffs. Extensive tariff conditions make it possible to adapt the calculator individually to the required customer-specific applications.

The tariffs are separately configurable and independent from each other. Energy or time can be measured alternatively per tariff register dependent on the tariff mode adjusted in each case.

With the “time triggered tariff function” (type Z) the switch-on time and the switch-off time are adjustable independent from each other for each day of the week in steps of 15 minutes.

The following limit types are possible:
(This example applies to the display at 3 digit after volume comma)

Type	Description	LIMIT	LIMIT resolution
ΔT	Temperature difference	1 ... 255 °C	1 °C
$-\Delta T$	Negative temperature difference	1 ... 255 °C	1 °C
T_R	Low temperature (low)	1 ... 255 °C	1 °C
T_F	High temperature (high)	1 ... 255 °C	1 °C
P	Power	1 ... 255 kW	1 kW
Q	Flow	100 ... 25 500 l/h	100 l/h
FE	“Theoretically Supply Energy” with return temperature of 0 °C	-	-
Z	“Time triggered” counting energy	-	-
E	“External” counting energy	-	-

More detailed description concerning tariff functions on request.

Display Control
The readings are displayed on the calculator by a 8-digit LCD with units and symbols.

Design and function, continued

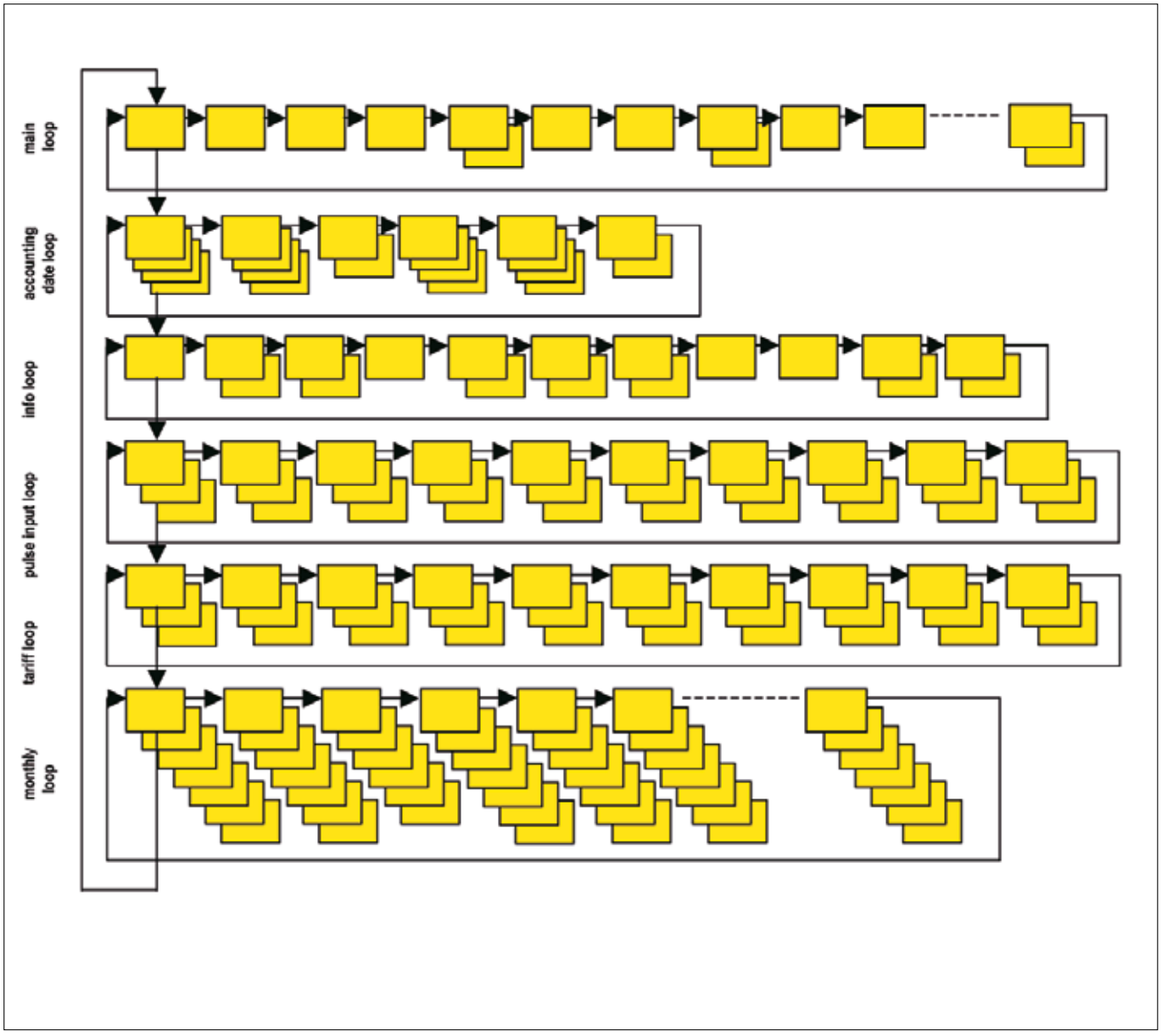
Loop Structure

The INFOCAL 8 display has six loops. Some display windows consist of two (to maximum seven) displays that are shown alternately at 4-second intervals. Some pictures in loops or a complete loop can be deactivated separately.

For quick visual guidance, the loops in the display are numbered from 1 to 6.

The main loop with the current data, e.g. for energy, volume and flow rate, is programmed as default setting.
In the standard setting the loop no. 5 (tariff loop) is not activated.

Overview of Loops



Informative Displays (Standard)

Loop	Sequence	Window 1	Window 2	Window 3	Window 4
"1" Main loop	1.1	Accumulated energy			
	1.2	Volume			
	1.3	Flow			
	1.4	Power			
	1.5	Forward/- return temperature			
	1.6	Difference temperature			
	1.7	Operating days			
	1.9	Error status			
	1.10	Display test			
Loop	Sequence	Window 1	Window 2	Window 3 [off]	Window 4
"2" Accounting date loop	2.1	Accounting date 1 date	Accounting date 1 energy	Accounting date 1 volume	,Accd 1A'
	2.2	Next accounting date 1 date	Next accounting date 1 energy	Next accounting date 1 volume	,Accd 1L'
	2.3	Previous accounting date 1 date	Previous accounting date 1 energy	Previous accounting date 1 volume	,Accd 1'
	2.4	,Accd 1'	Date of next accounting date 1		
	2.5	Accounting date 2 date	Accounting date 2 energy	Accounting date 2 volume	,Accd 2A'
	2.6	Next accounting date 2 date	Next accounting date 2 energy	Next accounting date 2 volume	,Accd 2L'
	2.7	Previous accounting date 2 date	Previous accounting date 2 energy	Previous accounting date 2 volume	,Accd 2'
	2.8	,Accd 2'	Date of next accounting date 2		
Loop	Sequence	Window 1	Window 2	Window 3	Window 4
"3" Info loop	3.1	Current date			
	3.2	,SEC_Adr'	Secondary address		
	3.3	,Pri_Adr 1'	Primary address 1		
	3.4	,Pri_Adr 2'	Primary address 2		
	3.5	Installation position			
	3.6	,In0'	Configuration (pulse value)		
	3.7	,Port 1'	No. of the mounted module at port 1		
	3.8	,Port 2'	No. of the mounted module at port 2		
	3.9	Status integrated radio	(Sequence will be shown only in meters with integrated radio)		
	3.10	No. of error hours			
	3.11	,F01-001' (software version)	Checksum		
Loop	Sequence	Window 1	Window 2	Window 3	Window 4
"4" Pulse input loop	4.1	,In1'	Accumulated values pulse input 1	,PPI' pulse value 1	
	4.2	,In2'	Accumulated values pulse input 2	,PPI' pulse value 2	

[off] = not active

Loop	Sequence	Window 1	Window 2	Window 3	Window 4	Window 5	Window 6	Window 7
"5" Tariff loop	The tariff loop is switched off as a standard at the heat meter or meter for cooling.							
Loop	Sequence	Window 1	Window 2	Window 3 [off]	Window 4 [off]	Window 5	Window 6	Window 7
"6" Monthly value loop	6.1	‚LOG'	date last month			energy	volume	
	6.2	‚LOG'	date month - 1			energy	volume	
	6.3	‚LOG'	date month - 2			energy	volume	
	...	...						
	6.24	‚LOG'	date month - 23			energy	volume	

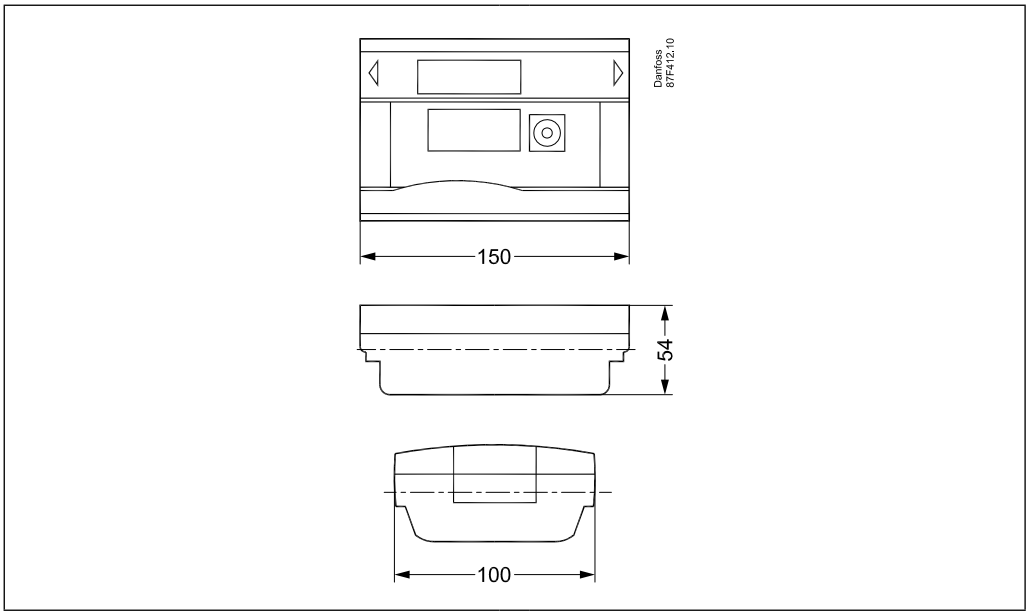
[off] = not active

Simple operation
A push-button mounted on the front of the calculator is used to switch to the various displays. The button can be pressed for a short or long time. A short press of the button (< 3 seconds) switches to the next display within a loop and a long press (> 3 seconds) switches to the next display loop. The "Energy" window (sequence 1.1) in the main loop is the basic display.

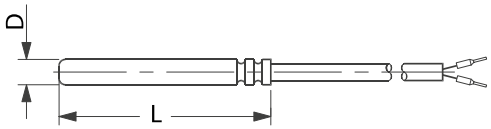
The calculator switches automatically to power save mode if the button is not pressed for approx. 4 minutes and returns to the basic display when the button is pressed again. The loop settings can be programmed to suit the customer's individual requirements using the IZAR@SET software.

Dimensions

INFOCAL 8

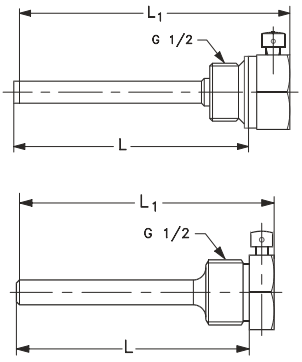


Temperature sensors



Designation	Type	Dimension D (mm)	L (mm)
Direct mounted	Pt 500	ø 5.2	45
Pocket sensor	Pt 500	ø 5.2	45
		ø 6.0	50

Sensor pockets



Type		Brass							Stainless steel			
Sensor dimension	(mm)	ø 5.2				ø 6.0			ø 6.0			
Length	L1 (mm)	47	60	93	128	47	92	128	98	133	168	223
	L (mm)	35	52	85	120	40	85	120	85	120	155	210