

Data sheet

INFOCAL 6 Thermal energy calculator

Description/Application



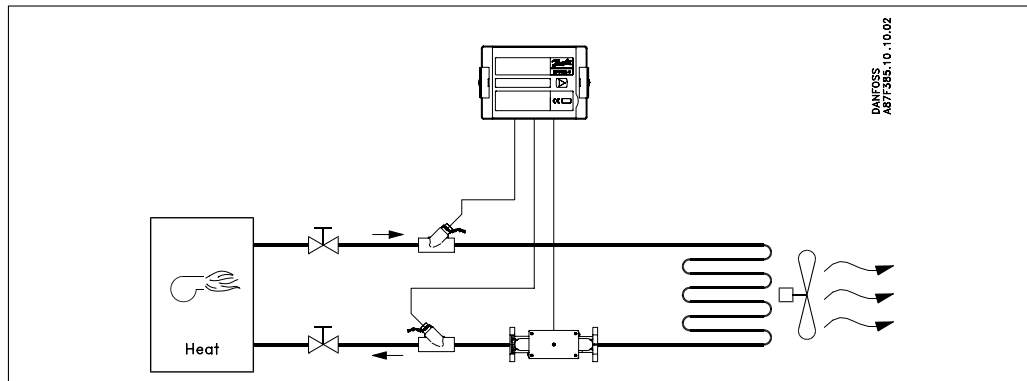
The INFOCAL 6 is a thermal energy calculator e.g. for combination with SONO 1500 CT and SONO 2500 CT especially designed for heating, cooling or combined heating/cooling application in local and district heating systems.

The INFOCAL 6 has been approved according to EN1434.

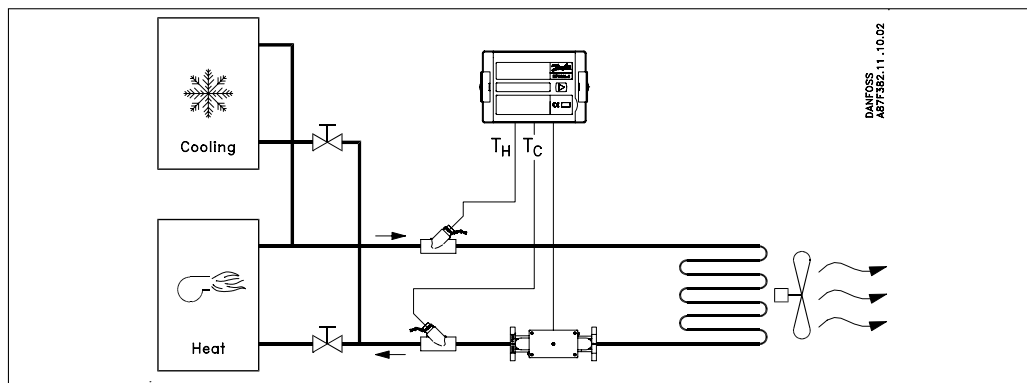
Features

- Lithium battery with lifetime typical 12 years (depending on selected functionality and the volume meter connected to the calculator means 10 ... 16 years);
- Temperature range: -10 to +190 °C;
- Power save mode;
- NOWA test capability;
- Remote reading over M-Bus, RS 232, Radio or optical interface, according to ZVEI;
- One optional module selectable out of module with two pulse output or module with two pulse input or module including two pulse input together with on pulse output;
- Individual tariff functions;
- History memory for 24 months;
- Extensive diagnostic displays;
- HYDRO-SET parameterization software on Windows basis guarantees optimum adaptation to the user's specific needs;
- High accuracy thermal energy metering;
- Clearly representation of actual consumed values;
- Storage of volume and energy data;
- Expandable functionality with add on modules plug and play.

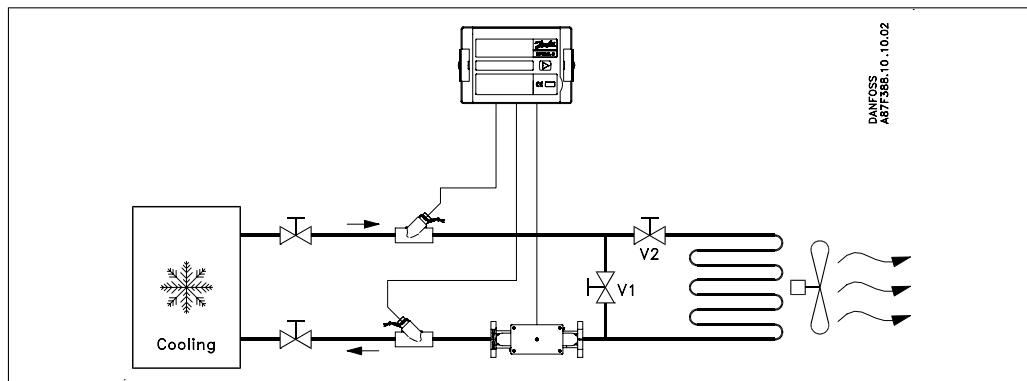
The INFOCAL 6 is able to handle 3 types of applications:



District heating/boiler application



Combined heating/cooling application



Chilled water application

Ordering

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

AAA - application

only calculator for heating (INFOCAL 6)	3HE
only calculator for cooling (INFOCAL 6)	3CO
only calculator for heating/cooling (INFOCAL 6)	3HC
for heat meter for cooling up to qp 6 m³/h use SONOMETER™1000	

BB - (for) flowmeter (type SONO 1500 CT)

qp 0.6 m³/h / 110mm thread / DN 15 / G¾B / 1 litre/pulse	1A
qp 0.6 m³/h / 130mm thread / DN 20 / G1B / 1 litre/pulse	1B
qp 0.6 m³/h / 190mm thread / DN 20 / G1B / 1 litre/pulse	1C
qp 1.0 m³/h / 110mm thread / DN 15 / G¾B / 1 litre/pulse	1D
qp 1.0 m³/h / 130mm thread / DN 20 / G1B / 1 litre/pulse	1E
qp 1.0 m³/h / 190mm thread / DN 20 / G1B / 1 litre/pulse	1F
qp 1.5 m³/h / 110mm thread / DN 15 / G¾B / 1 litre/pulse	1G
qp 1.5 m³/h / 130mm thread / DN 20 / G1B / 1 litre/pulse	1H
qp 1.5 m³/h / 190mm thread / DN 20 / G1B / 1 litre/pulse	1I
qp 2.5 m³/h / 130mm thread / DN 20 / G1B / 1 litre/pulse	1J
qp 2.5 m³/h / 190mm thread / DN 20 / G1B / 1 litre/pulse	1K
qp 3.5 m³/h / 260mm thread / DN 25 / G1¼B / 10 litre/pulse	1L
qp 6 m³/h / 260mm thread / DN 25 / G1¼B / 10 litre/pulse	1M
qp 0.6 m³/h / 190mm flange DN 20 / 1 litre/pulse	2A
qp 1.0 m³/h / 190mm flange DN 20 / 1 litre/pulse	2B
qp 1.5 m³/h / 190mm flange DN 20 / 1 litre/pulse	2C
qp 2.5 m³/h / 190mm flange DN 20 / 1 litre/pulse	2D
qp 3.5 m³/h / 260mm flange DN 25 / 10 litre/pulse	2E
qp 3.5 m³/h / 260mm flange DN 32 / 10 litre/pulse	2F
qp 6 m³/h / 260mm flange DN 25 / 10 litre/pulse	2G
qp 6 m³/h / 260mm flange DN 32 / 10 litre/pulse	2H

BB - (for) flowmeter (type SONO 2500 CT)

qp 10 m³/h / 300mm thread / DN 40 / G2B / 10 litre/pulse	1N
qp 10 m³/h / 300mm flange DN 40 / 10 litre/pulse	2W
qp 15 m³/h / 270mm flange DN 50 / 10 litre/pulse	2X
qp 25 m³/h / 300mm flange DN 65 / 100 litre/pulse	2Y
qp 40 m³/h / 300mm flange DN 80 / 100 litre/pulse	2Z

BB - 380 EN

qp 60 m³/h / DN 100 / 2,5 litre/pulse	4A
qp 100 m³/h / DN 125 / 2,5 litre/pulse	4B
qp 150 m³/h / DN 150 / 10 litre/pulse	4C
qp 250 m³/h / DN 200 / 10 litre/pulse	4D
qp 400 m³/h / DN 250 / 10 litre/pulse	4E
qp 560 m³/h / DN 300 / 50 litre/pulse	4F
qp 750 m³/h / DN 350 / 50 litre/pulse	4G
qp 950 m³/h / DN 400 / 50 litre/pulse	4H
qp 1475 m³/h / DN 500 / 100 litre/pulse	4I
qp 2150 m³/h / DN 600 / 100 litre/pulse	4J
qp 2900 m³/h / DN 700 / 100 litre/pulse	4K
qp 3800 m³/h / DN 800 / 100 litre/pulse	4L

BB - 380 Std

qp 120 m³/h / DN 100 / 2,5 litre/pulse	5A
qp 200 m³/h / DN 125 / 2,5 litre/pulse	5B
qp 300 m³/h / DN 150 / 10 litre/pulse	5C
qp 500 m³/h / DN 200 / 10 litre/pulse	5D
qp 800 m³/h / DN 250 / 10 litre/pulse	5E
qp 1120 m³/h / DN 300 / 50 litre/pulse	5F
qp 1500 m³/h / DN 350 / 50 litre/pulse	5G
qp 1900 m³/h / DN 400 / 50 litre/pulse	5H
qp 2950 m³/h / DN 500 / 100 litre/pulse	5I
qp 4300 m³/h / DN 600 / 100 litre/pulse	5J
qp 5800 m³/h / DN 700 / 100 litre/pulse	5K
qp 7600 m³/h / DN 800 / 100 litre/pulse	5L

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

C - pressure

not relevant	0
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D - cable length between calculator and flowmeter

not relevant	0
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E - installation

forward	F
return	R

O - verification

0	without approval mark
1	with approval mark
2	with approval mark and certificate
3	with approval mark and verification

NN - country code

00	Neutral code with doc's in English		
BY	Belarus	MD	Moldova
BA	Bosnia	XM	Montenegro
BG	Bulgaria	PL	Poland
CN	China	RO	Romania
HR	Croatia	RU	Russia
CZ	Czech Republic	CS	Serbia
DK	Denmark	SK	Slovak Republic
EE	Estonia	SI	Slovenia
KZ	Kazakhstan	TJ	Tajikistan
KG	Kirghizia	TM	Turkmenistan
LV	Latvia	UA	Ukraine
LT	Lithuania	UZ	Uzbekistan
MK	Macedonia		

M - connections (sets)

0	not relevant / without
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L - accessories / pocket

0	without
for 5.2 mm temperature sensors (pair)	
A	brass-pockets, 34 mm
B	brass-pockets, 50 mm
C	brass-pockets, 70 mm
D	brass-pockets, 85 mm
E	brass-pockets, 120 mm
for 6 mm temperature sensors	
K	brass-pockets, 40 mm
L	brass-pockets, 85 mm
M	brass-pockets, 120 mm
N	stainless steel-pockets, 85 mm
O	stainless steel-pockets, 120 mm
P	stainless steel-pockets, 155 mm
Q	stainless steel-pockets, 210 mm
R	ball valve DN 15 - ½" for direct sensor (1 piece)
S	ball valve DN 20 - ¾" for direct sensor (1 piece)
T	ball valve DN 25 - 1" for direct sensor (1 piece)
U	adapter for direct sensor (1 piece)

K - temperature sensor mounting

1	one sensor mounted in the SONO 1500CT (only for direct sensor and 5.2 mm sensor qp 0.6 to 2.5 m³/h)
2	indirect mounting (2 free sensors)

J - temperature sensors (pair)

0	not relevant / without sensors
A	Pt 500 / direct sensor ø 3.3 mm / 1.5 m cable
B	Pt 500 / direct sensor ø 3.3 mm / 3.0 m cable
C	Pt 100 / ø 5.2 mm / 2 m cable
D	Pt 100 / ø 6.0 mm / 2 m cable
E	Pt 500 / ø 5.2 mm / 2 m cable
F	Pt 500 / ø 5.2 mm / 3 m cable
G	Pt 500 / ø 5.2 mm / 5 m cable
H	Pt 500 / ø 5.2 mm / 10 m cable
I	Pt 500 / ø 6.0 mm / 2 m cable
J	Pt 500 / ø 6.0 mm / 3 m cable
K	Pt 500 / ø 6.0 mm / 5 m cable
L	Pt 500 / ø 6.0 mm / 10 m cable
M	Pt 500 / ø 6.0 mm / 20 m cable

(standard: with EN-approval)

I - energy units

A	kWh (without digit after comma) only for 0.6 - 6 m³/h
B	MWh (with 1 digit after comma)
C	MWh (with 2 digits after comma)
D	MWh (with 3 digits after comma) only for 0.6 - 6 m³/h
E	GJ (with 1 digit after comma)
F	GJ (with 2 digits after comma)
G	GJ (with 3 digits after comma) only for 0.6 - 6 m³/h
H	Gcal (with 1 digit after comma)
I	Gcal (with 2 digits after comma)
J	Gcal (with 3 digits after comma) only for 0.6 - 6 m³/h
K	MBtu (with 1 digit after comma)
L	MBtu (with 2 digits after comma)
M	MBtu (with 3 digits after comma) only for 0.6 - 6 m³/h

(units with other digits after comma on request)

GH - interface modules

modules slot 1	
0	not relevant / no module in slot 1
A	M-Bus module
B	RS-232 module
C	Real Data radio module
D	pulse input module (2 inputs)
modules slot 2	
0	not relevant / no module in slot 2
K	pulse output module (2 outputs)
L	pulse input module (2 inputs)
M	combined module (2 inputs / 1 output)

(standard setting for pulse input modules: 100 l/pulse standard setting for pulse output modules: energy and volume, pulse value is the last digit in the display)

F - power supply

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

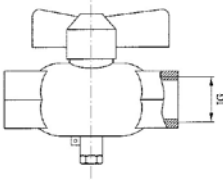
¹ only in combination with SONO 1500 CT

² only in combination with flowmeter SONO 2500 CT

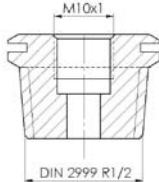
Ordering, continued
Interface modules

	Designation	Code No.
Communication	M-Bus	542 000 01
	RS 232	542 000 07
	RS 232 with data cable	542 000 30
	Radio-Module	542 000 17
Function	Module for 2 pulse inputs	542 000 03
	Module for volume and energy pulse outputs (selectable out of 2 outputs)	542 000 02
	Module for 2 pulse inputs + 1 pulse output	542 000 26
Supply voltage	Mains unit 230 V AC, power pack 3.6 V only for combination SONO 1500 CT with backup battery	542 000 04
	Mains unit 24 V AC, power pack 3.6 V only for combination SONO 1500 CT with backup battery	542 000 05
	Battery 3,0 V DC (12 years)	542 000 06
	Battery 3,6 V DC (16 years, incl. Regulator)	542 000 16
Accessories	Data cable for RS-232-Module	087H0121

Accessories
Ball valves

	Designation	Quantity	Internal thread	Code No.
	Ball valve	1	G 1/2"	087HY004
			G 3/4"	087HY005
			G 1"	087HY006

Adapter for mounting temperature sensors

	Coupling thread	Sensor thread	Code No.
	R1/2"	M10 x 1	087HY003

Software

The HYDRO-SET parameterization software based on the M-Bus is a convenient tool for handling the calculator.

The HYDRO-SET software is available on web site www.hydrometer.de.

It runs on Windows 2000/XP and is used for:

- taking into operation,
- reading out measured values,
- printing out meter logs,
- meter configuration.

Technical data
INFOCAL 6

Basic data	Enviro. class			C / A
	Protect. class			IP 54
Display indication	Display			LCD, 7 digit
	Units			MWh - kWh - GJ - Gcal - MBtu - gal
	Total values			9 999 999 - 999 999,9 - 99 999,99 - 9 999,999
	Values displayed			Power - energy - flow rate - temperature
Temperature	Ambient	°C	0 - 55	
	Storage		-25 - +70	
Input	Temp. sensors	Type	Pt 100 / Pt 500 with 2-wire leads < 10 m	
	Sensor current	mA	Pt 100 peak < 8; rms < 0,015 Pt 500 peak < 2; rms < 0,012	
	Measuring cycle	T	s	Mains unit supply: 2 Battery: 16
	Max. temp. difference	$\Delta\theta_{max}$	K	177
	Min. temp. difference	$\Delta\theta_{min}$	K	3
	Starting temp. difference	$\Delta\theta$	K	0,1
	Absolute temp. measuring range	θ	°C	-9,9...189,9
Supply voltage	Operating voltage	U_N	VDC	3,0 / 3,6 (Lithium battery)

Design and function

The INFOCAL 6 is an ultrasonic heat meter especially designed for heating, cooling or combined heating/cooling application in local and district heating systems.

Integrator

The integrator contains all the necessary circuits for recording the flow rate and temperature as well as for calculating, logging and displaying the data. The integrator 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 7-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 100 or Pt 500 temperature sensors (e.g. \varnothing 5.2 mm or \varnothing 6 mm) with 2-wire leads are used.

Interfaces

INFOCAL 6 is equipped as a standard with a ZVEI optical interface with the M-Bus protocol acc. to EN 1434. This interface is used, for example, for communication with the HYDRO-SET parameterization software. The calculator features 2 slots for the modules. One slot for the function modules, and one for the communication modules.

The following communication modules are available as options:

- RS232 module;
- M-Bus module acc. to EN 1434;
- Real Data Radio Module.

The RS 232 communication module is a serial interface and permits data exchange with the calculator. For this purpose a special data cable is necessary.

The M-Bus module is a serial interface for communication with external devices (M-Bus Repeater) e.g. HYDRO-CENTER. A number of calculators can be connected to a control centre.

The Radio module is an interface for communicate unidirectional over radio predefined data records. If battery supplied the life time is up to 8 years.

The protocol is send every 8 ... 19 s. For receiving there are different Hydrometer receiver available. The transmission protocol is editable by HYDRO-SET.

Pulse Input

Two pulse inputs are available. The pulse value and the unit is configurable for energy, water, gas or electrical meter by HYDRO-SET. The input frequency range is 0 – 8 Hz with pulse-length \geq 10 ms. Data are separate cumulated in different registers and are also stored on the two accounting day's. The cable length to pulse input have to be less than 10 m.

Combined pulse input / output

Two pulse inputs combined with one pulse output are available on one module. The pulse inputs are configurable with value and the unit by HYDRO-SET. The input frequency range is 0 – 8 Hz with pulse-length \geq 10 ms.

The pulse output is also programmable using the HYDRO-SET software. The "open collector" output is supplied with external power of 3-30 VDC and has an output frequency of \leq 4 Hz. The pulse width of the not potential separated pulses is 100-150 ms.

Pulse output

The calculator provides levels for two optional external pulse outputs, which can be freely programmed using the HYDRO-SET software. The outputs are "open collector" with external power supply of 3-30 VDC and an output frequency of \leq 4 Hz. The pulse width of the potential separated pulses is 100-150 ms.

Possible pulse output values

- Energy (standard setting);
- Volume (standard setting);
- Tariff energy 1;
- Tariff energy 2;
- Tariff condition 1, limit switch;
- Tariff condition 2, limit switch;
- Energy error;
- Volume error;
- Volume with specific resolution (0,1 / 1,0 / 10 / 100 l) at 3 digit after volume comma;
- Energy with specific resolution (0,1 kWh) at 3 digit after volume comma;
- Leakage detection (2 channel).

Module combinations

The calculator has a group of extension modules for communication and another group of extension modules for additional functionality. These modules are available first selected within the calculator, or for retrofitting in the field. One single function module as well as one single communication module out of following modules is selectable.

Function modules:

- Pulse input module, 2 inputs;
- Pulse output module, 2 outputs;
- Combined pulse module 2 inputs, 1 output.

Communication modules:

- M-Bus or
- RS 232 or
- Real Data Radio

Event memory

Events such as changes and faults are stored in a non-volatile memory with a capacity of up to 31 entries. The following events are recorded:

- Checksum error;
- Temperature measurement error;
- Start and end of test mode.

Design and function - continued
Monthly memory

INFOCAL 6 has a history memory of 24 months. The following values are stored in the EEPROM on the programmed date 1 ... 31 via (HYDRO-SET) of the actual month:

- Date / Time;
- Energy;
- Tariff energy 1;
- Tariff energy 2;
- Tariff definition 1;
- Tariff definition 2;
- Pulse input 1;
- Operation hours;
- Volume;
- Error day counter;
- Maximum monthly flow rate;
- Maximum monthly power;
- Date of maximum monthly flow rate;
- Date of maximum monthly power;
- Pulse input 2.

Log memory

The log memory is used to store consumption values. The storage frequency can be selected from various storage intervals (5, 6, 10, 12, 15, 20, 30, 60 minutes or the default setting of 24 hours, see following table). The data which are stored in Log Memory could be read out with HYDRO-SET and can be used for evaluations.

Extract of possible log memory settings

Storage interval	Values	Number of data records	Recording period
5 min.	Error status, overload	440	36.6 h
15 min.	time temperature, overload time	440	110 h
1 h	flow rate, forward temperature, return temperature, date and time, energy, tariff energy 1, tariff energy 2, tariff definition 1, tariff definition 2, volume, error day counter	440	18.3 days
24 h		440	440 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. Values

The integrator creates max. values for power and flow rate based on consumption time, which are stored in the EEPROM. The integration intervals are adjustable to 6, 15, 30 or 60 minutes and 24 h. Default setting is 60 minutes.

Tariff Function

The integrator offers two 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.

Both 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 ... 190 °C	1 °C
$-\Delta T$	Negative temperature difference	1 ... 190 °C	1 °C
T_R	Return temperature (low)	1 ... 190 °C	1 °C
T_V	Supply temperature (high)	1 ... 190 °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		

Display Control

The readings are displayed on the calculator by a 7-digit LCD with units and symbols.

Design and function - continued

Loop Structure

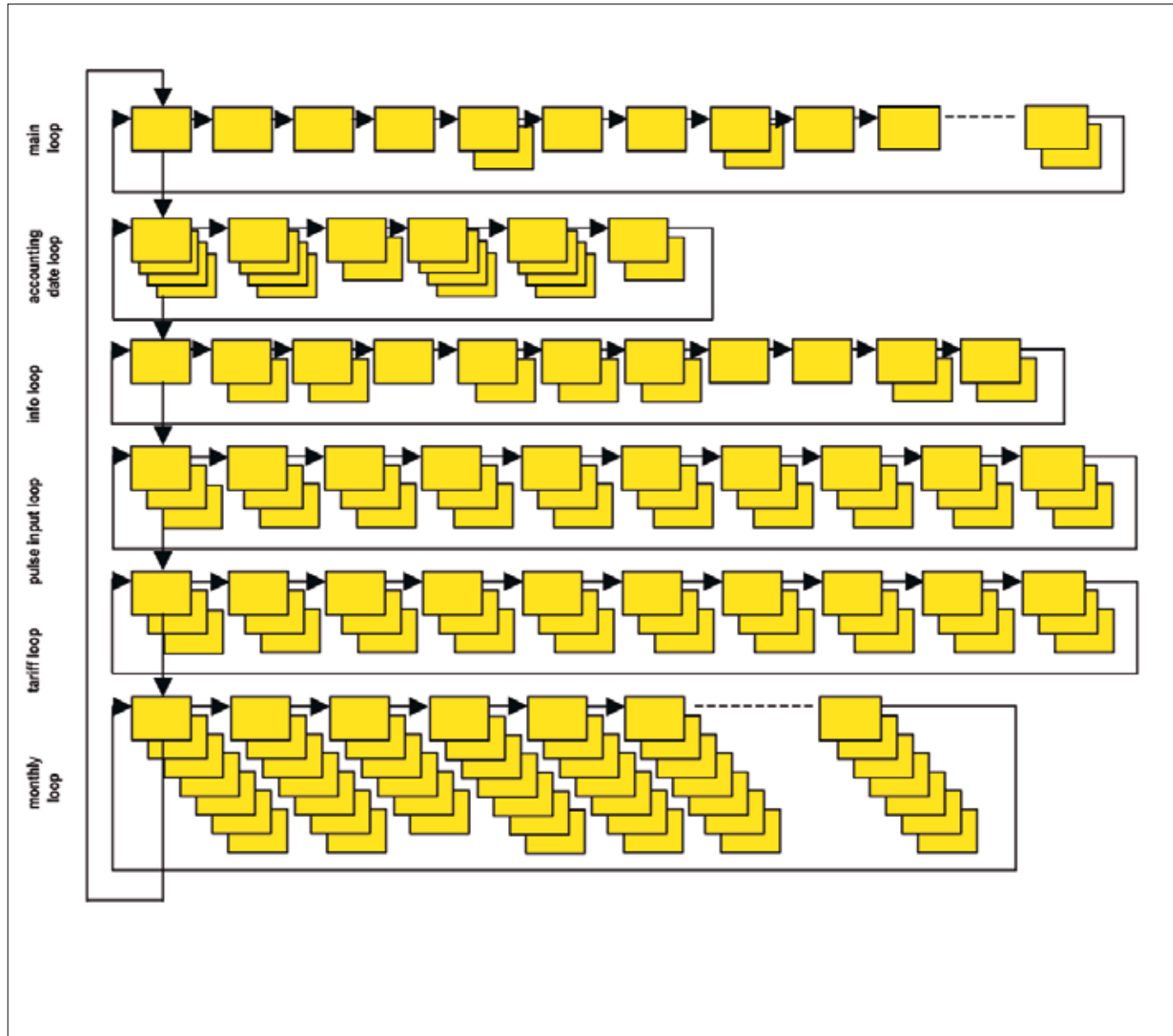
The INFOCAL 6 display has six loops. Some display windows consist of two (to maximum seven) displays that are shown alternately at 4-second intervals. Some pictures in loops or a complete loop can be deactivated separately.

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.



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

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	Supply temperature	Return temperature		
	1.6	Difference temperature			
	1.7	Operating hours			
	1.8 [off]	Monthly peak power	Date		
	1.9	Error code			
	1.10	Display test			
	1.11 [off]	Tariff energy 1			
	1.12 [off]	Tariff energy 2			
	1.13 [off]	Pulse input 'In 1'	Pulse input counter 1		
	1.14 [off]	Pulse input 'In 2'	Pulse input counter 2		
	1.15	Leakage detection error	Leakage detection heating		
	1.16	Accounting date last time	Accounting date last time	Accounting value Energy last time	Accounting value Volume last time
	1.17	Accounting date next to last time	Accounting date next to last time	Accounting value Energy next to last time	Accounting value Volume next to last time
	1.18	Secondary address	Secondary M-Bus address		
	1.19	Actual maximal flow	Date actual maximal flow		

Loop	Sequence	Window 1	Window 2	Window 3	Window 4	Window 5	Window 6	Window 7	Window 8	Window 9	Window 10
"1" Main loop	1.20	LOG	Date of last month	Energy	Tariff energy 1	Tariff energy 2	Volume	Max. flow	Max. power	Impulse counter 1	Impulse counter 2

Loop	Sequence	Window 1	Window 2	Window 3 [off]	Window 4
"2" Accounting date loop	2.1	Accounting date 1	Accounting date 1 energy	Accounting date 1 volume	,Accd 1'
	2.2	Accounting date 1 previous year	Accounting date 1 previous year energy	Accounting date 1 previous year volume	,Accd 1'
	2.3	Accounting date ,Accd 1'	Accounting date 1 in the future		
	2.4	Accounting date 2	Accounting date 2 energy	Accounting date 2 volume	,Accd 2'
	2.5	Accounting date 2 previous year	Accounting date 2 previous year energy	Accounting date 2 previous year volume	,Accd 2'
	2.6	Accounting date ,Accd 2'	Accounting date 2 in the future		

Loop	Sequence	Window 1	Window 2
"3" Info loop	3.1	Current date	
	3.2	,SEC_Adr'	Secondary address M-Bus
	3.3	,Pri_Adr'	Primary address M-Bus
	3.4	, Pt 100 r' or , Pt 500 r' shows installation "forward or return"	
	3.5	Monthly peak flow rate	Date max. flow rate
	3.6	Monthly peak power	Date max. power
	3.7	Integration interval (maximum value)	
	3.8	Number of error day's	
	3.9	Pulse output ,Out 1'	Pulse value and unit pulse output 1
	3.10	Pulse output ,Out 2'	Pulse value and unit pulse output 2
	3.11	Pulse output ,Out 3'	Pulse value interface pulse
	3.12	Software version	

[off] = not active

Loop	Sequence	Window 1	Window 2	Window 3
"4" Pulse input loop	4.1	Pulse input ,In1'	Pulse input counter 1	Pulse value 1
	4.2	Pulse input ,In2'	Pulse input counter 2	Pulse value 2
	4.3 [off]	Accounting date 1	Pulse input ,In1'	Acc.date 1 Pulse value 1
	4.4 [off]	Accounting date 1	Pulse input ,In2'	Acc.date 1 Pulse value 2
	4.5 [off]	Accounting date 1 previous year	Pulse input ,In1'	Acc.date 1 previous year Pulse value 1
	4.6 [off]	Accounting date 1 previous year	Pulse input ,In2'	Acc.date 1 previous year Pulse value 2
	4.7 [off]	Accounting date 2	Pulse input ,In1'	Acc.date 2 Pulse value 1
	4.8 [off]	Accounting date 2	Pulse input ,In2'	Acc.date 2 Pulse value 2
	4.9 [off]	Accounting date 2 previous year	Pulse input ,In1'	Acc.date 2 previous year Pulse value 1
	4.10 [off]	Accounting date 2 previous year	Pulse input ,In2'	Acc.date 2 previous year Pulse value 2

Loop	Sequence	Window 1	Window 2	Window 3
"5" Tariff loop	5.1 [off]	Tariff energy 1	Tariff function 1 (e.g. ,t 01')	Limit tariff 1
	5.2 [off]	Tariff energy 2	Tariff function 2 (e.g. ,t 02')	Limit tariff 2
	5.3 [off]	Accounting date 1	Accounting date 1 tariff energy 1	,Accd 1'
	5.4 [off]	Accounting date 1	Accounting date 1 tariff energy 2	,Accd 1'
	5.5 [off]	Accounting date 1 previous year	Accounting date 1 tariff energy 1	,Accd 1'
	5.6 [off]	Accounting date 1 previous year	Accounting date 1 tariff energy 2	,Accd 1'
	5.7 [off]	Accounting date 2 tariff energy 1	Accounting date 2 tariff energy 1	,Accd 2'
	5.8 [off]	Accounting date 2	Accounting date 2 tariff energy 2	,Accd 2'
	5.9 [off]	Accounting date 2 previous year	Accounting date 2 tariff energy 2	,Accd 2'
	5.10	Accounting date 2 previous year	Accounting date 2 tariff energy 2	,Accd 2'

Loop	Sequence	Window 1	Window 2	Window 3 [off]	Window 4 [off]	Window 5	Window 6	Window 7
"6" Monthly value loop	6.1	Last month	Energy	Tariff energy 1	Tariff energy 2	Volume	Max. flow rate	Max. power
	6.2	Month -1	Energy	Tariff energy 1	Tariff energy 2	Volume	Max. flow rate	Max. power
	6.3	Month -2	Energy	Tariff energy 1	Tariff energy 2	Volume	Max. flow rate	Max. power
	6.24	Month -23	Energy	Tariff energy 1	Tariff energy 2	Volume	Max. flow rate	Max. power

[off] = not active

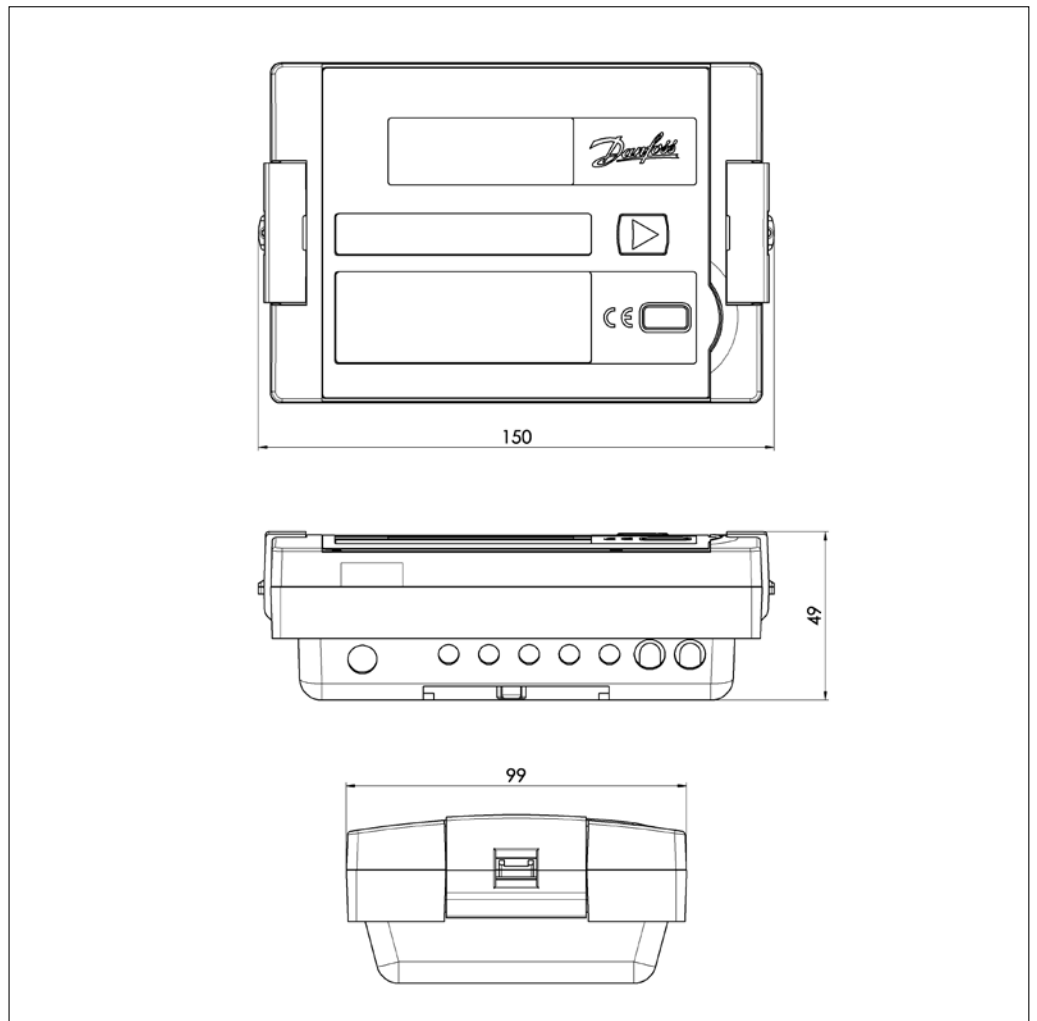
Simple operation

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 meter 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 HYDRO-SET software.

Dimensions

INFOCAL 6



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