

CF EHCO II compact heat meter



Application

The CF ECHO II is one of the new generation of ultrasonic heat meters.

Electronic data processing gives high precision throughout the entire measurement curve, producing a dynamic range exceeding class C.

Flows can be measured from Qp 0.6 to Qp 15 m³/h (DN15 to DN50) with reliable and stable accuracy.

Available in sizes ½" to 2" or DN15 to DN50 with female threaded or PN16 and PN25 flanged end connections make the meter suitable for most installations.

All hydraulic bodies carry a flanked design helping meter installation.

The CF ECHO II can be used in heating and combined systems. The meter can be installed in both the supply or return pipes and in horizontal or vertical pipework.

Benefits

- Accurate measurement of high and low flows.
- Easy reading,
- Pre-equipped for communication.

Standards Compliance

- MID 2004/22/EC Module B+D
Class 2.0 acc. EN 1434
- Env. Class C acc. EN 1434
- OIML R75
- PTB Class C
- Test ≤ -2%
- PED compliant

Advanced Functions

The CF ECHO II provides a number of advanced functions, which are powerful diagnostic aids for network management including

- data-logging for complex network analysis
- double tariff for further billing choices
- peak recording

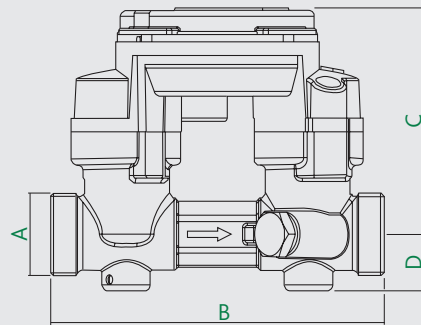
All collected data is presented on the highly ergonomic and multifunctional display.

Communication Device

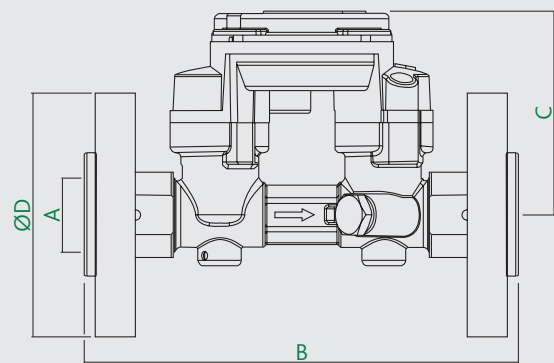
The plug and play communication boards opens the way for data collection through various reading systems.

* Product codes available from Altecnic

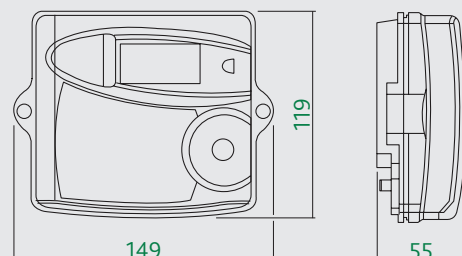
Dimensions



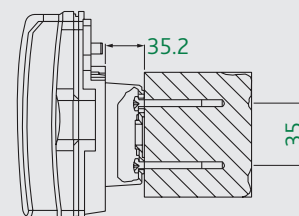
Prod Code*	DN	A	B	C	D
	15	G¾B	110	72	18
	20	G1B	130	72	18
	25	G1¼B	150	77	23
	32	G1½B	260	77	24
	40	G2B	200	77	26



Prod Code*	DN	A	B	C	D
	20	G1B	190	72	105
	25	G1¼B	260	77	115
	40	G2B	300	77	150
	40	-	250	77	150
	50	G2B	300	77	165
	50	-	250	77	165
	50	-	270	77	165

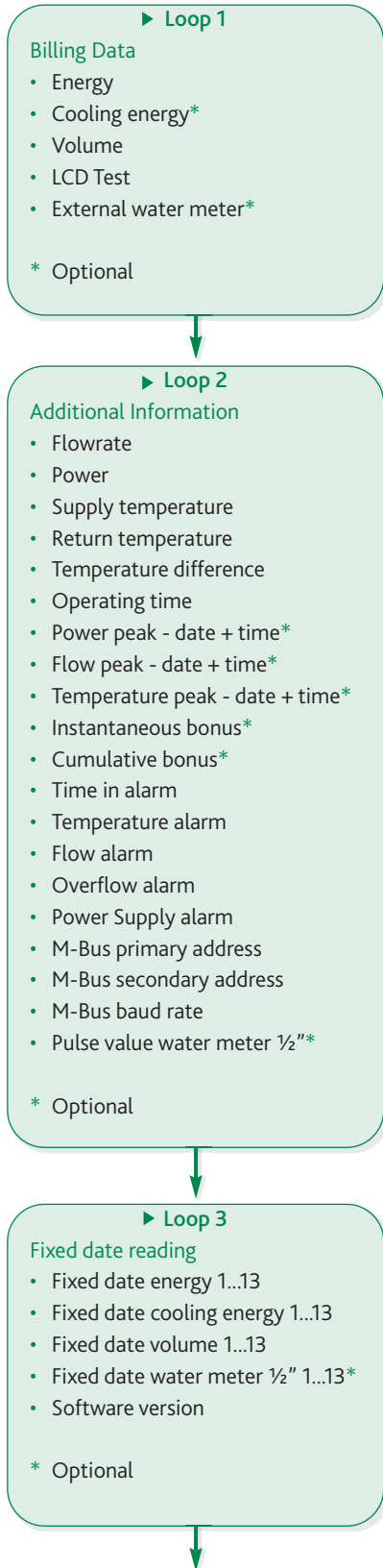


Wall Mounted



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Loop Levels

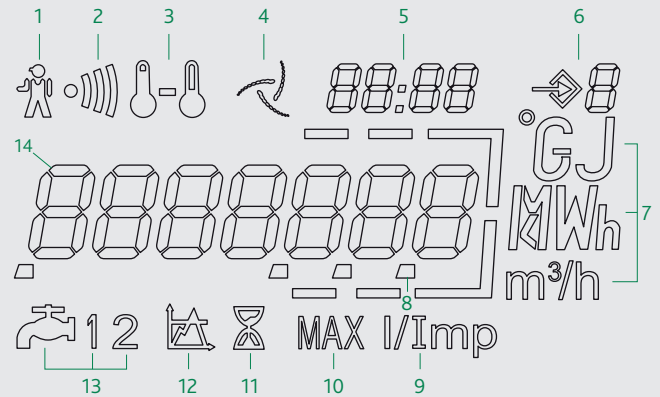


Multi-Functional Display

The multi-functional display facilitates easy reading, providing fast and clear access to the most important billing data.

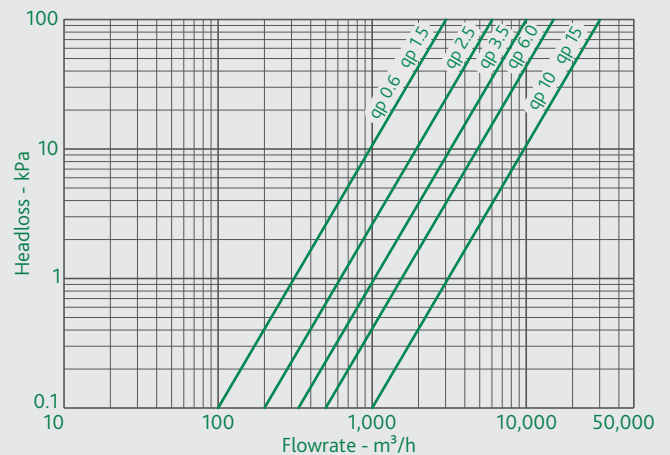
The display enables the diagnosis of failures, and the alarms provide the information at a single glance.

The LCD has a long life and each level of data is accessed by simply pressing a button.



Item	Display	Item	Display
1	Alarm icon	8	Decimal indication
2	Dirty warning	9	Pulse input value
3	Temperatures	10	Peaks
4	Flow indicator	11	Elapsed time indicator
5	Date and time digits	12	Thresholds
6	Loop indicator	13	External water meters
7	Units	14	Main digits

Headloss - Nominal Flowrates



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Technical Characteristics

Permanent max. temperature: 130°C

Accidental max. temperature: 150°C

Product Code	Nom. flow Qp m³/h	Diameter DN mm	Max. flow Qs m³/h	Min. flow Qi l/h	Start flow Qstart l/h	Pipe connection	Nominal pressure bar
0.6		15	1.2	6	1.2	G¾B	16/25
		20	1.2	6	1.2	G1B	16/25
		20	1.2	6	1.2	G1B/Flanges	16/25
1.5		15	3	15	3	G¾B	16/25
		20	3	15	3	G1B	16/25
		20	3	15	3	G1B/Flanges	16/25
2.5		20	5	25	5	G1B	16/25
		20	5	25	5	G1B/Flanges	16/25
		25	5	25	5	G1¼B	16/25
3.5		25	7	35	7	G1¼B	16/25
		25	7	35	7	G1¼B/Flanges	16/25
		40	7	35	7	Flanges	25
6		25	12	60	12	G1¼B	16/25
		25	12	60	12	G1¼B/Flanges	16/25
		32	12	60	12	G1½B	16/25
		40	12	60	12	Flanges	25
		50	12	60	12	Flanges	25
10		40	20	100	20	G2B	16/25
		40	20	100	20	Flanges	25
		40	20	100	20	G2B/Flanges	16/25
		50	20	100	20	Flanges	25
15		50	30	150	30	Flanges	25
		50	30	150	30	Flanges	25

Product codes available from Altecnic

CF ECHO II Energy Calculator

Temperature Range	0 to 180°C
Temperature Difference	3 to 160°C
Temperature sensor type	Pt100 or Pt500, 2 wire
Temperature sensor - Qp 0.6 to 2.5 m³/h	Direction immersion or pocket type probes integrated in the flow meter body
Cable length to flow meter	From 0.4 to 10 m (typical 1.5 or 3 m)
Back-up memory	EEPROM
Display	LCD - 7 digit
Optical interface	EN 60870-5 / M-Bus protocol

Power supply
6 or 12 year lithium battery
230V main power supply or power supply by M-Bus

Testing Pulse Value - Qp	0.6	1.5	2.5	3.5	6	10	15
Temperature Range	5	10	20	25	50	100	100

Construction Details

Component	Material	Grade
Body Threaded - ¾" & 1"	Brass	BS EN 12420 CW602N
Body Threaded - 1¼" to 2"	Bronze	BS EN 1982 CC491K
Body Flanged - DN20	Brass	BS EN 12164 CW614N
Body Flanged - DN25 to 50	Bronze	BS EN 1982 CC491K
Flanges	Stainless steel	
Seals	EPDM	



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Option Boards

The CF ECHO II is pre-equipped for communication.

Different option boards can be plugged easily to the meter and will start working automatically.

The following options are available:

- Board 1: **M-Bus + E/V Repetition**
- Board 2: **M-Bus + 2 external water meters**
- Board 3: **Modem + 2 external water meters**
- Board 4: **LON + 2 external water meters**
- Board 5: **Radio + 2 external water meters**
- Board 6: **M-Bus + 2 external water meters + power supply M-Bus**



M-Bus	
Standard reference	EN 1434-3
Baud rate	300 to 2,400 baud
Data in standard mode	Energy, Volume, Flow, Temperature (supply, return, difference), Time in error, Operation Time, Date & Time, Volume of water meters 1 & 2, Firmware version
Pulse inputs for water meters	
Pulse value - independent per input	1/2.5/10/25/250/1000 L/imp
Pulse detection	Contact closed $R \leq 500\Omega$
Pulse detection	Contact closed $R \leq 100\text{ k}\Omega$ Maximum frequency: 10 Hz
Energy and volume pulse output	
Pulse value	Repetition of display Energy from 1 kWh to 1 mWh Volume from 10 litres to 1 m ³
Modem application	
PSTN network, meter calls programmed phone number at a pre-defined time	
LON application	
Transceiver	TP / FT-10
Transmission speed	78 kb/s
Radio Application	
Compatibility	AnyQuest radio walk-by system EverBlu radio fixed network system (Q2-2010)
Frequency	433 MHz
Protocol	Radian open protocol

E & O.E

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AL 102 30-08-12