



# CF 51

## Heat and cooling Meter Calculator

The CF 51 is a stand-alone calculator issued from the Itron CF Heat Meter Family and represents a technology step forward in the metering of thermal energy.

Easy to handle, this calculator will turn your investment into benefits.

### FEATURES AND BENEFITS

- » Modular Design
- » Plug and Play Communication options boards
- » Bonus calculator
- » Max. demand manager
- » 2 wires

CE type approval certificate:  
DE-06-MI004-PTB006

### Applications

Heating, Cooling and Combined, return and supply positioning.

### Standards Compliance

- » MID 2014/32/EU Module B+D
- » Env. Class C acc. EN 1434
- » PTB approved

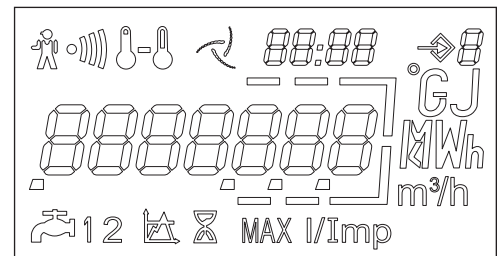
### Benefits

- » Simple to use
- » Easy reading
- » Upgrade with option boards

### Multifunctional Display

The multifunctional display facilitates easy reading, providing fast and clear access to the most important billing data. The display enables the diagnosis of failures alarms from a single glance.

The LCD has a long life time and through a push button you get easily access to each level of data.



### Loop 1

#### Billing Data

- Energy
- Cooling energy\*
- Volume
- LCD test
- External water meter 1/2\*
- \*optional

### Loop 2

#### Additional Information

- Flow rate
- Power
- Supply temperature
- Return temperature
- Temperature difference
- Operating time
- Power peak date + time\*
- Flow peak date + time\*
- Temperature peak date + time\*
- Time in alarm
- Temperature alarm
- Flow alarm
- Overflow alarm
- Power supply alarm
- Current time + date\*
- M-Bus primary address
- M-Bus secondary address
- M-Bus baud rate
- Pulse value water meter 1/2\*
- \*optional

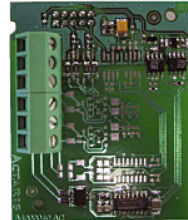
### Loop 3

#### Fixed Date Reading

- Fixed date energy 1...24
- Fixed date cooling energy 1...24 \*
- Fixed date volume 1...24
- Fixed date water meter 1/2 1...24\*
- Software version
- \*optional

## CF 51 Energy Calculator

Metrology exceeds	PTB, DRIRE, OIML, EN 1434
Temperature range	0 ... 180 °C
Temperature difference	3 ... 160 K
Temperature sensors	Pt100 or Pt500, 2 wires
Display	LCD - 7 digits
Back-up memory	EEPROM
Power supply (optional)	6 or 12 year Lithium battery - 230 V main power supply or power supply by M-Bus
Protection class	IP64
Environmental class	Class C acc. EN 1434
Ambient temperature	5 ... 55 °C
Pulse value (programmable)	1 / 2.5 / 10 / 25 / 100 / 250 / 1000 L
Optical interface	EN 60870-5 / M-Bus protocol



## Option Boards Characteristics

### M-Bus

Standard reference	EN 1434-3
Baud rate	300 to 2400 baud
Data in standard mode	Energy, Volume, Flow, Temperatures (supply, return, difference), Time in error, Operation time, Date and time, Volume of water meters 1&2, Firmware version

### Pulse Inputs for 2 water meters

Pulse value (independent per input)	1 / 2.5 / 10 / 25 / 100 / 250 / 1000L/imp
Pulse detection	Contact closed $R \leq 500 \Omega$ Contact opened $R \geq 100 \text{ k}\Omega$ Maximum frequency: 10Hz

### Energy and Volume Pulse output

Pulse value	Repetition of display Energy from 1KWh to 1MWh Volume from 10 L to 1 m <sup>3</sup>
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### LON application

Transceiver	TP/FT-10
Transmission speed	78 Kb/s

### Radio Applications

Compatibility	AnyQuest radio walk-by system EverBlu radio fixed network system
Frequency	433 MHz
Protocol	Radian open protocol

### GPRS Modem with integrated M-Bus-Master (option)

GPRS specifications	Quad Band GSM 850/900/1800/1900MHz
GPRS datatransfer via	SMS, E-Mail, FTP client, http client
M-Bus Master (option)	EN 13757-2/-3, 300/2400 Baud, 8 unit loads

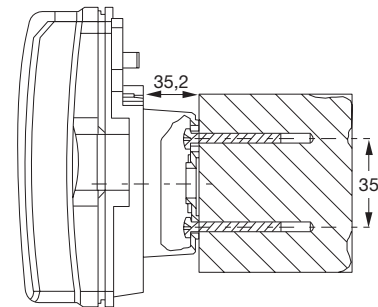
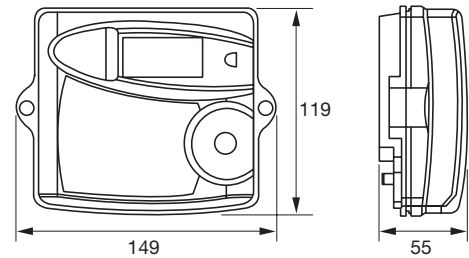
### Modbus

Mode	2 wires, Differential Half-Duplex
Baudrate / Data	2400, 4800, 9600, 19200 bits/s
Format	8 data bit 1 stop bit no parity
Power supply	3,6 V-12V DC from CF heat meter

### Power supply by M-Bus (Board 6)

Current consumption	2 unit loads = 3mA (M-Bus master / permanent load)
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## DIMENSIONS



Wall mounting

## OPTION BOARDS

The CF 51 is pre-equipped for communication. Different option boards can be plugged simply to the meter and start working automatically.

The following option boards are available:

- » Board 1: **M-Bus + E/V Repetition**
- » Board 2: **M-Bus + 2 Water Meters pulse input**
- » Board 3: **GPRS Modem + E/V Repetition + M-Bus Master**
- » Board 4: **LON + 2 Water Meters pulse input**
- » Board 5: **Radio + 2 Water Meters pulse input**
- » Board 6: **M-Bus + 2 Water Meters pulse input + power supply by M-Bus**
- » Board 7: **Modbus**



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