

## Peak values option board (FCMX)

The calculator F4 can be equipped with option boards to add extra functionality to the F4. The peak value boards log peak values (minimum and/or maximum values). The board is fully Plug & Play compatible, e.g. it can be installed in a meter on site without reconfiguring the F4.

## Peak values

The Peak values option board can log up to 10 different values. These can be any combination of the maximum and/or minimum of:

- Low temperature
- High temperature
- Temperature difference
- Power
- Flow

The option board calculates its values by comparing a series of averages with a short time base. The time base for the averaging periods can be set to avoid unrealistic values.

## Data collection

The data is collected via the internal bus in the meter, and the frequency with which data is read affects the lifetime of the battery. How often these values are read depends on:

**Temperature values** are read after each temperature measurement. The more measurements the more values are read. See the meter manual for more information

**Power and Flow** values are read at the end of each averaging period. The averaging period is a configurable parameter in the card.

## Historical peak periods

The option board can store from 54 up to 128 historical peak periods depending on how many values are logged. The length of a historical period can be set to a *number* (1–255) of the following *time-base*: minutes, hours, days, months or years.

**Example:** Time-base set to days, number set to 7.  
Then the peak values are recorded and stored every week, every seven days.

## Card Slots

The Peak Values option board can be installed in slot **A, B or E**.

## Power failure, safety backup

The peak values board has a configurable backup interval. At the end of each interval, the values are stored in its onboard EEPROM and will be retrieved after a power failure. The values that are logged between the time when the values were stored and the power failure are lost. Historical peak values are never lost, unless the board is reconfigured.

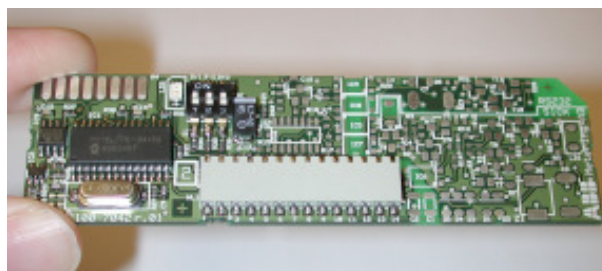


Fig.1, Peak values option board (FCMX)

## Data output

The board transmits its data via M-Bus. The current peak values and all historical peak values can also be read using the display. The order of the telegrams and their contents is as follows:

**First Telegram** (contains the current values and some miscellaneous information):

- Averaging period
- Storage interval
- Current Date & Time
- Max Power
- Min Power
- Max Flow
- Min Flow
- Max High Temp.
- Min High Temp.
- Max Low Temp.
- Min Low Temp.
- Max Temp. Diff.
- Min Temp. Diff.

**Successive Telegrams** (each telegram contains the values from one historical peak period):

- Date & Time of Peak Period
- Max Power, Min Power
- Max Flow
- Min Flow
- Max High Temp.
- Min High Temp.
- Max Low Temp.
- Min Low Temp.
- Max Temp. Diff.
- Min Temp. Diff.

**Note 1:** Only the values logged are actual output on the display and on the M-Bus.

**Note 2:** The Date & Time of a Peak Period denotes the time when the period ended, i.e. when it was saved to memory.

**Note 3:** The historical peak periods are output in chronological order (from youngest to oldest), as long as a new period is not saved during the reading phase. In this case the last period (i.e. the newest) is output in the last telegram.

## Dipswitches

Option boards must be set correctly so that the meter can recognize the board correctly, see below:

Slot	BY 1	BY 2	BY 3	
A	On			On - on
B		On		- off
E	On		On	( ) - on/off has no effect
Service	( )	On	On	

Table 1, dipswitch settings on option board

**Important!** Never change dipswitch settings during power on.

## Configuring Peak values board

To set the option board into service mode, see table 1, and by using the Windows program "Plug & Play configuration utility", the option board can be reconfigured. Also see the program documentation for further instructions.

## Installation

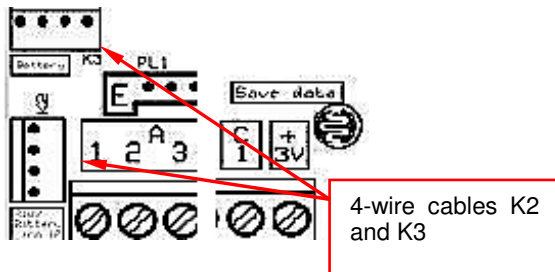
Avoid loosing any meter values by "short-circuiting" the "Save data" contact, see also fig 1 using the "short-circuit key", see also fig1.

**Important!** Cut all power from mains or battery when installing the option board or meter, option board can be damaged. Cut the power removing 4-wired cables "K2" and "K3".

**Important!** Remove the flow sensor or the installation can be interfered.

**Important!** Only one option board can be installed at the same time, otherwise the option boards and the F4 malfunction. Recommended procedure:

1. Save data, short circuit connection "Save data".
2. Power off; remove 4-wire cables K2 and K3.
3. Disconnect the flow sensor; remove one cable connected to meter terminal.
4. Install the board; check jumper settings.
5. Turn power on; connect 4-wire cables.
6. Check that the board is properly installed; light "LD3" on the option board is turned off.
7. Connect the flow sensor and 4-wire cables "K2" and "K3".



## Ordering

The full article number consists of product designation, delivery options and parameter file. To get the full article number you combine these numbers with a dash "-".

Product designation: **FCMX**  
 Delivery options: **ABC**  
 Parameter file No.: **XXXXXX**

**Product designation** is the number of the option board, "FCMX-" Peak Values board.

**Delivery options** is the logical variable that decides how the option board shall be delivered:

Variable	No	Description
A	4	Option board for F4
B	1	Board delivered separately
B	4	Board mounted inside meter
C	A	Board slot A
C	B	Board slot B
C	E	Board slot E

Table 2, Variable number for ordering

**Parameter file** is the programming number of the specific board. This number can vary from "000000 to ZZZZZZ", this number is provided by SVM Metering when ordering option boards. Note: Standard parameter file is StandA.

*Special parameter file* is decided by a \*.pp - file, which is generated by the "Plug & Play configuring utility", see also manual for more information. After configuring and storing configuration into the \*.pp - file the \*.pp - file is enclosed with the order or inquiry, and the number is given upon order confirmation or at offers.

### Example:

Option board, Peak values, "FCMX" for F4, mounted in the meter, for slot A, "44A" Programming provided by SVM Metering, "StandA"

Full article number: FCMX-44A-StandA

## Article number key

Table 3, help to acquire correct article number.

FCMX-	A	B	C	-	Programming*
	4			-	

Table 3, Variable number for ordering

\* If uncertain, always choose StandA.