SVM Additional M-Bus board (FCMB)

DATA SHEET

- **Provides an additional separate M-Bus output**
- **Galvanically separated from the meter**
- **Primary and secondary adressing**
- **Up to 9600 baud**

Additional M-Bus board (FCMB)

Calculator F4 can be equipped with an additional M-Bus board for extended functionality. F4 is equipped with a built-in M-Bus output as standard. With an additional M-Bus option board the F4 offers another completely separate M-Bus output making it possible to communicate with two different M-Bus systems in parallel.

The additional M-Bus output is galvanically isolated from the meter, and delivers all first telegram default values. The primary and secondary addressing of the additional M-Bus option board is either inherited from the F4 calculator, or set manually.

The communication speed is adjustable between 300-9600 baud.

If an option board for LON communication is fitted in the F4 calculator (option board FC10) the built-in M-Bus is disabled. If both LON and M-Bus outputs are needed, an additional M-Bus board is therefore required.

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M-Bus

The option board FCMB provides a galvanically separated additional M-Bus output for calculator F4. The additonal M-Bus output delivers all default values from the first telegram, e.g. energy, volume, power, flow and temperatures. Historical data, like account days and monthly registers, and data from other installed option boards are only available from the standard built-in M-Bus output.

Configuration

The option board FCMB can be configured prior to installation by using a service adapter and the "Plug & Play service utility". Both the adapter and the service software are included in the F4 adapter kit with order number FT-4-adapt-kk.
The primary and secondary addresses of the FCMB option board either inherit the F4 settings (default) or are set manually. The baud rate is set between 300-9600 baud. If card slot B or E is used, the maximum baud rate is limited to 2400 baud.
The M-Bus mode must always be set to "FLEX Emulation Mode".

Capacitive losses

The additional M-Bus board causes increased capacitive losses in the M-Bus loop if the board is installed in card slot B or E, cf. Table 1.

Card slots

The additional M-Bus option board may be installed in slot A, B or E.

Connection to M-Bus

The M-Bus loop shall be connected to the terminals corresponding to the card slot in use. When the option board is installed in card slot A, the terminals marked "A" are to be used. Terminals 1 and 3, and 2 and 4 are connected in parallel, and thus the terminals can be used in pairs as input and output, cf. Fig 1.

Slot	Capacitance	Equivalent cable length in an M-Bus loop
A	-	-
B	10nF	50m
E	10nF	50m

Table 1, Capacitive losses depending on selected card slot

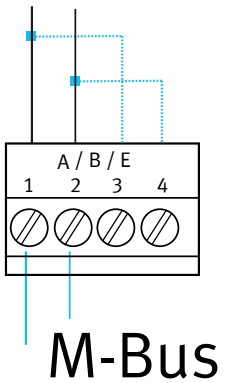

Fig. 1, Connection terminals for M-Bus

Dipswitches

The dipswitches must be set correctly in order for the option board to function properly, cf. Table 2.

Slot	BY 1	BY 2	BY 3
A	On		
B		On	
E	On		On
Service	( )*	On	On
*On/Off has no effect			

Table 2, Dipswitch settings

Important! Never change the dipswitch settings when the power is on.

Installation

NOTE: Cut the power from mains and battery before installation to avoid damaging the meter or the option board.

NOTE: Disconnect any flow sensor connected to the meter, see below for more information.

NOTE: Install only one card at a time.

Recommended installation procedure:

1. Save data by short circuiting the “Save data” circuit.
2. Disconnect the flow sensor by removing at least one of the flow sensor cables.
3. Cut the power by disconnecting the four-pole connectors K2 and K3, cf. Fig.2.
4. Check that DIP switches are correctly set for the selected card slot and install the option board into the slot, cf. Table 2. The component side shall be turned towards the terminals. Align the chambered end of the board with the right side of the calculator box. Ensure that all pins on the option board are properly connected.
5. Turn power on, reconnect the four-pole connectors.’K3’ (battery) first and then “K2” (RawV).
6. Check that the board is properly installed; the LED “LD3” first blinks and is then turned off.
7. If another board is being installed, repeat steps 3-6.
8. Reconnect the flow sensor.

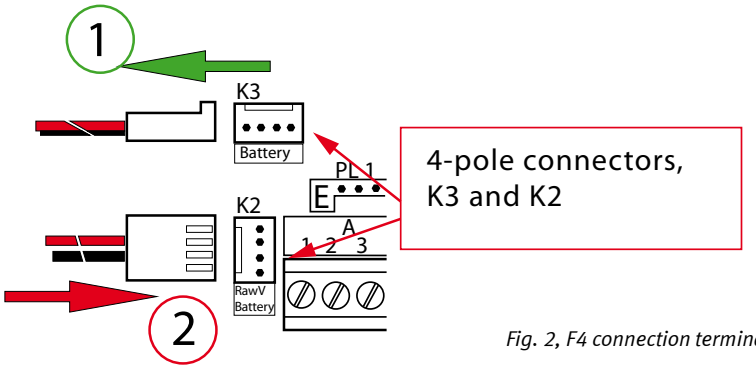

Fig. 2, F4 connection terminal

Ordering

Product designation: **FCMB**
Delivery options: **ABC**
Parameter file: **XXXXXX**

FCMB	A	B	C
Option board for F4	4		
Board delivered separately		1	
Board mounted inside F4		4	
Board slot A			A
Board slot B			B
Board slot E			E

Table 3, Delivery options for FCMB

Parameter files

StandA Standard parameter file for additional M-Bus 300 baud

2400bd Standard parameter file for additional M-Bus 2400 baud

Example: FCMB-44A-StandA, additional M-Bus board mounted inside the F4 in slot A, 300 baud.

Article number key

The table below can be used to obtain a correct ordering key.

FCMB-	A	B	C	–	Parameter file
				–	

Table 4, Article number key