SVM FTT-10 board (FC10)

DATA SHEET

- **FTT10 LonWorks communication**
- **Energy and volume**
- **Power, flow and temperatures**
- **Pulse registers**
- **Polled or Bind**

FTT-10 board (FC10)

Calculator F4 can be equipped with an option board for FTT10 LonWorks communication for increased functionality. The option board FC10 utilizes the built-in M-Bus to communicate with the meter requesting the last updated values.

The option board is delivered in 2 versions, Polled or Bind. Polled means that the board is passive and only sends data after a request from a system master, e.g. a PC. Bind means that the board is active and is sending data after an adjustable time interval, with a default setting of 30 seconds. The receiving unit is typically a data controller in the sub station.

An F4 with the option board FC10 installed can deliver measured values like power, flow and temperatures, as well as accumulated values like energy, volume and pulse registers.

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Application

The option board FC10 is used when an F4 is being read in an FTT10 LonWorks systems. The option board has a relatively high power consumption and should only be used in mains supplied F4 calculators.

Always connect the power supply before installing the option board, otherwise the backup battery life may be affected.

Note that the FC10 option board utilizes the built-in M-Bus, and therefore the M-Bus terminals are disabled. If both an FTT10 output and an M-Bus output is required, it is necessary to install an additional M-Bus option board (FCMB) in the F4 calculator.

Bind or Polled

The option board FC10 is delivered in two versions.

FC10-4: Polled (recommended configuration). The board is passive and is only sending data after a request from a master in the LonWorks system. The amount of data sent in the system is kept at a minimum, and "LONmarked programID" is supported providing e.g. units in plain text.

FC10-B: Bind. The board is active and sends data after an adjustable time interval, with 30 seconds as the default setting. The LonWorks standard is not fully supported with Bind configuration, since data is always sent after every time interval, even when the variables are not updated.

Card slots

The FC10 option board should be installed in card slot E. In exceptional cases it is also possible to install the board in card slot A.

Note that due to lack of space, it will be impossible to install any option board in card slot B if the FC10 option board is installed in slot A.

Connect to LonWorks

Connect the F4 calculator to the LonWorks network according to Table 1 below.

2-wired cable	Terminals
Wire 1	E1 (A1) or E3 (A3)
Wire 2	E2 (A2) or E4 (A4)

Table 1, Connect to LonWorks

Note that the terminals E1/E3 (A1/A3) and E2/E4 (A2/A4) are connected in parallel.

LonWorks registers

The following registers can be read from the FTT-10 option board:

Register	Lnv.	Unit
Energy	4	GJ/MWh/kWh
Volume	5	m^3
Volume according to energy calculation	6	m^3
High temp.	7	°C
Low temp.	8	°C
Temp.diff.	9	°C
Flow	10	l/h
Power	11	kW
Pulse counter 1	12	-
Pulse counter 2	13	-

Table 2, Registers in the FTT-10 option board

Installation

NOTE: The baud rate of the F4 must be set to 300 baud, and no wires may be connected to the terminals marked “M-BUS”.

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.1.
4. Install the FC10 option boar in card slot E (or slot A). 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. The LED “LD1” on the FC10 option board starts flashing.
7. Connect LonWorks to terminals E1 and E2 or E3 and E4 when slot E is being used. If the board is installed in slot A, then use terminals A1 and A2 or A3 and A4 instead.
8. Use a LonWork installation software tool, e.g. LonMaker, to configure the board. Put the installation software in “Discovery mode” or “Installation mode”.
9. Push the service button on the FC10 option board, cf. Fig. 2. The software will identify the FC10 option board as a LonWorks node, and “LD1” now stops flashing and turns solid.
10. Use the configuration tool to set the node in “Configured state” and “Online mode”. Also reset the node before closing the configuration tool. Most configuration tools will send a reset command by default.
11. When “LD1” goes out the FC10 option board is configured for LonWorks.

Installation

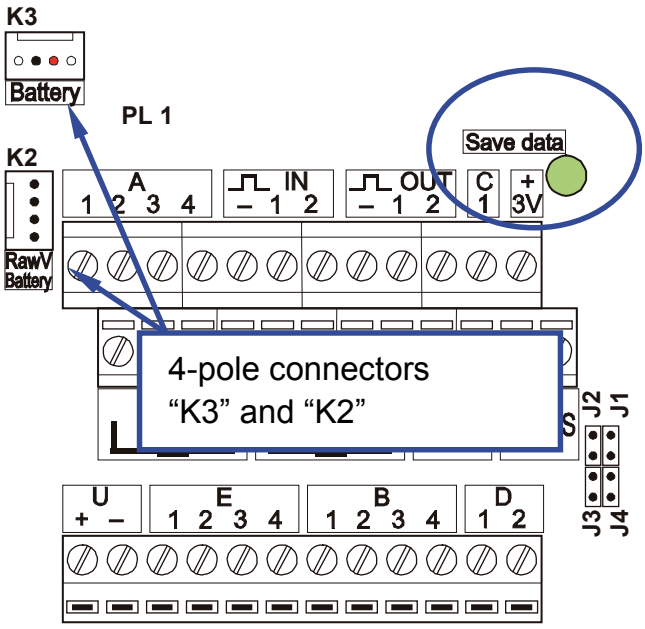

Fig. 1, Connectors K2 and K3

Fig. 2, Option board FC10, side view

Ordering

The ordering number consists of a product designation and delivery options.

Product designation: **FC10**

Delivery options: **ABC**

FC10	A	B	C
Polled version*	4		
Bind version	B		
Delivered separately*		1	
Mounted in the Calculator		4	
Board for Slot A/E			A

Table 3, Delivery options

* Recommended version

Note! If the FTT-10 board is delivered mounted in the calculator the back-up battery may be discharged.

Ordering number key

Table 4 can be used to acquire correct ordering number.

FC10-	**A**	**B**	**C**
			A

Table 4, Ordering number key