



FTT-10 board (FC10)

The FTT-10 board enables the F4/F3 calculator to communicate using the LonWorks protocol. The FTT-10 option board is fully Plug & Play compatible, e.g. it can be installed in a calculator on site without configuring the calculator.

[Data Sheet](#)

Application

The FTT-10 option board is used when the Calculator shall be connected to a LonWorks system (FTT-10). Due to the high current consumption the option board may only be used in mains supplied Calculators. It is further recommended to install the FTT-10 board only in calculators connected to the mains supply in order to avoid discharging the back-up battery.

Note that the FTT-10 option board utilizes the M-Bus port to collect data from the Calculator. This means that the Calculators standard M-Bus port can't be used for connecting the Calculator to an M-Bus system when the FTT-10 option board is installed. If an M-Bus connection is required, an extra M-Bus board must be installed.

Connecting the LonWorks network

The Calculator shall be connected to the LonWorks network according to the table below.

2-wired Cable	Connection terminal
Wire 1	A1/E1 or A3/E3
Wire 2	A2/E2 or A4/E4

Table 1, FTT-10 Connection terminals

Note that the connection terminals A1/E1 and A3/E3, as the connection terminals A2/E2 and A4/E4, are connected in parallel.

Bind or Polled

FC10-4: *Polled version* (Recommended version)

FC10-B: *Bind version* with update interval 10 s as standard. The update interval can be changed during installation.

Card slots

The FTT-10 board should be installed in card slot E. The option board may in exceptional cases be installed 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 FTT-10 option board is installed in card slot A.

LonWorks registers

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

Register	Inv.	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

It is important that the power supply, mains or battery, is removed before installing the option board. Otherwise the calculator may be damaged.

Note: The Calculator must be set to 300bd and no cables can be connected to the connection terminal marked "M-BUS".

The following procedure is recommended:

1. Short circuit connection "Save data"
2. Turn the power off by removing the 4-pole connectors "K2" and "K3", se fig. 1.
3. Install the board in card slot E (or A), the component side facing the terminals. Align the option board (faced side) to the calculator's right side.
4. Turn the power back on by reconnecting the 4-wire connectors "K2" and "K3"
5. Check that the light-emitting diode "LED1" on the board twinkle
6. Connect the LonWoks network, see table 1 above
7. The FTT-10 board is now ready to be configured by a LonWorks configuration tool, e.g. LonMaker. Set the configuration tool to "discovery mode" or "installation mode"
8. Press the service button, se fig. 2, on the option board. The configuration tool shall now find the new node and the light-emitting diode "LED1" shall stop twinkle
9. Using the configuration tool the node shall be set to "configured state" and "On-line mode". A reset must be sent to the node before closing, most configuration tools will send this by default upon closing.
10. The light-emitting diode "LED1" on the board will be turned off and the node is ready for communication.

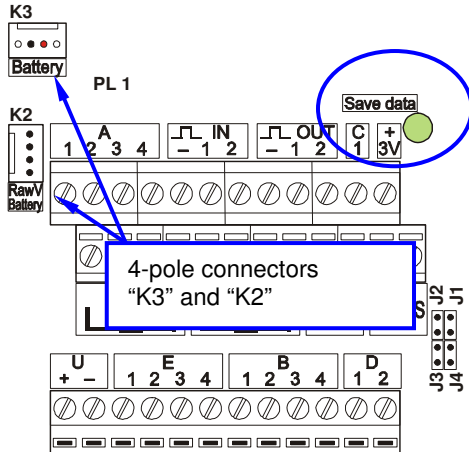


Fig. 1, Connectors K2 and K3

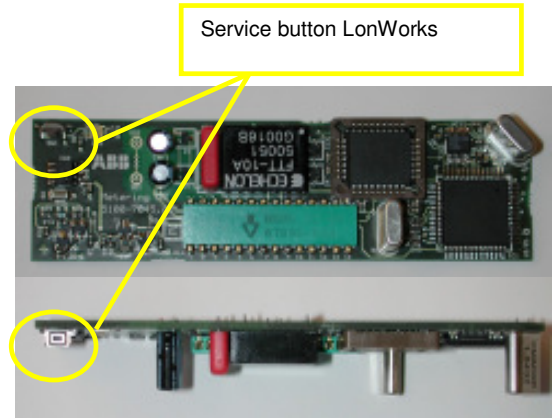


Fig. 2, Service button

Ordering

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

Product designation: **FC10**
Delivery options: **ABC**

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

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

