

M-Bus/RS232

Option board v.2 (FC2N)

The F4 calculators can be equipped with option boards to add extra functionality. M-Bus/RS232 enables the calculator to communicate without an M-Bus interface.

M-Bus/RS232 (FC2N)

M-Bus/RS232 option board enables communication point to point with RS232 connection. The option board does not need to install itself in the calculator's memory and uses the existing communication settings within the calculators.

The board galvanic separates the calculator from connected device over RS232. M-Bus/RS232 option board v.2 offers two variants:

- M. The mains variant for mains supplied calculators only, offers unlimited number of M-Bus readings of the calculator. The option board will not work in a battery-supplied calculator or when mains power is cut.
- B. The battery variant may only be read once per day when installed in a calculator even if the board is installed in mains supplied calculator, because this option board draws energy from the battery.

The board can be installed in either F3/32/4.

Note: When RS232/M-Bus option board is installed in calculator the ordinary M-Bus output will be disabled.

Installation

Following installing procedure is recommended:

1. Store data by short circuiting the "save data" button to avoid losing any data.
2. Cut power by disconnecting the 4-pole connectors first "K2" and then "K3".
3. Put the option board inside the calculator. Component side turned to the connection terminals, aligning the facade side inside to right side in calculator. Check that all terminal pins are connected to the board.
4. Connect the 4-pole connector first "K3" (backup) and then "K2" (main power).

Card Slot

The M-Bus/RS232 option board must be installed in **slot A**. If slot A is occupied and another slot is required please contact Metrима AB.

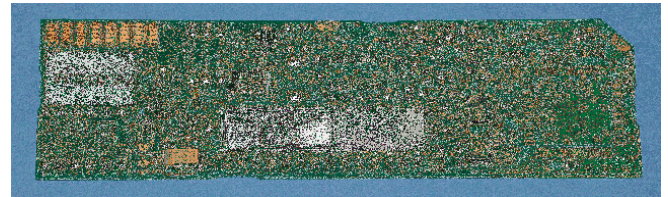


Fig. 1, M-Bus/RS232 option board component side

Connection of RS232 to PC

See table 1, below for connection to a PC. When connecting a modem reverse TXD and RXD, e.g. TXD terminal A1 and RXD terminal A3.

Terminal no.	Function	9-Pole connector	25-poles connector
A1	RXD ->	2	3
A2	DTR <-	4	20
A3	TXD <-	3	2
A4	GND --	5	7

Table 1, Connection M-Bus/RS232 in slot A to PC

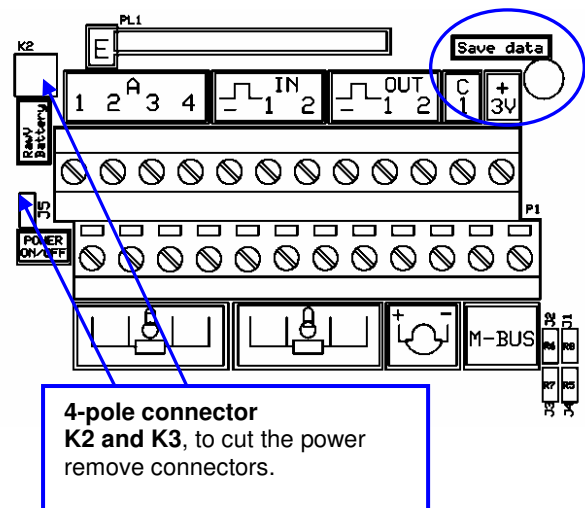


Fig 1b, Connection terminal F4

Uninstall

It is not a requirement to uninstall this board from the calculator memory. Follow the installation procedure except for point 3.

Ordering

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

Product design.: **FC2N**
Delivery options: **ABCD**

Product designation, is the number of the option board, "FC2N" M-Bus/RS232 option board.

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

Variable	No	Description
A	M	Mains version
A	B	Battery supplied version
B	1	Delivered separately
B	4	Mounted in calculator
C	A	Configured for slot A
D	2	Standard

Table 2, Variable number for ordering

Example:

Option board M-Bus/RS232 FC2N-
delivered separately battery version, "B1A2"

Article number: FC2N-B1A2

Ordering key

Table 3, ordering help to acquire correct article number, just fill in the blanks.

FC2N-	A	B	C	D
			A	2

Table 3, Ordering key

Ordering Cables

TERM284-RS232-modem Cable for connecting RS232 board to modem (9pM)

TERM284-RS232-PC Cable for connecting RS232 board to PC (9pF)

TERM284-OPK4 Cable for connecting RS232 board to GS01 (GSM modem, 9pM)