



Radio board

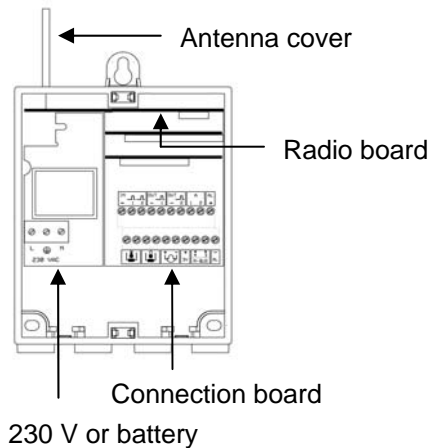
Radio board for calculator F22

Data sheet

Product overview

The F22 calculator can be supplied with an option board for radio. It is also possible to retrofit a radio board into previously installed F22 calculators (Extended model).

The F22 radio solution is built for “fixed network”, walk-by and drive-by.



Technical data

RF-Communication	
Frequency range	868-870 MHz
RF regulatory standard	Complies with EN 300 220
Transmitter	
Power	3 mW (5 dBm)
Channel space	25kHz (narrowband)
Antenna	
Integrated ¼-wave antenna, alternatively an FME – contact for external antenna.	
Port-Communication	
M-Bus	According to EN1434.
Supported baud rates	300 and 2400bps
Mechanical data	
Ambient temperature	-20°C to +60°C

Power supply	
230V AC or Battery	

Functionality

The radio board is transparent for M-Bus communication, i.e. a supervision system using M-Bus can read (via the Radiomaster) all available information from the meter. An F22 equipped with a radio board can act as a repeater for other F22 calculators. For this functionality, MCom 3 R3 is required.

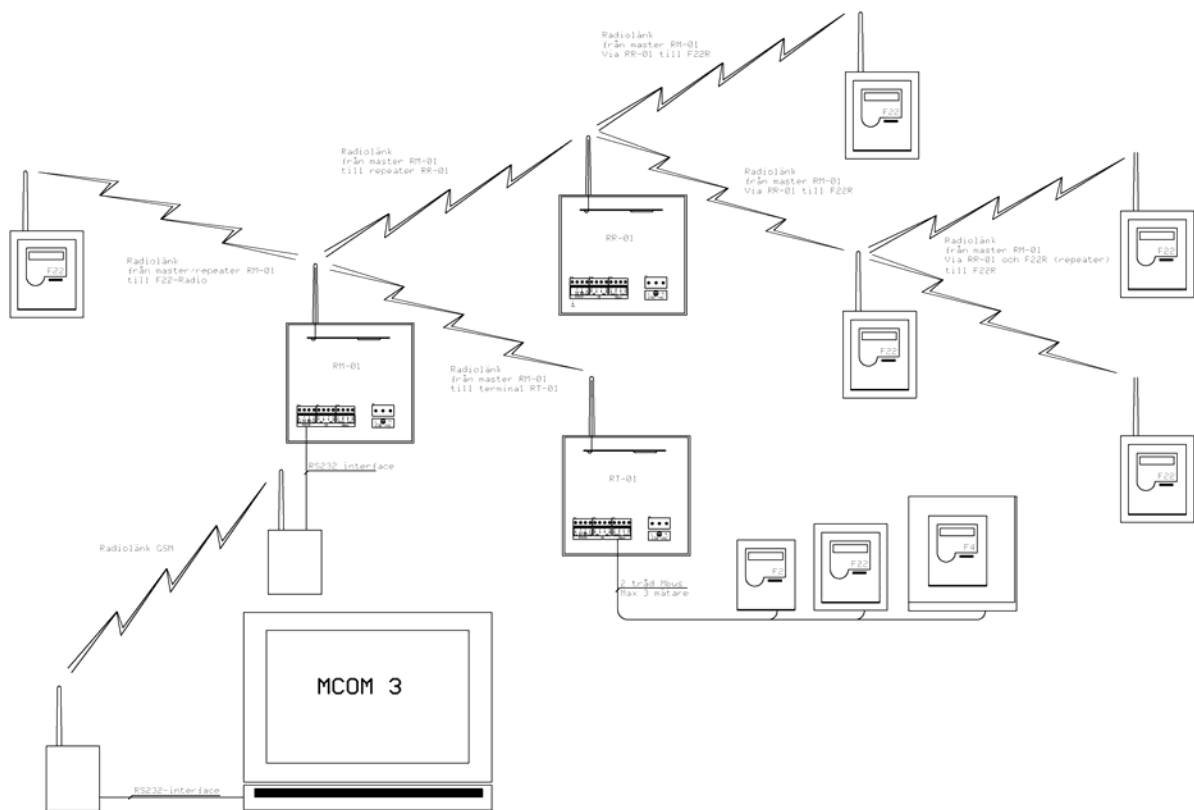
The radio board uses the M-Bus for internal communication with the calculator, leaving the M-Bus output from the calculator disabled.

Settings

All settings are factory-made according to the order requirements, cf. the Article number key.

Applications

The F22 calculator with radio board is to prefer wherever cable installations are unwanted or too costly.



System description of Radio network

A radio network is designed for transmitting meter data via radio, and consists of a number of radio nodes. The heat meter F22 with a Radio board RK01, radio terminal RT01 and radio repeater RR01 are connected to a radio master RM01, operating as an access point / media converter.

The fixed network is accomplished by using the radio as a repeater to reach further than the maximum radio range. Every single radio unit (node) can act as a repeater in the network to reach other nodes. The maximum repeating depth is 10 steps. The routing path is dynamic and is set from the supervision system (MCom3). The radio network can easily be implemented into MCom3 R3.

The network is transparent for M-Bus communication and handles standard M-Bus questions. All M-Bus protocols are available over the radio network.

The network is configured in the same way that it would be for twisted-pair communication, i.e. the meter's M-Bus address (secondary-address), is programmed in the central system. The M-Bus request is sent via the connection / transport media that the network is offering. As a transport media to and from the radio master RM01, it is possible to use Telephone modem, GSM, GPRS, TCP/IP, Radio or other communication solutions.

The radio nodes have a range from 50 up to 300 meters or more, depending on the surroundings and the physical obstacles (walls, etc.) between the radio master and the nodes. The radio nodes may be equipped with either a built-in antenna or an external antenna via a standard FME-contact.

Radio board

RK-ABCDE-FGH

A	1	Radio board for F22, delivered installed in calculator
A	2	Radio board for F22, RM-01, RT-01 and RR-01, delivered separately
B	A	System (point to multipoint)
C	1	Standard
D	1	Battery supply
D	3	Mains supply 230 V AC
E	1	No antenna
E	2	Built in antenna
E	3	FME contact for external antenna
FGH	A13	868,3125 MHz, Standard frequency
FGH	A14	868,3375 MHz
FGH	A15	868,3625 MHz
FGH	A16	868,3875 MHz
FGH	A17	868,4125 MHz
FGH	A18	868,4375 MHz
FGH	A19	868,4625 MHz
FGH	A20	868,4875 MHz
FGH	A21	868,1250 MHz
FGH	A22	868,5375 MHz
FGH	A23	868,5625 MHz
FGH	A24	868,5875 MHz

Article number key for Radio board

Fill in the blanks to obtain the applicable article number.

			A	B	C	D	E		FGH
R	K	-		A	1			-	

Accessories

- RA-TOOL1 Special tool for changing the antenna
RA-ADAPT-FME FME-contact for external antenna (spare part)
5102-7705-01 Antenna cover to F22 (spare part)



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