

LONG DISTANCE WIRELESS DATA TRANSMISSION



The MR1200 FFSK modem makes wireless data transmission possible over long distances (up to several tens of kilometres).

The MR1200 is a voiceband FFSK modem which can be connected to any kind of VHF or UHF radio transmitter using frequency or phase modulation.

It offers a 1200 b/s or 2400 b/s data rate, depending on the bandwidth of the available radio channel (12,5 kHz or 25 kHz).

Key-features

- 1200 or 2400 b/s
- RS232 and RS485
- Extensively tested with all leading PLCs
- 1 To 20 W HF
- Data and speech transmission

Applications

- Data transmission between remote sites : Environmental data, water supply networks, roads...
- Mobile data transmission : Transport, GPS positioning...

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TELECOMMUNICATIONS

Long-range wireless transmission

Connected to a standard FM RF transceiver, the MR1200 enables you to create a long-distance wireless data transmission network (several tens of kilometres). If the network includes RF repeaters, the MR1200 will control them remotely by sending standard audio frequency control tones.

Compatibility

The MR1200 connects directly to most programmable controllers or data acquisition terminals via a RS232 or RS485 link.

Operating is transparent; the modem supports the most common industrially used communication protocols such as MODBUS.

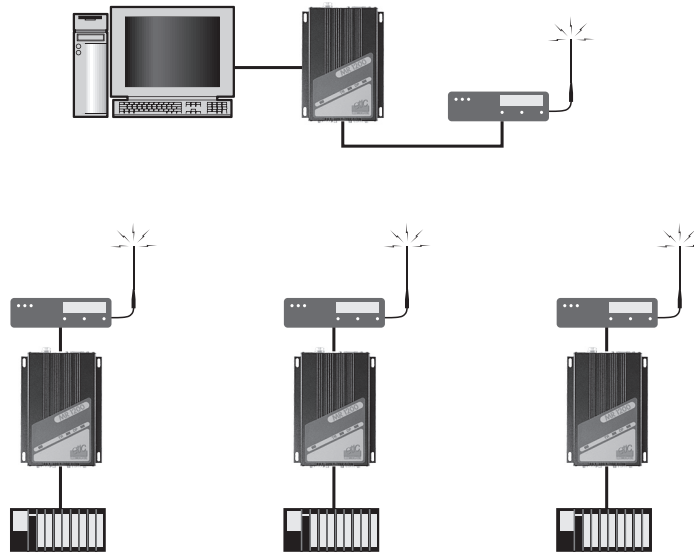
Proven worldwide

Coupled with a RF transceiver, the MR1200 provides a long-lasting, proven solution for the wireless transmission of PLC data.

Numerous networks are currently in use worldwide.

Speech

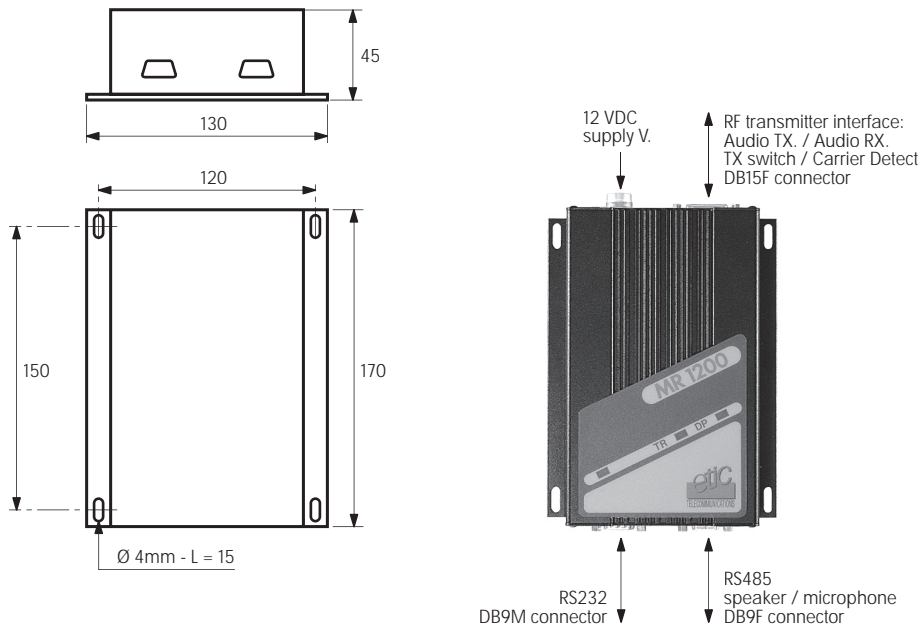
You can also use the radio-telephone, for speech as well as data transmission.



Characteristics		MR1200T	MR1200-0 and MR1200-1
Serial interface		RS 232 and RS485 - 300 to 9600 bauds 8 b - with or without parity - 1 start and 1 stop	
Transmission control		Automatic on detection of characters or by RTS	
Radio channel data rate		1200 b/s with a 12,5 KHz bandwidth 2400 b/s with a 25 KHz bandwidth	
Remote control of HF relay		ZVEI or CCIR tones	
Modulation		MR1200-0 : 1200 b/s	FFSK 1200 or 2400 b/s MR1200-0 : 1200 b/s MR1200-1 : 2400 b/s
Transceiver interface		50 Ω antenna	For the connection of a transceiver LF transmission, LF reception, Tx / Rx changeover, carrier detect
Transmit power		1 W to 25 W adjustable	-
Range of frequency		VHF : 66-88 MHz VHF : 136-174 Mhz UHF : 403-470 MHz	Depending on RF transceiver
Dimensions (H x L x P)		MR1200 : 45 x 130 x 170 mm GM950 : 44 x 168 x 150 mm	45 x 130 x 170 mm
Weight		MR1200 : 550 g GM950 : 1030 g	550 g
Power requirements		11 à 15 VDC	
Current consumption		Depending on range of frequency	300 µA
Stand-by Reception			55 mA 55 mA
Operating temperature		0 to +50 °C or - 20 to +60 °C on demand	

Designation	Reference
1200 b/s modem for external RF transmitter	MR1200-0
2400 b/s modem for external RF transmitter	MR1200-1
MR1200-0 + RF transmitter MOTOROLA GM950 (antenna optional)	MR1200T

Description



Accessories

Designation	Characteristics	Reference
Configuration cable	DB 9F- DB 9F	CAB08
12 VDC power supply module	220 VAC / 12 VDC - 7 A	AS02
12 VDC power supply module	220 VAC / 12 VDC - 5 A replaceable by battery	AS03
Antenna surge protection	Delivered with a 1 m coaxial cable and an antenna connector to the radio modem Transmit power peak 70 W Insertion loss 0,2 dB VSWR<1.2	PS03
Handset for MR1200 and MR1200T		MIC02

MR1200 1200 or 2400 b/s radio modem

Antennas

Type	Range	Gain	Supplier reference	Reference
Omnidirectional	68-73 Mhz	0 dB	MAT / MA432H00	ANT030
Omnidirectional	73-78 Mhz	0 dB	MAT / MA432H01	ANT031
Omnidirectional	78-83 Mhz	0 dB	MAT / MA432H02	ANT032
Omnidirectional	83-88 Mhz	0 dB	MAT / MA432H03	ANT033
Directional	68-75 Mhz	3 dB	MAT / MA421F0713	ANT040
Directional	74-82 Mhz	3 dB	MAT / MA421F0783	ANT041
Directional	81-89 Mhz	3 dB	MAT / MA421F0853	ANT042
Omnidirectional	144-168 Mhz	0 dB	MAT / MA432KM00	ANT050
Omnidirectional	168-174 Mhz	0 dB	MAT / MA432KM01	ANT051
Directional	144-161 Mhz	6 dB	MAT / MA421F1523	ANT060
Directional	160-179 Mhz	6 dB.	MAT / MA421F1693	ANT061
Omnidirectional	408-470 Mhz	0 dB	MAT / MA481Q506	ANT07
Directional (3 elements)	400-430 Mhz	6 dB	MAT / MA421F4153	ANT080
Directional (3 elements)	440-470 Mhz	6 dB	MAT / MA421F4553	ANT081
Low profile omnidirectional	410/470 Mhz	0 dB	KATHREIN / K702021	ANT09
Screw-on UHF mobile antenna	408-470 Mhz	0 dB	MAT / MA157Q500	ANT10
Magnetic mounting base UHF mobile antenna	400-430 Mhz	0 dB	MAT / MA125Q00	ANT110
Magnetic mounting base UHF mobile antenna	440-470 Mhz	0 dB	MAT / MA125S00	ANT111
Omnidirectional	408-470 Mhz	4 dB	MAT / MA481QS04	ANT12

RF cables and connectors

Designation	Characteristics	Reference
Antenna cable 50 Ω	Ø 5mm KX15 type Insertion loss 0,4 dB /m, equipped with 2 connectors L = Cable length in metre (maximum length: 5 m)	CAN01L
Antenna cable 50 Ω	Ø 10mm KX13 type Insertion loss 0,15 dB /m, equipped with 2 connectors L = Cable length in metre (maximum length: 10 m)	CAN02L
Antenna cable 50 Ω	Ø 5 mm KX15 type Insertion loss 0,4 dB/m	CAT01
Antenna cable 50 Ω	Ø10 mm KX13 type Insertion loss 0,15 dB/m	CAT02
Antenna connector	Male N type for Ø 5 mm cable	COT01
Antenna connector	Female N type for Ø 5 mm cable	COT02
Antenna connector	Male N type for Ø 10 mm cable	COT03
Antenna connector	Female N type for Ø 10 mm cable	COT04
Antenna connector	Male TNC type for Ø 5 mm cable (for MR1200T-3)	COT05

Connecting cables for PLCs

Refer to Cables section (page 41) to select the cable corresponding to your application.

Delivery content

MR1200-0 MR1200-1	MR1200 modem - User guide in English
MR100T	MR1200-0 modem - RF transmitter MOTOROLA GM950 - Connecting cable - User guide in English