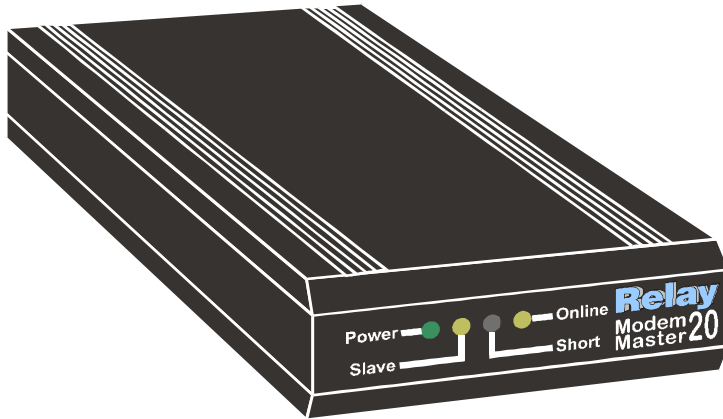


M-Bus - Modem-Master 20



- Power (green):
Operating voltage connected
- Slave (yellow):
M-Bus slave transmits
- Short (red):
Overcurrent (short circuit)
- Online (yellow):
Connection active

Features:

- Direct data transmission from M-Bus through an analog phone line
- Modem with real transmission of parity bit (complies to data link layer of EN1434-3)
- Transmission speed: 300-2400 baud
- M-Bus-Master for up to 20 slaves is integrated inside the device
- Safe against short circuit
- Mounting on rail TS35 (DIN EN 50022)

Function

The ModemMaster20 offers a system for remote readout of utility meters in extended M-Bus installations using an analog phone line. We have integrated the M-Bus Master and the Modem commonly in one housing. The ModemMaster20 is capable to supply up to 20 unit loads. So it allows to remotely power and read 20 M-Bus devices or meters. The total cable length of the M-Bus net can be up to 4 km.

Standard Modems normally generate unallowed pauses between the characters of a telegram and cannot transmit the parity bits. The development of a special M-Bus Modem solves these problems. Therefore the Modem fulfils the data link layer of EN1434-3. The ModemMaster20 includes such an M-Bus-Modem, which allows direct transmission of M-Bus data without use of an expensive central. The corresponding M-Bus-Modem for connection to a PC has got the article number MOD002.

Conformity markings and approvals

- CE conformity
- BZT approval for Germany
- CTR21 (EC type-examination certificate)

Technical data:

Power supply:	Voltage range:	10,8..25V DC 8,0..18V AC
	Maximum current:	650mA (12V DC) 400mA (24V DC)
A 9V AC plug-in power supply unit is part of the delivery scope !		
Environment:	Operating temperature:	5..+55°C(0..55°C after 15 minutes)
	Storage temperature:	-20..+80°C
	Humidity:	5..95% (non condensing)
Housing:	Dimensions:	HxWxD=135x70x29 (mm) without sockets and DIN rail clip
	Protective class:	IP20
	Material:	Aluminium
	Colour:	Black
	Mouniting:	Rail TS35 (DIN EN 50022)
Baudrate:	300-2400baud	can be changed online

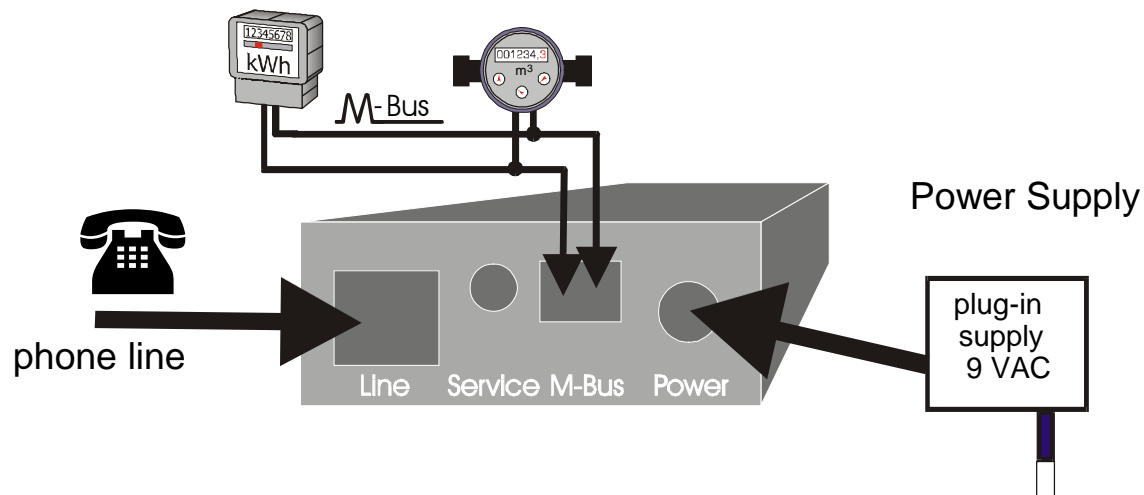
M-Bus Specifications:

Parameter	min.	typ.	max.	Unit
Max. number of unit loads (slaves)	20			
Bus quiescent current	0		30	mA
Overcurrent interruption	52	60	80	mA
Overcurrent recovering time			1,0	s
Bus voltage mark	26		32	V
Bus voltage space	14		18	V
Bit detection level slave => master		7		mA
Max. distance to slaves				
10 slave at the end of cable (JYSTY nx2x0.8)	1000			m
20 slave at the end of cable (JYSTY nx2x0.8)	500			
10 slave at the end of cable (NYM nx1,5)	3000			
20 slave at the end of cable (NYM nx1,5)	1500			
Max. network expansion (JYSTY nx2x0.8) at 2400 Baud	4000			m

The maximum possible network extension and distance between master and slaves depends on the characteristics of the net, especially the topology, the number of slaves, the desired baudrate and the diameter of the cable.

You can find several hints in a document, which describes a research of different topologies with our Master-Interface for up to 250 slaves. You can download this document within the Internet (WWW.RELAY.DE).

Installing plan:



Accessoires:

Article	Art.No.:
M-Bus-Modem for PC	MOD002
Readout SW: Look@M-Bus Basic-Module for Windows 95 / NT	SW006
Automatic Readout-Module LocalService@M-Bus	SW006Z
M-Bus OLE-Server for Windows 95 / NT with MODEM support	SW005M

Ordering information:

The ModemMaster 20 has got the article number **MR007A**.

