

## M-Bus measurement instruments remote reading over an powerline distribution network

- ::: | Distinct expenses savings at remote readings
- ::: | No construction changes necessary
- ::: | Easy control from a single point
- ::: | Communication over 230V/50Hz distribution network
- ::: | Instant readings possibility

- ModemTec s.r.o. company introduces modems intended for media remote reading equipped with an industrial M-bus. Measured data safe transmission runs over a standard 230V distribution network within a distance up several kilometers, which saves an expensive structured cabling installation.
  - MT23MB modem enables remote readings of heat, water, gas or electric energy at all equipment equipped with an industrial M-Bus data bus. These output provisions can be found at great number of measurement equipments manufactured (gas meters, water meters, calorimeters, electric meters). As compared with a standard reading by means of M-Bus line (where construction and digging works are necessary) the savings by using MT23MB ModemTec modules reaches 50 percent minimal apart from time consumption at M-Bus line realization.

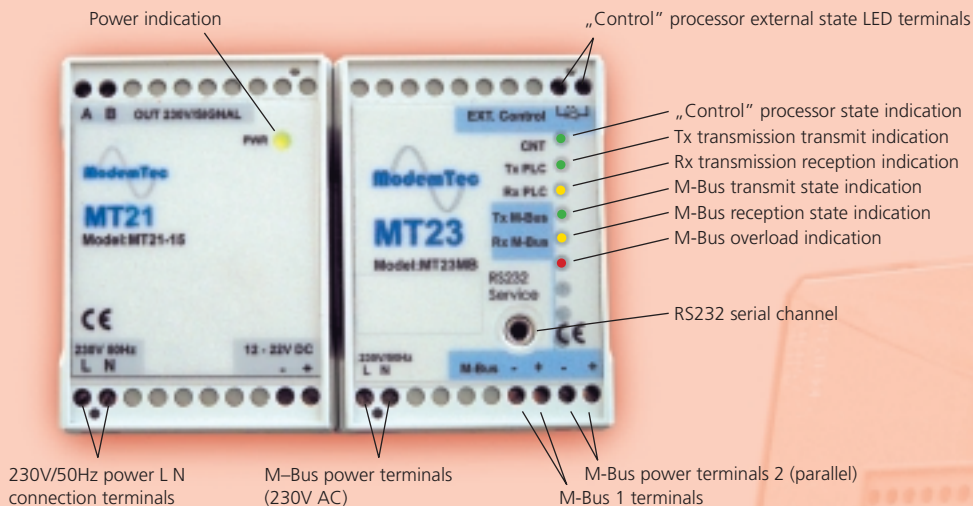
### Basic modems characteristics:

- Modems communicate mutually in two modes. Either by query – response way when the master system specify a terminal modem by an address choice – and gets the response immediately or by means of terminal modules properties. Those comprise, apart of other things, real time clock and can be programmed for measured quantity reading in a specified time.
  - The read entry together with a time mark is stored in the module memory and finally transported to the master system in the form of confirmed responses. This design enables an aggregate state reading, e.g. calorimeters in a flash. Both communication systems can be used synchronously without any mutual influence.
  - Each of application modules is also equipped with a diagnostic function of proper function and transmissions, which means that no other special equipment is required for installation and operation.



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## MT23MB module visual description



The equipment is built-in in small boxes attachable to DIN35 strip.

## Indication elements description:

**Power indication** – indicates the MT21 connection to the 230V line voltage and presence of 19VDC output voltage.

**„Control” processor state indication** - shows a state of motherboard CPU, when lit the system is OK.

**Tx transmission transmit indication** - shows a state of transmission from the processor toward MT21 supply power amplifier –when lit the transmission is active.

**Rx transmission reception indication** - shows a state of reception toward processor from MT21 supply input amplifier – when lit the reception is active.

**M-Bus transmit state indication** – shows the transmit output state toward M-Bus, it means if the LED blinks anyhow or is lit the data reception from M-Bus is active.

**M-Bus reception state indication** – shows the M-Bus receive input state. When the LED blinks anyhow or is lit the data transmission toward M-Bus is active.

**M-Bus overload indication** – shows current overload state or short circuit on M-Bus. When overloaded the LED blinks, otherwise is dark.

## Module characteristics:

M-Bus power supply	~ 230V ±10% 50Hz
Input power	6 VA
Application	local reading transmission over M-Bus
Number of connection points	5 measurement equipments
Max. bus length	3000m
Communication rate	300 – 2400Bd
Communication recovery time after P.S. failure	≤ 1s (valid even for bus overload recovery)
Safety class	III
Equipment complies with norms	ČSN EN 61010-1
	ČSN EN 60529
	ČSN EN 61000-6-2
	ČSN EN 61000-6-3
	ČSN EN 60870-5
	ČSN EN 1434-3
	ČSN EN 50065-1

ModemTec s.r.o. deals with a development and manufacturing of communication equipment over existing LV power distribution systems (PLC – Powerline Communication). This equipment belongs, according to available nowadays sources, to the most advanced technologies in the field of narrow-band communication in existing power distribution networks reliably working within a distance of several kilometers.



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