



MIDAM CMBUS01

M-Bus (Meter-Bus)/RS232 converter



Microprocessor-controlled physical layer M-Bus converter for the reading of measurement instruments like energy meters, hot and cold water counters, gas or pressure, sensors, actuators, etc. The converter facilitate automatic baud rate switching and can host up to 60 M-Bus devices. This device convert M-Bus signal to RS232 and provides various possibilities of RS232 connections.



Application

- Networking and remote reading of utility meters.
- Integration of M-Bus water, electricity, gas, and heat meters into PLC or SCADA over RS232 interface.

Function

The CMBUS01 converter is able to connect up to 60 M-Bus devices to a process station or supervisory system over RS232 serial port. Maximum communication speed is 9600 bps, with fully automatic baud rate switching – it is not necessary to make any setup on the converter side. All interfaces are galvanically separated up to 1kV DC. This important feature provides high reliability even in harsh industry environment with high EMC pollution. The M-Bus power source is protected against short-circuit and overvoltage. The M-Bus devices are connected over a 2-pole connector, regardless of polarity. It also

supports secondary addressing (detection of RTS collision signal).

The RS232 terminal can be utilized via a CANNON 9 M connector with cross (zero-modem) cable or screw terminals TxD, GND and RxD.

It is not recommended to use both RS232 connections simultaneously.

System integration

Direct integration into various PLC/DDC systems through wired RS232 is possible.

Configuration

The device has no setting or configuration options. The supply voltage must be observed, as a drop in the supply could lead to a drop in the M-Bus supply, which could impair communication with the connected/monitored peripherals. Possible diagnostic functions are a matter of the driver in the IDE application software or the SCADA system.

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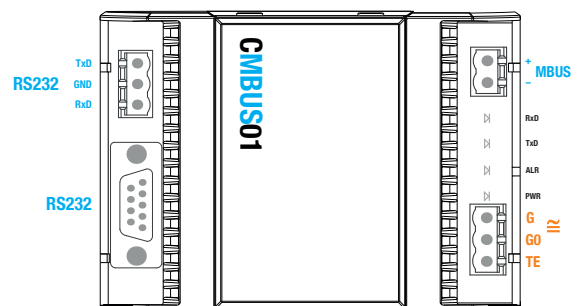


Technical data

Power supply	24 V AC/DC \pm 20 %
Consumption	max. 6 W
Communication	<p>RS232 CANNON9 male; (1-DCD, 2-RXD, 3-TXD, 4-DTR, 5- GND, 6 - DSR, 7 - RTS and 8 - CTS) terminals TxD, GND, RxD. Do not connect CANNON 9 and terminals TxD, GND, RxD simultaneously 300 ... 9600 bit/s</p> <p>M-Bus (Mbus+, Mbus-) standard EN 1434-3, EN 13757-2 resistant to permanent short-circuit, electronic fuse with indication and auto-recovery, 300 to 9600 bps, maximal bus length 1200 m, maximum number of meters 60, galvanic isolation 1 kV, secondary addressing (detection of RTS signal collision)</p>
Protocol	Physical layer converter to M-bus/RS232
Indication	4x LEDs - PWR (green), ALR (yellow) TxD (red), RxD (green)
Mechanical and dimensions	99 x 70 x 64 mm (l x w x h) Polycarbonate enclosure (UL94V0), IP20
Terminals	8x M3 screw terminals (PWR, MBUS +/-, RS232 TxD, GND, RxD) Recommended wire diameter 0.5 to 1.5 mm ²
Ambient conditions	+5 to +40 °C, 5 % to 85 % rH (EN 60721-3-3. Class 3K3)
RoHS notice	The device contains a non-rechargeable battery which backups the real-time clock and part of the memory. After the device is not operable, please return it to the manufacturer or dispose of it in compliance with local regulations.

Terminals and connection

RS232	TxD, GND and RxD serial line RS232
RS232	Serial line RS232, CANNON 9 M
MBUS +	Serial line Mbus +
MBUS -	Serial line Mbus -
G	Power
G0	Power
TE	Technical ground (TE with DIN rail is connected together at the DIN rail mounting point at the back of the controller)



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LED indication

RxD	Green LED - M-Bus receiving data (flashing: receiving data; OFF: no data traffic).
TxD	Red LED - M-Bus transmitting data at COM3 (flashing: transmitting data; OFF: no data traffic).
ALR	Yellow LED - M-Bus error (bus overload, collision).
PWR	Green LED - power (ON: power OK; OFF: no power applied, weak or damaged power supply).



CONVERTERS

Changes in versions

09/2020	New datasheet version (v20/09).
11/2020	Minor changes in Description and Function (v20/11).

Subject to technical changes and
General Terms and Conditions.

