GW-7838-M

Modbus TCP Server to M-Bus Master Gateway

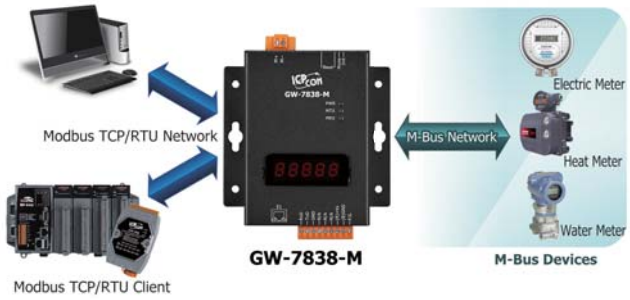
Features

- Supports M-Bus standard: EN-13757, CJ/T -188
- Supports Modbus TCP/RTU function code 0x03 and 0x04 to read Meter data
- Baud rate: Adjustable by dip switch for M-Bus and serial port from 300 to 115200 bps
- Default M-Bus port data format: Data bit 8, Parity Even, Stop bit 1
- Supports up to 100 M-Bus slaves
- M-Bus over current protection
- Short-circuit protection on the M-Bus
- Update firmware from serial port
- Provides PWR, MTX and MRX 3 LED indicators
- Watchdog inside

Introduction

M-Bus (Meter-Bus) is a communication interface widely used in various meters, such as electricity meters, water meters, heat meters, etc. Ease of installation (two-wire system includes power and communication function) and robustness are the most important features. M-Bus has its own physical layer and protocol. Therefore, it is usually switched to other systems, such as Modbus, to facilitate the overall application.

In the field of automation, Modbus TCP/RTU is one of the most common communication standards. ICP DAS developed the gateway GW-7838-M for Modbus TCP/RTU to M-Bus, allows the direct transmission of meter data to a control system using Modbus TCP/RTU. The GW-7838-M supports operating up to 100 devices on the M-Bus. After an initial configuration by M-Bus utility, GW-7838-M will read out the meters data autonomously. The PLC or PC as a Modbus TCP/RTU client can access meter data via a TCP/RS-232 connection easily.



Baud Rate Selection by DIP Switch

DIP 3 ~ 6	0000	1000	0100	1100	0010	1010
Baud [bps]	300	600	1200	2400	4800	9600
DIP 3 ~ 6	0110	1110	0001	1001	Others	
Baud [bps]	19200	38400	57600	115200	User-defined	

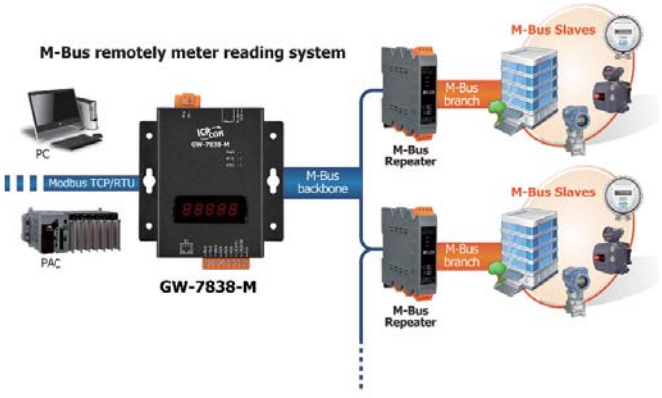
The status of DIP bit 0 is OFF and 1 is ON.
The default data format of serial bus baud rate is 8, n, 1.
The default data format of M-Bus bus baud rate is 8, e, 1.

Execution Mode by DIP Switch

DIP 1 (Init)	DIP 2 (Mode)	Description
OFF	OFF	Run Firmware
OFF	ON	Configure
ON	OFF	Update Firmware

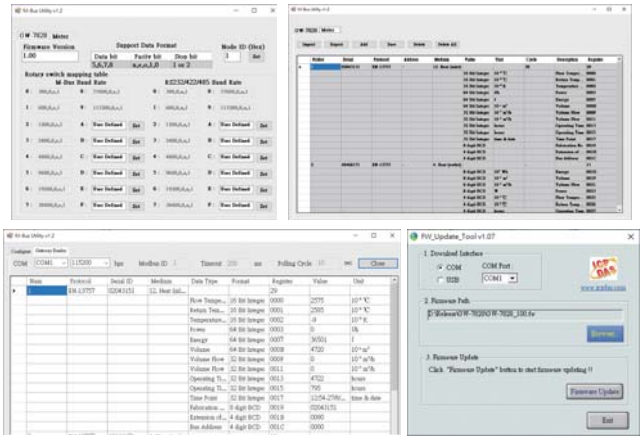
Applications

The M-Bus (Meter-Bus) is a bus optimized for the reading of measurement instruments like: energy counters, hot and cold water counters, gas, pressure, sensors and actuators, etc.....



Utility

- Provide M-Bus and serial bus user-defined baud rate
- Check firmware version
- Configure meters list of M-Bus gateway
- Test reading meters data
- Update firmware



Support Meter

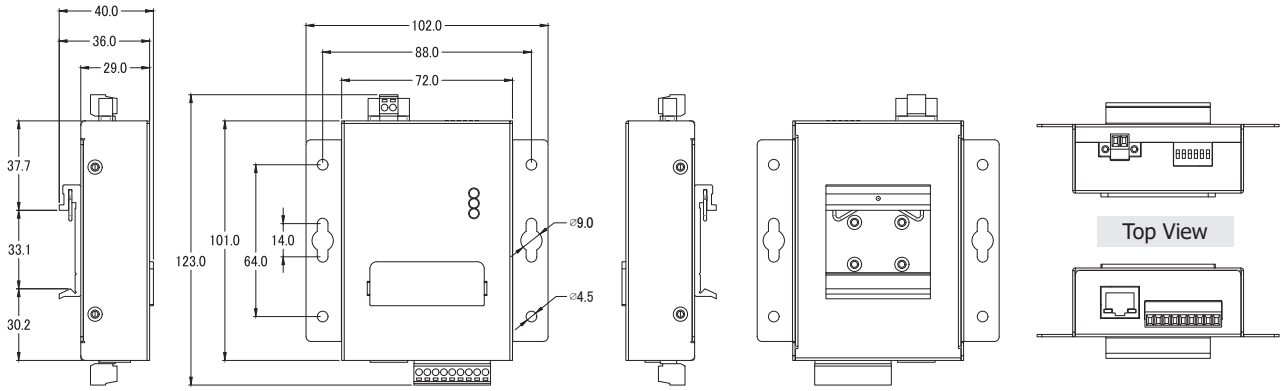
The following meters have been tested with the ICP DAS M-Bus module:

Manufacture	Picture	Model Type	Meter Type
Danfoss		SONOMETER 500	Heat Meter
SENSUS		405S	Water Meter
WESER		PUL	Heat Meter
DIEHL		ALTAIR V4	Water Meter
Wason		LXZD-Y3	Water Meter

Specifications

M-Bus Interface	
Channel	1
Baud Rate (bps)	300 bps ~ 2400 bps
Data bit	5, 6, 7, 8
Stop bit	1, 2
Parity	None, Even, Odd, Space, Mark
Isolation	3750 Vrms for photo-couple
ESD Protection	Contact ±4 kv class B
Current Protection	short-circuit protection
UART Interface	
Channel	1 RS-232
Baud Rate (bps)	300 bps ~ 115200 bps
ESD Protection	Contact ±4 kv class B
Protocol	Modbus RTU
Ethernet Interface	
Channel	1
Protocol	Modbus TCP
Power	
Power Supply	Unregulated +10 ~ +30 VDC
Protection	Power reverse polarity protection, Over-voltage brown-out protection
Power Consumption	1.8 W @ 24 VDC (with 1 slave device) 11.8 W @ 24 VDC (with 100 slave devices)
Mechanical	
Installation	Wall mounting
Dimension (W x L x H)	72mm x 122mm x 33mm
Environment	
Operating Temperature	-25 to +60°C
Storage Temperature	-40 to +80°C
Relative Humidity	10 to 90% RH, Non-condensing

Dimensions (Units: mm)



Ordering Information

GW-7838-M CR	Modbus TCP Server to M-Bus Master Gateway (Metal Case)(RoHS)

Accessories

CA-0910	9-pin Female D-sub & 3-wire RS-232 cable (1M)