GET-2108MX

Introduction:

The GET-2108MX controller is a flexible data logging device targeted at metering, energy monitoring and general data logging applications. It supports both Modbus and M-Bus protocols for device connection and provides a selection of control functions to allow for local processing of data.

Its Modbus Master capability provides a means of connecting to smart meters and other Modbus equipped devices for data logging and other purposes.

GET-2108MX supports reading M-Bus meters with the addition of an external M-Bus to RS232 or M-Bus to RS485 adaptor. This provides the ability to log data from up to 189 meters or other M-Bus devices.

It provides a wealth of options for gathering data and storing it. In addition to the Modbus Master interface, it supports pulse metering devices via its digital inputs. Communications with the PC is via BACnet/IP over Ethernet. For remote data logging, the GET-2108MX uses FTP to transfer the data logs as CSV files.

The controller provides 8 digital inputs. This allows the GET-2108MX to record pulse meters and digital values.

Modbus Master

The Modbus Master functionality provides the ability to transfer up to 189 values from Modbus slave devices and present them as BACnet objects in the GET-2108MX. This allows the GET-2108MX act log data from Modbus devices and also act as a Modbus to BACnet gateway.

Modbus discrete inputs and coils can be linked to BACnet binary objects.

Modbus input registers and holding registers can be linked to BACnet analog objects. Single registers and pairs of registers can be mapped to allow transfer of 16bit integer, 32bit integer and 32bit floating point values.

The GET-2108MX can talk to Modbus slaves via RS485 or RS232 and uses the Modbus RTU data format.

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M-Bus

M-Bus (EN 13757) is an industry standard interface for smart meters which has gained particular popularity in the heat meter market. It uses an inexpensive 2 wire link which can support up to 250 meters on a single trunk. The M-Bus connection can provide both data transfer and power for the meter devices attached to it. M-Bus provides a means of getting a wide selection of data from the meter devices and not just a single consumption value as provided by pulse meters – instantaneous values, consumption per tariff values, temperature values, flow values etc.

The M-Bus interface on the GET-2108MX is not just useful for communicating with M-Bus meters. M-Bus to pulse modules can be used to connect more pulse meters to the controller than the standard 8 pulse inputs allow. It also allows pulse meters to be interfaced to the controller over distances of several hundred meters.

The GET-2108MX supports reading of up to 189 values over M-Bus. Multiple values can be logged from each meter to provide greater flexibility or single values can be logged from meters to provide wider meter coverage.

As well acting as an M-Bus data logger, the GET-2108MX can be used as an M-Bus to BACnet gateway to allow BACnet based systems access M-Bus devices.

Remote Configuration and Firmware Update

Remote configuration via FTP allows the GET-2108MX automatically apply configuration changes without the need for site visits. A recovery mode allows untrained local staff to initiate an update which can be applied from GLAS Energy Technology's servers.

The GET-2108MX also supports remote Firmware update over FTP to allow feature updates and bug fixes in the field without requiring a site visit.

Trend logs

The GET-2108MX provides trend log storage in battery backed RAM for between 1 and 199 values depending on the number of readings required per value. In non-grouped configurations, the following combinations of log numbers and lengths are supported:

Grouping of trend logs can provide up to 199 logs of 320 entries each with common time bases.

The on board Real Time Clock provides time stamping down to 1 second resolution for all trend log readings and the time can be synchronised to internet time servers for automatic time correction

Number of logs	Readings per log	Days stored (15min interval)
1	32000	333
2	16000	166
4	8000	83
8	4000	41
10	3200	33
16	2000	20
20	1600	16
25	1280	13
32	1000	10
40	800	8
50	640	6
64	500	5
80	400	4
100	320	3
128	250	2
160	200	2

Schedules

The GET-2108MX supports 8 BACnet schedules with 10 switching times per day each. These can be used to provide time control of external devices via the digital outputs.

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BACnet support

The GET-2108MX controller supports BACnet/IP communications. The following BACnet objects are supported:

Accumulators, Analog Inputs, Analog Values, Binary Inputs, Binary Values, Device, Integer Values, Positive Integer Values, Schedules, Trend Logs

The mapping of physical I/O points to BACnet objects is very flexible and supports the following combinations:

BACnet Object	Possible Physical I/O
Accumulator	Pulse inputs, Modbus values
Analog Inputs	Modbus values, M-Bus Values
Analog Values	Analog inputs, pulse inputs, Modbus values, M-Bus Values
Binary Inputs	Binary inputs
Binary Values	Modbus values, M-Bus Values
Integer Values	pulse inputs, Modbus values, M-Bus Values
Positive Integer Values	pulse inputs, Modbus values, M-Bus Values

Control Functionality

The GET-2108MX provides up to 189 control blocks which can be used to implement simple control strategies. Functions supported include mathematical operations, logical operations, timers, data converters, comparators, min, max, average and many more. We can implement custom function blocks for customers to provide more complicated control support – please contact info@glasetech.ie for further information.

Inputs

8 Digital inputs – These can be used for normal digital input operation or for pulse counting.

Communications Interfaces:

The GET-2108MX comes equipped with a comprehensive collection of communications ports to ensure maximum flexibility.

Port	Protocols
RS485 Port A	Modbus Master
RS485 Port B	BACnet MS/TP (firmware option)
RS232	Modbus Master
Mini USB	FTDI Serial interface for firmware upgrade
Ethernet 10baseT	BACnet/IP, SMTP for email alerts, remote firmware upgrade

LEDs

There are several LEDs on board which indicate different statuses:

| LED	Function
Power	Green LED for power OK
ZigBee Status	Green LED indicating status of ZigBee connection
Config/Status	Green LED. Flashes once per second in normal operation and more frequently for fault indication. Also used when config button is pressed
RS485 port A TX	Green LED. Flashes for transmit data
RS485 port A RX	Yellow LED. Flashes for receive data
RS485 port B TX	Green LED. Flashes for transmit data
RS485 port B RX	Yellow LED. Flashes for receive data
Ethernet Link	Orange LED, Ethernet link up
Ethernet Activity	Green, flashes for network traffic

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Specifications:

Dimensions:	213mm x 110mm x 67mm
Mounting:	DIN rail mounting or wall mounting via integral slots on base.
EMC Immunity:	EN6100-4-2 (ESD), EN6100-4-3 (Radiated Immunity), EN6100-4-4 (EFT), EN6100-4-6 (Conducted Immunity). Additional shielding or filtering may be required for heavy industrial environments. Connection to outdoor wiring requires additional external filtering and/or shielding. Maximum allowed cable lengths of 10m.
EMC Emissions:	CISPR 22 Class B, FCC Part 15 Class B. Your results may vary, depending on your application, so additional shielding or filtering may be needed to maintain the Class B emission qualification. Maximum allowed cable lengths of 10m.
Power Supply:	12Vdc, 300mA
Fuse:	1000mA resettable.
Operating Environment:	0°-50°C, Maximum Relative Humidity 70%

The GET-2108MX is CE qualified.

Connections:
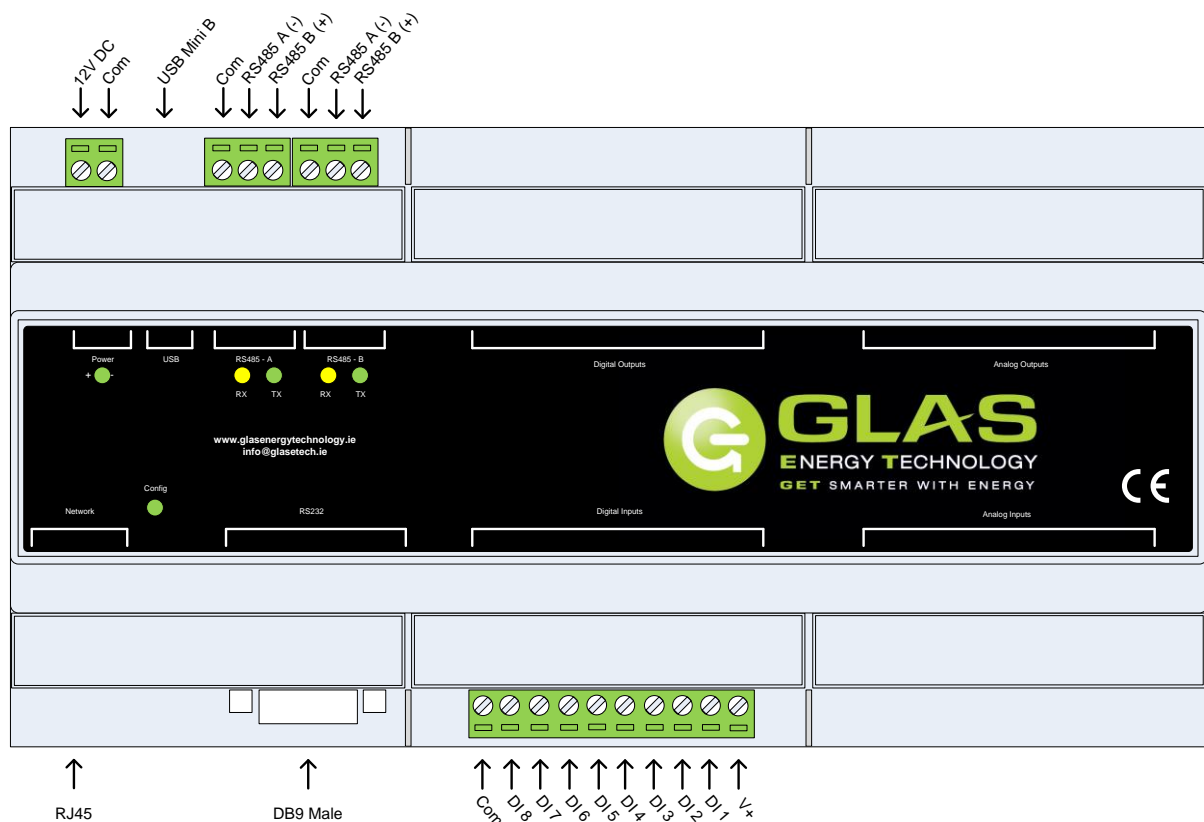
RS232 Pinout

1 – no connection (DCD), 2 – RxD, 3 – TxD, 4 – no connection (DTR), 5 – Gnd, 6 – no connection (DSR), 7 – RTS, 8 – CTS, 9 – no connection (RI)

Further Information:

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