

INTRODUCTION

Synapsys Solutions provide a range of innovative BMS interface products available for various applications and protocols. They have been developed to help reduce engineering time and cost, and to meet the demand for more information and better energy control.

These products, used in conjunction with a Trend BMS, can help ensure a building complies with latest Part L2 Building regulations.

APPLICATION

This M-Bus Level Converter product has been developed to provide an easy interface between third party M-Bus meters (e.g. Heat, Gas, Water or Electricity meters or Pulse Counters) and any M-Bus master, i.e. SIP M-Bus BACnet/Trend, SIPE M-Bus M-Logger, SIPE M-Bus BACnet/Trend IF-Logger, SIP+/EMT(EMT-IF) products. This allows recorded values to appear in the Synapsys Solutions EMT Dashboard and/or a BACnet and/or Trend B(e)MS (Building (energy) Management System) according to the existing M-Bus Master.



Features

- Compatible with Synapsys Solutions Interface and aM&T products
- Compatible with our preferred PSU
- Compatible with other M-Bus Masters
- Very small footprint, with M-Bus connector
- SIP/SIPe/SIPp & Third Party compatibility
 - Inc. Power and RS485 connectors and RS232 cable
- SIP+ compatibility
 - Inc. DIN Rail connector

Hardware

- LEDs - Power, Bus activity, Bus activity and Comms activity
- 1 x Power connection
- 1 x RS485 connection
- 1 x RS232 connection
- 1 x M-Bus Protocol (M+ and M-)

Software

- RS485: 300 to 9600 Baudrate
- RS232: 300 to 9600 Baudrate

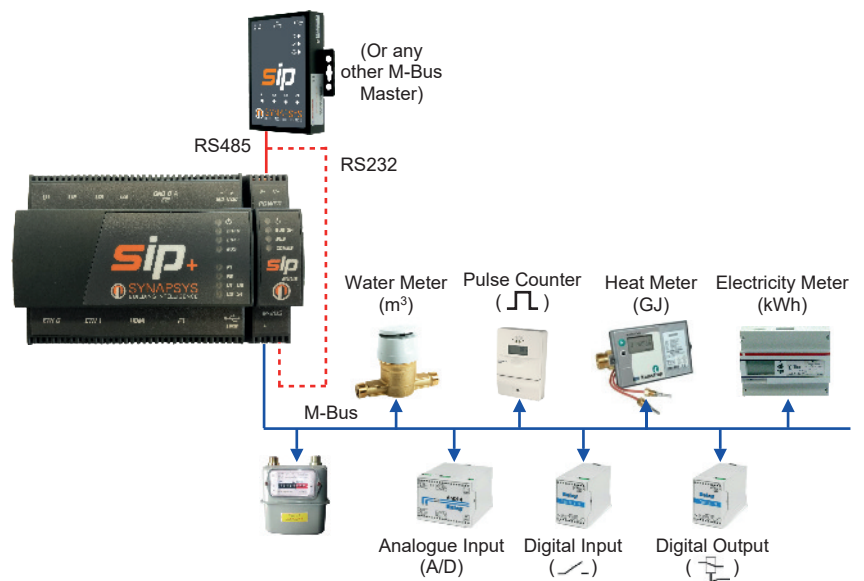
DESIGN AND FUNCTION

The M-Bus Converter has been designed for receiving and transmitting data from multiple 1.5mA Unit Load meters, according to the requested licence to the defined BEMS protocol. It is resistant to sustained short circuit and requires 24VDC power supply.

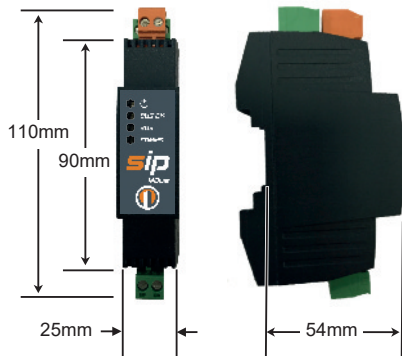
This products supports M-Bus communications via RS485, and RS232. The RS485 or RS232 interface is used to connect to the M-Bus Master. The RS485 standard can be used if there is a greater distance between the unit and the M-Bus Level Converter.

Note The meter limitation cannot be upgraded on site by the customer.

SYSTEM OVERVIEW



Note Do NOT install more than 1 (one) SIP(e/p)/MBUS/... and 1 (one) M-Bus Level Converter (with 250 M-Bus meters) to a 1A PSU (as supplied by Synapsys Solutions).



SPECIFICATION

Dimensions

25W x 90H (110 with connectors) x 54D mm
100g (2.5lbs)

Power Input

Input Voltage Range: 24VDC
Power Consumption: 0.65A

M-Bus Voltage

All variants: 33.5V exc. load

Environmental

Operating Temp: 0 to 70°C (32 to 158°F), 0 to 90% RH
Storage Temp: -25 to 85°C (-13 to 185°F), 0 to 90% RH

Connections

Serial

1 x RS485 port
1 x RS232 port

INSTALLATION

DIN rail mounting (TS35) using spring mechanism.

Caution

An appropriate PSU is required according to the number of SIP Slices installed on the DIN Rail with the SIP+/EMT(EMT-IF).

- SIP/SIPe/SIPp and third party connectors for connectivity using cable supplied by M-Bus master equipment.
- DIN Rail connector for connectivity to M-Bus network and SIP+/EMT(EMT-IF).

M-Bus protocol states

- Two-wire standard telephone cable (JYStY N*2*0.8 mm).
- Total cable length: 1000m, Baud 300-2400, max 250 slaves
Max cable capacitance: 180 nF
Cable resistance: up to 29 Ω
Slave to repeater: 350 m

Note

Contact the M-Bus device manufacturer for termination and cable recommendations.

CONFIGURATION

Each M-Bus Converter supports a defined number of unit loads, i.e. 1 Unit load = 1mA.

Tip!

Some meters require more than 1 (one) Unit load.

Note

Variant option is NOT customisable on site.

PRODUCT CODES

PART NO.	DESCRIPTION
SYN/MBUS/CONV/3	Max. 3, 20, 60, 120, or 250 Unit loads when connected SIP/MBUS, SIPe/MBUS or third party M-Bus Master
SYN/MBUS/CONV/20	
SYN/MBUS/CONV/60	
SYN/MBUS/CONV/120	
SYN/MBUS/CONV/250	
SYN+/MBUS/CONV/3	Max. 3, 20, 60, 120, or 250 Unit loads when connected SIP+/EMT(EMT-IF) M-Bus Master
SYN+/MBUS/CONV/20	
SYN+/MBUS/CONV/60	
SYN+/MBUS/CONV/120	
SYN+/MBUS/CONV/250	
PSU/24VDC/nA	24V nA DC Power Supply

REGULATIONS

TBC

With a comprehensive range of interface products for BACnet, M-Bus, ModBus, SNMP and Trend protocols we can help you easily link meter, sub-meters and plant to Trend or BACnet BeMS systems with energy management and monitoring functionality, and virtual metering.

Download brochures and datasheets from our website. Alternatively, contact us for more information or to request a quote.



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No.1 Woodlands Court, Albert Drive, Burgess Hill, West Sussex, RH15 9TN

International - Tel: +44(0)1444 246128 - Fax: +44(0)1444 239527

Sales: sales@synapsys-solutions.com Orders: orders@synapsys-solutions.com

Support: support@synapsys-solutions.com

Web: <http://www.synapsys-solutions.com>