

# sip M-Bus/vIQ



## INTRODUCTION

The SIP M-Bus/vIQ interface is one of a range of innovative Trend 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.

## SPECIFICATION

### Features

Communications failure  
Hostname  
DHCP

### M-Bus

Max. 20 points per meter  
Max. meters according to Unit Loads dependant on M-Bus Converter (1 Unit Load = 1.5ma)

### vIQ

Trend compatible Sensor, Digital Input, Knob, and Switch modules  
Max. 1000 Calculations per unit, e.g. energy usage  
Max. 1024 plots per unit @ 1000 values per plot

### Dimensions

78W (exc. brackets) x 108H x 32D mm  
102W (inc. brackets) x 108H x 32D mm  
330g per unit including DIN Rail clips  
410g shipped including DIN Rail clips

### Default Setup Parameters

IP address - 192.168.1.66 (255.255.255.0)

### Power Input

24VDC ±15V regulated

### Power Consumption

300mA @24VDC

### Storage Temperature

0 to 70°C (32 to 158°F), 0 to 70% Relative Humidity

### Operating Temperature

0 to 70°C (32 to 158°F), 0 to 90% Relative Humidity

### Connection Type

1 x 10/100Mbps for TCP/IP  
1 x RS232 (RTS/CTS handshaking) to M-Bus Converter

### M-Bus Connection Type

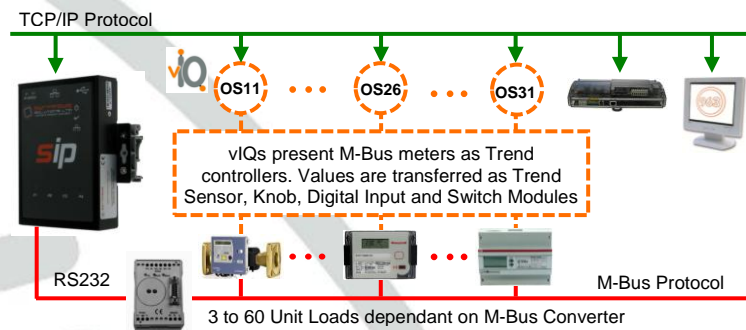
DIP switch controls RS232 (all ON)

## APPLICATION

The SIP M-Bus/vIQ product range interfaces 3<sup>rd</sup> party M-Bus meters, e.g. Heat/Cool, Gas, Water and Electricity utility meters to a Trend B(e)MS (Building (energy) Management System).

## DESIGN AND FUNCTION

The product displays information recorded by M-Bus meters communicating via M-Bus protocol. It exploits their data capability, by retrieving, logging ('Map points' page) and presenting ('vIQ' page) selected types of data, e.g. Energy, Volume Flow, Flow Temperature or Return Temperature, in real time. This information allows Building managers prevent outages, optimise the energy distribution and maintain the power systems, before any serious problem occurs.

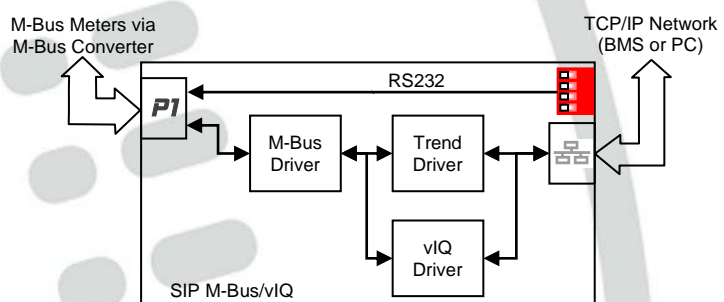


Note Trend Knob, Digital Input and Switch modules do not support M-Bus meter values.

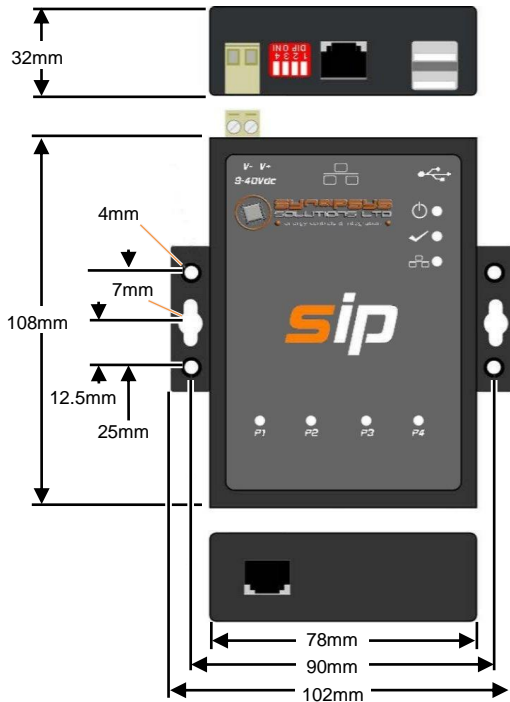
Each SIP includes vIQ (Virtual IQ) software that allows

- it to connect to a Trend IQ3 network,
- the M-Bus meters to appear as Trend controllers,
- it to display information that appears in the Trend BMS,
- it to monitor standard or IP alarm conditions.

## SIMPLIFIED BLOCK DIAGRAM



Note Refer to Installation Guide for wiring details.



## PRODUCT CODES

ORDER CODE	DESCRIPTION
SIP/MBUS/P/1VIQ	Up to 100 M-Bus points from multiple meters (mapped to 1 vIQ and any combination of sensors, digital inputs, knobs and switches) shown on Trend network.
SIP/MBUS/D/3VIQ	Up to 20 points per meter (mapped 1 meter per vIQ and any combination of sensors, digital inputs, knobs and switches) shown on Trend network.
SIP/MBUS/D/20VIQ	
SIP/MBUS/D/60VIQ	
SIP/MBUS/BS/VIQ	Customer defined number of points and meters (mapped as required and any combination of sensors, digital inputs, knobs and switches) shown on Trend network.
MBUS/RS232/CONV/3	3 Unit Load M-Bus Converter
MBUS/RS232/CONV/20	20 Unit Load M-Bus Converter
MBUS/RS232/CONV/60	60 Unit Load M-Bus Converter
PS/24VDC/1A	24v DC Power Supply

## INSTALLATION

Din rail mounting (TS35) using DIN rail clips provided or direct enclosure mounting using the brackets attached.

The 2.5m TIA/EIA 568A Cat 5E cable supplied can be used to connect the SIP to a terminal block in the enclosure or directly to the M-Bus Converter.

Note Contact the M-Bus meter or M-Bus Converter manufacturer for cable recommendations.

## CONFIGURATION

Specifically designed web pages support

- M-Bus/Local IP communications configuration
- M-Bus meter and point mapping configuration
- M-Bus Network Tools
- vIQ out-station, module and security configuration
- vIQ calculation configuration

## REGULATIONS

Designed and manufactured to comply with CE Class A, FCC Class A, WEEE (Waste Electrical and Electronic Equipment) and RoHS (Restriction of Hazardous Substances) regulations.

It also complies with the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC). For the evaluation regarding the electromagnetic compatibility, the following standards were applied

- EN55022:1998/A1:2000+A2:2003 (class A)
- EN61000-3-2:2000
- EN61000-3-3:1995/A1:2001
- EN55024:1998/A1:2001+A2:2003
- IEC61000-4-2:1995+A1:1998+A2:2000
- IEC61000-4-3:1995+A2:2002
- IEC61000-4-4:1995+A1:2000+A2:2001
- IEC61000-4-5:1995+A1:2000
- IEC61000-4-6:1996+A1:2000
- IEC61000-4-8:1993+A1:2000
- IEC61000-4-11:1994+A1:2000

With a comprehensive range of interface products for ModBus, M-Bus and SNMP protocols we can help you easily link meter, sub-meters and plant to 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.**

