

SIP ModBus/vIQ



INTRODUCTION

The SIP ModBus/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
ModBus or JBus
ModBus TCP/IP

ModBus

Fixed product variants - max. 50 points per ModBus slave mapped to a specific vIQs on defined LAN
Flexible product variants - (SIP/MODM/P/1vIQ and SIP/MODM/BS/vIQ) max. points and ModBus slave on request
Supports most ModBus data types

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 - 192.168.1.227 (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 and/or ModBus TCP/IP
1 x RS485, RS232 (RTS/CTS handshaking) or RS422

ModBus RTU Connection Type

DIP switch controls RS485 (all OFF), RS232 (all ON) or RS422 (S1:sw1 OFF, S1:sw2 ON)

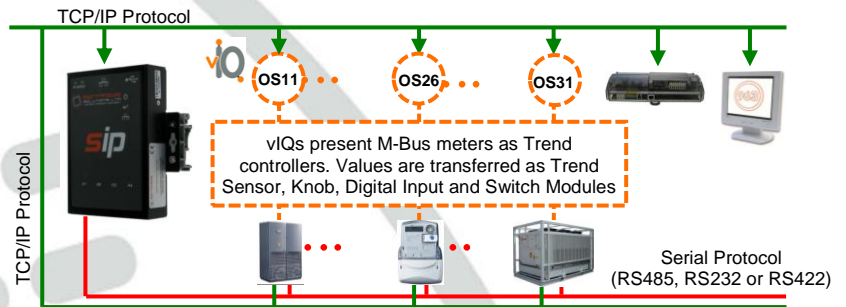
APPLICATION

The SIP ModBus/vIQ product range has been designed to easily interface between 3rd party ModBus devices, e.g. utility meters, Chiller units, AHU's, VSD's, UPS units, CRAC units, and a Trend B(e)MS (Building (energy) Management System).

Note We also provide an interface to other ModBus devices.

DESIGN AND FUNCTION

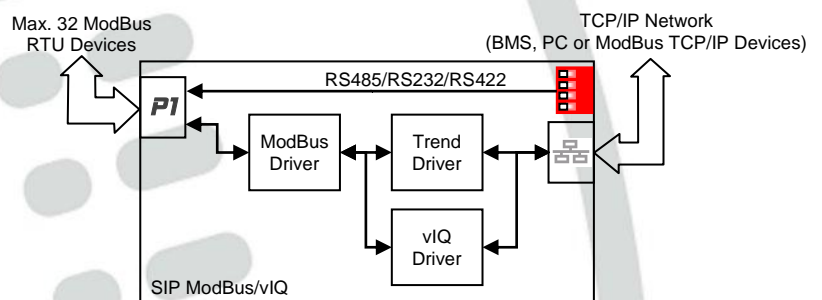
The product displays information recorded by ModBus slaves communicating via ModBus RTU or TCP/IP. It exploits their data capability, by retrieving, logging ('Map points' page) and presenting ('vIQ' page) selected types of data, e.g. Amps, Voltage or Temperature, in real time. This information allows Building managers prevent outages, optimise the energy distribution and maintain the *ventilation, lighting, power systems, fire systems, and security systems* before any serious problem occurs.



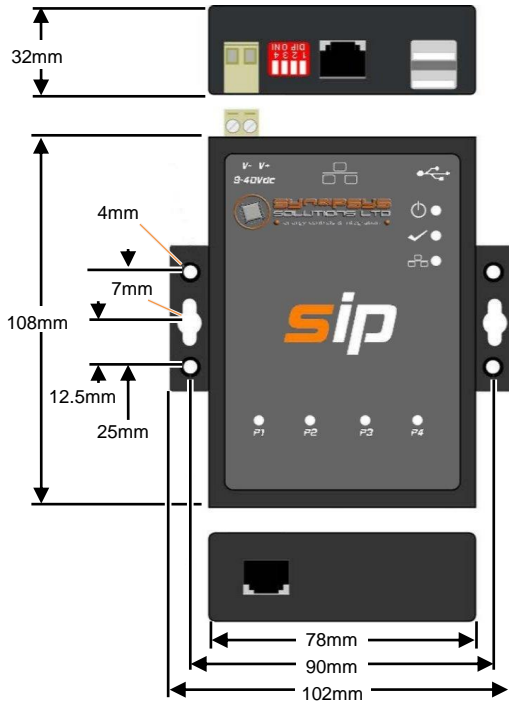
Each SIP includes vIQ (Virtual IQ) software that allows

- it to connect to a Trend IQ3 network,
- the 3rd party ModBus devices 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.



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 the first ModBus slave on the network.

Note Contact the ModBus device manufacturer for termination and cable recommendations.

CONFIGURATION

Specifically designed web pages support

- ModBus/Local IP communications configuration
- ModBus slave and register mapping configuration
- ModBus Diagnostics
- 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

PRODUCT CODES

ORDER CODE	DESCRIPTION
SIP/MODM/P/1VIQ	Up to 100 points from multiple slaves (mapped to 1 vIQ and any combination of sensors, digital inputs, knobs and switches) shown on Trend network.
SIP/MODM/D/4VIQ	Up to 50 points from 4, 8, 16, 24 or 32 slaves (mapped 1 slave per vIQ and any combination of sensors, digital inputs, knobs and switches) shown on Trend network.
SIP/MODM/D/8VIQ	
SIP/MODM/D/16VIQ	
SIP/MODM/D/24VIQ	
SIP/MODM/D/32VIQ	
SIP/MODM/BS/VIQ	Customer defined points and slaves (mapped as required using any combination of sensors, digital inputs, knobs and switches) shown on Trend network.
SIP/MODM/G/VIQ	Customer defined points from 1 slave (multiple vIQs and any combination of sensors, digital inputs, knobs and switches) shown on Trend network.
PS/24VDC/1A	24v DC Power Supply

With a comprehensive range of interface products for ModBus, M-Bus and SNMP protocols we can help you easily interface meters, 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.

