

INTRODUCTION

The SIP+ is one of a range of innovative products available for various applications. This has been developed to help reduce engineering time and cost, and to meet the demand for more information from between differing protocols and better energy monitoring.

This product exposes values from available protocol drivers for BeMS monitoring and control purposes.

APPLICATION

This product is a new hardware version of our SIPe/p product range. It has been designed to easily define input points from multiple protocols mapped directly to the internal EM&T (Energy Monitoring and Targeting), but also make them available as output points to an output protocol for BeMS (Building energy Management System) compatibility.

Note Further protocols may be added according to the commercial and development viability.



Features

- Max 2000 points
- Max 250 Report Datapoints
- CANBus (Increase Serial network)
- Compatible EM&T functionality
- IoT compatible applications
- Stand alone or BMS compatible version
- Data logging
- 2 years historical energy usage data
- 3 month historical instantaneous data

Hardware

- Max. 16 SIP Slices per Master Controller
 - M-BUS Slice
 - Max. meters limited to Unit Loads (1 Unit Load = 1.5mA -max. 250 unit loads)
 - Max. 20 points per M-Bus meter
 - Serial Expansion Slice
 - Max. 32 meters according to ModBus RTU

Protocol

- BACnet/IP**
 - Support BACnet Client connection, and BACnet Server, max 100 BICs
- BACnet MSTP**
 - Support BACnet MSTP Client connection
- M-Bus Serial and TCP/IP**
 - 1 (one) driver per hardware connection
- ModBus RS485, RS232 Serial and TCP/IP**
 - 1 (one) driver per Serial connection
- IoT**
 - Supports MQTT with AWS, Microsoft Azure, Google IOT Core compatibility
- Trend Serial and Ethernet**
 - Supports Trend Controller Supervisor port or Ethernet connection
- VIQ**
 - Supports single UDP Group, Trend LAN, but max. 100 vIQ OSs

DESIGN AND FUNCTION

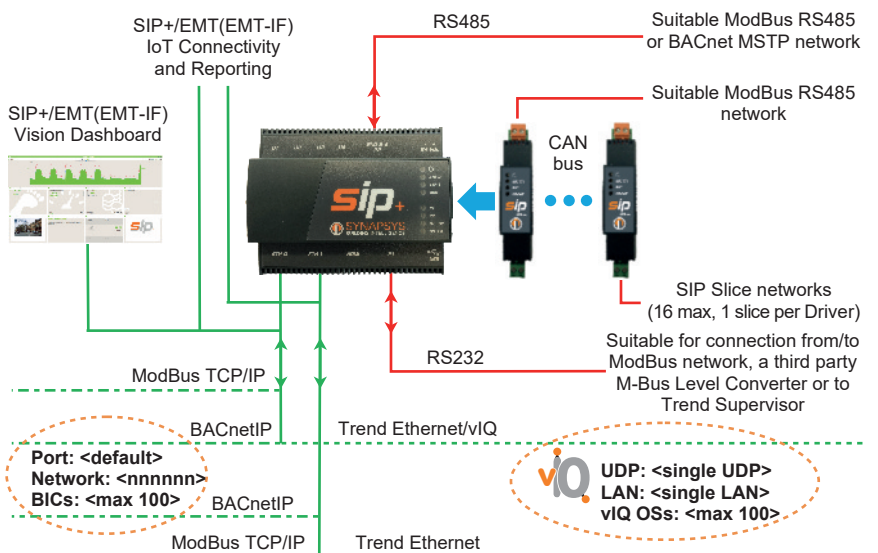
The product exploits the data capability of equipment communicating via any supported protocol, by retrieving and transferring selected types of data, e.g. Energy, Temperatures or On/Off to the internal (max 250) EM&T for email/FTP (secure FTP) reporting to local or remote destinations, direct MySQL database query and/or to any supported interface protocol, i.e. IoT.

When requesting values from any requested protocol it will operate according to that protocol requirements, e.g. BACnetIP and MSTP, M-Bus or ModBus Master when requesting values from this network, or a client when requesting values from BACnetIP and/or MSTP and/or Trend network.

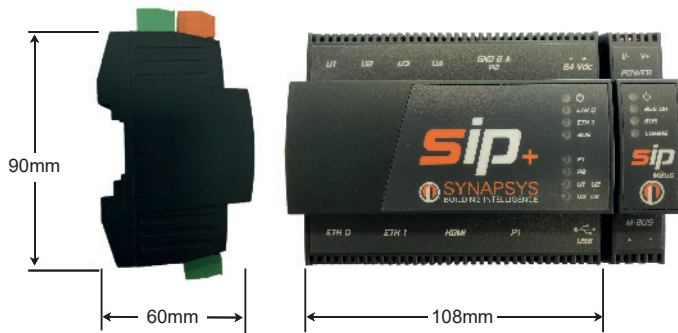
The internal EM&T (SIP+/EMT(EMT-IF)) is our energy monitoring function allowing building managers to prevent outages, understand where to optimise the energy distribution and maintain the control before any serious problem occurs.

When linking a value to an interface protocol this product will operate according to that protocol requirements, e.g. Trend Comms directly to a Trend Controller, vIQ or BACnetIP Server.

SYSTEM OVERVIEW



Note Refer to Quick Start for wiring details.



SPECIFICATION

Dimensions

108W x 90H (110 with connectors) x 60Dmm
160g

Default Setup Parameters

IP address: 192.168.1.128 (255.255.255.0)

Power Input

Input Voltage Range: 24VDC

Power Consumption: 0.3A @ 24VDC

Hardware connections

Rail Connector: 1 connection (max 8A) for up to 16 additional Slices, powered directly through the DIN Rail Connector

Power Connector: 2 pin Terminal

RS232 Connector: RJ45 Connector (Cable available)

RS485 Connector: 3 pin Terminal, Half duplex

Input Connector: For future use

Eth0 & Eth1: 2 x RJ45 connector supports 10BASE-T/100BASE-TX with auto-negotiation and auto-crossover

HDMI/USB: For future use

LEDs: Power, Eth0, Eth1, Bus, P1 (RS232), P2 (RS485), U1 & U2, and U3 & U4

Environmental

Operating Temperature: 0 - 55°C

Storage Temperature: -25°C - 85°C

With a comprehensive range of EM&T and interface products for BACnet (IP/MSTP), IoT, M-Bus, ModBus, SNMP and Trend protocols we can help you easily link meter, sub-meters and building 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.

INSTALLATION

DIN rail mounting (TS35).

Connect up to 16 SIP Slices using a CAN bus connector supplied with each slice.

Caution

An appropriate PSU is required according to the number of SIP Slices installed on the DIN Rail.

Note

Contact the relevant device manufacturer for specific protocol cable recommendations.

CONFIGURATION

Specifically designed HTML web pages from internal web server used to configure this unit.

PRODUCT CODES

PART NO.	DESCRIPTION
SIP+/EMT	
SIP+/EMT/25P	Up to 25, 50, 100, or 250 requested points from multiple protocols (inc. Trend) mapped directly to max 250 internal EM&T/Reporting (Energy Monitoring and Targeting) Datapoints.
SIP+/EMT/50P	
SIP+/EMT/100P	
SIP+/EMT/250P	
SIP+/EMT-IF	
SIP+/EMT-IF/100P	Up to 100, 250, 500, 1000, 1500, or 2000 requested points from multiple protocols (inc. Trend) mapped directly to max 250 internal EM&T/Reporting (Energy Monitoring and Targeting) Datapoints, and available to BeMS (Building energy Management System).
SIP+/EMT-IF/250P	
SIP+/EMT-IF/500P	
SIP+/EMT-IF/1000P	
SIP+/EMT-IF/1500P	
SIP+/EMT-IF/2000P	
SIP+/Vision	
SIP+/Vision/FW	Firmware upgrade to add EM&T (Energy Monitoring and Targeting) Vision widgets to existing SIP+/EMT or SIP+/EMT-IF
SIP+/Vision/HW	Dedicated hardware for EM&T (Energy Monitoring and Targeting) Vision Dashboard
Accessories	
PSU/24VDC/nA	24V nA DC Power Supply
SYN+/MBUS/CONV/...	M-Bus specific slice with SIP+ pack (below)
SYN+/SER/CONV	ModBus Serial specific slice with SIP+ pack, inc. DIN Rail, RS485 3-pin terminal and RS232 cable
SYN/ESWn	10/100BaseT(X) port Ethernet switch

Note

Contact Synapsys Solutions for PSU requirements.

REGULATIONS



Issue 9, Mar. 2020

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