

PROTOCON – MODBUS TO BACnet CONVERTER



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General Description

A Protocol Converter is a Communication Gateway which supports Protocol-1 on one of its port and Protocol-2 on another. These Gateways allow two dissimilar devices to communicate with each other without the need for any change within the devices themselves and thus form an attractive off-the shelf solution to such communication problems.

The protocol converter integrates Modbus RS232, RS485, RS 422 to Bacnet/IP.

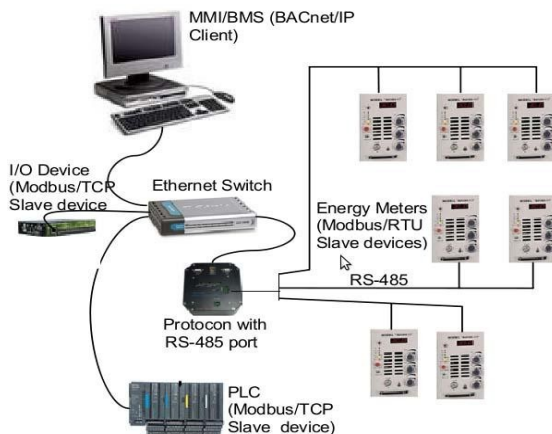
The PROTOCON-MODbus to BACnet Protocol Converter is designed around a fan-less high speed microprocessor and is powered by an embedded operating system. Use of fully Solid State Technology ensures that the hardware is reliable with no fragile magnetic disks or other moving components. A user friendly Windows based configuration tool allows easy mapping of objects between BACnet and MODbus.

PROTOCON is available with an option of RS232, RS422, RS485 and Ethernet ports for communication on the MODbus side while the BACnet/IP communication is on Ethernet. Designed to work in harsh industrial environment, PROTOCON is an ideal choice for your protocol conversion needs.



For customization to support your own protocol or a new interface contact sales@sunlux-india.com.

A typical PROTOCON Network

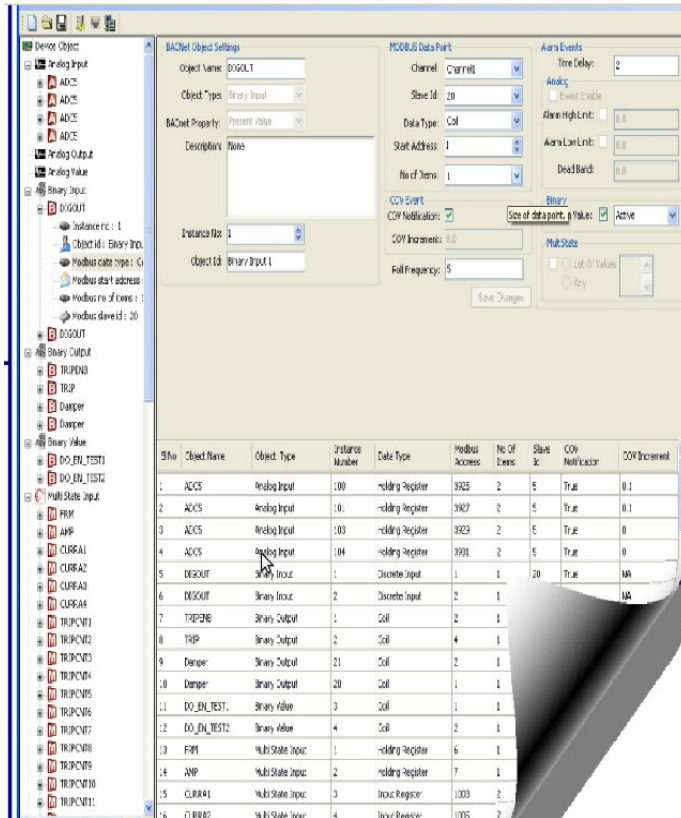


The BACnet/IP client(Master) communicates with Protocon over Ethernet(BACnet/IP Protocol). Protocon communicates with Modbus devices over its RS-485/RS-422/RS-232 port (Modbus-RTU) or one Ethernet port(Modbus-TCP). The RS-485 port can support upto 30 Modbus-RTU devices whereas the RS-422/RS-232 port supports only one Modbus-RTU device.

Gateway Key Features

1. Aluminum enclosure for use in harsh environment
2. Extended Operating Temperature range
3. Ability to interface upto 5000 points.
4. Windows based configuration utility.
5. Supports COV, bit packing feature for binary and multistate inputs and values.
6. Embedded Web Server for device health monitoring
7. DIN RAIL clamp for C-Channel and G-Channel mounting
8. Operates out of standard 24V DC or 24V AC supply
9. A front panel with multiple LED's for quick problem diagnosis
10. Maintenance free: Fan less, Ventilation

Configuration Utility



A Windows based configuration utility (PCU) provides powerful interface for quickly defining the mapping of MODbus devices(s) data-points to BACnet objects and properties. This utility provides features like defining the communication channels, Modbus device setup parameters, creating the BACnet objects and their mappings to corresponding Modbus device data-points, on-the-fly download of the configuration setup and mapping information to the target Protocon, binary and multi-state bit-packing etc. The created mappings and configuration can be saved as a file for future reference, modifications and download. The PCU utility also provides features like remotely changing the IP address and Password of the target Protocon and last but not least Remote Upgrade of Protocon firmware.

Features Supported

BACnet Services Supported

- Object Access Services
- ✓ ReadProperty
- ✓ ReadPropertyMultiple
- ✓ WriteProperty
- ✓ WritePropertyMultiple
- ✓ SubscribeCOV
- Supported Properties
- ✓ Present Value
- ✓ Event State
- ✓ Reliability, out of service

Objects Supported

- ✓ Analog Input/Analog Output/Analog Value
- ✓ Binary Input/Binary Output/Binary Value
- ✓ Multistate Input/Multistate Output/Multistate Value

MODbus Services Supported

Object Access Services

- Read Coils (FC 0x01)
- Read Discrete Inputs (FC 0x02)
- Read Holding Registers (FC 0x03)
- Read Input Registers (FC 0x04)
- Write Single Coil (FC 0x05)
- Write Single Register (FC 0x06)
- Write Multiple Coils (FC 0x0F)
- Write Multiple Registers (FC 0x10)

Technical Specifications

MECHANICAL	
Mounting	DIN-rail mounting
Dimensions	145x138x76mm(5.75x5.5x3.0 inches)
ELECTRICAL	
Input Voltage/Power	18V - 30V DC , 18V-24V AC, 1600mA(max)
Diagnostic LEDs	Power/Error – Red, MODbus/BACnet Activity - Green Ethernet: Link – Green, Activity - Yellow
ENVIRONMENTAL	
Operating Temperature	0 to 60 deg C (Standard), -10 to 70 deg C (extended)
Humidity	10-90% non-condensing
IP Protection	Optional IP65 Enclosure
PROCESSOR	
CPU	Fanless – embedded x86 core
Speed	Upto 800MHz
Software Malfunction Protection	Watchdog Timer
INTERFACES	
BACnet Server(Slave)	Ethernet (UDP/IP)
MODbus Client (Master)	One RS-485 or RS-232 or RS422 port supporting MODbus-RTU One Ethernet post supporting MODbus-TCP
Connectors	RS-232: 9 pin D-Type Male; RS-485: 2 Wire Screw-terminal RS-422: 4-wire Screw-terminal
Ethernet	One RJ45
COMMUNICATION	
Speed	RS232: 56Kbps; RS485: 256 Kbps; Eth: 10/100 Mbps
SOFTWARE INTERFACES	
Configuration	Windows based GUI Configurator for protocol mapping
Configuration Storage	NV RAM

Ordering Information

Product Name	Product Code
Modbus RTU(RS485RS422) to BACnet/IP converter	SLXPC-P2-MB-BN-12
Modbus TCP to BACnet/IP	SLXPC-P2-MB-BN-22
Modbus RTU (RS232) to BACnet/IP	SLXPC-P2-MB-BN-02

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