

PROTOCON – BACnet TO MODBUS CONVERTER



Sunlux Technologies Pvt Ltd

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 converter integrates Bacnet IP devices to Modbus hardware.

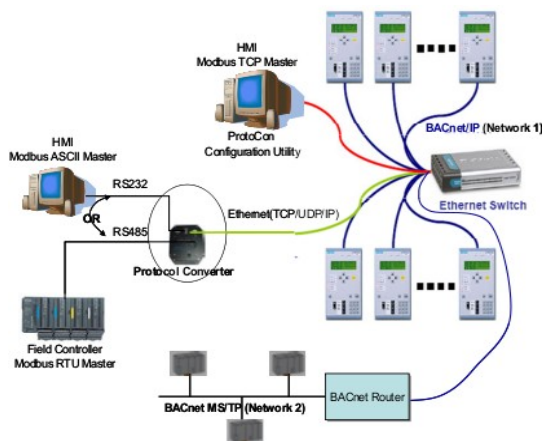


The PROTOCON series of Protocol Converters is designed around a high-speed 32-bit microprocessor/SoC running at upto 800MHz. This gives immense power for executing the complex protocol stacks embedded into these devices. State-of-the-art Flash Memory Technology permits easy upgradation of the software embedded in them. A user friendly Windows based configuration tool allows easy mapping of objects between MODbus and BACnet.

PROTOCON is available with an option of RS232, RS485, RS422 and Ethernet ports for communication on the MODbus side while the BACnet communication is on Ethernet/IP. 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

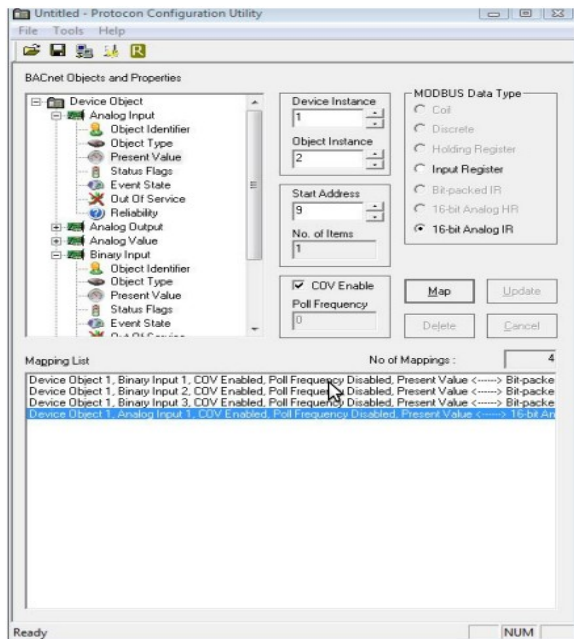


The MODbus Master(PC or Field Controller) communicates with PROTOCON over a serial link or Ethernet link. PROTOCON communicates with BACnet/IP controller devices directly and with non-BACnet/IP devices indirectly through BACnet Router(s).

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 objects and properties to MODBUS registers. This utility provides features like , 16-bit analog conversion of data-points etc. The user can also use features like data-point polling and COV Notification processing for optimized access to BACnet device data-points.

For ease of use the user can also define his/her mapping list in a MS Excel file(pre-defined format) and then import them. The utility also allows saving of the mapping configuration, exporting the configuration to text, XML and Excel CSVformats for easy documentation, etc.

The mapping configuration can be downloaded to the target Protocon on the fly and therefore not requiring any Protocon reset or power-cycling. If there is a new release of the Protocon firmware then the same can be target Protocon using this utility.

Features Supported

BACnet Services Supported

- Object Access Services
 - ✓ ReadProperty
 - ✓ ReadPropertyMultiple
 - ✓ WriteProperty
 - ✓ WritePropertyMultiple
 - ✓ SubscribeCOV
 - ✓ UTCTimeSynchronization
- Supported Properties
 - ✓ Present Value
 - ✓ Out of service
 - ✓ Event State
 - ✓ Status Flags
 - ✓ 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	
Enclosure	Rugged Aluminium
Mounting	DIN Rail
ELECTRICAL	
Input Voltage/Power	18V-30V DC or 18V-30V AC , 1500mA (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 Client	Ethernet (UDP/IP); MSTP(Optional)
MODbus Slave	Choice of RS232 or RS485 or RS422 Ethernet (TCP/IP)
Connectors	RS-232: 9 pin D-Type Male; RS-485: 2 Wire Screw-terminal
Ethernet	1 RJ45
COMMUNICATION	
Speed	RS232: 56Kbps; RS485: 256 Kbps; Eth: 10/100 Mbps
SOFTWARE INTERFACES	
Configuration	Windows based GUI Configurator for protocol mapping
Configuration Storage	Flash memory

Ordering Information

Product Name	Product Code
BACnet/IP to Modbus RTU(RS485) s	SLXPC-P3-BN-MB-21
BACnet/IP to Modbus TCP	SLXPC-BN-MB-22
BACnet/IP to Modbus RTU (RS232)	SLXPC-BN-MB-20
BACnet/MSTP to Modbus TCP	SLXPC-BN-MB-02

Contact: No 158, 9th Main Road, 6th Sector, HSR Layout Bangalore-560102
info@sunlux-india.com Tel: +91 80 65954374 Fax: +91 80 25720500