

BAEN-CPU-V7 SMART CONTROLLER

The BAEN-CPU-V7 is a versatile smart controller designed for seamless integration of Modbus I/O modules and third-party devices across industrial and building automation environments. It supports multiple communication protocols including Modbus, BACnet IP, MQTT, and REST API, enabling flexible and scalable IoT deployments. With its modular architecture, the system allows easy expansion and quick replacement of I/O modules, ensuring minimal downtime and simplified maintenance. Its user-friendly configuration, robust design, and wide application support make it an ideal solution for automation, robotics, and smart IoT systems.



TECHNICAL SPECIFICATION

Communication Protocols

- BACnet IP
- Modbus TCP/IP
- Modbus RTU (RS485)
- MQTT
- REST API

Connectivity & Expansion

- Supports up to 30 expansion modules
- 2 × RS485 channels
- Connects up to 60 Modbus devices / 30 EnSmart I/O modules
- Supports both wired and wireless Modbus devices
- Multiple Modbus TCP/IP channels

Functionality

- Modbus Master / Slave communication
- No programming required for basic configuration
- Compatible with third-party Modbus masters

Operating Conditions

- Operating Temperature: 0°C to 50°C
- Operating Humidity: 0–95% RH
- Operating Voltage: 24vAC/DC

System Features

- Modular design for easy scalability
- Quick I/O module replacement (minimal downtime)
- No additional programming required for module replacement
- Supports commissioning via Modbus tools (e.g., Modscan)



Applications

- Building Automation Systems (BMS)
- Industrial Automation
- Robotics
- IoT applications

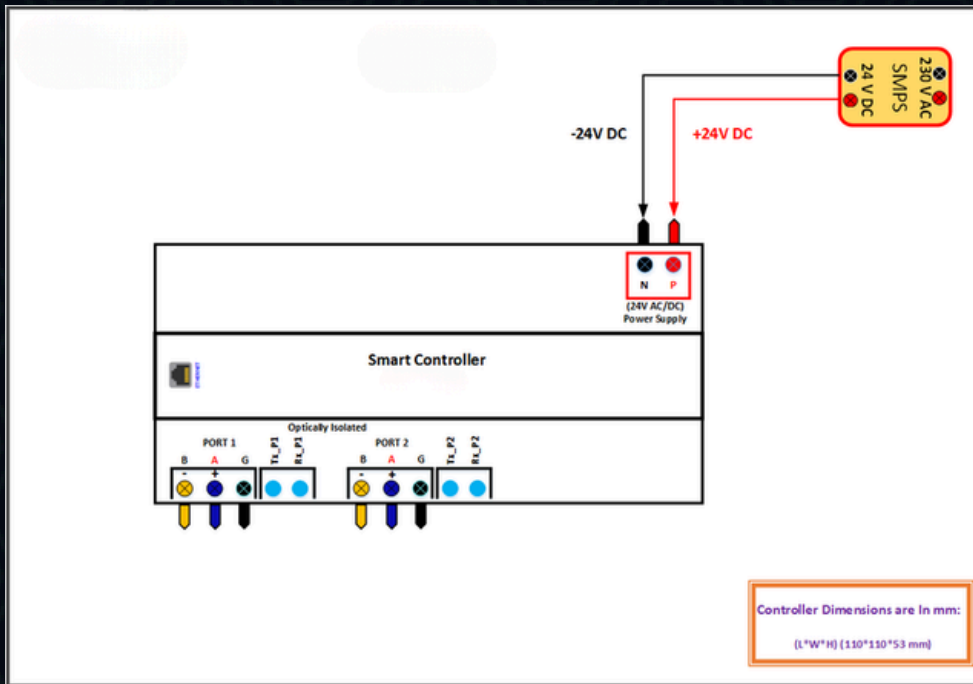
Protocol Conversion Capabilities

- Modbus RTU ↔ Modbus TCP/IP
- Modbus RTU ↔ BACnet IP
- Modbus TCP/IP ↔ BACnet IP
- Modbus / BACnet ↔ MQTT

Certifications

- CE
- RoHS

System Architecture (BAEN-CPU-V7)



System Requirements

- IO Modules can be commissioned using Modbus Master (Modscan) via serial or BMSTRCPU via IP without programming knowledge.
- **Mounting:** DIN RAIL
- **Operating Voltage:** 24 V AC/DC
- Modscan or Modbus Master Utility Software for Commissioning
- USB to RS485 or Modbus Gateway/Modbus Master for Integrating IO Module

APPLICATIONS

Modbus RTU to Modbus TCP/IP: BAEN-CPU-V7

Modbus RTU to BACnet IP: BAEN-CPU-V7

Modbus IP to BACnet IP: BAEN-CPU-V7

Modbus IP to MQTT : BAEN-CPU-V7

BACnet IP to MQTT : BAEN-CPU-V7

Zero Minimal Down Time:

Incase of failure of IO Module, We can replace IO module on immediate , System can be retained without any additional programming skill.

Turnkey Solution :

Modules are modular concept, We can able to design and multiply turnkey projects using this modular IO Modules.



Easy to Use:

- Modbus Master/Slave Communication
- 15 nos of BAEN Series IO M Modules can be added in Each port
- Supports 2x RS 485 Modbus Channel Connect Upto 60 Modbus Devices/ 30 Ensmart IO Modules
- Supports 30 Ensmart Modbus RS485, Multiple Modbus IP Channel
- Supports to connect Modbus Wired and Wireless devices/IO Modules
- Flexible and easy configuration with Free EnSmart Editor Tool

TECHNICAL FEATURES

- No Configuration required
- Easily Integration to BAEN-CPU-V7 or any Third party Modbus Master

SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support
- Warranty



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