EasyIO-30P-BN

Overview
The EasyIO-30P-BN Controllers are rugged, network centric, high performance multi-protocols Input/Output controllers to accommodate general and specific applications, featuring BACnet® RS485, IP and Ethernet protocols plus a built-in Web server for easy configuration.

Features:

Web Browser Configuration
Built-in Web server enables configuration with popular web browser over an Ethernet connection. I/O status can be monitored over the Internet connection.

- High-Speed Data Rates
  Multiple serial communication (RS485) speed selection from 9.6kbps to 76.8kbps. Supports Ethernet 10Base-T/100Base-T interface, half or full duplex.

- Device ID
  Complementing existing standard protocols, EasyIO-30P can be uniquely identified over the network. This facilitating online network device search and simplify reconfiguration.

- Network Security
  All configurations are protected via password setting, either through standard network protocol access (Bacnet) or web browser.

- Multiple Input/Output Type
  The controller has eight Digital Inputs, eight Analogue Input for current, voltage, resistance and temperature sensor, eight Digital Outputs (relay), four Analogue Output (current and voltage), and two isolated Open Collector outputs (with PWM control) for high speed switching.

- High Accuracy Analogue Channels
  High speed 14-bits A/D converter with programmable gain amplifier yields a high resolution and accuracy reading on analogue input points. 12-bits D/A provides more accurate analogue output control.

- Programmable/Standalone Functionality
  The controller can be configured to operate as standalone device. Over 40 types of programmable functions are available, typically thermostat, PID, scheduler, conversion, timer, utilities, totaliser and etc.

- Online Help/Information
  All related information helps are available through the controller web server. Information such as registers details, wiring diagram, device specification and etc are provided to assist the user.

- Status Indicator
  Operational activity on each individual channel of DI, DO and Open Collector Outputs (PWM) are conveniently indicated by LED, so as the Power, Operation, Communication and Faults status.

- Reset & Broadcast Switch
  A Reset Switch has been provided for system reset without power removal (Warm Start operation). The Broadcast Switch allows the controller to broadcast itself to the network during installation and implementation.

- Online Firmware Upgrade/Configuration
  The controller firmware can be upgraded either through RS485 or Ethernet connection. Network communication and operation parameters can be changed via RS485/Ethernet with the built-in boot-loader and terminal program.

- Robust System Operation
  The controller has a built-in High accuracy Real Time clock with backup battery. Software and hardware watchdog timer are provided for high reliability operation.

- Ease of Installation
  All I/Os are connected via field removable terminal block connectors for easy maintenance. The controller casing fits standard DIN rail mounting.

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Device Specifications

Electrical
- Power Supply: 24VAC, 3.6VA max, or 20 ~ 34VDC
- Consumption: 150mA max @ 24VDC
- Operating Temperature: 32° to 150° F (0° to 65° C)
- Storage Temperature: -4° to 150° F (-20° to 65° C)
- Operating Humidity: 10% to 95% relative humidity non-condensing

Communication
- Physical Interface 1 (Port 1):
  - EIA-485 (BUS A,B) Two-wire
  - Half Duplex
  - Baud Rate Speed: (9.6k, 19.2k, 38.4K, 76.8K bit/s)
  - Data Bit: (8 bits)
  - Application Protocol: Bacnet MSTP Master
  - Multi-drop Capability: Yes (hardware ID setting) Physical Interface 2 (Port 2):
    - Ethernet 10/100 Base-T
    - Ethernet Support: IP,TCP,UDP,ICMP,IGMP,FTP,HTTP
    - Application Support: BACnet IP, Bacnet Ethernet

Input/Output Configuration
- Universal Input:
  - Channels: 8
  - Voltage: 0 - 10V (+/-0.005V), 0 - 5V (+/-0.003V)
  - Current: 4 - 20mA (+/-0.01mA), 0 - 20mA (+/-0.01mA)
  - Resistance: 0 - 30K (+/-10 Ohm), 0 - 10K (+/-5 Ohm), 0 - 1.5K (+/-1 Ohm)
  - Thermistor: 10K, 10K Shunt, 1K Balco, 1K Platinum : All (+/-0.01°C)
  - Type: Voltage Free
- Digital Input:
  - Channels: 8
  - Type: Analogue Input
- Transistor Output:
  - Channels: 2
  - Type: Open Collector Output, Isolation 3.75KV

Mechanical:
- Dimension: 187mm x 110mm x 47mm
- Material: UL94 ABS
- Weight: 400g

Function Blocks

Input/Output
1) Digital Input
2) Digital Output
3) PWM Control (Open Collector Output)
4) Analogue Input
5) Analogue Output
6) Digital & Analogue Internal Register
7) Multi-state
8) Fan Control
9) Digital State Latch
10) Digital State Timer
11) Digital State Counter
12) Digital Input Expander

Loop/Process
13) Thermostat
14) Loop Control (PID)
15) Drive
16) Selection
17) Flow Detect
18) Momentary Start/Stop
19) Totaliser
20) Pulse Accumulator
21) Analogue Limit
22) Set Point Adjust
23) Digital Alarm
24) Analogue Alarm

Conversion
25) Digital to Analogue
26) Analogue to Digital
27) Analogue to Percentage
28) Percentage to Analogue
29) Scaling
30) Table Conversion

Schedule
31) Holiday
32) Scheduler
33) Optimum Start/Stop

Timer/Sequencer
34) Sequencer
35) Timer Function

Others
36) Coil Output Register Binding
37) Holding Register Binding

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