

Tri-IO



Tri-IO 8428U

Summary

Tri-IO 8428U is rugged, high performance multi-protocols Input/Output controller to accommodate general and specific application, featuring BACnet MSTP and Modbus RTU protocols.



The Tri-IO 8428U, can control and manage remote controlled devices in the fieldbus connection, to meet the general or specific application.

The Tri-IO 8428U, suitable for use as a simple input and output monitoring module is also suitable as an internal need independent monitoring of specific logic controlled equipment for controller uses.

Feature

Standard Communication protocols

- The controller comes with BACnet MSTP and Modbus RTU communication open protocols, which is able to accommodate most of the Building Automation application.

Multiple Input/Output Types

- The controller comes with four Digital Inputs, eight Analogue Inputs (current,voltage, resistance and temperature sensor), eight Digital Outputs (Relay), and two Analogue Output (current and voltage).

High Accuracy Analog Channels

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

Online Firmware Upgrade/Configuration

- The controller firmware can be upgraded and configured via RS-485.

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.

Energy And Device Management Function Module

- Comes with specific function modules for energy and device management.

General and Specific Function Module

- Built-in general and application specific function modules.

Specifications

Electrical	
Power	24VAC +5%/-15% or 20VDC ~ 34VDC
Consumption	<11VA
Operating Temperature	0°C to 55°C (32°F to 131°F)
Storage Temperature	-20°C to 85°C (-4F to 185°F)
Operating Humidity	0% to 95% Relative Humidity, Non-condensing
Battery	Panasonic CR1220 Lithium Coin Battery

Communication	
Part 1	EIA-485 Standard Two Wire, Half Duplex, 1/8 Load
Baudrate	9.6k, 19.2k, 38.4k 76.8k, 115.2k bit/s
Data Bit	8 bits
Parity	None, Even, Odd
Protocol	Bacnet MSTP, Modbus RTU

Input/Output	
Analogue Input	8 Channels, 12-bits with PGA
Voltage	0 – 10V ($\pm 0.01V$), 0 – 5V ($\pm 0.01V$)
Current	4 – 20mA ($\pm 0.01mA$), 0 – 20mA ($\pm 0.01mA$)
Resistance	0 – 30k ($\pm 10 \text{ Ohm}$), 0 – 10k ($\pm 5 \text{ Ohm}$), 0 – 15k ($\pm 1 \text{ Ohm}$)
Thermistor Sensor	NTC: 10k Type 2/3, 3k, 20k ($\pm 0.1^\circ\text{C}$) RTD: 1k Balco, 1k Platinum ($\pm 0.2^\circ\text{C}$)
Digital Input	4 Channels
Type	Dry Contact, Non-isolated; NTC: 10k Type 2/3, 20k ($\pm 0.1^\circ\text{C}$), 12-bit ADC
Limit	ON State < 2000 Ω , OFF State > 20,000 Ω
Digital Output	8 Channels
Type	Relay, SPST NO, 24VAC/DC, 1A
Analogue Output	2 Channels, 12-bits
Type	Current: 0 – 20mA, 4 – 20mA (Max load resistance, 800 Ω) Voltage: 0 – 10V

Others	
CPU	ARM Cortex 32-bit, 24Mhz
Size	198mmL x 122mmW x 41mmH
Casing Material	UL94 ABS
Weight	380 \pm 5g