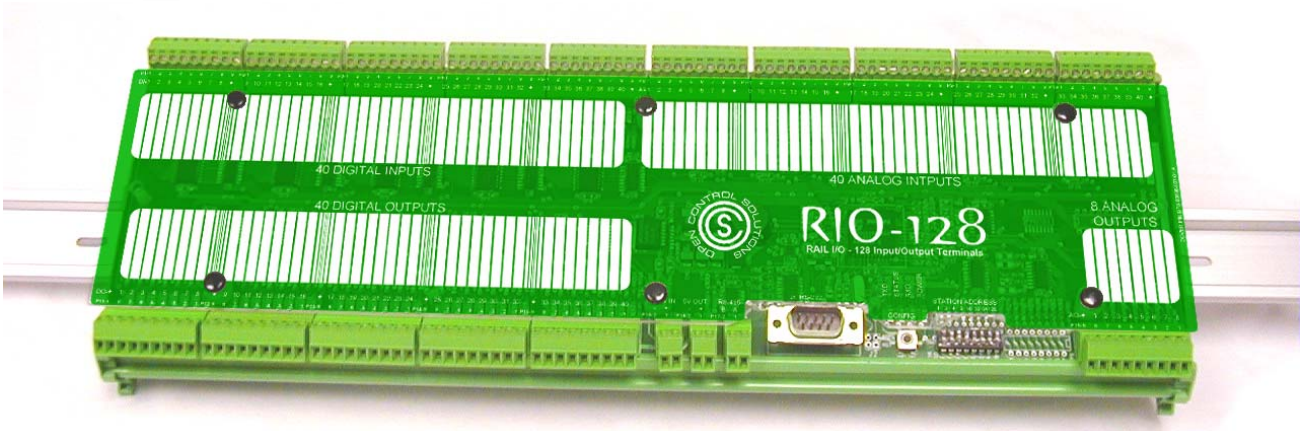
RIO128



OVERVIEW:

The RIO128 is a unique “open architecture” high density rail-mounted input / output device. Ideal for use in all industries, the RIO128 supports industry standard Modbus ASCII, RTU and TCP protocols. This device is used for local and remote monitoring and control over wide-area Radio and Ethernet networks. A built-in RS-232 serial connector is available for interface with third-party radios and an optional network adaptor is available for networking.

Featuring 128 I/O points, the RIO128 is suitable for just about any application. The built-in RS-485 serial connector provides the ability to connect up to thirty-two RIO128 devices for a total expansion to 4,096 I/O points.

This open architecture device not only ensures interoperability with other devices, it also provides compatibility with hundreds of popular SCADA / DCS software packages, PLCs, process controllers and instrumentation.

KEY FEATURES:

- High Density 128 I/O Point Count
- 40 Discrete Inputs
- 40 Discrete Outputs
- 40 Analog Inputs (12 Bit Resolution)
- 8 Analog Outputs (12 Bit Resolution)
- Use Analog Inputs as Discrete Inputs
- I/O Expansion up to 4,096 Points
- Modbus ASCII, RTU, TCP Protocols
- 1200-38400 Baud Rate
- RS-232 & RS-485 Serial Connections
- Non-Isolated 0-24V Single-Ended I/O
- Standard Din Rail Mounted Device
- Size: 16”W x 4”H x 2”D
- 3 Year Parts & Workmanship Warranty

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RIO128 TECHNICAL SPECIFICATIONS

General Specifications:

Field I/O wiring terminations	Removable terminal block
Wire size	#28 - #16
Dimensions	16-1/2" x 4-1/2" x 2"
Power	12 VDC Nominal (10-15 VDC) Less than 12 watts
Operating temperature	14^{o}-158^{o} F (-10^{o} -60^{o} C)
Humidity	5-85% RH (non condensing)

Analog Inputs:

Quantity of analog inputs	40
Signal input levels, nominal	0-5V; 4-20mA externally with external 249 ohm .02% resistor
Resolution	12-bit
Maximum ratings	0-5V +/- .2V
Input impedance	511 Kohms
Overload / transient protection	None
Conversion rate	10-samples-per-second
Noise rejection (50/60Hz)	-30dB

Analog Outputs:

Quantity of analog outputs	8
Output types	0-5V into a 10K ohm load
Resolution	12-bit
Overall Accuracy	+/- 1% of Full Scale

Digital Inputs:

Quantity of digital inputs	40
Input type	Closure-to-ground for on; biased with 10-15 VDC raw power via onboard 5.6K Ohm resistor
On/Off Threshold	1.5 VDC
Input current	2.5 mA @ 0 VDC
Conversion rate	120-samples-per-second with 100 mSec de-bouncing for on/off status
DI pulse counting rate	Sampled at raw 120-samples-per-second; maximum input pulse rate of 30 Hz

Digital Outputs:

Quantity of digital outputs	40
Output type, configuration	Darlington array sinking to common
Output switch current rating	Current capability to drive 12/24 VDC, 80mA constant duty, 300mA in-rush current ice cube-type relays
Over-voltage/transient protection	None
Overload protection/fault current	None

Communications:

Serial ports	2
Serial port interfaces	
COM #1	RS-232 9 pin D male
COM #2	RS-485 removable terminal block, #28 - #16, 2 wire half duplex
Ethernet (optional)	1200-38400 baud RS-232 communications via optional serial-to-network converter [RAIL Network Adapter (RNA)]
Protocols	Modbus ASCII, Modbus RTU, Modbus TCP (requires optional RNA)
Serial port data rates	1200-38400 baud
Scan & Control Rate	10 Hz (93 Modbus "Status" Registers and 5 Modbus "Control" Registers)

Input/Output (I/O) Processor:

CPU	8051-class microcontroller
Memory	32K of Flash ROM and 1K of RAM

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