



Features

- 4 x Opto-isolated digital inputs
- 2 x Relay outputs
- Free RTOS real-time operating system
- 4 x Isolation Analog inputs, 2 x Isolation Analog outputs
- 1 x Maxim 1-Wire interface
- 1 x 10/100Mbps Ethernet interface
- 1 x Isolation RS-485 port, 1 Serial Console / RS-232 port
- 1 x microSD card interface
- Support lwIP and BSD socket library
- Support tiny web server
- Windows configuration utility included
- Toolchain: Atmel Studio

H/W Specifications

CPU / Memory

- CPU: Atmel SAM4E16E Cortex M4 SoC 120MHz
- Memory: 128KB SRAM, 1MB Flash inside SoC
128KB SRAM, 2MB Flash on board via SPI expansion

Network Interface

- Type: 1 x 10/100 Mbps Ethernet, RJ45 connector
- Protection: 1.5KV magnetic isolation

Serial Ports

- Serial Console / RS-232 x 1
- RS-485 1500Vrms isolated x 1

Mass Storage

- microSD socket inside x 1

Isolated Analog Input

- No. of Channel: 4
- Input Type: Differential input
- Input Mode: Current / Voltage
- Resolution: 16-bit
- Input Range:
Unipolar: 0~150 mV, 0~500 mV, 0~1V, 0~5V, 0~10V
Bipolar: +/-150 mV, +/-500 mV, +/-1V, +/-5V, +/-10V
Current: 0~20mA
- Input Impedance: 20M Ohm (voltage), 120 Ohm (current)
- Accuracy: +/-0.1% FSR
- Isolated: 1500Vrms

Isolated Analog Output

- No. of Channels: 2
- Output Mode: Current / Voltage
- Resolution: 16-bit
- Output Range:
Unipolar: 0~5V, 0~10V
Bipolar: +/-5V, +/-10V
Current: 4~20mA, 0~20mA, 0~24mA
- Accuracy: +/-0.25% FSR (voltage)
+/-0.2% FSR (current)
- Load Resistor: 0~1k Ohm
- Isolation: 1500Vrms

Isolation Digital Input

- No. of Channels: 4
- Isolation protection: 2500Vrms
- Logical High: 5~24VDC
- Logical Low: 0~1.5VDC
- LED indicator: Yes

Relay Output

- No. of Channels: 2
- Contact Rating: 30VDC@1A or 125VAC@0.5A
- LED Indicator: Yes

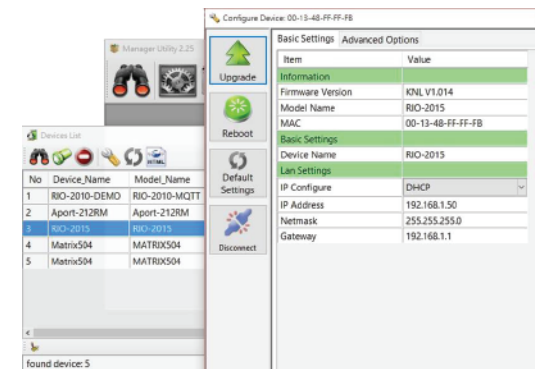
Maxim 1-Wire Interface

- No. of Channels: 1
- Connector : 3-pin terminal block (VDD, DQ, GND)

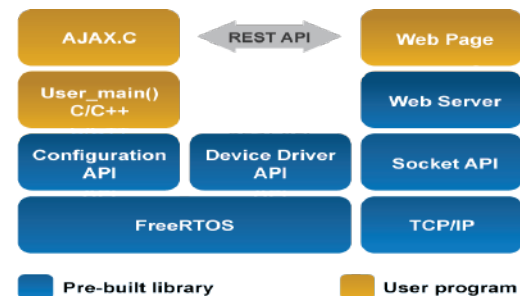
General

- Power Input: 9~48VDC
- Operating Temperature: 0~70°C
- Dimension (WxLxH): 115.7x121.5x435mm
(4.56 x 4.78 x 1.69in)
- Weight: 242g (0.53lb)
- Installation: DIN-rail mounting

Windows Utility Software



Example Program



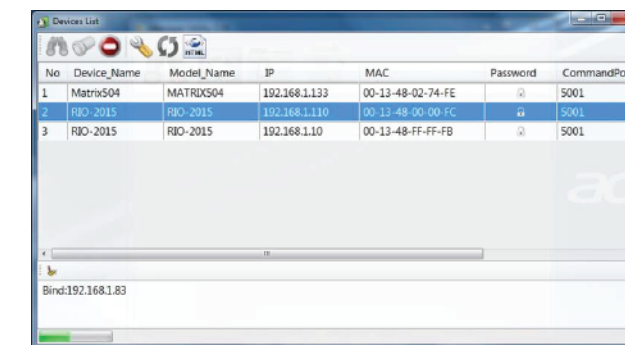
Users only need to write application main program user_main (), web interface, interactive AJAX.C and home page HTML

Usage of Steps

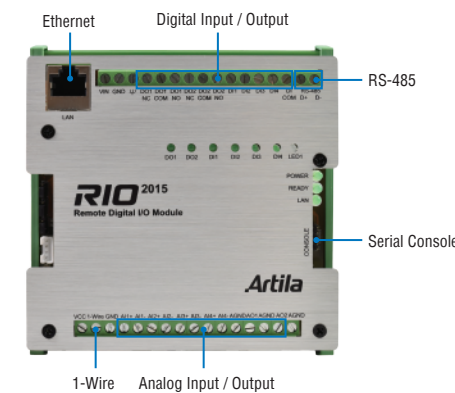
Step1 Install Atmel Studio and Manager



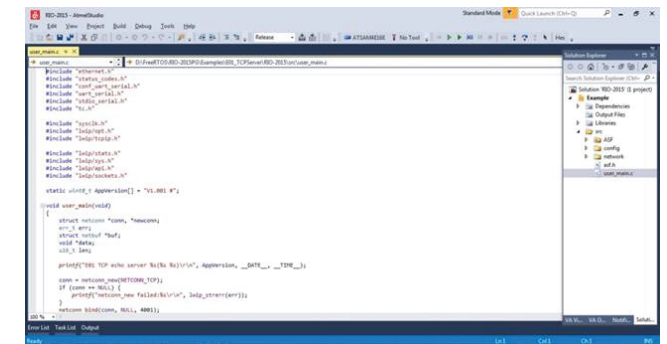
Step3 Upload the compiled binaries and web pages



Front View



Step2 Compile the application user_main()



Step4 Reboot the application



Ordering Information

- **RIO-2015PG**
C Programmable Remote I/O Module
- **CBL-F10M9-20 (91-0P9M9-001)**
Console Cable (10Pin Header to DB9 Male, 20cm)
- **DS18B20 (91-6DS18-001)**
Programmable Resolution 1-wire Digital Thermometer
- **PWR-12V-1A (31-62100-000)**
110~240VAC to 12VDC 1A Power Adapter