RIO-2018BM is a thermocouple input remote I/O module supports IBM Bluemix connection. RIO-2018BM has two models J and K to support J and K type thermocouple. In addition to the thermocouple input, RIO-2018 also has two isolated digital input channels and one form C relay output. Therefore it is suitable for temperature measurement and control. RIO-2018BM uses MQTT to push temperature data to IBM Bluemix automatically and the temperature data can also be acquired by REST web interface.

H/W Specifications

**Ethernet**
- Type: 10/100Mbps, RJ45
- Protection: 1500V Magnetic isolation
- Protocol: Modbus / TCP, UDP, HTTP, DHCP

**Thermocouple Input**
- J Type: Maxim MAX31855J converter with CJC
  - Range: -210°C to +1200°C
- K Type: Maxim MAX31855K converter with CJC
  - Range: -200°C to +1350°C
- Resolution: 14-bit, 0.25°C
- Connector: OMEGA PCC-SMP Thermocouple connector
  - Thermocouple fault detection

**Relay Output**
- No. of Channels: 1 form C
- Contact Rating: 30VDC@1A or 125VAC@0.5A

**Isolated Digital Input**
- Channel Number: 2
- Logic High: 5–24VDC
- Logic Low: 0–1.5VDC
- Input Resistance: 1.2KΩ±0.5W
- Response Time: 20μs

**Mechanical**
- Power: 9 – 48VDC terminal block
- Protection: Auto polarity and surge protect
- Dimension: 108 x 78 x 25 mm (H x W x D)

Features

- Remote thermocouple input module with Web API and MQTT
- One 10/100Mbps Ethernet port
- 3 channels J or K type thermocouple input with cold junction compensation
- Two 2500Vrms isolated digital input (bipolar input photocouple)
- One Form C relay with contact rating 30VDC@1A or 125VAC@0.5A
- Support cloud-based temperature monitoring and DIO control
- Optional DIN Rail mounting kit (DK-35A)
- Windows configuration utility for Bluemix settings

Access Control Guidelines

**Default Access Ports**
- Telnet Console Port: 5001
- HTTP Port: 5003

**Access Through HTTP GET / POST Protocols**
- REST Web API

**Operation Mode**
- MQTT auto data and event publish and log
- Stand-alone alarm relay control
- C / C++ programmable controller (RIO-2010PG)

**Ordering Information**

**RIO-2018BM**
Bluemix ready analog input remote I/O module