RIO-2018 Modbus Function List

1 01 (0x01) Read Coils(Outputs)

1.1 Request

Function code	1 Byte	**0x01**
Starting Address	2 Bytes	0x0000
Quantity of coils	2 Bytes	0x0001

1.2 Response

Function code	1 Byte	**0x01**
Byte count	1 Bytes	0x01
Coil Status	1 Bytes	

1.3 Error

Function code	1 Byte	**0x81**
Exception code	1 Bytes	01 or 02

2 02 (0x02) Read Discrete Inputs

2.1 Request

Function code	1 Byte	**0x02**
Starting Address	2 Bytes	0x0000 to 0x000F
Quantity of Inputs	2 Bytes	1 to 2 (0x0010)

2.2 Response

Function code	1 Byte	**0x02**
Byte count	1 Bytes	N: 0x01
Input Status	N x 1 Bytes	

2.3 Error

Function code	1 Byte	**0x82**
Exception code	1 Bytes	01 or 02

3 03 (0x03) Read Holding Registers

3.1 Request

Function code	1 Byte	**0x03**
Starting Address	2 Bytes	0x0200
Quantity of Registers	2 Bytes	

3.2 Response

Function code	1 Byte	**0x03**
Byte count	1 Bytes	N
Register value	N x 1 Bytes	

3.3 Error

Function code	1 Byte	**0x83**
Exception code	1 Bytes	01 or 02

3.4 Register address

Start address	Stop address	
0x0200	0x0209	TC1
0x020A	0x0213	TC2
0x0214	0x021D	TC3

3.5 Register Value

Register[0] Hi	TC enable/disable	0x01:enable 0x00:disable
Register[0] Lo	TC Sign flag	0x00: + 0x01: -
Register[1] Hi	TC integer Hi	degree Celsius
Register[1] Lo	TC integer Lo	degree Celsius
Register[2] Hi	TC decimal Hi	degree Celsius
Register[2] Lo	TC decimal Lo	degree Celsius
Register[3] Hi	Reference integer	degree Celsius
Register[3] Lo	Reference decimal	degree Celsius
Register[4] Hi	Reference Sign flag	0x00: + 0x01: -
Register[4] Lo	Fault	0x00: None 0x01:Open 0x02:short to GND 0x03:short to VCC

4 05 (0x05) Write Single Coil(Output)

4.1 Request

Function code	1 Byte	**0x05**
Output Address	2 Bytes	0x0000
Output Value	2 Bytes	0x0000 or 0xFF00

0xFF00:ON:Relay energized

0x0000:OFF:Relay de-energized

4.2 Response

Function code	1 Byte	**0x05**
Output Address	2 Bytes	0x0000
Output value	2 Bytes	0x0000 or 0xFF00

4.3 Error

Function code	1 Byte	**0x85**
Exception code	1 Bytes	01 or 02