EMA8314R
Ethernet RTD I/O module

User's Manual (V1.1)

健昇科技股份有限公司

JS AUTOMATION CORP.

新北市汐止區中興路 100 號 6 樓

6F., No.100, Zhongxing Rd.,

Xizhi Dist., New Taipei City, Taiwan

TEL：+886-2-2647-6936

FAX：+886-2-2647-6940

http://www.automation.com.tw

http://www.automation-js.com/

E-mail：control.cards@automation.com.tw

Correction record

Version	Record
1.0	firmware version 1.0 up
1.1	1. Modify 3.4.5 dimension
	2. Add 4.2 dimension Image

Contents

Notes on hardware installation

Please register as user's club member to download the "Step_by_step_installation_of_Ethernet_module" document from http://automation.com.tw

1. Forward

Thank you for your selection of Ethernet module 8314R for PT100/PT1000 temperature control. Thanks to the booming of network, Ethernet become a reliable and low cost solution for data communication. To utilize the Ethernet as data communication highway of industrial control devices is more attractive than ever. We also provide the dll's of Window's or Linux system, enabling you coding the flexible application as you need. Stable, high reliability and remote addressable module give you a new approach of application.

In the same series:
EMA8314T 4 thermocouple input and 4 relay output Ethernet temperature control module

Any comment is welcome,
please visit our website
http://www.automation.com.tw/
http://www.automation-js.com/ for the up to date information.

2. Features

- 4 20 bit PT100/PT100 sensor input (ITS-90 compliance, IEC751,TCR=0.003851)
- Temperature control function
- High drive capacity on digital output
- WDT for communication discontinuity detect
- Wide power range
- IP re-assignment
- 2 RJ45 port
- 10/100M auto detection
- Software key function
- Sensor broken line detection

3. Specifications

3.1 PT100/PT1000 input

3.1.1 Input points: max 4(Configurable)

3.1.2 Sensor Type: PT100, PT1000 (ITS-90 compliance)

3.2 Digital output

3.2.1 Relay output: max 4 @3A (Configurable)

3.3 Ethernet

3.3.1 10/100M auto switch x 2 port

3.3.2 WDT : 1~65535ms for communication discontinuity detect

3.4 General

3.4.1 Power requirement: 12Vdc ~24Vdc

3.4.2 Operation Temperature: 0 ~ +70 degree C

3.4.3 Storage Temperature: -20 ~ +80 degree C

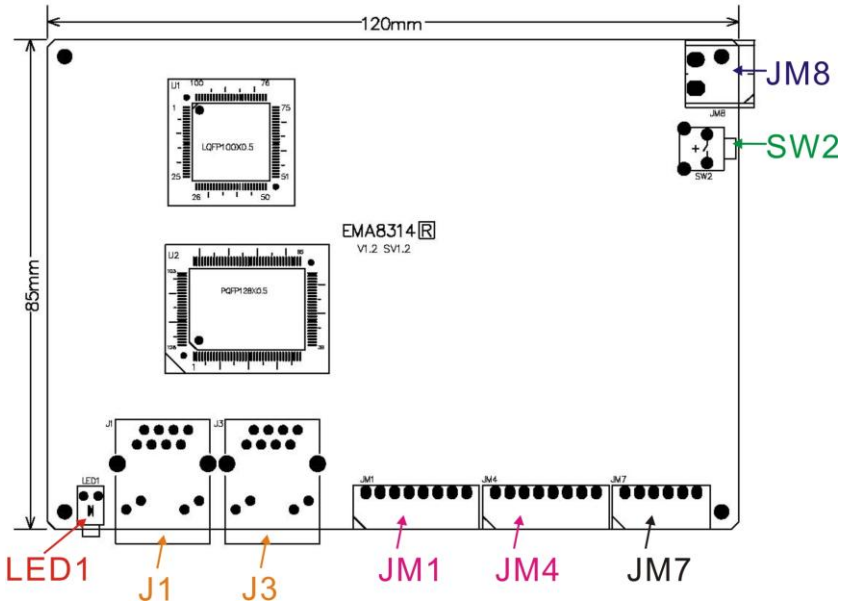
3.4.4 Operation Humidity: 5~95% RH, non-condensing

3.4.5 Dimension: 115.4(D)*136(W)*34(H) mm

4.6(D)*5.4(W)*1.4(H) in

4. Layout and dimensions

4.1 EMA8314R Layout



LED1: system active LED

J1,J3: Ethernet RJ45 socket

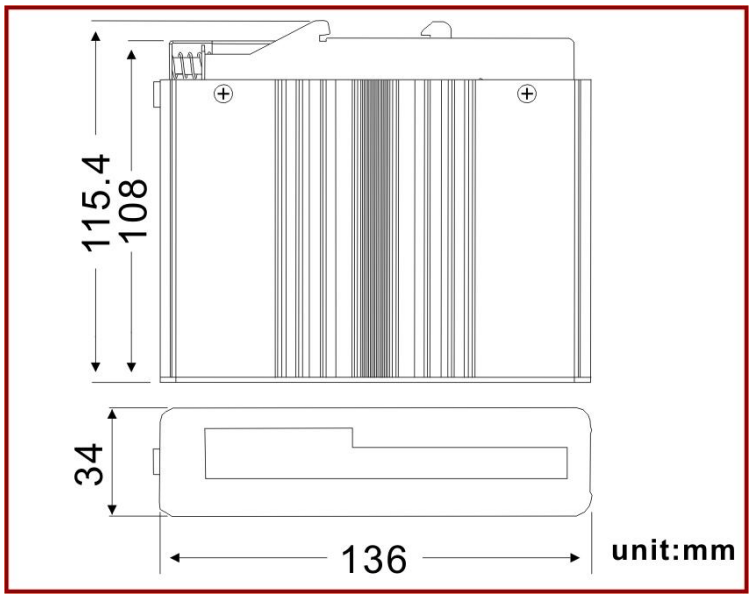
JM1, JM4: sensor input connector

JM7: relay output connector

JM8: external power 24V connector

SW2: system reset switch

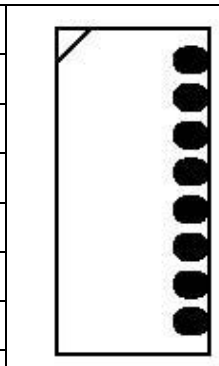
4.2 EMA8314R Dimension



5. Pin definitions

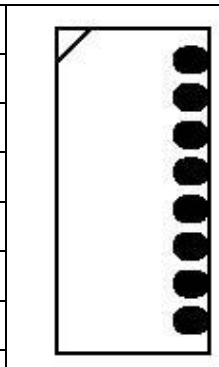
5.1 JM1 pin definitions

EX0+	1
RTD0+	2
RTD0-	3
EX0-	4
EX1+	5
RTD1+	6
RTD1-	7
EX1-	8



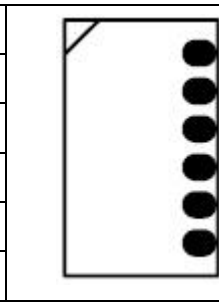
5.2 JM4 pin definitions

EX2+	1
RTD2+	2
RTD2-	3
EX2-	4
EX3+	5
RTD3+	6
RTD3-	7
EX3-	8



5.3 JM7 pin definitions

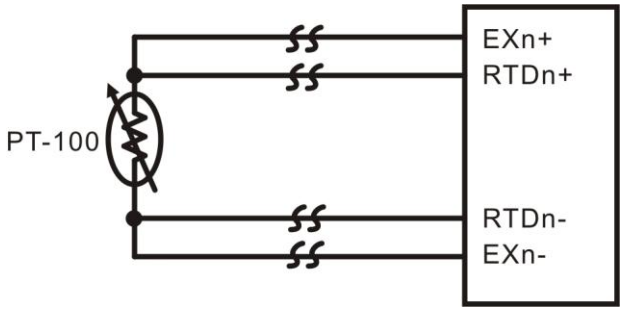
OUT0	1
OUT1	2
COM0	3
OUT2	4
OUT3	5
COM1	6



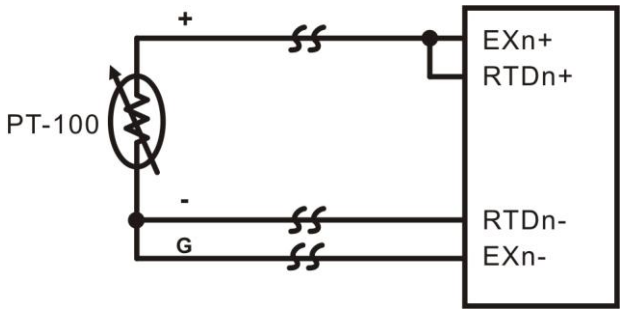
6. I/O Interface diagram

6.1 Input diagram

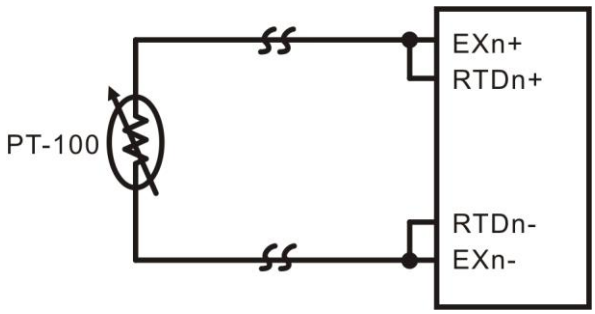
Type 1 input (4W):



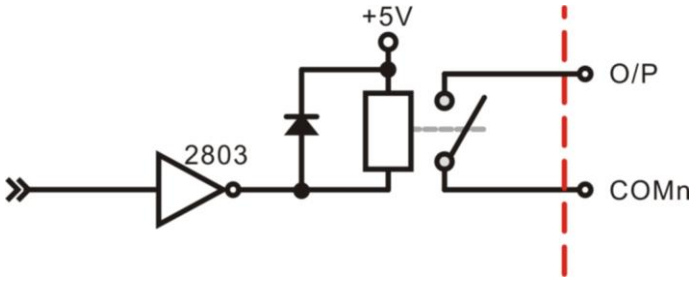
Type 2 input (3W):



Type 3 input (2W):



6.2 RELAY output diagram



7. System Reset

The system reset switch SW2 has provide normal system reset and reset to default functions.

7.1 Normal system reset

Push the SW2 for more than 5 seconds, the power LED will flick at 3 HZ to signal the system has already reset. Once you release the switch, the LED will return to normal flick rate.

7.2 Reset to default

Push the switch while power on (We suggest to push the switch first then power on and wait for 3 seconds) for 3 seconds, the LED will:

1. stop flick
2. flicking at 3 Hz--- system now setting default data
3. flicking at normal speed --- system now already reset, you can release the switch.

item	default value
IP	192.168.0.100
password	12345678
socket port	6936
output mode	general purpose
temperature control mode	disable
sensor type	pt-1000
temperature	centigrade
temperature temperaturecontrol mode	channel 0 : mode 0 channel 1 : mode 1 channel 2: mode 2 channel 3: mode 3
temperature control mask	unmask
WDT	disable
WDT time	100 seconds
WDT output	OUT0~OUT3 off

8. Applications

- For remote temperature sensing
- For remote temperature control

9. Ordering information

PRODUCT	DESCRIPTIONS
EMA8314R	Ethernet module(RTD)
JD52000	110/220Vac to 24Vdc @1.5A power supply
JS52026	110/220Vac to 24Vdc @0.75A power adapter