EMC-8485
Ethernet to RS422/485
converter module

User's Manual (V1.0)

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Correction record

Version	Record
1.0	firmware version 1.0 up

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 EMC8485 ethernet to isolated RS422/485 converter module.

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. EMC8485 module is a converter module, which can convert the traditional RS422/485 communication protocol to Ethernet or vice versa. With the extra 8-bit I/O and counter function, you can extend the convert to some control functions. A stable, high reliability and remote addressable module give you a new approach of application.

In the same series:

EMC-8432   Ethernet to RS232 converter with 8-bit I/O

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. <u>Features</u>

- Over-voltage protection on digital input

- Various IO combinations : 8 bit configurable I/O's, any bit can be input or output

- High drive capacity on digital output

- Digital I/P as counter input

- Baudrate up to 921.6K

- Wide power range

- RS422, RS485 software selectable

- IP re-assignment

- 10/100M auto detection

- Software key function

3. Specifications

3.1 RS422/485

    3.1.1   Isolation : magnetic coupler

    3.1.2   Baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 921600

    3.1.3   Data bits: 5, 6, 7, 8

    3.1.4   Stop bits: 1, 1.5,

    3.1.5   Parity: None, Even, Odd

3.2 Digital input

    3.2.1   Input points: max 8 (Configurable)

    3.2.2   Logic high level: 3.15V(min)

    3.2.3   Logic low level: 1.35V(max)

    3.2.4   Over-voltage protection: 60Vdc(max)

    3.2.5   Over-current protection: 50mA(max)

3.3 Digital output

    3.3.1   Transistor output: max 8 (Configurable)

    3.3.2   Transistor capacity: 500mA(peak), 45Vdc(max)

3.4 Ethernet

    3.4.1   10/100M auto switch x 2 port

3.5 General

    3.5.1   Power requirement: 12Vdc ~24Vdc

    3.5.2   Operation Temperature: 0 ~ +70 degree C
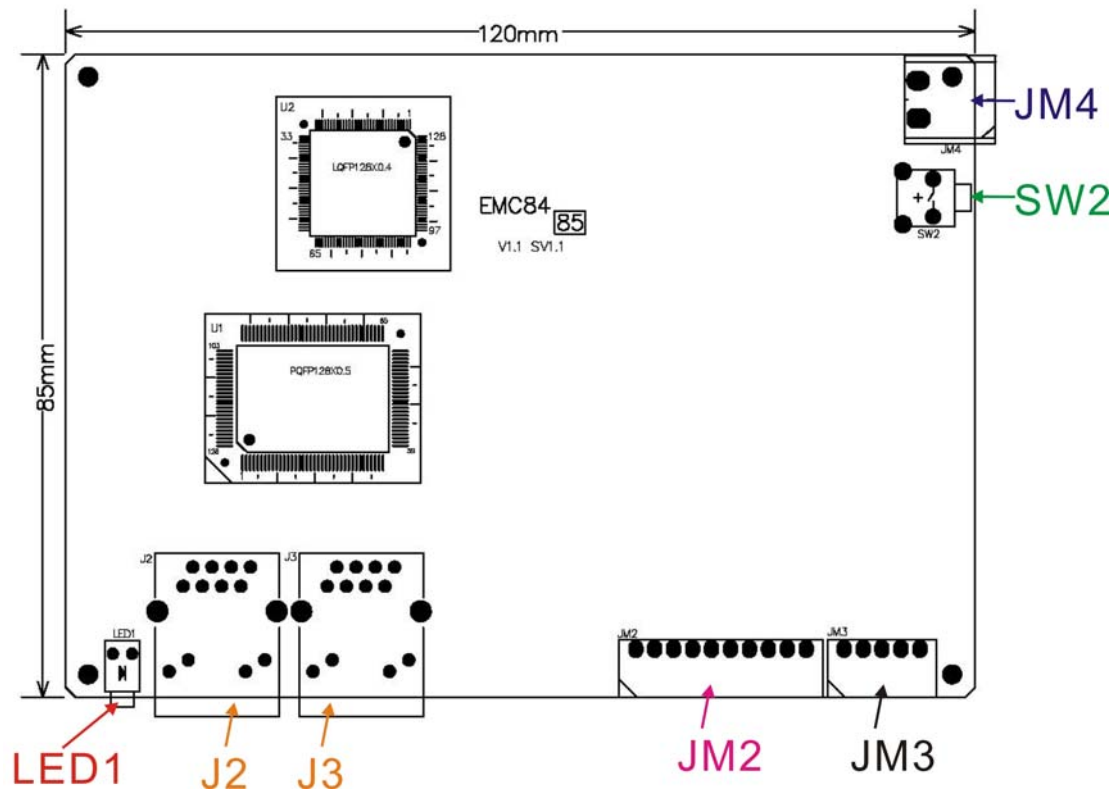
    3.5.3   Storage Temperature: -20 ~ +80 degree C

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

    3.5.5   Dimension: 107.6(D)*135.8(W)*34(H) mm
                     4.3(D)*5.4(W)*1.4(H) in

4. Layout and dimensions

4.1 EMC-8485

LED1: system active LED

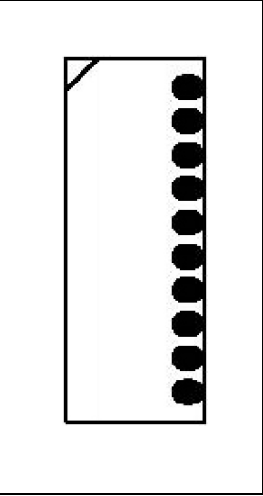J2,J3: Ethernet RJ45 socket

JM2: I/O connector

JM3: RS422/485 connector
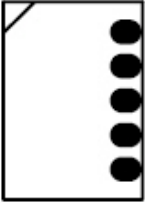
JM4: external power 24V connector

SW2: system reset switch

5. Pin definitions

5.1 JM2 pin definitions

+Ve*	1	
IO_0	2	
IO_1	3	
IO_2	4	
IO_3	5	
IO_4	6	
IO_5	7	
IO_6	8	
IO_7	9	
GND	10	

5.2 JM3 pin definitions(EMC-8485)

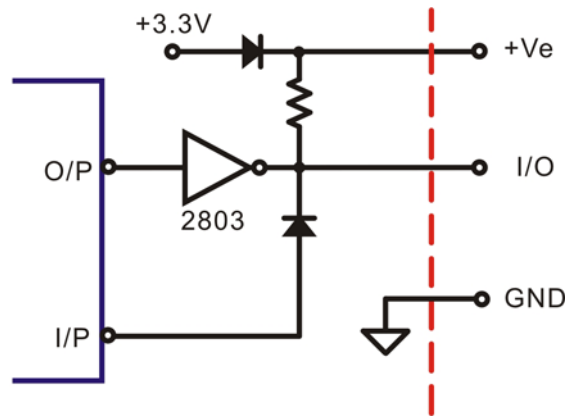| RS422			RS485	
TXD+	1		1	
TXD-	2		2	
RXD+	3		3	D+
RXD-	4		4	D-
EXTG	5		5	EXTG

Note:

Always connect the EXTG between the communication devices for RS422 or RS485, do not let the signal floating to improve noise immunity.

* +Ve can floating or voltage input (voltage range +3.3V ~ +24V)

* +Ve can apply different voltage as you need.

6. I/O Interface diagram

6.1   I/O diagram

Note: If +Ve is externally applied +24V then the IO_0 ~ IO_7 will be also applied.

7. <u>Applications</u>

- RS422/485 to ethernet converter
- Ethernet to RS422/485 converter
- Remote signal input
- Remote signal counter
- Remote signal output

8. Ordering information

PRODUCT	DESCRIPTIONS
EMC-8485	Ethernet module to RS422/485 (8 IO) Module
JD52000	110/220Vac to 24Vdc @1.5A power supply
JD52026	110/220Vac to 24Vdc @0.75A power adapter