

EMC7485
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

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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 EMC7485 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. EMC7485 module is a converter module, which can convert the traditional RS422/485 communication protocol to Ethernet or vice versa. With the extra 8-bit TTL 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:

EMC7432 Ethernet to RS232 converter with 8-bit TTL I/O

Any comment is welcome,

please visit our website

[http:// www.automation.com.tw](http://www.automation.com.tw) for the up to date information.

2. Features

- PTC (auto resettable fuse) protection on TTL I/O and communication signal pin.
- Digital I/P as counter input
- IP re-assignment
- 10/100M auto detection
- RS422, RS485 software selectable

3. Specifications

3.1 Ethernet

3.1.1 10/100M auto switch

3.2 RS422/485

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

3.2.2 Data bits: 5, 6, 7, 8

3.2.3 Stop bits: 1, 1.5, 2

3.2.4 Parity: None, Even, Odd

3.3 TTL I/O

3.3.1 Input Logic high level : 2V(min)

3.3.2 Input Logic low level : 0.4V(max)

3.3.3 Output Logic high level : 2.4V(min)@8mA

3.3.4 Output Logic low level : 0.4V(max)@8mA

3.3.5 Over-voltage protection : 60Vdc(max)

3.3.6 Over-current protection : 50mA(max)

3.3.7 Counter speed : 200Hz(max) square wave

3.4 General

3.4.1 Power requirement: 12Vdc ~24Vdc

3.4.2 Operation Temperature: 0~ +70 degree C

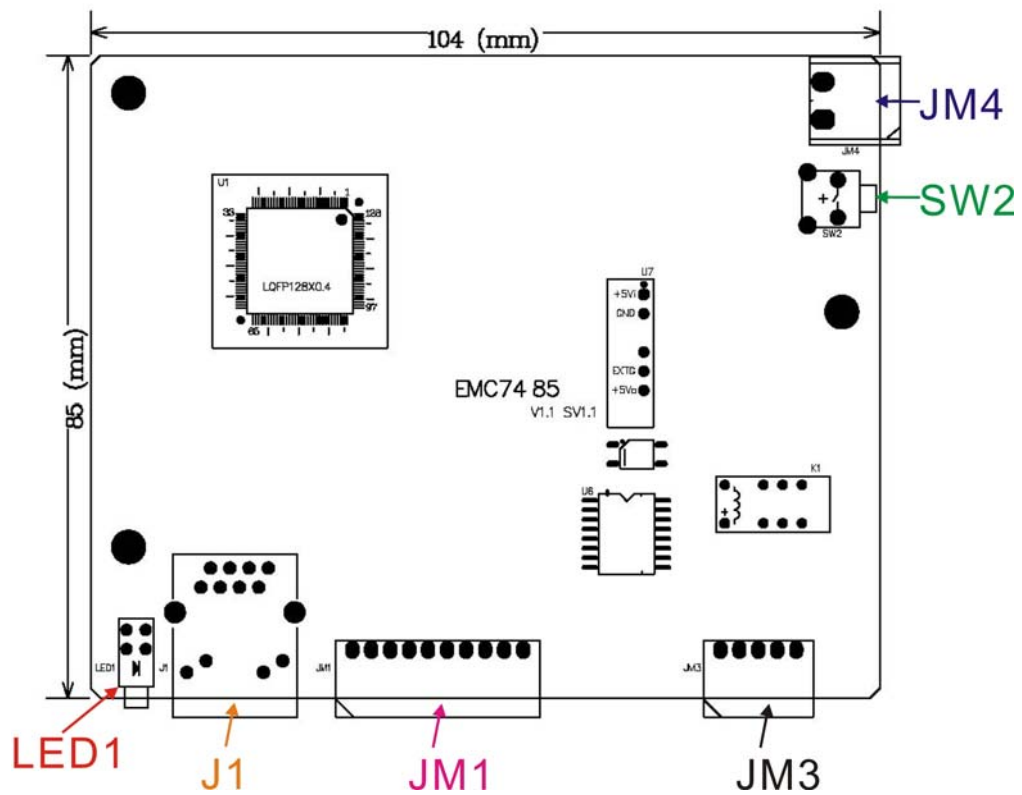
3.4.3 Storage Temperature: -20 ~ +80 degree C

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

3.4.5 Dimension: 89(D)*110(W)*34(H) mm
3.5(D)*4.33(W)*1.39(H) in

4. Layout and dimensions

4.1 EMC7485



LED1: system active LED

J1: Ethernet RJ45 socket

JM1: TTL I/O connector

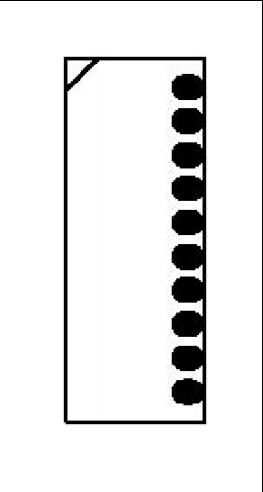
JM3: RS422/485 connector

JM4: external power 24V connector

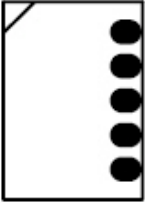
SW2: system reset switch

5. Pin definitions

5.1 JM1 pin definitions

TTL0	1	
TTL1	2	
TTL2	3	
TTL3	4	
GND	5	
TTL4	6	
TTL5	7	
TTL6	8	
TTL7	9	
GND	10	

5.2 JM3 pin definitions(EMC7485)

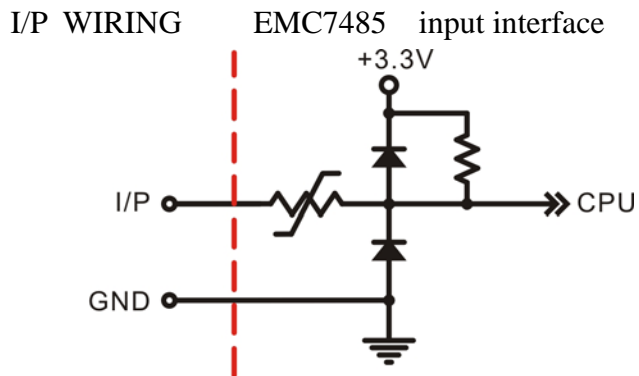
RS422			RS485	
TXD+	1		1	
TXD-	2		2	
RXD+	3		3	D+
RXD-	4		4	D-
EXTG	5		5	EXTG

Note:

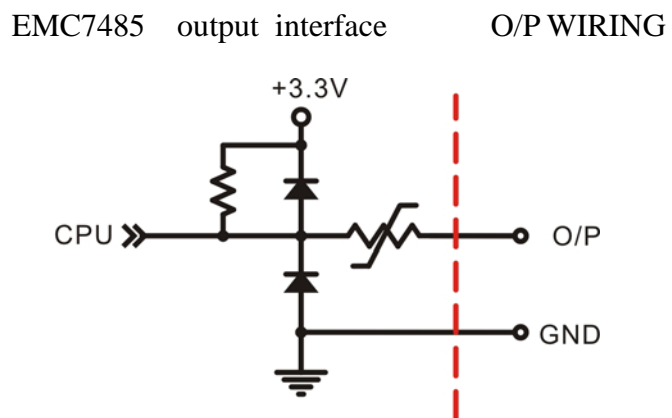
Always connect the EXTG between the communication devices for RS422 or RS485, do not let the signal floating to improve noise immunity.

6. I/O Interface diagram

6.1 TTL input diagram



6.2 TTL output diagram



7. Applications

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

8. **Ordering information**

PRODUCT	DESCRIPTIONS
EMC7485	Ethernet module to RS422/485 (8 TTL IO) Module
JD52000	110/220Vac to 24Vdc @1.5A power supply
JD52026	110/220Vac to 24Vdc @0.75A power adapter