

Server of Serial Port



FEATURES

- Main control of 32-bit ARM9 CPU
- 4 multi-function serial ports, each with Isolating 1500VDC
- Combine isolation and ESD bus protection functions
- Each serial port working mode supports RS232, RS485, and RS422
- Serial port rate RS232: 1200-230400bps
- Serial port rate RS485 / RS422: 1200-500000bps
- Support for TCP Client, TCP Server, UDP, and Real COM working mode
- Up to 8 TCP connections per serial port (32 TCP connections)
- Isolation up to 1.5kVDC between LAN and serial port side
- 10 / 100M Adaptive Ethernet interface
- Compliance with the IEEE802.3 standard
- Operating voltage: 9V-36V DC

TB24NETCOM-C14 is a TCP/IP Ethernet (one channel) to serial port (four channels) device, which integrates the TCP/IP protocol stack inside, and the serial port working mode supports three types: RS232, RS485, and RS422. Each port has an independent serial transceiver with 1.5KV electromagnetic isolation between ports. The Ethernet port is an adaptive Ethernet transceiver with 10M / 100M. Device network supports TCP Client, TCP Server, UDP, Real COM working mode, and users can quickly complete the network function of embedded devices.

Selection Table

Certification	Product No	Power Input (VDC)	Number of serial port	Number of Ethernet port channels	Operating Current (mA @ 24 V, Typ.)
-	TB24NETCOM-C14	9-36	4	1	170

Power Features

Item	Working condition	Min.	Typ.	Max.	unit
Working voltage	Supply voltage	9	24	36	V
	Power dissipation	-	3.3	4.08	W

The RS232 Interface Features

Item	Working condition	Min.	Typ.	Max.	unit	
The TOUT transmission level	High level	RL=3kΩ to GND	5	5.4	--	VDC
	Low level	RL=3kΩ to GND	--	-5.4	-5	
The RIN reception threshold level	High level	V _{IH}	2.4	--	--	
	Low level	V _{IL}	--	--	0.8	
Serial port port rate	Baud	1200	--	230400	bps	
Bus interface protection	ESD electrostatic protection					

485 / 422 Interface Features

Item	Working condition	Min.	Typ.	Max.	unit	
Differential level	High level	V _{diff(c)} , RL=54Ω	1.5	2	--	VDC
	Low level	V _{diff(c)} , RL=54Ω	--	-2	-1.5	
Enter the	High level	V _{IH}	-0.01	--	--	
Enter the	Low level	V _{IL}	--	--	-0.2	
Receiver input maximum		-7	--	+12	VDC	

Baud rate	Baud	1200	--	500000	bps
Bus interface protection		ESD electrostatic protection			

String Port Characteristics

Item	Working condition	Min.	Typ.	Max.	unit
Maximum subcontract interval	SER _T	--	--	5	ms
Maximum subcontract length	SER _{LEN}	--	--	1460	Byte
Bus interface protection		ESD electrostatic protection			

Network Characteristic

Item	Working condition	Min.	Typ.	Max.	unit
Network rate		10	--	100	Mbps
TCP maximum number of connections		4	4	32	individual
Work mode support	Support for TCP Server, TCP Client, UDP, and Real COM mode				

General Characteristics

Item	Working conditions	Value
Isolation voltage	The test time was 1 min, and the leakage current was <1 mA	1500VDC (LAN side and serial side, between serial side)
Working temperature		-25℃ to +70℃ ^①
Transport and storage temperature		-40℃ to +80℃
Working humidity	No condensation	10% - 90%
POWER indicator light (green)	Light on, power status OK; Light off, no power connected or power abnormal	
ACTIVE indicator light (green)	Flashes at 1 Hz frequency during normal operation;	
FAULT indicator light (red)	Light on: abnormal error; Light off, working operation	

Note ①: For environment above 60 degrees, if need to reset, the product have to power off and wait for about 1-3 minutes before powering on to start.

Physical Characteristics

Size	158*102.4*29.5 mm
Weight	600g (Typ.)
Cooling-down method	Natural air cold

EMC Characteristic

EMS	ESD	IEC / EN 61000-4-2 Contact ±6kV (without external components network port)	Perf. Criteria B
	EFT	IEC / EN 61000-4-4 ± 2kV (without external components network port)	Perf. Criteria B

Precautions For Use

1. Before use, please read the manual carefully. If you have any questions, please contact the company for technical support;
2. Please do not install the products in dangerous areas for use;
3. The power supply of the product is DC power supply, and 220V AC power supply is strictly prohibited;
4. It is strictly prohibited to disassemble products without permission to prevent equipment failure or failure;
5. Except as otherwise specified, the data shown in this paper are measured at Ta=25℃, humidity <75%RH, power input nominal voltage and signal output are full load.

AFTER-SALE SERVICE

1. The products have been strictly inspected and quality controlled before leaving the factory. In case of abnormal work or suspected internal module failure, please contact the nearest agent or the company's technical support in time.
2. Product warranty for 3 years, from the date of delivery. During the warranty period, the product quality problems arising during the normal use of the products shall be repaired or replaced by the Company free of charge.

APPLIED CIRCUIT

SEE THE TB24NETCOM-C14 APPLICATION NOTES FOR MORE DETAILS.

Design Reference Application

1. Typical application

1) FUNCTION PRINCIPLE BLOCK DIAGRAM

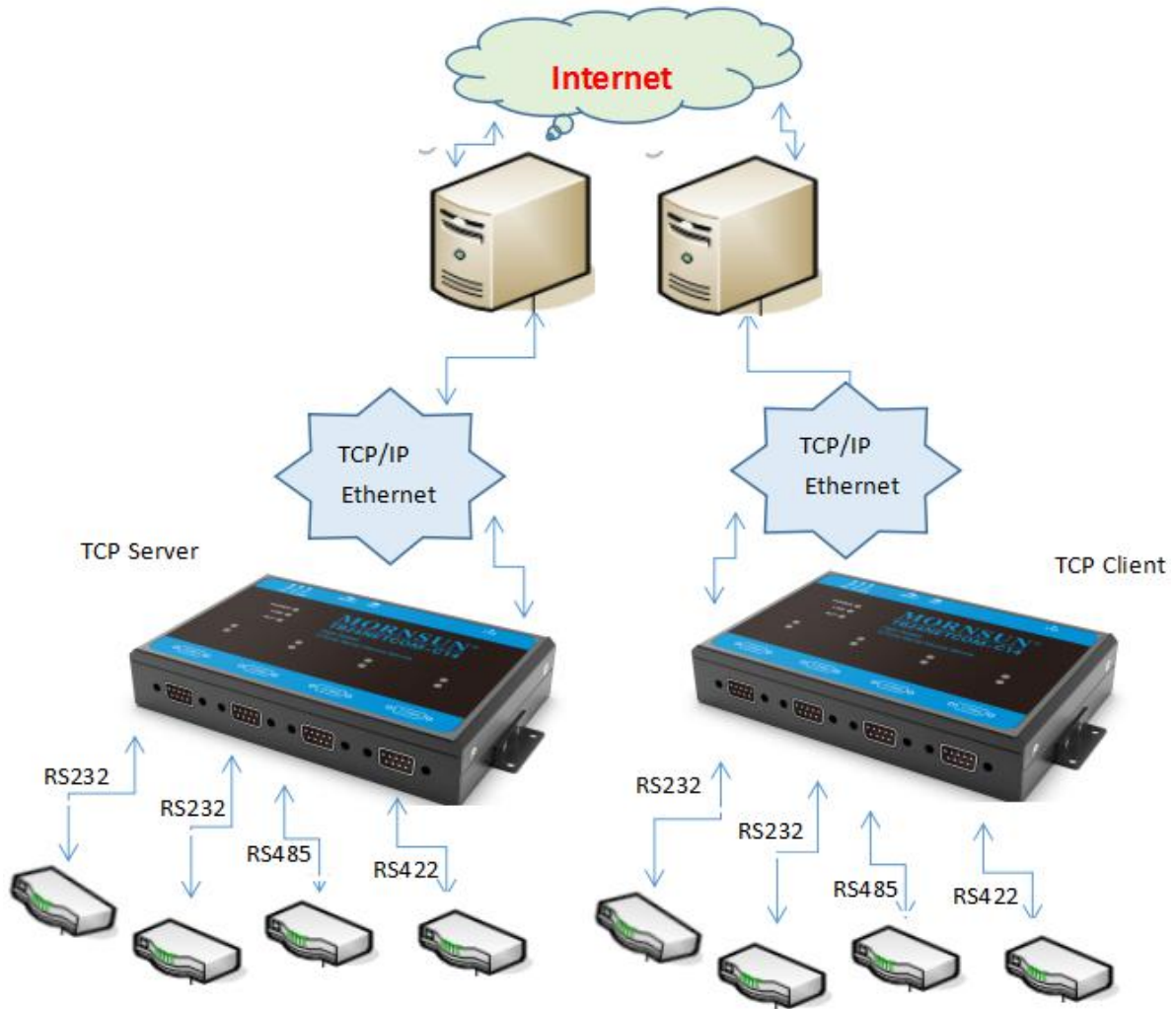


Figure 1

2) SERIAL PORT INTERFACE APPLICATION

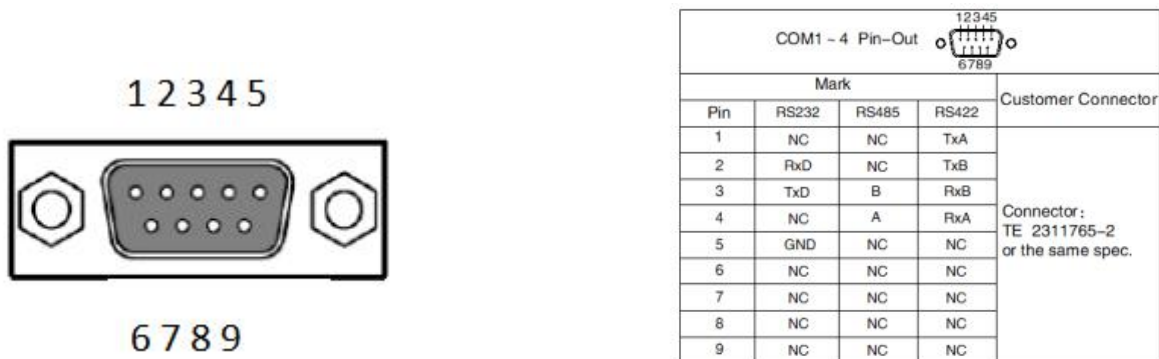



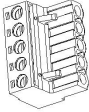
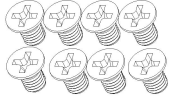



Figure 2

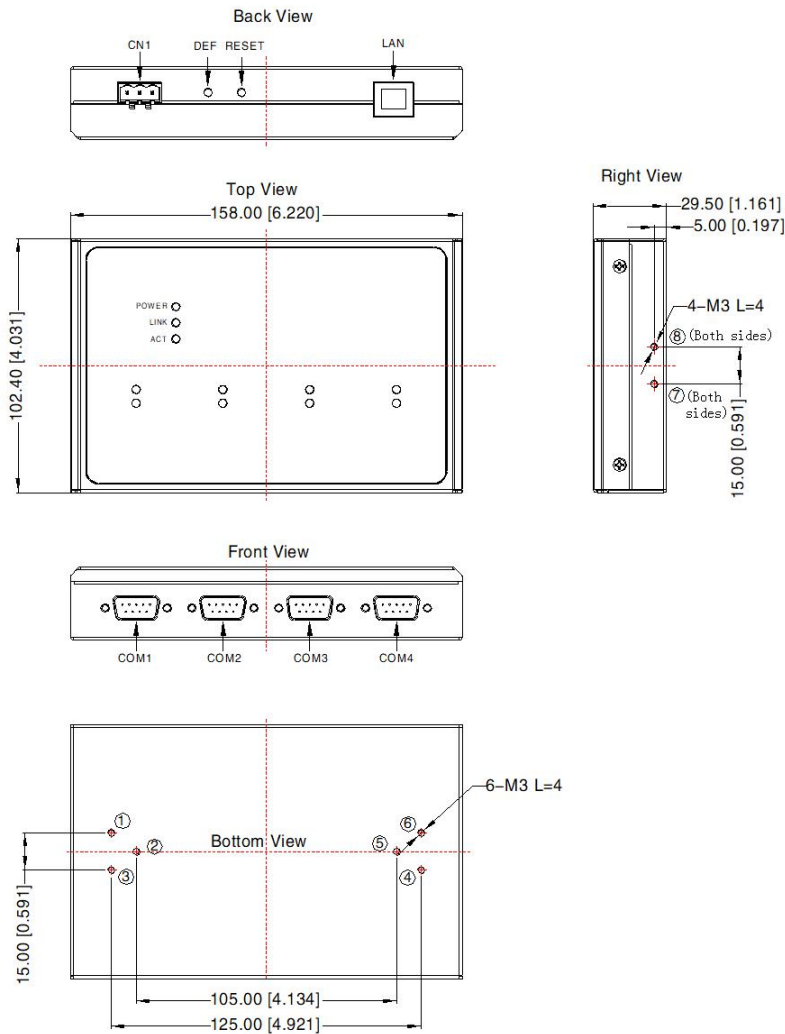
2. List of accessories


Items	Specifications	Unit	Quantity	Graphic
Side type hanging	35*10*10mm	PCS	2	
Transfer test panel	DB9 to 5.08mm-5PIN terminal	PCS	4	
Terminal block	WJ2EDGK-5.08-03P-140-00A	PCS	1	
Terminal blocks	WJ2EDGK-5.08-05P-140-00A	PCS	4	
Sunk screw	Cross recessed countersunk head screw GBT 819.1 M3x4	PCS	8	

3. For additional information please find the application notes on www.mornsun-power.com

Dimensions And Recommended Layout

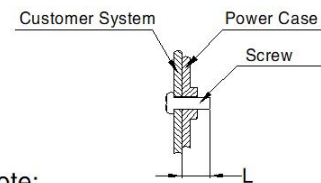
THIRD ANGLE PROJECTION 



CN1 Pin-Out		Customer Connector
Pin	Mark	
1		Connector: 2EDGK-5.08-03P or the same spec.
2	V-	
3	V+	

COM1 ~ 4 Pin-Out				Customer Connector
Pin	RS232	RS485	RS422	
1	NC	NC	TxA	Connector: TE 2311765-2 or the same spec.
2	RxD	NC	TxB	
3	TxD	B	RxB	
4	NC	A	RxA	
5	GND	NC	NC	
6	NC	NC	NC	
7	NC	NC	NC	
8	NC	NC	NC	
9	NC	NC	NC	

Position	Screw Spec.	L(max)	Torque(max)
① - ⑧	M3	4mm	0.4N · m



Note:
Unit: mm[inch]
General tolerances: ± 1.00[± 0.039]

Notes:

1. For packaging information, please refer to Product Shipping Packaging Information, packaging package number: 58240051;
2. Except for special instructions, all indicators in this manual are measured at Ta=25°C, humidity <75%RH, nominal input voltage and output rated load;
3. The test methods of all indicators in this manual are based on the enterprise standards of the company;
4. The above are the performance indicators of the product models listed in this manual. Some indicators of the non-standard models will exceed the above requirements. For the specific situation, we can directly contact our technical personnel;
5. Our company can provide product customization, and you can directly contact our technical staff for specific needs;
6. The product involves laws and regulations: see "Product Characteristics" and "EMC Characteristics";
7. Our products shall be stored according to ISO14001 and relevant environmental laws and regulations, and be handled by qualified company.

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