

Serial port to Ethernet transceiver module

Product features



RoHS



- Comply with IEEE802.3 standard
- Baud rate up to 921600bps
- 10/100M adaptive Ethernet interface
- Support TCP, UDP, REAL COM mode
- Support serial port, Telnet, configuration software, Web server configuration
- Internal integrated RJ45 interface with transformer, can be directly inserted into the network cable communication.
- Up to 1.5kVDC isolation between LAN side and serial port

TD1UDNET-RJ45 is a module product that transmits serial port signals to Ethernet terminal. It can support TCP Client, TCP Server, UDP and REAL COM working modes. The module has two power inputs mode, and adopts the kernel of ARM Cortex-M4 RISC instruction set, and has strong information processing capacity. The data cache is up to 4KB. It can efficiently forward data between serial port and Ethernet, and the module can replace the development of Ethernet function of the customer system, so that the customer system has more advantages.

Selection Guide

Certification	Product model	Power input (VDC)	Number of serial port channels	Number of Ethernet port channels	Working current(mA)	Operating temperature(°C)
-	TD1UDNET-RJ45	3.15-3.45 4.5-30	1	1	3.3V: 115(typ.) 5V: 100(typ.)	-40 to 85

Absolute Limits

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Pin Welding Resistance Temperature	10s max.	-	--	300	°C

Input Specifications

Item	Symbol	Min.	Typ.	Max.	Unit
Input Voltage Of Power Supply (From Pin10 3V3)		3.15	3.3	3.45	VDC
Input Voltage Of Power Supply (From Pin11 VDD)		4.5	5	30	VDC
Input Current(3.3V)	$I_{in(3.3V)}$		115	140	mA
Input Current(5V)	$I_{in(5V)}$		100	115	mA
Input Current(15V)	$I_{in(15V)}$		35	50	mA
Input Current(30V)	$I_{in(30V)}$		18	25	mA
Serial Interface	3.3V standard TTL signal interface				
Network Interface	IEEE802.3 standard network interface				

Users can get 3.3VDC / 4.5VDC~30VDC through Pin10 / Pin11 respectively to make the product work.

Serial Port Features

Item		Symbol	Min.	Typ.	Max.	Unit
TXD Logic Level	High-Level	V_{IH}	2	3.3	3.6	VDC
	Low-Level	V_{IL}		0	0.8	
RXD Logic Level	High-Level	V_{OH}	VCC-0.4	3.1	--	
	Low-Level	V_{OL}	--	0	0.4	

TXD Drive Current	I _r	2	--	--	mA
RXD Output Current	I _r	--	--	8	
Serial Port Baud Rate	Baud	1200	--	921600	bps
Maximum Subcontract Interval	SER _T	--	--	5	ms
Maximum Subcontract Length	SER _{LEN}	--	--	500	Byte

Network Features

Item	Symbol	Min.	Typ.	Max.	Unit
Network Speed	Adaptive network interface	10		100	Mbps
Maximum Number Of TCP Connections				4	
Working Mode Support	Support TCP Server, TCP Client, UDP, Real COM mode				

General Features

Item	Operating Conditions	Value
Isolation Voltage	Testing for 1 minute, leakage current <1mA,	1.5kVDC
Operating Temperature		-40℃ to +85℃
Transportation And Storage Temperature		-40℃ to +85℃
Operating Humidity	Non-condensing	10%-90%
Application Environment		The presence of dust, fierce vibration, impulsion and corrosive gas may cause damage to the product

Physical Specifications

Dimensions	55.33 x 23.11 mm
Weight	12.0g (Typ.)
Cooling Method	Free air convection

EMC Specifications

EMS	ESD	IEC/EN 61000-4-2	Contact ±2kV (without external components), network ports	Perf. Criteria B
	EFT	IEC/EN 61000-4-4	±1kV (without external components), network ports	Perf. Criteria B

Application Precautions

1. Please read the instructions carefully before using, call for our technical support if you have any questions;
2. Do not use the product in hazardous areas;
3. This product is powered by DC power supply, AC power supply is prohibited;
4. Do not dismount and assemble the product without permission to avoid failure or malfunction of equipment;
5. Hot-swap is not supported.

After-sales service

1. Ex-factory inspection and quality control have been strictly conducted for the product; if there occurs abnormal operation or possibility of failure of internal module, please contact the local representative or our technical support;
2. The warranty period for the product is 3 years as calculated from the date of delivery. If any quality problem occurs under normal use within the warranty period, the product can be repaired or changed for free.

Applied circuit

Refer to "TD1UDNET(-RJ45) Application Note".

Design Reference

1. Typical application circuit

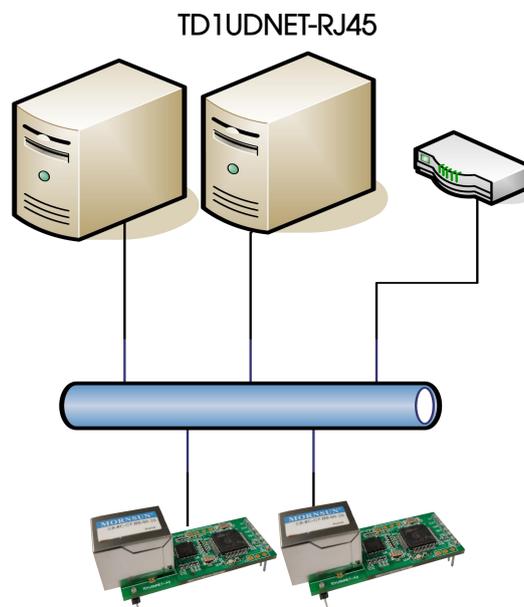
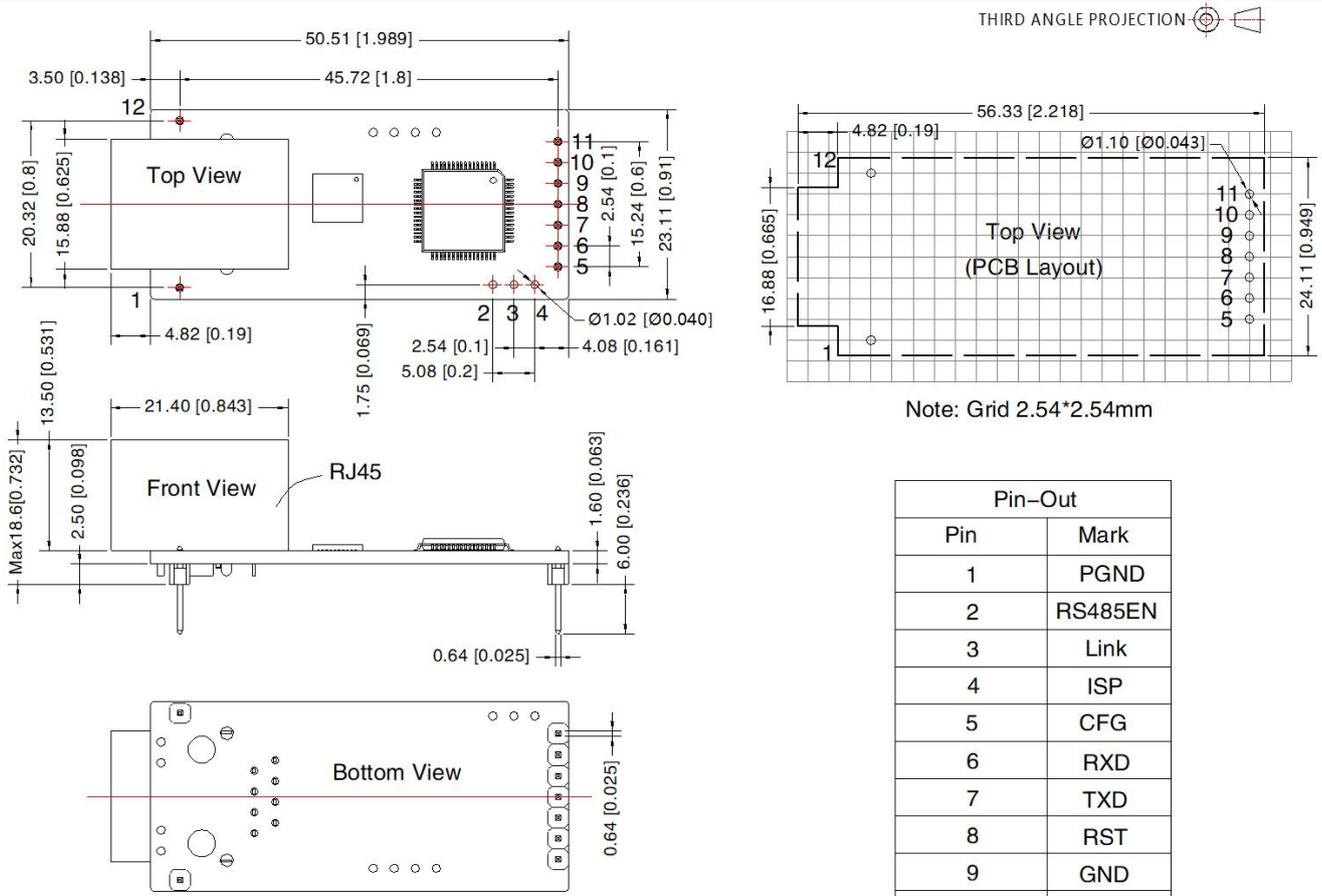


Figure 1

2. For more information, please find the application note on www.mornsun-power.com

Dimensions and Recommended Layout



Pin-Out	
Pin	Mark
1	PGND
2	RS485EN
3	Link
4	ISP
5	CFG
6	RXD
7	TXD
8	RST
9	GND
10	3V3
11	VDD
12	PGND

Note:
Unit: mm[inch]
Pin section tolerances: ± 0.10 [± 0.004]
General tolerances: ± 0.50 [± 0.020]
Connector: RJ45

Notes:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packing bag number: 58240032;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^\circ\text{C}$, humidity<75%RH with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on company corporate standards;
- The performance indexes of the product models listed in this datasheet are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, and please directly contact our technician for specific information;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see "Features" and "EMC";
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

Mornsun Guangzhou Science & Technology Co., Ltd.

Address: No. 5, Kehui St. 1, Kehui Development Center, Science Ave., Guangzhou Science City, Huangpu District, Guangzhou, P. R. China
Tel: 86-20-38601850 Fax: 86-20-38601272 E-mail: info@mornsun.cn www.mornsun-power.com