IT-SDS-3016-T-16D Series

16-ports RS-232/485/422 to Ethernet converter

User Manual

【Summarize】

IT-SDS-3016-T-16D series is an high performance, industrial grade serial to Ethernet server, it can satisfy some kinds of customer requirements in consumption, temperature, volume and handle ability. It provides 16 ports RS232 (RS-232 connector: RJ45) and 1 port 10/100Base-Tx Ethernet, can focus manage disperse serial device, master through network, easy, convenience. In application, can configure, upgrade through WEB.

Moreover, IT-SDS-3016-T-16D series provide strong function configuration tools based in Windows platform, it can guide user configure the device step by step, all configurations are coming true by WEB or Telnet, support cross-gateway and cross-router, user can can flexible configure IP address, server and client mode, data bag size etc.

IT-SDS-3016-T-16D series adopts EMC protection design, can work in rugged environment

【Packing list】

The first time use this product, please check the packaging is intact or not and the attachment is complete or not at first.

- IT-SDS-3016-T-16D series server device server x1
- User manual x1
- Power supply cable x1
- CD x1
- Product qualified card x1
- Warranty card x1

Please handle with care for there are precision components in the device, and it's better to protect the device from excessive vibration to avoid affecting its performance. If you find that the device is damaged or any parts of it is missing during transportation, please notify the Company or the Company's distributor, we will give you proper solution as soon as possible.

【Features】

- Support 16 Port RS-232/485/422.
- Support 10/100M Ethernet.
- Support 300bps~115200bps baud rate.
- Support TCP, UDP, ARP, ICMP, HTTP, DNS and DHCP protocol.
- Support TCP Server, TCP Client, TCP Auto, UDP and Real COM driver working mode.
- Support cross-gateway and cross-router communication.
- Support TCP/IP SOCKET access.
- Support Windows serial driver mode.
- Support virtual serial COM port access and Network interruption automatic recovery.
- Provide Windows configuration tools for easy to use, easy to bath install.
- Support WEB and serial configuration.
- No fan, low consumption design.
- Industrial grade design, IP30 protection grade.
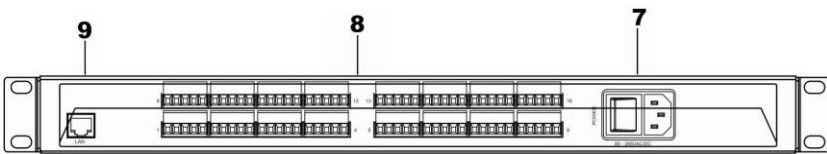- Working temperature: -25～70℃.
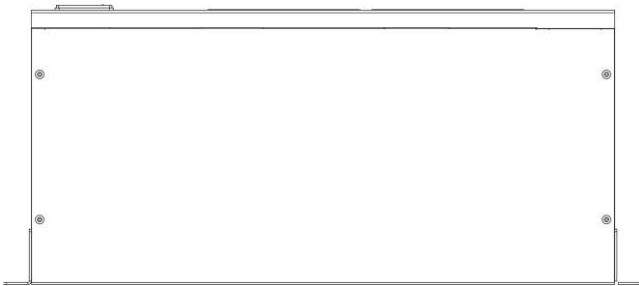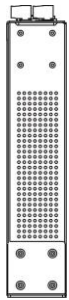- Storage temperature: -30℃-85℃.

【Panel design】
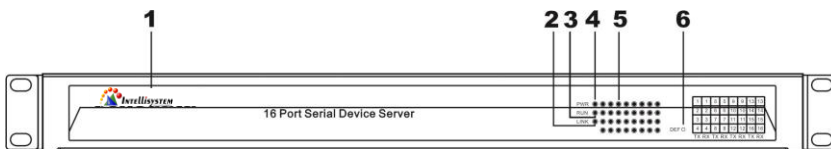
Main view
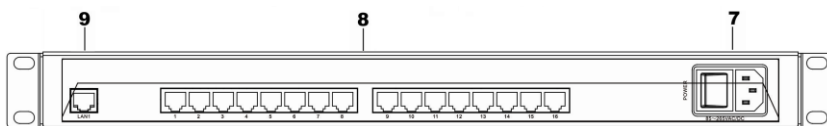
IT-SDS-3016-T-16D-16D(RS-232-P(85/265VAC) back view

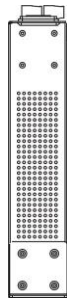IT-SDS-3016-T-16D-16DI(RS-485)-P(85/265VAC) back view
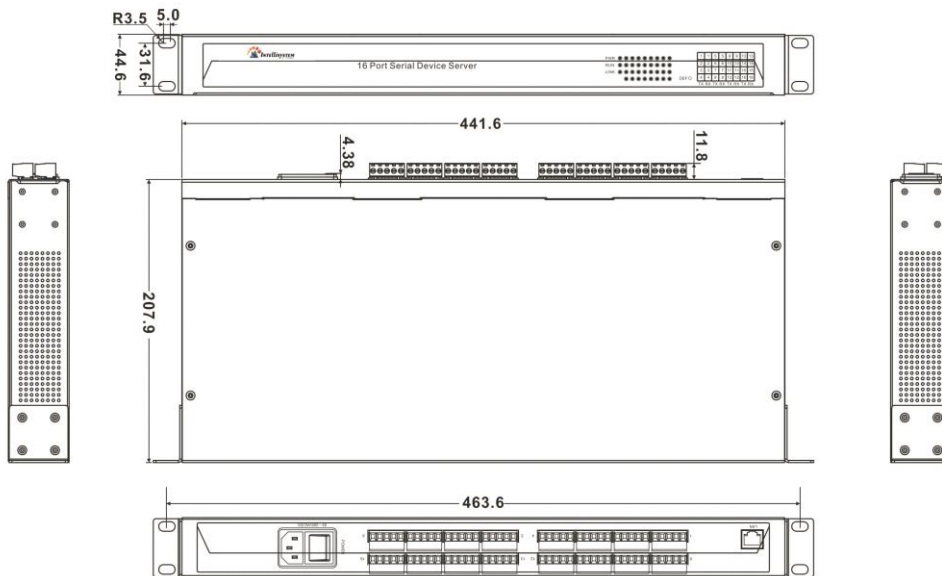
Vertical view

Left v   Right view

1. Company name, product series.

2. Electrical port connection indicator.

3. Device running status indicator.

4. Power (PWR) indicator.

5. Serial port running indicator.

6. Default factory (DEF) button.

7. Power input port.

8. Serial port: COM1~COM16.

9. 10Base-T /100Base-TX Ethernet port.

【Appearance and Dimensions】

【Power supply input】
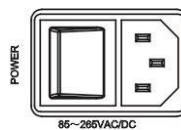
IT-SDS-3016-T-16D-16D(RS-232)-P(85/265VAC) back panel provided power supply input port, the range is 85~265VAC.

Important notice:

1. Power ON operation: Please connect to the device at first
and then connect to the power supply with power cable.

2. Power switch "—" means power ON, "O" means power OFF.

3. Power OFF operation: Please disconnect the
power supply at first and then disconnect the device.

【Communication connector】

IT-SDS-3016-T-16D series support 1 port 10/100M Ethernet and 16 ports RS232 or RS485/422.

10/100BaseT(X) Ethernet port

The pinout of RJ45 port display as below, connect by UTP or STP. The connect distance is no more than 100m. 100Mbps is used 1 00Ω of UTP 5，10Mbps is used 100Ω of UTP 3,4,5.
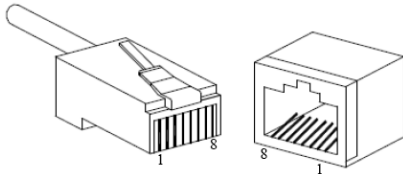
RJ 45 port support automatic MDI/MDI-X operation. Can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connection in MDI. 1→3,2→6,3→1,6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.

NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4、5、7、8	—	—

Note："TX±"Transmit Data±，"RX±"Receive Data±，"—" Not use.

MDI (straight-through cable)

RJ45

TX+	3 ———————— 3	RX+
TX-	6 ———————— 6	RX-
RX+	1 ———————— 1	TX+
RX-	2 ———————— 2	TX-

MDI-X (Cross over cable)

RJ45

(RX+) TX+	3 ———————— 1	RX+ (TX+)
(RX-) TX-	6 ———————— 2	RX- (TX-)
(TX+) RX+	1 ———————— 3	TX+ (RX+)
(TX-) RX-	2 ———————— 6	TX- (RX-)
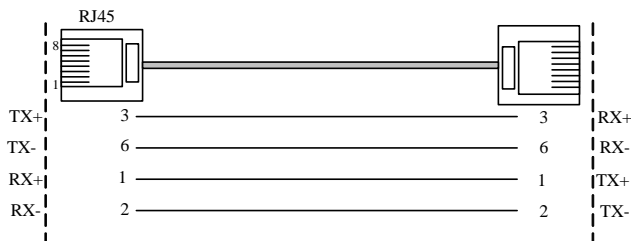
MDI/MDI-X Self-adapt function can let user did not think about the the type of network cable, can connect the device through MDI or MDI-X directly.

Serial port connection

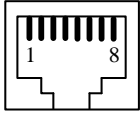The PIN define is as the bellow table:

   IT-SDS-3016-T-16D-16D（RS-232）-P(85/265VAC), RS-232 adopts RJ45 connector.

RS-232 port:

PIN	PIN define	Description
1	TXD	Transmit data
2	RXD	Received Data
3	RTS	Request to send
4	CTS	Clear to send
5	DSR	Data set ready
6	GND	Signal ground
7	DTR	Data terminal ready
8	DCD	Data carrier detect

   IT-SDS-3016-T-16D-16DI(RS-485)-P(85/265VAC), RS-485adopts 5-bit 5.08mm terminal block.

The PIN define is as follows:
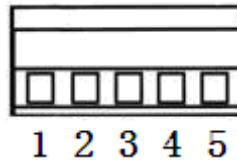
RS-485 port：

PIN	Define
1	D+（A）
2	D-（B）
3	GND
4	—
5	—

 RS-422 port:

PIN	PIN define
1	T+（A）
2	T-（B）
3	GND
4	R+（A）
5	R-（B）

【LED indicator】

The LED indicator on the front panel of IT-SDS-3016-T-16D series can indicate the running system and the operation status, which makes it easy to find and solve problems, the specific meaning of indicator are shown in the table.

System status LED		
LED	Indicate	Description
PWR	ON	Power is connected/Function natural
	OFF	Power is disconnected or function nu-natural
RUN	Flashing	System Running steadily
	OFF	System did not run or running un-steadily
	ON	System Running un-steadily
LINK	ON	Ethernet port connect successfully
	Flashing	Ethernet port has data transmission
	OFF	Ethernet port connect unsuccessfully
TX1~TX16	OFF	None data receive
	Flashing	In receiving data
RX1~RX16	OFF	None data transmit
	Flashing	In transmitting data

- Installation】
- Before installation, confirm that the work environment meet the installation require, including the power needs and abundant space. Whether it is close to the connection equipment and other equipments are prepared or not.
- 1. Avoid in the sunshine, keep away from the heat fountainhead or the area where in intense EMI.
- 2. Examine the cables and plugs that installation requirements.
- 3. Examine whether the cables be seemly or not (less than 100m) according to reasonable scheme.
- 4. Screw, nut, tool provide by yourself.
- 5.Power need: 5VDC power inputs
- 6. Environment: -25°C to 70°C

   Relative humidity 10% to 95%
- 7. Installation: 1U 19" rack mount installation

1. Please put the hangers to device's both side, then fix it into rack.

2. Use the card install at the bottom of the device.

Wiring Requirements

Cable laying need to meet the following requirements,

1.It is needed to check whether the type, quantity and specification of cable match the requirement before cable laying;

2.It is needed to check the cable is damaged or not, factory records and quality assurance booklet before cable laying;

3.The required cable specification, quantity, direction and laying position need to match construction requirements, and cable length depends on actual position;

4.All the cable cannot have break-down and terminal in the middle;

5.Cables should be straight in the hallways and turning;

6.Cable should be straight in the groove, and cannot beyond the groove in case of holding back the inlet and outlet holes. Cables should be banded and fixed when they are out of the groove;

7.User cable should be separated from the power lines. Cables, power lines and grounding lines cannot be overlapped and mixed when they are in the same groove road. When cable is too long, it cannot hold down other cable, but structure in the middle of alignment rack;

8.Pigtail cannot be tied and swerved as less as possible. Swerving radius cannot be too small (small swerving causes terrible loss of link). Its banding should be moderate, not too tight, and should be separated from other cables;

9.It should have corresponding simple signal at both sides of　the cable for maintaining.

【Specifications】

Ethernet port

Standard: 10Base-T, 100Base-TX

Protocol: Support TCP, UDP, APR, ICMP and DHCP

Signal: Rx+, Rx-, Tx+, Tx-

Speed: 10/100Mbps

Working: Full-duplex and half duplex

Working mode: Support TCP Server and Client, UDP, TCP Auto and Real COM driver

Transfer distance: 100m

Connector: RJ45

Serial port

Serial port number: 8 port RS-232 or 8 port RS-485/422

RS-232 signal: DCD, RXD, TXD, DTR, GND, DSR, RTS,

CTS

RS-485 signal: D+, D-, GND

RS-422 signal: T+, T-, GND, R+, R-

Parity bit: None, Even, Odd, Space, Mark

Data bit; 5bit,6bit,7bit,8bit

Stop bit: 1bit,1.5bit,2bit

Band rate: 300bps～115200bps

RS-232 Transfer distance: no more than 15m

RS-232 connector: RJ45

RS-485 transfer distance: 1200m

RS-485 connector: 5 bits terminal block

Protection: class 3 static, RS-485/422, 1.5KAC isolation

LED Indicators

Working statue indicator: RUN

Power (PWR)

Ethernet port connection statue (Link)

Serial port transmit data indicator: TX1~TX16

Serial port receive data indicator: RX1~RX16

Power requirements

Input voltage: 85~265VAC

IT-SDS-3016-T-16D-16D（RS-232）-P(85/265VAC)：

No-load consumption: 1.9W@220VAC

Full-load consumption: 3.4W@220VAC

IT-SDS-3016-T-16D-16DI(RS-485)-P(85/265VAC)：

No-load consumption: 8.8W@220VAC

Full-load consumption: 10.1W@220VAC

Mechanical

Shell: IP30 protection, metal shell

Installation: 1U 19" rack mount

Weight: 2500g

Size (L×W×H): 441.6mm×207.9mm×44.6mm

Environment limits

Working temperature: -25~70℃

Storage temperature: -30~85℃

Relative humidity：5%~95%（non-condensing）

Standards

EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A

EMS: EN 55024,

EN 61000-4-2 (ESD) Level 3,

EN 61000-4-3 (RS) Level 3,

EN 61000-4-4 (EFT) Level 4,

EN 61000-4-5 (Surge) Level 3,

EN 61000-4-6 (CS) Level 3,

EN 61000-4-8,

EN 61000-4-11

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Warranty

Warranty time: 5 years

Certificates

CE, FCC, RoHS, UL508 (pending)