

Model: UT-218

(Product Name: Industrial RS-232 to RS-485/422 Converter with Isolation)

Datasheet

1. Overview

UT-218 is a converter with optoelectronic isolation. It complies with RS-232C, RS422, and RS-485 standards; it converts single side RS-232 signal to a balanced differential RS-422 or RS-485 signal. The built-in optoelectronic isolator can provide as high as 2,500V_{rm} isolated voltage; the fast transient voltage suppression is designed to protect RS-422/RS-485 interface; it adopts advanced TVS (TRANSIENT VOLTAGE SUPPRESSOR); normally, TVS tube is in high impedance state; when both sides of TVS tube suffer from high power impact in a sudden, the voltage suppression will fast lower the impedance from both sides, and soak in large current; with this, the voltage on both sides are fixed at presupposed value, protects the component of circuit from damage. This voltage suppression provides 1,500W each wire with lightning and ESD protection, and surge voltage and transient overvoltage protection on circuit which causing by all reasons; the tiny interelectrode capacitance ensures high speed transmission for RS-422/485 ports. RS-232 port connects with RS-232C standard port by DB9 female connector; RS-422/RS-485 adopts RJ-45 and DB9 male as connector.

This converter is with built-in zero delay auto receiving and transmitting conversion and unique I/O circuit auto control data flow direction without any handshake signal (RTU, DTR); there is no need jumper wire setting for full duplex (RS-422) and half duplex (RS-485) mode, plug & play. It is compatible with current communication software and hardware, no need to set the previous working mode which base on RS-232.

UT-218 optoelectronic isolated converter provides connection for point to point, point to multipoint communication. For point to multipoint mode, each converter is allowed to connect 128 sets RS-422 or RS-485 devices with baud rate 300-115.2Kbps. The power and data flow indicators indicate the working status.

2. Major Functions & Features

- Supports RS-232 to RS-485/422 Converter with Isolation

3. Technical Parameters

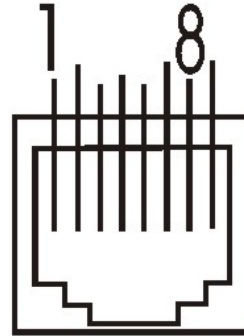
- Standards: RS-232C/ RS-485, /RS-422 EIA/TIA
- Connector: RS-232 DB9 female input; RS-485 DB9 male, RJ-45 output
- Protect level: RS-232 ± 15 KV ESD protection RS-485/422 provides with 1,500W lightning, surge each line
- Working mode: asynchronous half-duplex or full-duplex
- Isolation: 2.5KV_{rms}/500VDC enhanced isolation, special DC/DC module
- Signal indicators: three signal indicators power (PWR), transmit (TXD), receive (RXD)
- Transmission media: twisted-pair or shielded cable
- Baudrate: 115.2K BPS to 300M
38.4K BPS to 2.4Km
9,600 BPS to 5Km
- Dimension: 97mm×65mm×22mm
- Operating temperature: -40°C to 85°C
- Relative humidity: 5% to 95 %
- Transmission distance: 0-5,000m (115,200bps-9,600bps)

4. Hardware Definition and Initial Setup

RS-232C pin assignment

DB9 Female (PIN)	RS-232C Interface Signal
1	DCD
2	Send data SOUT(TXD)
3	Receive data SIN(RXD)
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

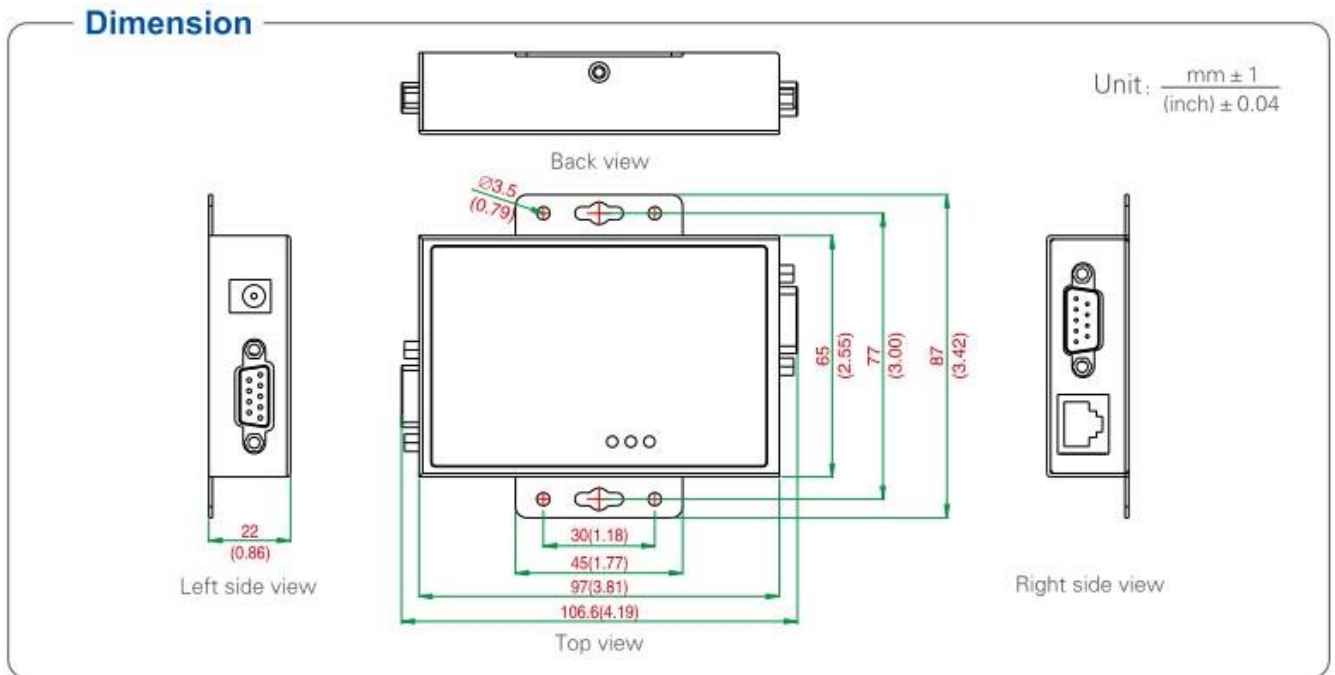
RJ 45 Socket pin assignment diagram



5. Product View (Appearance)



6. Structure dimensions



7. Ordering

Ordering											
Model	Signal/Port			Protection		Baudrate	Environment			Power	
	RS-232	RS-485	RS-422	RS-232	RS-485/422		Temperature		Humidity	Port-Powered	External Power
	DB9 female	DB9 male/RJ45					-25/70℃	-40/85℃	5-95%		
UT-218	✓	✓	✓	±15KV ESD	±15KV ESD/600W Surge	300bps-115.2kbps		✓	✓		9-30VDC
UT-216	✓	✓	✓	±15KV ESD	±15KV ESD/600W Surge	300bps-115.2kbps	✓		✓		9-24VDC
UT-2216	✓	✓		±15KV ESD	±15KV ESD/600W Surge	300bps-115.2kbps	✓		✓		9-24VDC
UT-2016	✓	✓	✓	±15KV ESD	±15KV ESD/600W Surge	300bps-115.2kbps	✓		✓		9-24VDC

Accessories: Power cord/serial cable/terminal block