

# Model: UT-216

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

# Datasheet

## 1. Overview

UT-216 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 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 absorb in big current; with this, the voltage on both sides are fixed at presupposed value, protects the component of circuit from damage. This voltage suppression provides 600W each wire with lightning protection, and surge voltage, instant overvoltage protection on circuit which causing by all reasons; the tiny interelectrode capacitance ensures high speed transmission for RS-422/485 ports. RS-232 connects with RS-232C standard port by DB9 female connector; RS-422/RS-485 adopts 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-216 converter provides connection for point to point, point to multipoint communication. For point to multipoint mode, each converter is allowed to connect 32 sets RS-422 or RS-485 device 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/RS-422 converter

## 3. Technical Parameters

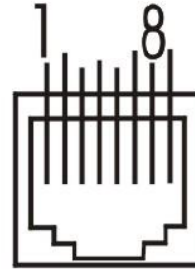
- Standards: RS-232C, RS-485/RS-422 TIA/EIA
- Connector: RS-232 DB9 female input, RS-422/RS485 DB9 male output, RJ-45
- Protection: RS-422/RS-485 each line 600W surge, lightning protection
- Working mode: asynchronous half-duplex or full-duplex
- LEDs for indicating PWR TXD, and RXD activity
- Transmission media: twisted-pair or shielded cable
- Transmission distance: 115.2Kbps to 300m  
38.4Kbps to 600m  
9600bps to 1.2Km
- Dimension: 97×65×22mm
- Operating temperature: -25°C to 70°C
- Relative humidity: 5% to 95%

## 4. Connectors and Signals

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



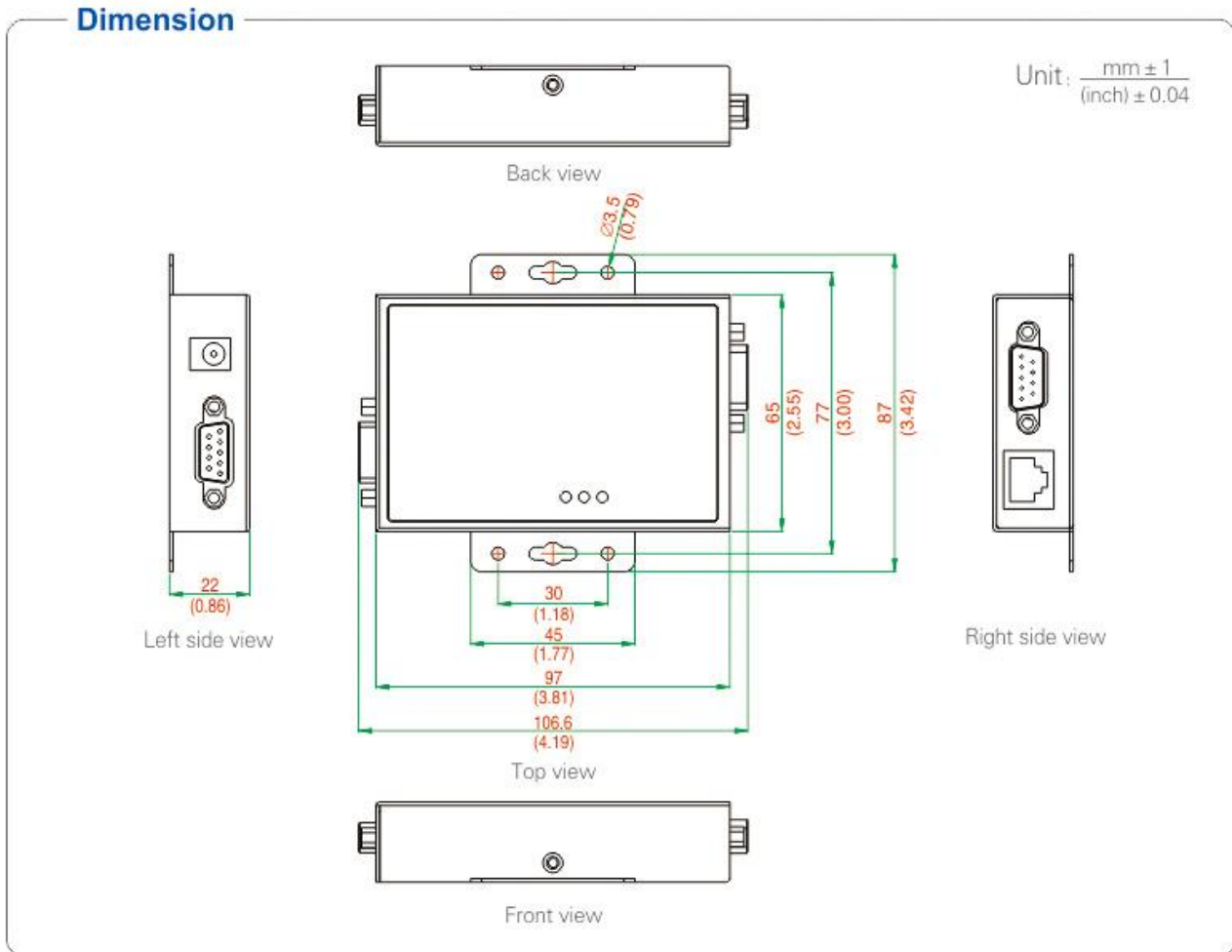
RS-485/RS-422 output signal and terminal pin assignment

DB9 Male(PIN)	RJ 45 (PIN)	Output signal	RS-422 Half-duplex	RS-485 Half-duplex
1	1	T/R+	Sending(A+)	RS-485(A+)
2	2	T/R-	Sending(B-)	RS-485(B-)
3	3	RXD+	Receive(A+)	-
4	6	RXD-	Receive(B-)	-
5	4,5,7,8	GND	GND	GND
6	-	VCC	9-24VDC input	9-24VDC input
7	-	N/A	-	-
8	-	N/A	-	-
9	-	N/A	-	-

## 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°C	-40/85°C	5-95%		
UT-216	✓	✓	✓	±15KV ESD	±15KV ESD/600W Surge	300bps-115.2kbps	✓		✓		9-24VDC

Accessories: Power cord/serial cable/terminal block