Model: UT-501

(Product Name：Industrial RS-232 to RS-485/422 Port-Powered Converter with

Isolation)

Datasheet

1. Overview

UT-501 is an industrial port-powered 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 2,500Vrm 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 600W 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 10 bits terminal block as output.

2. Major Functions & Features

- Industrial RS-232 to RS-485/422 Port-Powered Converter with Isolation

3. Technical Parameters

- Standards: RS-232C/ RS-485, /RS-422 EIA/TIA
- Connector: RS-232 DB9 female input; RS-422/485 10 bits terminal block output
- Protect level: RS-232 ±15KV ESD protection; RS-422/485 600W surge protection
- Isolation: isolated voltage 2,500VRMS 500VDC
- Working mode: asynchronous half-duplex or full-duplex
- Signal indicators: three signal indicators power (PWR), transmit (TXD), receive (RXD)
- Transmission media: twisted-pair or shielded cable
- Baudrate: 300-115.2K bps
- Dimension: 117mm×80mm×25mm
- Operating temperature: -40℃ to 85℃
- Relative humidity: 5% to 95 %(Non-condensing)
- Transmission distance: 0-1,200m (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	CTD
9	RI

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

Terminal	Singal	RS-422 Full-duplex	RS-485 Half-duplex
1	T/R+	Sending(A+)	RS-485(A+)
2	T/R-	Sending(B-)	RS-485(B-)
3	RXD+	Receive(A+)	N/C
4	RXD-	Receive(B-)	N/C
5	GND	GND	GND
6	N/C	N/C	N/C
7	N/C	N/C	N/C
8	N/C	N/C	N/C
9	VCC	N/C	N/C
10	GND	GND	GND

5. Product View (Appearance)

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6. Structure dimensions
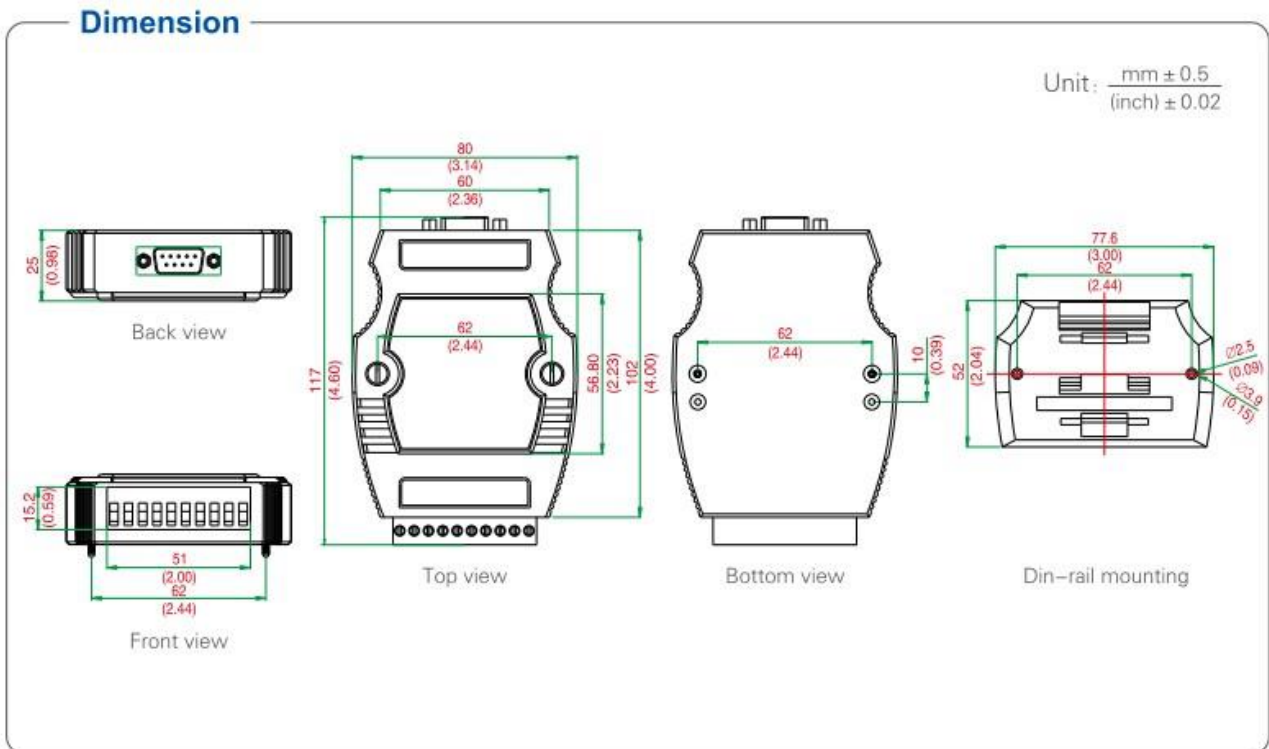
7. Ordering

Model	Signal/Port			Protection		Baudrate	Environment			Power	
	RS-232	RS-485	RS-422				Temperature		Humidity		
	DB9 female	Terminal block		RS-232	RS-485/422		-25/70℃	-40/85℃	5-95%	Port-Powered	External Power
UT-501	✓	✓	✓	±15KV ESD	±15KV ESD/600W Surge	300bps-115.2kbps		✓	✓	✓	

Accessaries: Din-rail mounting