Model: UT-502

(Product Name：Industrial RS-232 to 2 Ports RS-485 Converter with Isolation)

Datasheet

1. Overview

UT-502 is an industrial level converter with optoelectronic isolation. It complies with RS-232C and RS-485 standards; it converts single side RS-232 signal to two balanced differential RS-422 or RS-485 signals. The built-in optoelectronic isolator can provide as high as 2,500Vrm isolated voltage; the fast transient voltage suppression is designed to protect two RS-422/RS-485 interfaces; 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-485 ports. RS-232 port connects with RS-232C standard port by DB9 female connector; RS-485 adopts 10 bits terminal block 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 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-502 optoelectronic isolated industrial 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-485 devices with baud rate 300-115.2Kbps. The power and data flow indicators indicate the working status.

2. Major Functions & Features

- Industrial RS-232 to 2 Ports RS-485 Converter with Isolation

3. Technical Parameters

- Standards: RS-232, RS-485, RS-422 TIA/EIA
- Automatic traffic direction control, no need external flow control signal (RTS), real TXD/RXD/GND communication
- Baud rate: 300bps-115.2Kbps
- Allows connecting 128 sets RS-485 or RS-422 device
- Transmission distance: 5,000m（9,600bps）
- Power: 9-30VDC/350mA
- Power & data flow indicator, failure detection
- Working mode: asynchronous half-duplex (RS-485)
- 2.5KVrms/500VDC enhanced isolation, special DC/DC module, RS-485/422 provides each wire with 600W lighting ,surge & ±15KV ESD   protection
- Connector: DB9 female to 10-pin terminal block
- Transmission media: twisted-pair or shielded cable
- Dimension: 117×80×25mm
- Operating temperature: -40 ~ 85 °C

- Relative humidity: 5% to 95%
- Works with all communication software, plug & play
- Supports all operating system

4. Interface Definition

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

2 ports RS-485 output signal and terminal pin assignment

Terminal	Singal	RS-485 Half-duplex
1	D1+	RS-485(D1+)
2	D1-	RS-485(D1-)
3	ISO1	ISO1
4	D2+	RS-485(D2+)
5	D2-	RS-485(D2-)
6	ISO2	ISO2
7	N/C	-
8	N/C	-
9	VCC	9-30VDC input power
10	GND	GND

5. Product View (Appearance)

6. Structure dimensions
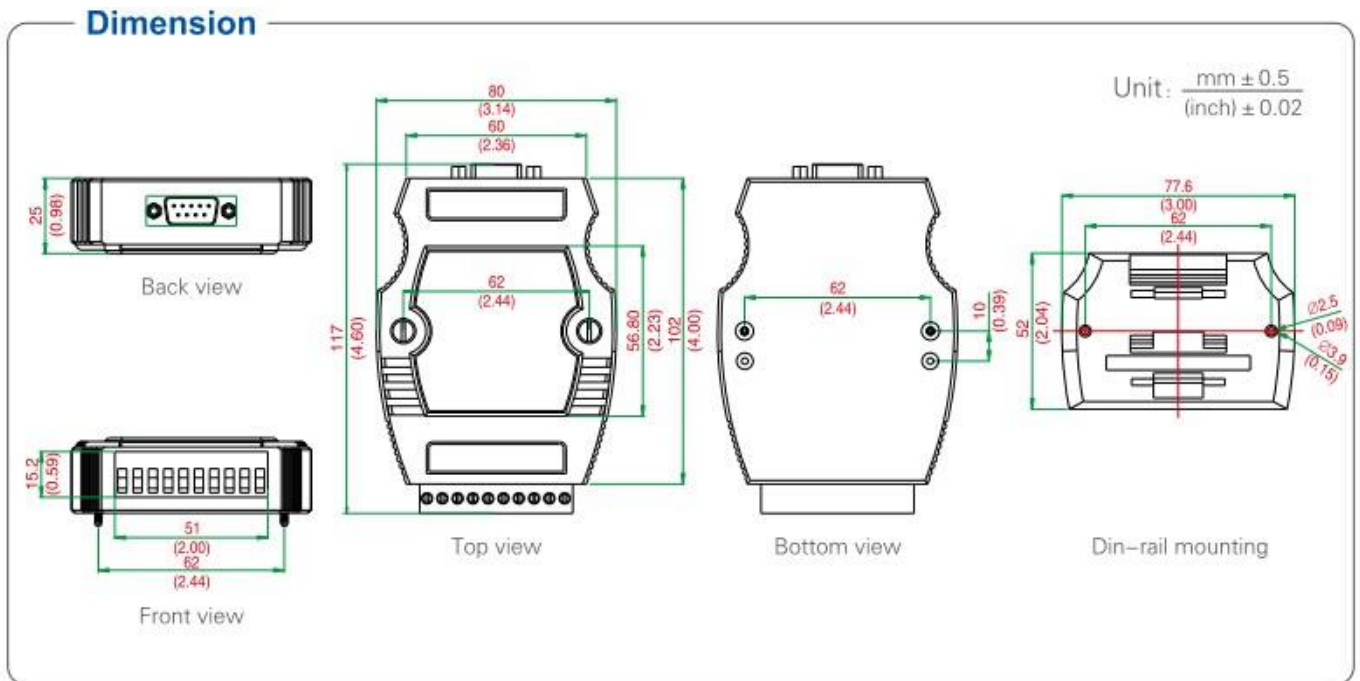
7. Ordering

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–502	✓	✓	✓	±15KV ESD	600W Surge	300bps–115.2kbps		✓	✓		9–30VDC
UT–503	✓	✓	✓	±15KV ESD	600W Surge	300bps–115.2kbps		✓	✓		9–30VDC

Accessaries: Din–rail mounting