

Model: UT-2127

(Product Name: RS-232 to RS-485/422 Port-Powered Lightning Converter with
Opto-Electronic Isolation)

Datasheet



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1. Overview

UT-2127 is a 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 2,500V_{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 big current; with this, the voltage on both sides are fixed at presupposed value, protects the component of circuit from damage. This voltage restraint 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 inter-electrode 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 6 bits terminal block as output.

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.

2. Major Functions & Features

- Supports RS-232 to RS-485/422 Port-Powered Lightning Converter with Optical Isolation

3. Technical Parameters

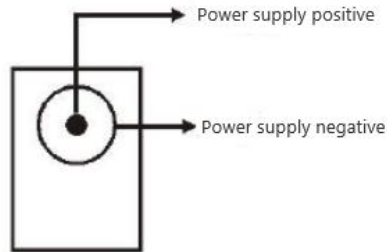
- Standards: RS-232C, RS-485/RS-422 TIA/EIA
- Connector: RS-232 DB9 female input, RS-422/485 6 bits terminal block output
- Protect level: RS-485/422 ± 15 KV ESD protection RS-485/422 provides with 600W lightning, surge each line
- Isolation: 2.5KV_{rms} 500VDC
- Working mode: asynchronous half-duplex or full-duplex
- Transmission media: twisted-pair or shielded cable
- Baud rate: 115.2K bps to 300M
38.4K bps to 600M
9,600 bps to 1.2KM
- Dimension: 61×41×21mm
- Operating temperature: -40°C to 85°C

- Relative humidity: 5% to 95%

4. Pin 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



When the voltage is low, the 5-12V/20mA DC power supply

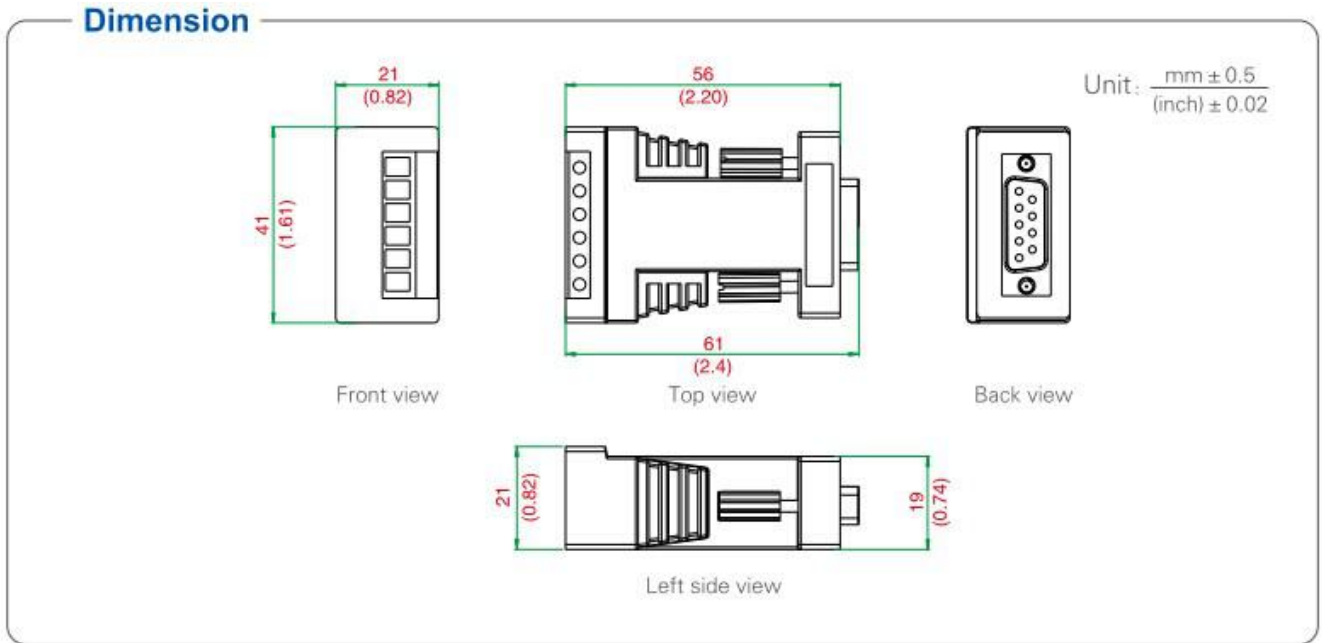
RS-485/RS-422 output signal and terminal pin assignment

Six-position blocks	Output signal	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+)	-
4	RXD-	Receive(B-)	-
5	SGND	SGND	SGND
6	SGND	SGND	SGND

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	Terminal block					-25/70°C	-40/85°C	5-95%		
UT-2127	✓	✓	✓	-	±15KV ESD/600W Surge	300bps-115.2kbps		✓	✓	✓	Additional 5-12V DC