Model: UT-203A

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

Datasheet

1. Overview

For communication between PC with different standard serial port and external equipment or intelligent instruments, standard serial conversion is necessary. This converter is compatible with RS-232C, RS-485/422 standards. It converts RS-232 signals into balanced differential RS-485 or RS-422 signals. The transmission distance of RS-232 communication can be extended to 1.2km.

It adopts unique "RS-232" charge pump technology to drive the system, and gains power without initializing RS-232 serial port. 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 (RTS, 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. This guarantees that there is no need to modify the programming under RS-232 full duplex or half duplex mode; it will run smoothly under current software and hardware.

The transmission rate is 300-115.2kbps. It can be used between hosts, host and SCM, which building a point to point, point to multipoint long-distance communication networking. It is widely applied in industrial automation control system, all-in-one card, access control system, parking system, ATM system, bus charging system, canteen ticketing system, attendance system, and toll station system, etc.

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, with terminal block
- Working mode: asynchronous half-duplex or full-duplex, Automatic selection of differential transmission, no jumper setting
- Transmission media: twisted-pair or shielded cable
- Baudrate: 300bps-115.2Kbps
- Dimension: 63×33×17mm
- Operating temperature: -25℃ to 70℃
- Relative humidity: 5% to 95%
- Transmission distance: 1,200m(RS-485), 5m(RS-232)

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

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

DB9 Male(PIN)	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	GND	GND	GND
6	VCC	+5V input backup power	+5V input backup power

5. Product View (Appearance)

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6. Structure dimensions
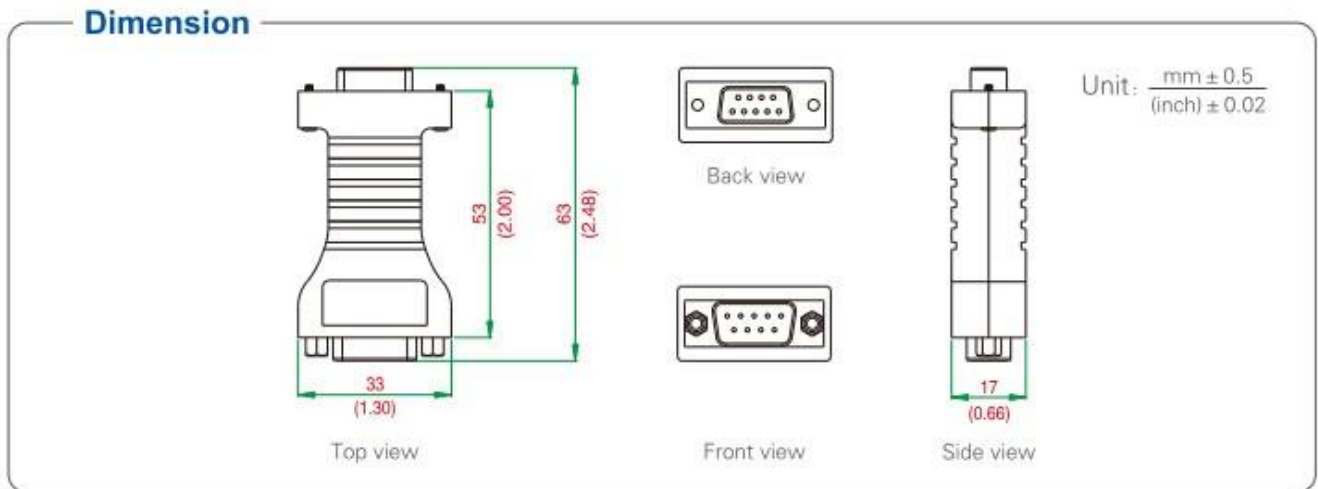
7. Ordering

Model	Signal/ Interface			Protection level		Baud rate	Operating Environment			Power	
	RS-232	RS-485	RS-422				Temperature		Humidity		
	DB9 female	DB9 male		RS-232	RS-485/422		-25~70°C	-40~85°C	5~95%	plug and play	External power
UT-203A	√	√	√	-	±15KV ESD	300bps-115.2kbps	√		√	√	