

# **ZLAN9223E**

## **RS-232/RS-485 Converter**

# **User Manual**

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# 1. Summery



ZLAN9223E is an advanced passive RS232 to RS485 converter developed by Shanghai ZLAN.

Compared with other passive RS232-485 converter in the market, it has the below advantage:

- 1) Support baud rate up to 230400bps. Strong power supply under high baud rate can make long-time communication with no error code. The normal RS232-485 converting can only reach to 57600bps, cannot work in 115200bps.
- 2) Unique exterior design, no exposed circuit board. ZLAN9223E use integral shell, terminal-type RS485 wiring and flange installation, the appearance is beautiful, strong and safe.
- 3) The powerful compatibility with various RS232 interface. ZLAN9223E is built-in 4 channels charge pump charging-circuit, not stealing electricity not only from the two flow control pins but also from TXD pins. It can be compatible with the following RS232 devices:
  - a) Various RS232 instruments with standard RS232 TTL (such as chips with MAX232 interface) and flow control pins (DTR & RTS). Including dual-chips USB to RS232 converter, as PL2303 dual-chips USB cable.

b) Some RS232 devices no have control flow pins (DTR and RTS both suspended), only with 3 lines RXD, TXD, GND. ZLAN9223E can work just with the RXD, TXD, GND are standard RS232 TTL.

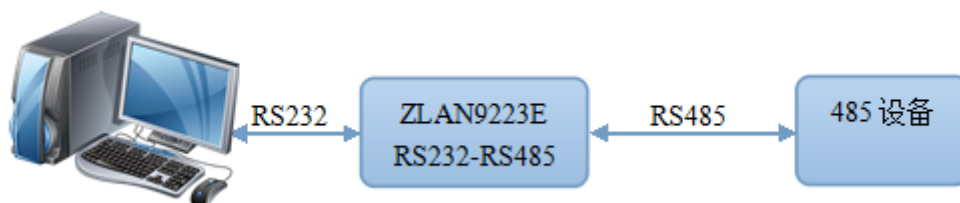
c) Some non-standard RS232 TTL USB to serial port cable, as long as there has flow control line, it can communicate with ZLAN9223E.

Only in the case that the RS232 port using TTL level (such as single chip CH340 USB to 232) and do not have flow control wire lead out, cannot communicate with 9223E.

- 4) Through CE certification, standard design as exporting to Europe.
- 5) With built-in RS485 TVS protection.

The ZLAN9223E converter can realize duplex converting between RS232 and RS485. It can be applied among main controller, among main controller and SCM or peripherals, can construct remote multi-machine communication network of point-to-point and point-to-multi-point, to realize multi-machine response communication. It's widely used in industrial automation control system, IC card, access control systems, parking systems, self-service banking systems, bus charging systems, mess hall selling systems, company attendance management systems, highway toll systems, etc.

The ZLAN9223E converter can convert TXD and RXD signal of RS232 to two-wire balance half-duplex RS485 signal, no need external power supply. It can steal power directly from the 3 feet of RS232 port, meanwhile request sending (RTS), the 4 feet data terminal are ready to auxiliary supply power, the RS232 flow control feet internal short-circuit, to realize automatic flow control.



**Figure 1 Connection Diagram**

## 2. Technical parameter

- 1) **Serial port character:** the interface compatible with EIA/TIA RS232C/RS485 standard.
- 2) **Electric interface:** RS232C—DB9 female head (hole-type), RS485—3PIN flange head
- 3) **Operation mode:** asynchronous half-duplex.
- 4) **Transmission medium:** normal line, twisted-pair or shield line.
- 5) **Transmission rate:** 300~230400bps.
- 6) **Transmission distance:** 15m (RS232C), 1200m (RS485)
- 7) **Transmission protocol:** transparency
- 8) **Working environment:** - 40 °C to 85 °C, relative humidity of 5% to 95%;
- 9) **Signal:** RS232—TXD, RXD, GND. RTS and CTS internal short-circuit.  
RS485—485A, 485B, GND.

## 3. Hardware description



Figure 2 RS485 wiring

3PIN Flange Head	1	2	3
RS485	485A	485B	GND



Figure 3 RS232 line sequence

Shown as figure 3, the top right corner is 1 pin, top left corner is 5 pin, down right corner is 6 pin.

DB9Femsle	1	2	3	4	5	6	7	8
RS232C	DCD	RXD	TXD	DTR	GND	DSR	RTS	CTS

## 4. After-service

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