

DAM-3232

User's Manual



Beijing ART Technology Development Co., Ltd.

DAM-3232 Module

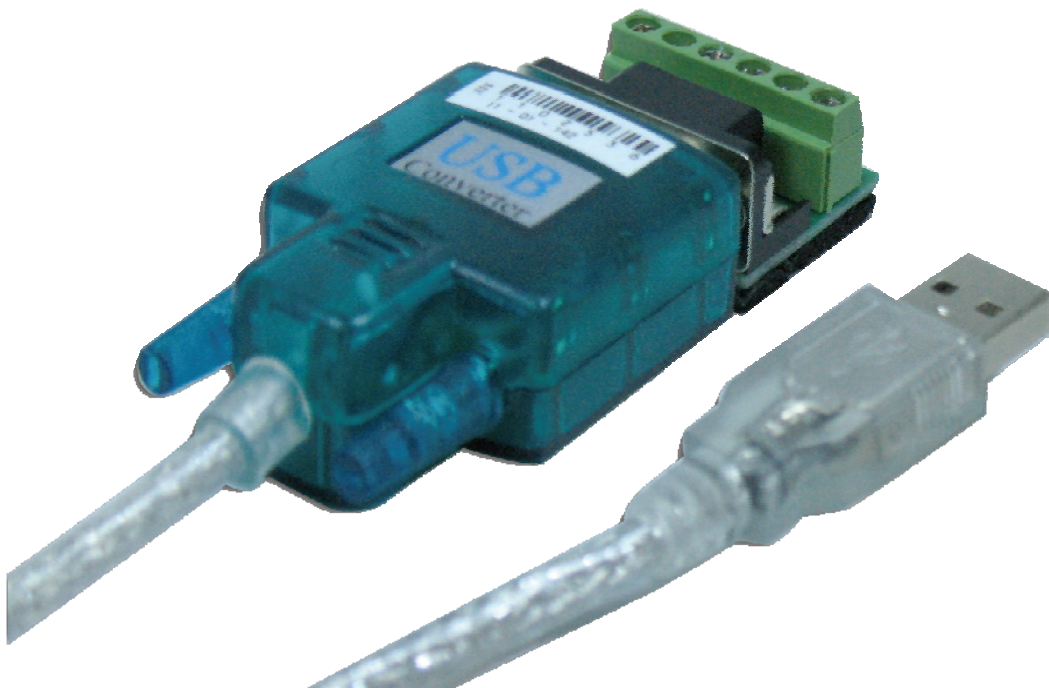
Overview of Module Function

DAM-3232 is General Purpose USB/RS-485/422 converter, no external power supply, compatible with USB, RS-422, RS-485 standards, it is able to convert single-ended USB signal to balanced differential RS-485 or RS-422 signal, provide surge protection, and the very small capacitance between the poles ensures the RS-485/RS-422 interface high-speed transmission.

It is with zero delay automatic send and receive internal conversion, unique I/O circuit automatic control data flow direction, does not need any handshaking signals (such as RTS, DTR, etc.). No jumper setting to achieve full-duplex (RS-422), half-duplex (RS-485) mode, plug and play, ensure that it meets all existing communications software and hardware interface.

The transfer rate of the converter is from 300bps to 921600bps. It can be applied to point to point, point to multipoint communications, in point to multipoint mode, each device allows connect with 32 RS-485 or RS422 devices.

Module Structure



Module Features

- Using DB9 connector

- Compatible with USB (Universal Serial Bus) Rev: 1.1
- Support RS-422/RS-485 interface
- Data (TXD) automatic flow control, zero delay design
- 1Mbps or more than 1Mbps data transfer rate
- Support automatic handshake protocol
- Support remote wake-up and power management
- It can get the power from the USB bus , no external power supply
- ±15KV ESD anti-static protection
- Operating Environment: 0°C to 70°C , relative humidity 5% to 95%
- Support Windows95/98/2000/XP/NT/IMAG

Connector

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

Pin	Output Signal	RS-422 Full-duplex Wiring	RS-485 Half-duplex Wiring
1	T/R+	Sending data (A+)	Data+(A+)
2	T/R-	Sending data(B-)	Data- (B-)
3	RXD+	Receiving data (A+)	NC
4	RXD-	Receiving data (B-)	NC
5	GND	Ground	Ground
6	N/A		

Hardware Installation and Application

This produce with DB9 connector, use twisted pair or shielded cable, connection, removal is very convenient. GND is public ground.

DAM-3232 interface converter supports the following four types of communication:

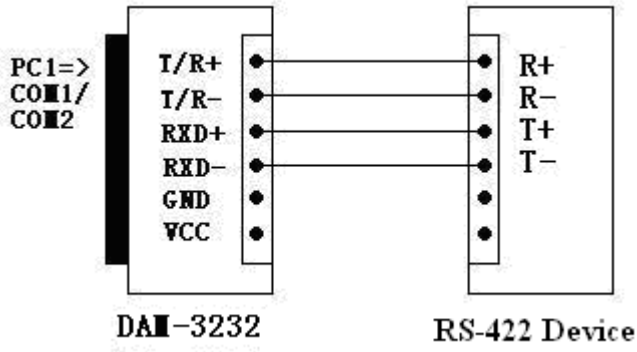
1. Point to point / 4-wire full-duplex
2. Point to multipoint / four-wire full-duplex
3. Point to point / two-wire half-duplex
4. Point to multipoint / two-wire half-duplex

When the converter is used as full-duplex or half-duplex connection, in order to prevent signal reflection and interference, we need to add a matching resistance (120ohms, 1/4 W) in the circuit.

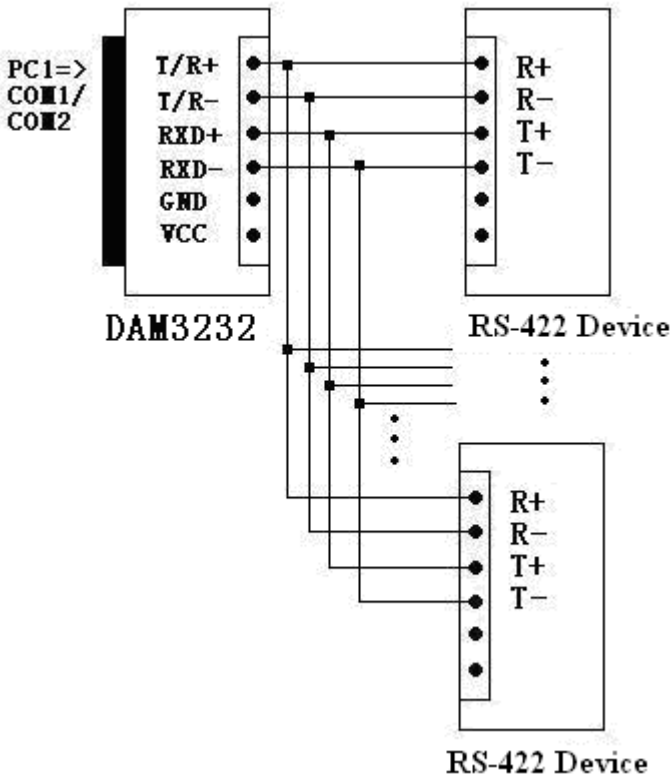
Communication Connection Diagram

USB to RS-422 Converter

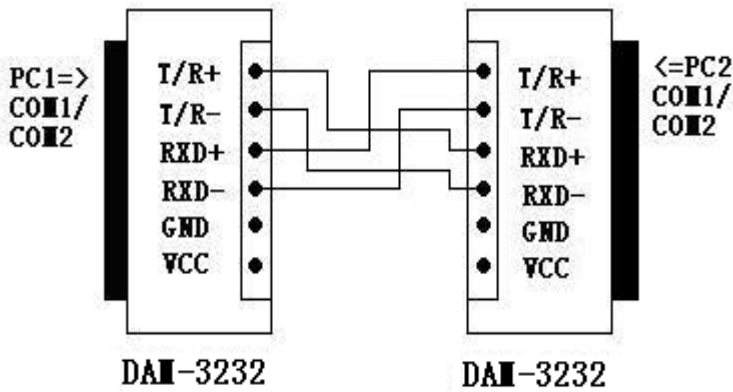
1. Point to point / 4-wire full-duplex



2. Point to multipoint / four-wire full-duplex

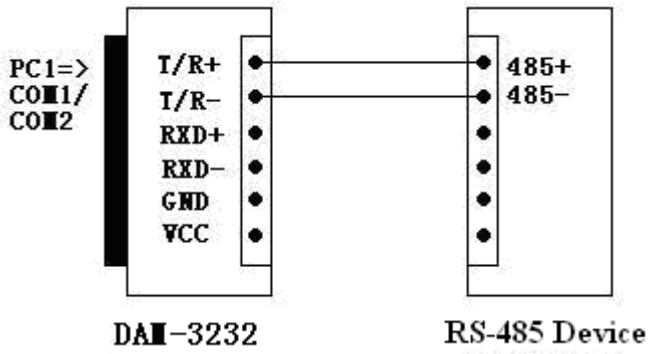


3. The full-duplex communication of multiple DAM-3232 interface converters

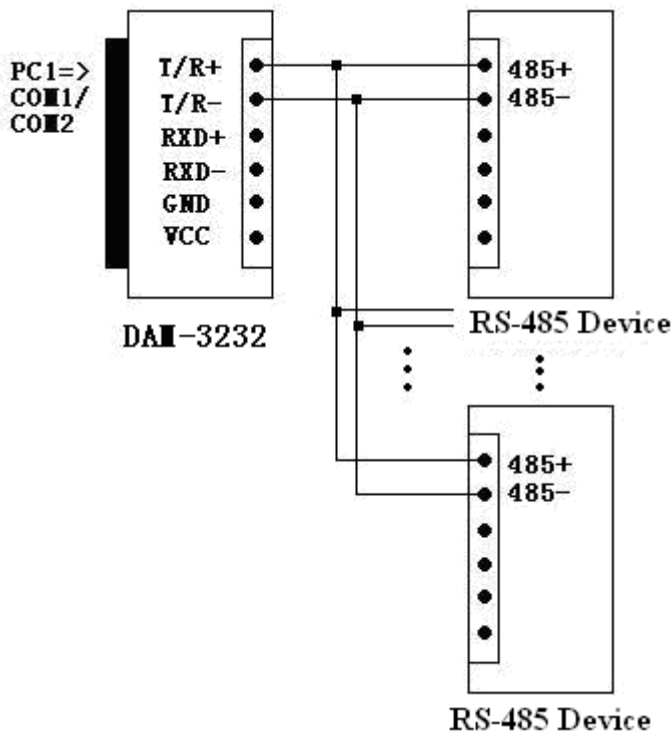


USB to RS-485 Converter

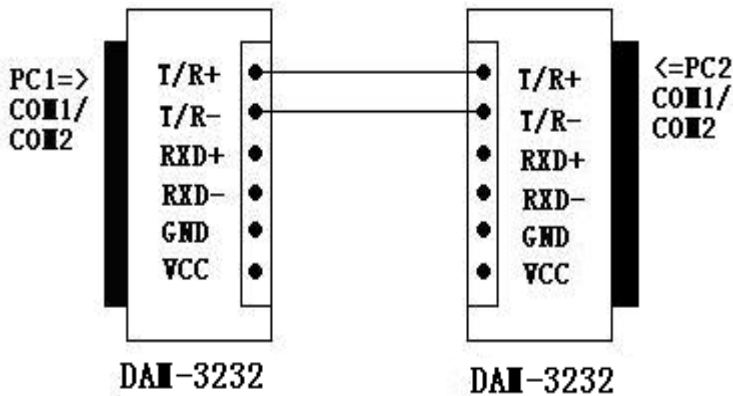
1. Point to point / two-wire half-duplex



2. Point to multipoint / two-wire half-duplex



3. The half-duplex communication of multiple DAM-3232 interface converters



Common Faults and Exclusion Method

1. Data Communication Failure

- Check the USB interface, whether the wiring is correct.

- Check the RS-485/422 output interface, whether the wiring is correct.
- Check whether the terminals are connected well.

2. Data loss or errors

- Check the transfer rate and the format are consistent of the data communications equipment at both ends.