DAM-3230
User's Manual

Beijing ART Technology Development Co., Ltd.

DAM-3230 Module

Overview of Module Function

DAM-3230 is a general USB to RS485/RS422 converter, compatible with USB1.1, 1.0 and 2.0 standards, support RS422 and RS485 standards. Converter with zero delay automatic send and receive conversion, unique I/O circuit controls data flow direction automatically, without any handshaking signals (such as RTS, DTR, etc.), no jumper settings to achieve full-duplex (RS-422), half-duplex (RS-485) mode switch, plug and play.

DAM-3230 uses optical isolation (isolation voltage 2.5KVrms/500VDC insulation), Specific DC/DC module, RS-422/RS-485 provides 600W per-line of lightning and surge, +/-15KV ESD protection.

Terminal Distribution

Module Features

Isolated USB to RS-422/RS-485 converter module

➢ Input: USB standard, USB1.1, 1.0 standard, EIA RS-485, RS-422 standard, compatible with 2.0

➢ Output: RS-422/RS-485 standard

➢ Working Mode: asynchronous point to point, point to multipoint, 2-wire half-duplex , 4-wire full-duplex

➢ Direction Control: automatic data flow control, distinguish and control data transfer direction automatically

➢ Baud Rate: 300-115200bps

➢ Load Capacity: in point to multipoint mode, for each converter, it allows to connect with 128 RS-422 or RS-485 interface devices

➢ Transmission Distance: RS-485/422 is 5000 m (9600bps), USB port is not more than 5 m.

- ➢ Interface Protection: 1500W lightning, surge protection, ±15KV ESD protection

- ➢ Interface Type: USB Interface A-type (female), RJ-45 and DB9 male connector

- ➢ Indicator: one power indicator (PWR), one sending indicator (TXD), and one receiving indicator (RXD)

- ➢ Transmission Media: twisted pair or shielded cable

- ➢ Transfer Rate: 115200bps to 300M

         38400bps to 2.4KM

         9600bps to 5KM

- ➢ Communication Distance: 0~5000m (115200bps ~ 9600bps)

- ➢ Operating Environment: -25℃ to 70℃, relative humidity 5% to 95%

Pin Definition

| Pin	Name	Definition
1	GND	Ground
2	T/R+	RS-485 positive port/ The positive port of RS-422 (send data)
3	T/R-	RS-485 negative port/ The negative port of RS-422 (send data)
4	RXD+	The positive port of RS-422 (receive data)
5	RXD-	The negative port of RS-422 (receive data)
6	GND	Ground

Communication Connection Diagram

USB to RS-422 Converter
1. RS-422 point to point/four-wire full-duplex

    DAM-3230   RS-422 Device
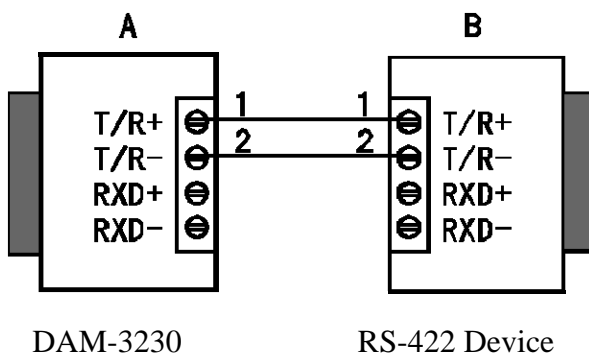
2.   RS-422 point to multipoint/ four-wire full-duplex

RS-422 Device

RS-422 Device

RS-422 Device
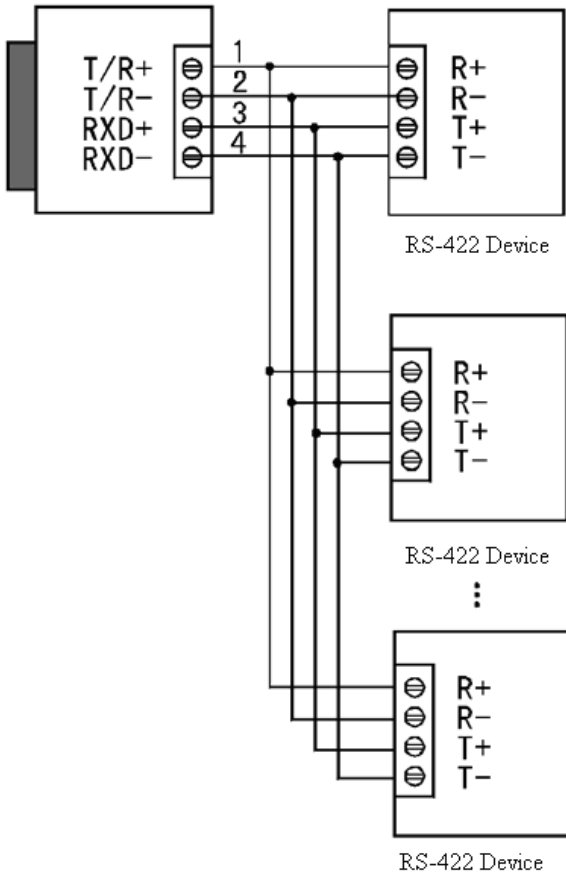
3.   The full-duplex communication of multiple DAM-3230 interface converters
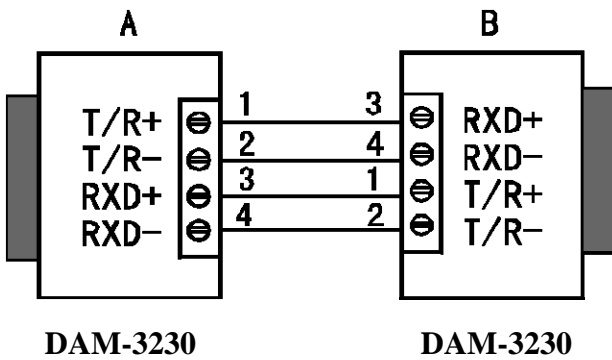
DAM-3230   **DAM-3230**

USB to RS-485 Converter

1. RS-485 point to point/two-wire half-duplex

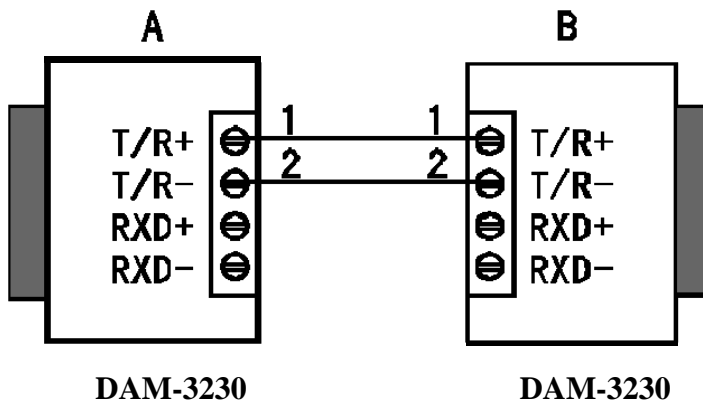DAM-3230   RS-485 Device
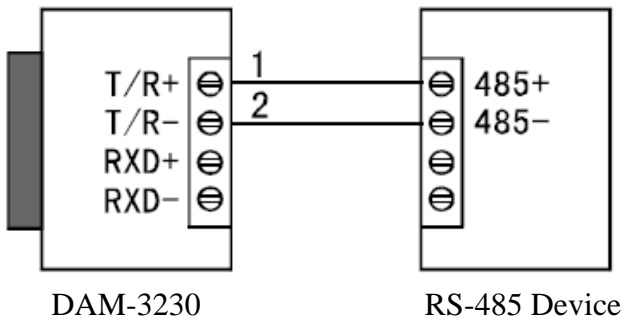
2. RS-485 multipoint/ two-wire half-duplex
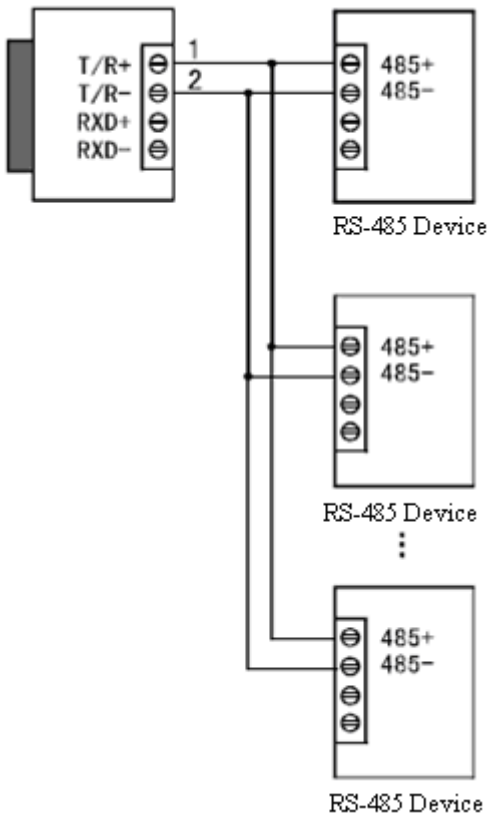
3. The half-duplex communication of multiple DAM-3230 interface converters

DAM-3230   **DAM-3230**

Common Faults and Exclusion Method

1. Data Communication Failure

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

➢ Checks the RS-485/RS-422 output interfaces, whether the wiring is correct.

➢ Check the power supply is normal.

➢ Check the receiving indicator is flashing

➢ Check the sending indicator is flashing

➢ 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.