Model:UT-215
RS-232 Optoelectronic Isolator
User Manual

Ⅰ. Overview

UT-215 is an optoelectronic isolator. It adopts advanced optoelectronic isolation technology, this greatly protects R-232 serial devices from ground loop circuit, surge, lightning, ESD, and hot plug damage. 90% damage reasons of RS-232 port are on ground loop circuit, surge, lightning, ESD, and hot plug, electromagnetic interference, etc. Such as device A connects with device B via RS-232, if the voltage difference of ground wire between A& B is over 50V (normally will be over 80V), the RS-232 communication will be abnormal, RS-232 ports will raise 2,500Vrms in sudden, and continuous 500VDC submit value difference. UT-215 can absorb ESD and electromagnetic interference, so as to protect RS-232 ports from the devices.

The optoelectronic technology makes UT-215 fully isolated the loop between electric and ground of both RS-232 ports; it changes the electrical signal into optic signal from one side, and transmits it to another side, then converts to electrical signal. This can protect the communication devices from ground loop and surge interference, which greatly improve the stability and reliability of the communication system.

UT-215 is widely used in the field of power, insurance, telecom, railway, post office, finance, bank, and stock market, etc, applications such as point to point RS-232 communication system, UNIX multi-user system, monitoring control system, switch toll system, satellite receiver, ATM, etc.

Ⅱ. Feature

Standards: RS-232 EIA& CCITTV.24 asynchronous protocol
Connector: Two DB9 on both sides
Transmission Mode: Asynchronous, full-duplex, full transparent
Isolated Voltage: 2,500Vrms impulse or 500VDC
Baudrate: 300bps-19,200bps
Power: From RS-232(TXD, RTS or DTR)
Dimension: 63mm? 33mm? 17mm
Weight: 30g
Operating Temperature: -40℃ to 85℃
Relative Humidity: 5% to 95%

Ⅲ. Connector and signal

RS-232C DTE pin assignment

DB9 Female (PIN)	RS-232C Signal
1	N/C
2	SOUT (TXD)
3	SIN (RXD)
4	DSR
5	GND
6	DTR
7	CTS
8	RTS
9	N/C

RS-232C DCE pin assignment

DB9 male (PIN)	RS-232C Signal
1	N/C
2	SIN (RXD)
3	SOUT (TXD)
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	N/C

Ⅳ.Model choosing

Firstly, user should understand how many signal pins are using in the RS-232 system, and then choose the right model to protect your RS-232 communication system. For example, for DB9 traditional 2,3, 5 pin terminal, we can choose UT-215B; for 2, 3, 4, 5, 6 pin terminal device, we can choose UT-215A; for 2, 3 5, 7, 8 pin terminal device, we can choose UT-215; for 2, 3, 4, 5, 7 pin terminal device, we can choose UT-215C.

1. Connection

UT-215 is allowed to connect between RS-232 connecting cable and RS-232 ports of the device at any sides (pay attention to: TO DTE and TO DCE direction). Generally speaking, PC and multi-user belong to DTE device; MODEM, terminal belong to DCE device. The final way to distinguish DTE or DCE device should be based on the RS-232 pin signals.

So if two DTE devices (such like terminal and multi-user) are crossing via cross RS-232 cable, when using UT-215, no matter it is on which side, terminal device should be connected on TO DTE side, cable should be on TO DCE side.

Ⅴ.Application

UNIX multi-user system
Long distance switch
Toll terminal
Satellite receiver
Non-common ground RS-232 ATM
Modem, router

Ⅵ. Connection