

High-Speed RS-232/RS-485/RS-422 Multi-Mode Fiber Optic Modem UT-2577/2578 Fiber Modem User Manual

I. Summary

Being a multi-function fiber modem in support of asynchronism RS-232, RS-485 and RS-422 communication interface, UT-2577/2578 is the best choice for the connection from remote terminal unit (RTU) to host (HOST) or Supervisory Control and Data Acquisition (SCADA). It supports multiple asynchronism communication protocols including RS-232, RS-485 and RS-422, and it also supports a combination of two of the RS-232, RS-485 or RS-422 interfaces as well as both of the working modes, i.e. Two-line (half-duplex) RS-485 and four-line (full duplex) RS-422. The ability to support RS-485 mode for data TXD or SD sending control greatly improves its compatibility with various kinds of software besides a sharp simplification of control method. Various kinds of fiber connection between asynchronism serial interfaces are supported by UT-2577/2578 fiber modem. Both half duplex and full duplex communications through fiber between two asynchronism interface devices are supported with a communication distance as far as 4 kilometers for multi-mode and 20 kilometers for single-mode. The transmission rate for RS-232 can reach a maximum of 115.2Kbps, while for RS-485/RS-422 a maximum of 460KBPS can be achieved. Interfaces of different electric standards can be mixed for use with nice EMI/RFT performance, e.g. RS-232 devices can be connected to RS-485/RS-422 devices, and the interface converter or photoelectric isolator can be replaced from RS-232 to RS-485. Two data signal transmissions are supported by UT-2577/2578: data sending and data receiving. At the same time, automatic control circuit is also provided for RS-485/RS-422 data transmission. Zero delay for converting time is achieved. ST interfaces are used for fiber connection.

II. Performance parameters

Supports RS-232/RS-485/RS-422 interfaces.

A synchronic transmission: point-to-point with a rate as high as 460Kbps.

Transmission distance: 4,000 meters for multi-mode and 20,000 meters for single-mode. 40,000 meters can be customized.

Working temperature: -40°C to +85°C, relative humidity from 5% to 95%.

Working wave length: 1310nm (multi-mode) and 1310nm, 1550nm (single-mode)

Electric interfaces:

RS-232: pole-shaped connector.

RS-485/422: pole-shaped connector.

Fiber interface: SC interface (other interface can be ordered ST/FC)

RS-232 interface features:

Standard RS-232 three line interface $\pm 15KV$ (anti-static), ESD protection, maximum rate of 115.2KBPS.

Input voltage DC9-48V@200mA.

RS-485/422 interface features:

Self-adaptive interface technology enables the selfadaptation of rate regulation from interface, no switch needed, and the $\pm 15KV$ (anti-static) ESD protect supports as much as 32 points of polling.

And 600W surge protection each line for RS-422 and RS-485 interfaces.

III. Connector and signal

Connector (PIN)	Signal	RS-422 Full-duplex	RS-485 half-duplex
1	T/R+	Send(A+)	RS-485 (A+)
2	T/R-	Send(B-)	RS-485 (B-)
3	RXD+	RXD(A+)	N/C
4	RXD-	RXD(B-)	N/C
5	TXD	RS-232(Send)	
6	RXD	RS-232(RXD)	
7	GND	RS-232(GND)	
8	VCC	Power input (DC9-48V)	
9	GND	GND	
10	ETH	ETH	

IV. Fiber connection

Two separate optical sender and receiver are used by UT-2577/2578 with a wavelength of 1310nm (multi-mode) and 1310nm (single-mode) and both with standard SC interface. Multi-mode fiber cable of almost all sizes can be used, including 50/125um, 100/140um and 200um.

Single-mode :9/125um Under point-to-point mode, two fibers are to be used for two fiber modems and the directions of the data transmission are opposite.

V. Signal and power indicators

TXD: indicating data sending from fiber interface.

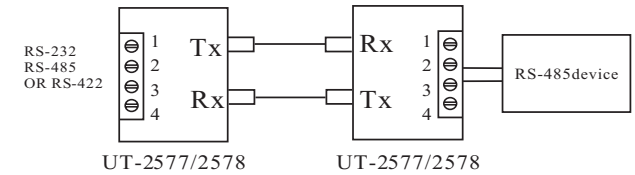
RXD: indicating data receiving by fiber interface.

PWR: power indicator.

FAULT: Null warning indicator

VI. Application and connection sketch

1. Point-to-point half duplex



2. Point-to-point full duplex

