MODEL 271

RS-232/485/422 Fiber Modem

User manual

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【Overview】

Model271 is a sort of more function and economy RS-232/485/422interface optic fiber modem. It is the best choice to connect RTU to HOST or SCADA controller. It used optic fiber as transfer medium, increase the transfer function of system. Communication equipment abstain menace effective to lightning strike, surge, electromagnetism disturb under the bad environment. MODEL271 have the style of Multi-mode, Single-mode, support loop connection and can used for repeater to extend distance.

*Note: When ordering, Please choice multi/single-mode and Master, Slave model.

Why convert serial to Fiber?

Fiber communication not only extends the communication distance, but also provides many advantageous features.

IMMUNITY FROM ELECTRICAL INTERFERENCE: Fiber is not affected by electromagnetic interference or radio frequency interference. It provides a clean communication path and is immune to cross-talk.

INSULATION: Optical fiber is an insulator; the glass fiber eliminates the need for using electric currents as the communication medium.

SECURITY: Fiber cannot be tapped by conventional electric means and is very difficult to tap into optically. Furthermore, radio and satellite communication signals can be captured easily for decoding.

RELIABILITY & MAINTENANCE: Fiber is immune to adverse temperature and moisture conditions, does not corrode or lose its signal, and is not affected by short circuits, power surges, or static electricity. accidentally connecting the power cables to the wrong terminal.

【Package Checklist】

1. **Package Checklist**

   Before you start to install the converter, please verify that the package contains the following:

   —1 Power Supply adapter
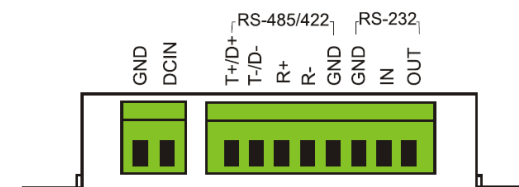
   —1 set of MODEL271

   —1 User Manual

   Please notify your sales representative immediately if any of the aforementioned items is missing or damaged.

【Function and Characteristic】

- Extend RS-232/485/422 transmission distance:
  - up to 120 km with single-mode
  - up to 2 km with multi-mode
- Decrease signal interference. Ring structure or point-to-point structure
- Protect against electronic degradation and chemical corrosion
- Supports a baud rate up to 120 Kbps
- Extended operating temperature from -40 to 75℃

【PIN Define】

MODEL271 RS-232/485/422 interface adopt 8 bit terminal block, the power is 2 bit terminal block; optic port is SC, ST or FC

DCIN	9～36 VDC　input
GND	GND

RS-485/422

T+/D+	RS-422 TXD+(RS-485signal+)
T- /D-	RS-422 TXD-(RS-485signal -)
R+	RS-422 RXD+
R-	RS-422 RXD-
GND	GND

RS-232

IN	RS-232 input(RX)
OUT	RS-232 output (TX)
GND	GND

Fiber interface

IN	Fiber input
OUT	Fiber output

【LED Indicator light】

MODEL271 has 3 indicators light, It is convenient for your project:

Power	Green light, ON: power is ON
RxD	Green light, Blinking when fiber is transmitting data
TxD	Green light, Blinking when fiber is receiving data

【Type application】

Loop road application

As users require, MODEL271 can connect multi-equipment with the same or different interface to the same loop road.
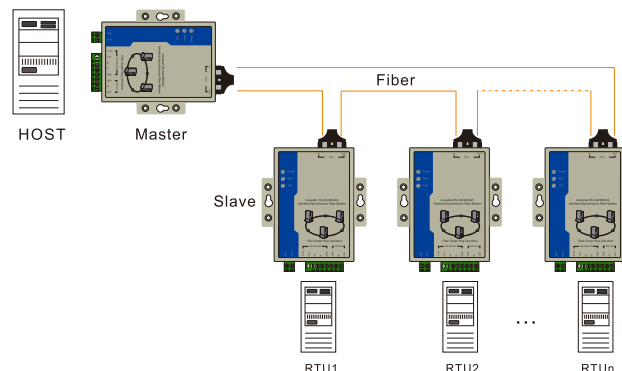
Master and Slave communication theory:

1. Master send data

When Master send data from OUT port , because MODEL271 support loop, at the same time of slave's　RTU1 received the

data, the data send from RTU1's send port to the next Terminal Unit (RTU2)'S　receive port. In turn, all Slave receive the data from Master, but because MODEL271 is half –duplex working mode, HOST's input port do not receive data.

2. Slave send data

When Slave send data, data come to Master pass loop from send port, Master do not send data.　For example RTU2 send data, data come to Master from RTU3, RTU3 and Master received the data, but RTU1 did not received the data.

*Note: When loop application, only Master allow to Master MODEL271, all other Slaves are to Slave MODEL271.

【Specification】

Parameter

Standard: EIA RS-232, RS-485, RS-422

Transfer rate: 0-120Kbps, auto sense signal rate

Transmission:RS-232 port 15m

RS-485/422 port 1200m

Optic port multi-mode 2-5KM

Single-mode 20-120KM

Type: RS-232/485/422 interface adopt 8 bit terminal block, optic port SC, ST or FC

Environment

Operating temperature: -25℃ to 70℃

Storage temperature: -40℃ to 85℃

Humidity: Relative humidity 5% to 95%

Power supply

Power input: 9V～36V DC ,consumption 2W

Dimension

H×W×L: 100mm×69mm×22mm

Shell: Iron

Color: White

Weight: 230g

【Installation】

Model271 provides DIN-rail and wall mounting two types of installation:

Installation size: