

D-TECH RS232/485/422 Single-Mode Fiber Optic Transceiver

Variants

DT-9077-FC port

Details

DT-9077 Industrial RS232 / RS485 / RS422 Fiber Modem

3-in-1 Industrial Serial-to-Fiber Converter • Single Mode up to 20KM

Product Overview

The **DT-9077** is an industrial-grade fiber modem designed to extend **RS232, RS485 and RS422** serial communication over optical fiber. It provides reliable long-distance data transmission for industrial automation, SCADA, RTU, monitoring and remote communication systems.

The modem supports **RS485 2-wire half-duplex** and **RS422 4-wire full-duplex** communication. Transmission distance reaches up to **20KM over single-mode fiber** and **5KM over multimode fiber**.

20KM Single Mode	460 Kbps RS485 / RS422	3-in-1 RS232 / RS485 / RS422
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Key Features

? RS232 / RS485 / RS422 in one device	? Baud rate adaptive
? Point-to-point fiber communication	? 1310 nm operating wavelength

? Single Mode: up to 20KM	? Multimode: up to 5KM
? RS485 2-wire half-duplex	? RS422 4-wire full-duplex
? RS232 up to 115.2 Kbps	? RS485 / RS422 up to 460 Kbps
? ±15 kV ESD protection for RS232	? TVS protection for RS485 / RS422
? LED status indicators	? Wide DC power input

Technical Specifications

Parameter	Specification
Model	DT-9077
Product Type	Industrial Serial-to-Fiber Modem
Serial Interfaces	RS232 / RS485 / RS422
RS485 Mode	2-Wire Half-Duplex
RS422 Mode	4-Wire Full-Duplex
RS232 Data Rate	Up to 115.2 Kbps
RS485 / RS422 Data Rate	Up to 460 Kbps
Operating Wavelength	1310 nm
Single-Mode Distance	Up to 20KM
Multimode Distance	Up to 5KM
Fiber Interface	ST Standard; SC / FC Optional
Fiber Connection	Dual Fiber; Single Fiber Optional
Electrical Connection	Screw Terminal

Input Voltage	DC 9–35 V
RS232 Protection	±15 kV ESD Protection
RS485 / RS422 Protection	TVS Diode Protection
Relative Humidity	5% – 95%

Screw Terminal Pin Assignment

Pin	Signal	RS422 Full-Duplex	RS485 Half-Duplex
1	T/R+	Send (A+)	A+
2	T/R?	Send (B?)	B?
3	RXD+	Receive (A+)	Not Used
4	RXD?	Receive (B?)	Not Used
5	TXD	RS232 Send	
6	RXD	RS232 Receive	
7	GND	RS232 Ground	
8	VCC	DC 9–35 V	
9	GND	Power Ground	
10	ETH	ETH Protected Area	

Optical Fiber Connection

DT-9077 Unit A – TX ? Optical Fiber ? RX – DT-9077 Unit B

DT-9077 Unit A – RX ? Optical Fiber ? TX – DT-9077 Unit B

Important: For the standard dual-fiber configuration, two DT-9077 units are required. Connect TX ? RX and RX ? TX between the two units.

Typical Applications

SCADA Systems – Long-distance communication between controllers and remote equipment

RTU Communication – Fiber connection for remote terminal units

Industrial Automation – Factory, plant and industrial equipment communication

Serial Fiber Extension – Extend RS232 / RS485 / RS422 communication over fiber

Remote Monitoring – Data acquisition and monitoring over long distances

DT-9077 Industrial Fiber Communication

A practical solution for converting and extending RS232, RS485 and RS422 serial communication over optical fiber, especially where long distance and electrical isolation are required.