

## **Serial RS-232/422/485 to Ethernet Fiber Converters**



*Illustrated: Two Serial Rs-232 / 422 / 485 to Ethernet Fiber Converters plus one Copper Converter*

Canary's competitively priced CSE-D9M1/D9S1 series of Serial-to-Ethernet Fiber optic media converters is a cost-effective solution to the integration of Serial devices with 100BASE-FX Ethernet networks.

Simple setup and installation, combined with multi-interface (RS-232/422/485) support, make CSE-D9M1/D9S1 converters ideal tools for easily migrating short-ranged serial devices to highly flexible Ethernet networks. With CSE-D9M1/D9S1 converters, users retain their investments in low-cost serial devices while enjoying the longer range, flexibility, and data handling power of Ethernet access.

***Pushing the leading edge ... advancing the state of the art.***

**CSE-D9MX**  
Serial to  
Multi-mode fiber

**CSE-D9SX**  
Serial to  
Single-mode fiber

### **Features:**

**Supports  
asynchronous data  
transfer rate  
up to 500Kbps**

**DIP switch-enabled  
terminator resistor**

**512 Kbyte  
memory buffer**

**Cost effective  
integration of serial  
devices with  
100BASE-FX  
Ethernet networks.**



## Product Specifications

### Standards

- Fast Ethernet  
IEEE 802.3u (100BASE-FX)
- Serial EIA/TIA RS-232E, RS-422, RS-485  
EIA/TIA 574.

### Interfaces

- Fiber:  
100BASE-FX: ST, SC  
Multi-mode: 50/125, 62.5/125,  
100/140  $\eta$ m  
Single-mode: 9/125  $\eta$ m cable
- Serial: One RS-232/422/485;  
Female DB-9
- Signals:  
RS-232: - TxD, RxD, RTS, CTS, DTR,  
DSR, DCD, GND  
RS-422: - TxD+/-, RxD+/-, RTS+/-,  
CTS+/-, GND  
RS-485: Data+/-, Data+/-, GND

### Diagnostic LED Indicators for device status: Power, Link, Receive Activity

### Power

- Input Voltage: 120 VAC
- Output: 12 VDC 800mA (External power adapter)
- Frequency: 60 Hz

### Protocols

- RTS, CTS, DCD, DTR, DCR  
and IEEE 802.3u

### Physical

- Dimensions: 4.3 x 2.9 x .92 inches  
(LxWxH) (109.2 mm x 73.8 mm x 23.4 mm)
- Weight: 0.70 lb (0.32 Kg)
- Emissions: FCC Part 15 of Class A;  
CE Approved

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## Serial RS- Complete Converters

### Switches

- Mode Switches: Push button,  
DTE / DCE
- DIP Switches: RS-232, RS-422  
RS-485/Auto, RS-485/RTC

### Environment

- Operating Temperature: 0° to 55° Celsius;
- Relative Humidity: 10% to 80%, non-condensing
- Storage Temperature: -20° to 70° Celsius;
- Relative Humidity: 5% to 90%, non-condensing

### Warranty

- Three years, parts and labor

The pages that follow provides ordering information for Canary's Serial RS-232/422/485 to Ethernet Fiber Converters products:

- **Serial to Multi-mode fiber**  
**CSE-D9MX**
- **Serial to Single-mode fiber**  
**CSE-D9SX**



ISO 9001 : 2000

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## Serial RS-232/422/485 to Ethernet Fiber Converters

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**CSE-D9MX** – Serial to Multi-mode fiber

**CSE-D9SX** – Serial to Single-mode fiber



*Illustrated: Serial RS-232 / 422 / 485 to Ethernet Fiber showing Standard SC Connectors*

Featuring a multi-protocol DB-9 connector (RS-232, RS-422 and RS-485), and a choice of Fiber connectors, the CSE-D9M1/D9S1 series of media converters facilitates integration of asynchronous network devices with a TCP/IP based Ethernet network without requiring removal, replacement, or modification of the current serial cable infrastructure. The CSE-D9M1/CSED9S1 series is the right solution to reliably link remote terminals to host computers, and are perfect for manufacturing process control and security applications where electromagnetic/radio frequency interference is a major concern. Each unit offers economical transport of serial data over Ethernet fiber networks with extended distances of up to 30km.

A switch-enabled Terminator is used to make the CSE-D9M1/D9S1 converter present the characteristics (illusion) of an infinite line, thereby creating a true multi-drop network.

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- Complies with EIA/TIA-232E, EIA/TIA-422, EIA/TIA-485
  - Diagnostic LEDs for device status: power, link and receive data
  - Supports asynchronous data transfer rate up to 500 Kbps
  - DTE, DCE push-button for device configuration
  - Straightforward 'plug-and-go' installation
  - DIP switch enabled termination resistor
  - Supports full and half-duplex modes
  - Available with SC/ST connectors
  - FCC Class A and CE approved
  - 512 KByte memory buffer
  - External power supply
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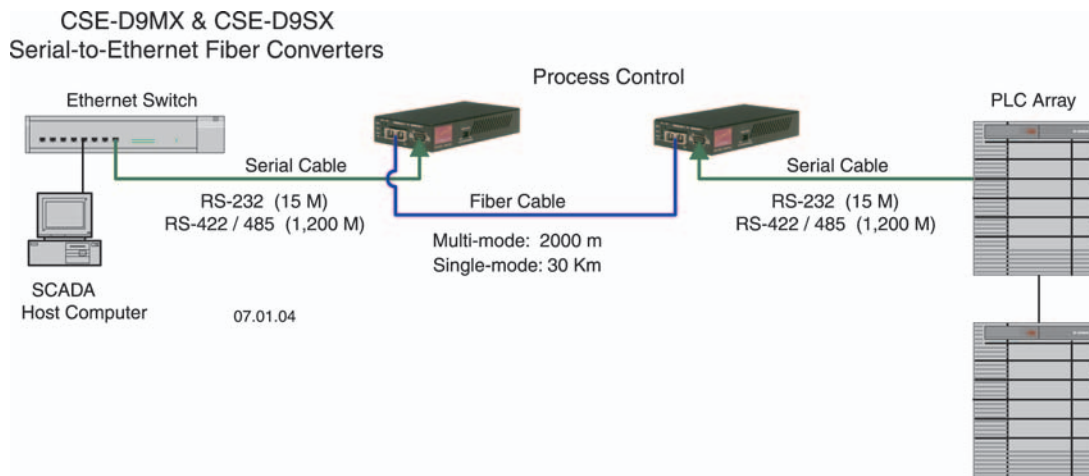
# Serial RS-232/422/485 to Ethernet Fiber Converters

**CSE-D9MX** – Serial to Multi-mode fiber

**CSE-D9SX** – Serial to Single-mode fiber

## Ordering Information

Model Numbers	Media Types	Min. Tx PWR	Max. Tx PWR	Rx Sensitivity	Min. PWR Budget	Max.PWR Budget	Max. Input PWR	Connector Type	Wavelengths (nm)	Transmit Distance
CSE-D9-M1	RS / MM *	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	N/A	DB-9 / SC	1310 nm	2000 m
CSE-D9-M2	RS / MM	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	N/A	DB-9 / ST	1310 nm	2000 m
<i>Specifications above in blue are for multi-mode, fiber connectors. Specifications below for single-mode, fiber connectors.</i>										
CSC-4D9-S1	RS / SM	-15.0 dBm	-8.0 dBm	-34.0 dBm	19.0 dB	26.0 dB	-7.0 dBm	DB-9 / SC	1310 nm	30 Km
CSC-4D9-S2	RS / SM	-15.0 dBm	-8.0 dBm	-34.0 dBm	19.0 dB	26.0 dB	-7.0 dBm	DB-9 / ST	1310 nm	30 Km
<i>* Serial RS-422 / 485 interfaces (copper cable): 24 AWG</i>										



This diagram illustrates typical applications for CSE-D9M1/D9S1 series converters. The actual distances will depend on several factors including the quality of cables used and the terminal equipment employed.