

STF-500C Series

Self Healing Serial Fiber Redundant Network

Industrial RS-232/422/485 Serial to Single or Dual 100Fx Fiber Converter



Features

- ▶ Supports Point-to-Point, Daisy Chain or Ring Connection
- ▶ Supports RS-232, RS422/485 (2/4 Wire) Transmission to Single or Dual Fiber Connections
- ▶ Enhanced Serial Baud Rate up to 1024Kbps
- ▶ Supports SC or ST Multi-Mode in 2Km, Single-Mode in 30Km
- ▶ 2.5KV Isolation Protection for Serial Signal
- ▶ Supports Relay Output for Power or Link Failure Warning
- ▶ 10 Position Rotary Switch for RS-422/485 Pull High/Low Transmission
- ▶ Hardened housing with IP30 protection
- ▶ Fan-less and Din-Rail design for harsh industrial environment
- ▶ Redundant Dual Power Inputs (12 ~ 48VDC)
- ▶ Operating Temperature Range: Standard: 0~60°C, EOT: -40~75°C
- ▶ 5-Year Warranty



Overview

The Antaira STF-500C Series are Industrial Grade Design Serial-to-Fiber Media Converters that provide rugged solution to extend asynchronous RS-232, or RS-422/485 serial data transmissions over a distance of up to 2Km in Multimode fiber, or up to 30Km in Single mode fiber.

The converter is capable of selecting interface modes for connection to RS-232 (3 or 5 wire), RS-485 (2 or 4 wire, half or full duplex) or RS-422 (4 wire, full duplex). With the High Performance design, the STF-500C series provide:

High Data Protection:

- ▶ Secures Asynchronous Serial Data transmissions over EMI resistant fiber at speeds up to 1024Kbps
- ▶ Built-in RS-485 auto detection feature, 8KV ESD Protection and 2.5KV Isolation for Serial data transmission protection; and 10 positions Rotary Switch for RS-422/485 Pull high/low feature.

Secure Serial Network:

- ▶ Supports Point-to-Point, Daisy Chain, and Half Duplex Ring Topology Fiber Network
- ▶ STF-502C series supports Point-to-Point, Single Duplex Fiber connection (without Protection), or Dual Duplex Fiber connection (with Fiber Protection) - Redundancy Serial Fiber Network with Dual Fiber connections

Easy Monitoring and Maintenance:

- ▶ Built-in Dual alarm relay contacts and Dual redundant DC power inputs
- ▶ Front LED indicators for any Power, TD/RD, or Fiber Link failure monitoring

The STF-500C Series is a high performance & protection solutions for critical applications, such as

- ▶ High Serial Isolation Protection for Outdoor Equipment data extension in ITS Signaling, or VMS;
- ▶ Dual Fiber Ring Redundancy Serial Network in Firm Alarm Panels control;
- ▶ EMI resistant for IEDs data transmission in Substation Automation;
- ▶ Industrial Control in Process Control Automation, such as WWTP and Oil/Gas/Mining.

Specifications

STF-500C Series Specifications

Optical Fiber Interface

Fiber Connector:	SC or ST
Cable Requirement:	Multi-Mode: 50/125um, 62.5/125um Single-Mode: 9/125um
Fiber Port:	STF-501C with 1 Fiber Port STF-502C with 2 Fiber Ports
Transmission Distance:	Multi-Mode: 2km Single-Mode: 30km
Wavelength:	Multi-Mode in 1310nm Single-Mode in 1310nm/1550nm
Tx Power:	Multi-Mode: -14 ~ -20 dBm Single-Mode: -5 ~ -15 dBm
Rx Sensitivity:	Multi-Mode: -31 dBm Single-Mode: -35 dBm

Serial Interface

Serial Port Connector:	RS-232 (DB9 Female) RS-422-4w (Terminal Block) RS-485-2w, or 4w (Terminal Block)
Baud Rate:	50 up to 1024Kbps (RS-422/485) 230.4Kbps (RS-232-CH1) 115.2Kbps (RS-232-CH2)
Serial Isolation:	2.5KV
ESD Protection:	8KV
Pull High/Low:	Selected by 10 Position Rotary Switches

Power Requirements

Power Input:	12, 24, 48 VDC (9.6 ~ 58VDC absolute)
Power Consumption:	5W
Power Connector:	Dual Power Inputs with Alarm Relay Contact
Power Protection:	Reverse Polarity Protection

Mechanical Characteristics

Housing:	Metal, IP30 Protection
Dimensions:	106 x 39 x 142 mm (4.72 x 1.54 x 5.59 in)
Weight:	720g
Mounting:	DIN-Rail Mounting, and Wall Mounting Kits Included

Environmental

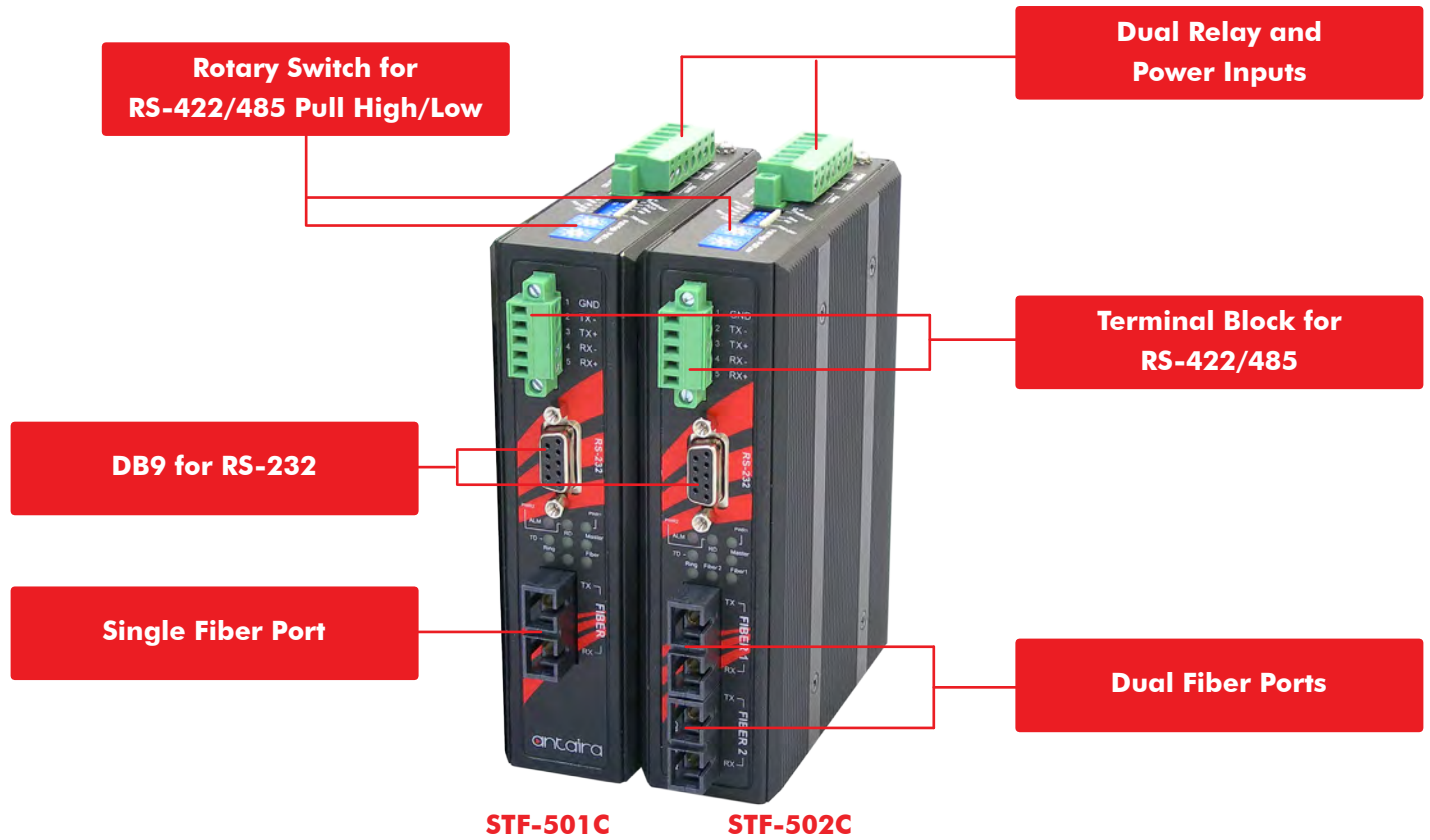
Operating Temp:	STD:	0°C ~ 60°C (32 ~ 140°F)
	EOT:	-40°C ~ 75°C (-40 ~ 167°F)
Storage Temperature:		-40°C ~ 85°C (-40°F ~ 185°F)
Humidity:		5 ~ 95%

Regulatory Approvals

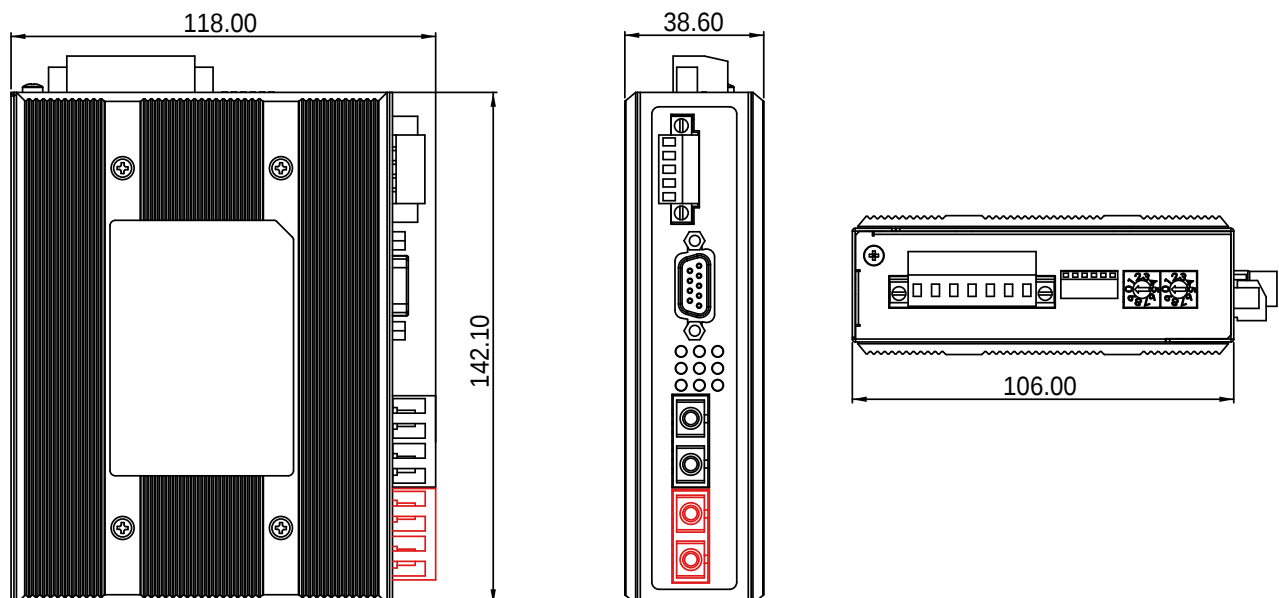
EMI:	FCC Part15, CISPR (EN55022) Class A
EMS:	EN61000-4-2 (ESD) Level 3, Criteria B EN61000-4-3 (RS) Level 3, Criteria A EN61000-4-4 (EFT) Level 3, Criteria A EN61000-4-5 (Surge) Level 3, Criteria B EN61000-4-6 (CS) Level 3, Criteria A
Shock / Freefall / Vibration:	Shock: IEC60068-2-27 Free Fall: IEC60068-2-32 Vibration: IEC60068-2-6
Green:	RoHS Compliant
MTBF:	797,101 Hours
Certifications:	FCC, CE, UL (Pending)
Warranty:	5-Year Warranty

Layout

Product Highlights



Dimension Drawing (unit = mm)



Ordering Information

Single Fiber Version

STF-501C-CM02	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Multi-Mode 2KM, SC, 0°C ~ 60°C
STF-501C-CM02-T	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Multi-Mode 2KM, SC, EOT (-40°C ~ 75°C)
STF-501C-TM02	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Multi-Mode 2KM, ST, 0°C ~ 60°C
STF-501C-TM02-T	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Multi-Mode 2KM, ST, EOT (-40°C ~ 75°C)
STF-501C-CS30	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Single-Mode 30KM, SC, 0°C ~ 60°C
STF-501C-CS30-T	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Single-Mode 30KM, SC, EOT (-40°C ~ 75°C)
STF-501C-TS30	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Single-Mode 30KM, ST, 0°C ~ 60°C
STF-501C-TS30-T	Industrial RS-232/422/485 To 100Fx Fiber Converter, 2.5KV Isolation, Single-Mode 30KM, ST, EOT (-40°C ~ 75°C)

Dual Fiber Version

STF-502C-CM02	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Multi-Mode 2KM, SC, 0°C ~ 60°C
STF-502C-CM02-T	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Multi-Mode 2KM, SC, EOT (-40°C ~ 75°C)
STF-502C-TM02	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Multi-Mode 2KM, ST, 0°C ~ 60°C
STF-502C-TM02-T	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Multi-Mode 2KM, ST, EOT (-40°C ~ 75°C)
STF-502C-CS30	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Single-Mode 30KM, SC, 0°C ~ 60°C
STF-502C-CS30-T	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Single-Mode 30KM, SC, EOT (-40°C ~ 75°C)
STF-502C-TS30	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Single-Mode 30KM, ST, 0°C ~ 60°C
STF-502C-TS30-T	Industrial RS-232/422/485 To Dual 100Fx Fiber Ports Converter, 2.5KV Isolation, Single-Mode 30KM, ST, EOT (-40°C ~ 75°C)

Optional Accessories

DR-45-24	45W Industrial Din Rail Power Supply
DR-75-24	75W Industrial Din Rail Power Supply

Comparison

Industrial Serial-to-Fiber Product Family Comparison

	STF-401C Series Compact 1 Fiber Port	STF-501C series High Performance 1 Fiber Port	STF-502C series High Performance Dual Fiber Ports
Compare Features			
Supports 1*RS-232 (DB9), or 1*RS-422/485 (Terminal Block)	●	●	●
Supports Multi-mode in 2Km, Single-mode in 30Km	●	●	●
Baud Rate up to 1024Kbps		●	●
Serial Isolation		●	●
ESD Protection	●	●	●
RS-422/485 Pull High / Low	●	●	●
Support Point-to-Point Application	●	●	●
Support Half-Duplex Daisy Chain / Ring Topology Serial-Fiber Network	●	●	●
Support Full-Duplex Redundant Ring Serial-Fiber Network			●
5 Years Product Warranty	●	●	●