10Gtek A7S1-33-1FX1TX-H-SC20

10Gtek 10/100Mbps Fast Ethernet Media Converter User Manual

Model: A7S1-33-1FX1TX-H-SC20

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your 10Gtek 10/100Mbps Fast Ethernet Media Converter. This device is designed to extend network distances by converting electrical Ethernet signals to optical fiber signals, supporting single-mode SC fiber connections up to 20km.

2. Safety Information

Please read and understand all safety instructions before operating this device. Failure to do so may result in injury or damage to the equipment.

- Do not expose the device to water or excessive humidity.
- Ensure proper ventilation to prevent overheating.
- Use only the provided AC/DC power adapter.
- Avoid direct exposure to the optical fiber port when active, as it may emit invisible laser radiation.
- Do not attempt to open or repair the device. Refer all servicing to qualified personnel.

3. Package Contents

Before installation, verify that your package contains the following items:

- One (1) 10Gtek Fast Ethernet Media Converter
- One (1) AC/DC Power Adapter
- One (1) User's Manual (this document)

4. Product Overview

The 10Gtek Media Converter facilitates the conversion between 10/100Base-TX Ethernet and 100Base-FX fiber optic signals. It features one RJ45 Ethernet port and one Dual SC fiber optic port.

Figure 1: Front and side view of the 10Gtek Fast Ethernet Media Converter, showing the RJ45 port, SC fiber ports, and LED indicators.

4.1. Interface Ports

- **Ethernet Port (RJ45):** One 10/100Base-Tx port, supporting auto-negotiation for 10/100Mbps full-duplex or half-duplex operation. Features MDI/MDI-X auto-sensing.
- **Optical Port (Dual SC):** One 100Base-Fx port, utilizing 1310nm single-mode fiber for distances up to 20km.

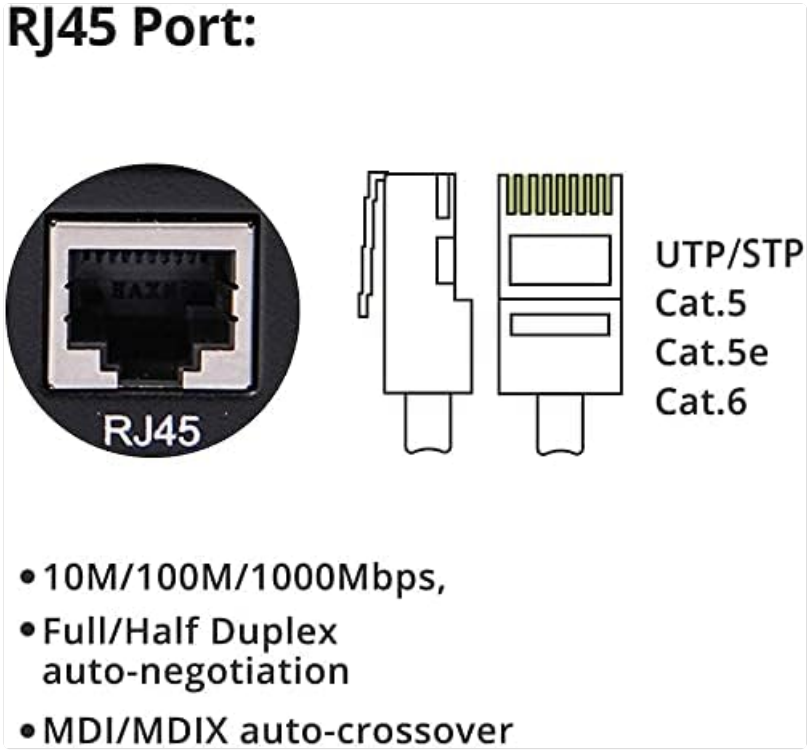

Figure 2: Detailed view of the RJ45 Ethernet port, indicating compatibility with UTP/STP Cat.5, Cat.5e, and Cat.6 cables, and supporting 10/100Mbps with auto-negotiation and MDI/MDI-X auto-crossover.

4.2. LED Indicators

The device features several LED indicators to monitor its status:

- **FX:** Lit when fiber speed is 100Mbps. Off when speed is 10Mbps.
- **TX:** Lit when TP (Twisted Pair) speed is 100Mbps. Off when speed is 10Mbps.
- **Link/ACT (Left/Right):** Left side indicates fiber port link/activity. Right side indicates TP port link/activity. Flashes when data is transmitting or receiving.
- **FDX:** Lit when TP port is in full-duplex mode. Off when in half-duplex mode.
- **PWR:** Lit when DC power is supplied. Off when power is absent.

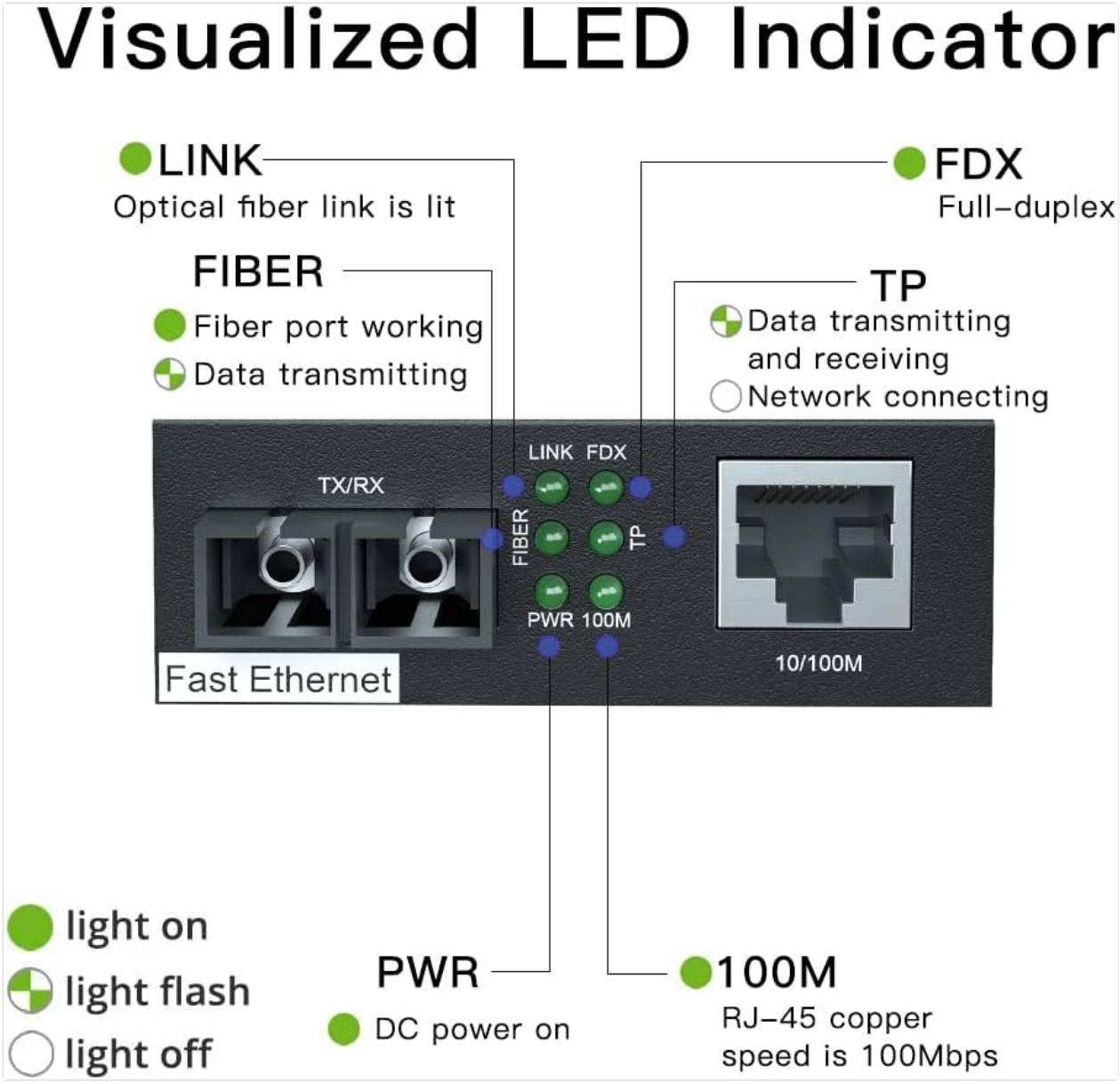

Figure 3: Diagram illustrating the location and function of each LED indicator on the media converter, including LINK, FDX, FIBER, TP, PWR, and 100M status lights.

5. Setup and Installation

Follow these steps to properly set up your media converter:

1. **Power Connection:** Connect the provided AC/DC power adapter to the DC 5V port on the media converter and then plug it into a power outlet. The PWR LED should illuminate.

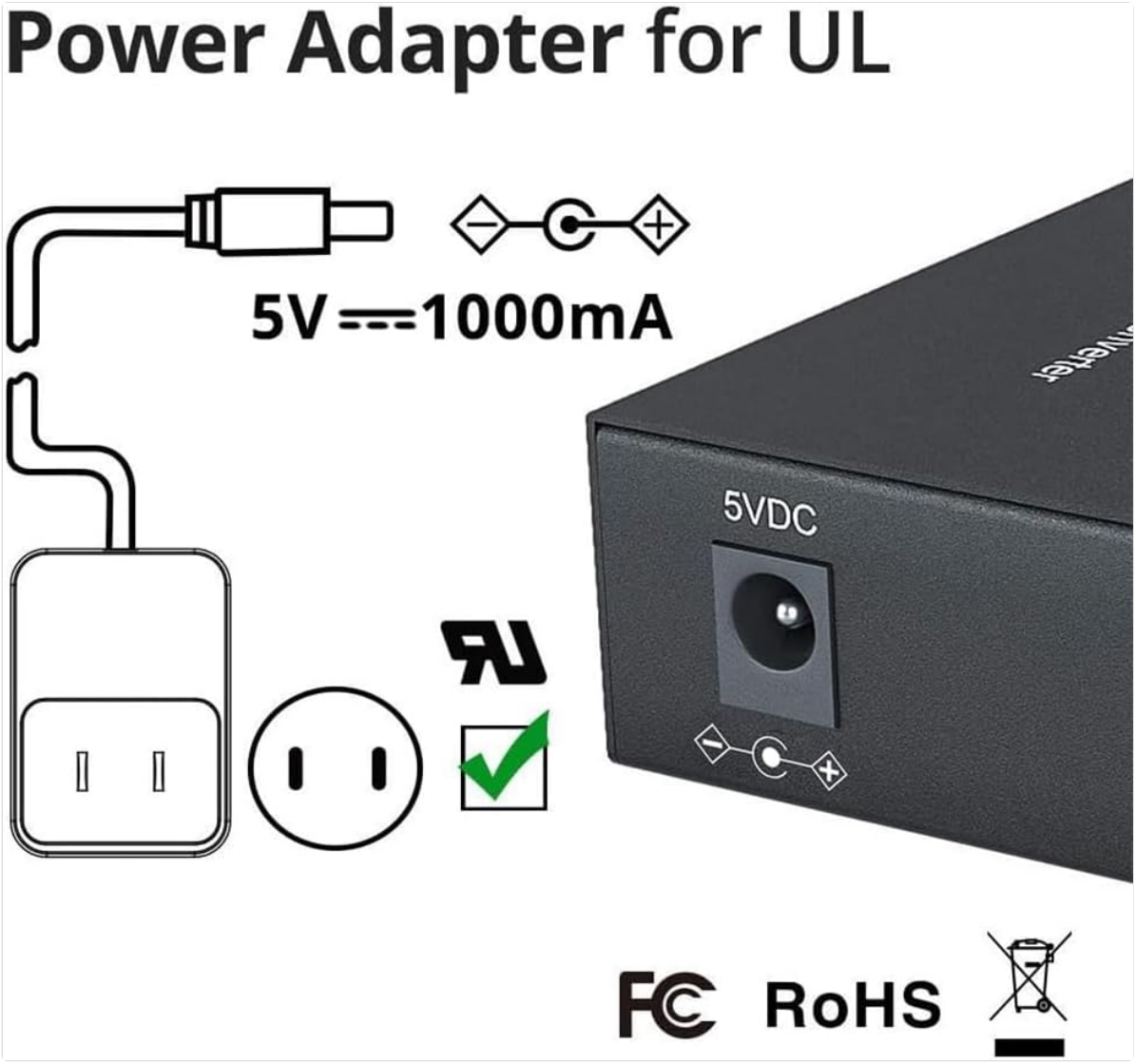

Figure 4: Illustration of the power adapter connection to the media converter, showing the 5V DC, 1000mA output specification.

2. **Ethernet Connection:** Connect an Ethernet cable (Cat.5e or Cat.6 recommended) from your network device (e.g., switch, router, computer) to the RJ45 port on the media converter. The TX and Link/ACT (right side) LEDs should indicate activity.
3. **Fiber Optic Connection:** Connect a single-mode fiber optic cable with Dual SC connectors to the optical port of the media converter. Ensure the fiber cable is properly seated. The FX and Link/ACT (left side) LEDs should indicate activity.

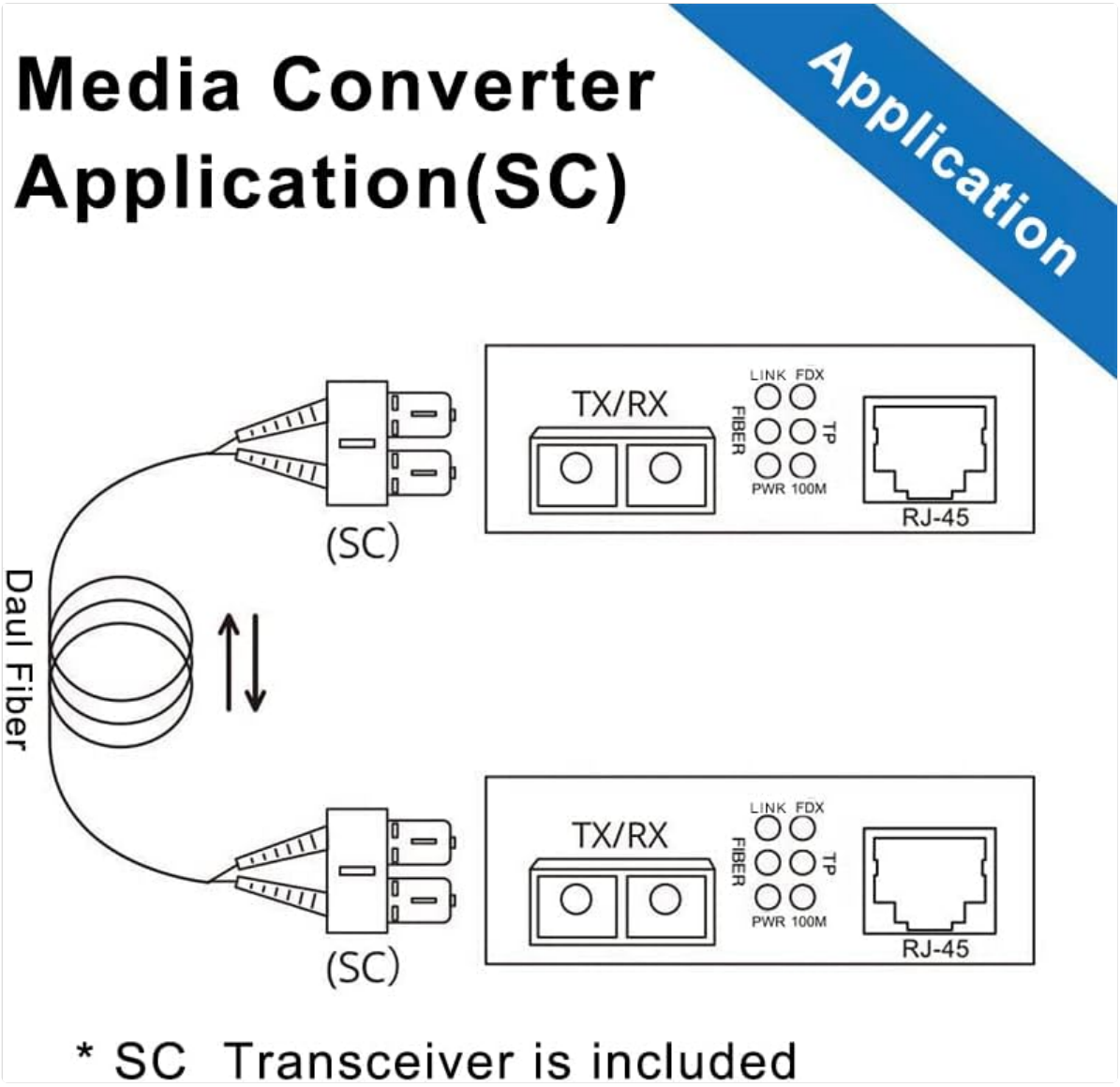

Figure 5: Diagram showing a typical application setup for two media converters connected via a dual SC fiber cable, extending an Ethernet network.

4. **Verify Connection:** Once all cables are connected, observe the LED indicators to confirm proper operation. Refer to Section 4.2 for LED status interpretation.

6. Operating Instructions

The 10Gtek Media Converter operates automatically once connected. The primary method of monitoring its status is through the LED indicators.

6.1. Network Operation

The converter supports auto-negotiation for both speed (10/100Mbps) and duplex mode (full/half-duplex) on the Ethernet port. It also features MDI/MDI-X auto-crossover, eliminating the need for specific straight-through or crossover cables.

6.2. Monitoring with LEDs

Regularly check the LED indicators to ensure the device is functioning correctly and to diagnose any connection issues. A steady Link/ACT LED (both sides) and appropriate speed LEDs (FX, TX) indicate a healthy connection.

7. Maintenance

The 10Gtek Media Converter requires minimal maintenance.

- **Cleaning:** Keep the device clean and free from dust. Use a soft, dry cloth for cleaning. Do not use liquid or aerosol cleaners.
- **Environment:** Ensure the operating environment adheres to the specified temperature and humidity ranges to prevent damage.
- **Cable Management:** Ensure all connected cables are not excessively bent or strained, especially fiber optic cables, to maintain signal integrity.

8. Troubleshooting

If you encounter issues with your media converter, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
No Power (PWR LED off)	Power adapter not connected or faulty; power outlet not active.	Check power adapter connection. Try a different power outlet. Ensure the adapter is the correct type (DC 5V 1A).
Ethernet Link/ACT LED off	Ethernet cable faulty or disconnected; connected device is off or faulty; incorrect speed/duplex settings (rare due to auto-negotiation).	Check Ethernet cable connection. Ensure the connected device is powered on and functioning. Try a different Ethernet cable.
Fiber Link/ACT LED off	Fiber optic cable faulty or disconnected; connected fiber device is off or faulty; dirty fiber connectors.	Check fiber cable connection. Ensure the connected fiber device is powered on and functioning. Clean fiber connectors. Ensure correct fiber type (single-mode SC).
Slow network speed	Duplex mismatch; cable quality issue; network congestion.	Check FDX LED. If off, it indicates half-duplex. Ensure both ends are set to auto-negotiate or full-duplex. Use high-quality Cat.5e/Cat.6 Ethernet cables.

9. Specifications

Feature	Description
Model Number	A7S1-33-1FX1TX-H-SC20
Ethernet Port	1 x RJ45, 10/100Base-Tx, Auto-MDI/MDI-X, Auto-negotiation
Optical Port	1 x Dual SC, 100Base-Fx, 1310nm Single-Mode
Transfer Distance	Up to 20km
Fiber Core	8.3um, 8.7um, 9um, and 10um on single-mode fiber
Optical Power (dBm)	-15 ~ -3

Feature	Description
Receiving Sensitivity (dBm)	≤-32
Standards Compliance	IEEE802.3 10Base-T, IEEE802.3u 100Base-T, 100Base-FX
Data Buffer RAM	128 K's
Power Supply	AC 220V or DC 5V 1A (External Adapter)
Power Dissipation	≤1 Watt
Housing	Metal Enclosure
Dimensions (LxWxH)	94 x 70 x 26mm
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	5% to 90% RH (non-condensing)

10. Warranty and Support

10Gtek products are designed for reliability and performance. For warranty information and technical support, please refer to the official 10Gtek website or contact your local distributor. Keep your purchase receipt for warranty claims.

Related Documents - A7S1-33-1FX1TX-H-SC20

	10Gtek HDMI over Optical Fiber Extender CON-HDMI-TV/DV Datasheet Detailed specifications, features, applications, and pin descriptions for the 10Gtek CON-HDMI-TV and CON-HDMI-DV HDMI over Optical Fiber Extenders, supporting up to 4Kx2K resolution and long-distance transmission.
	Quectel SC20 Series Hardware Design Guide This document provides detailed hardware design information for the Quectel SC20 Series Smart Module, covering product overview, application interfaces, Wi-Fi and Bluetooth, GNSS, antenna interfaces, reliability, electrical characteristics, and mechanical information.

	Manuale d'Uso e Manutenzione Aspiratori Industriali Depureco Serie TX Guida completa all'uso, manutenzione e sicurezza degli aspiratori industriali Depureco Serie TX, TX H ACD e TX Z22. Include specifiche tecniche e dichiarazioni di conformità.
	Depureco TX Series Vacuum Cleaner User Manual and Maintenance Comprehensive user manual and maintenance guide for Depureco TX, TX H ACD, and TX Z22 series industrial vacuum cleaners. Covers safety, operation, handling, and technical specifications.
	DEPURECO Serie TX / TX H ACD / TX Z22 Anwendung und Wartungsanleitung Umfassende Anwendung und Wartungsanleitung für die DEPURECO Industriesauger der Serie TX, TX H ACD und TX Z22. Enthält detaillierte Informationen zu Sicherheit, Betrieb, Wartung, technische Daten und Konformitätserklärungen für den professionellen Einsatz.
	Manuel d'Utilisateur et d'Entretien : Aspirateurs Industriels DEPURECO Série TX Guide complet pour l'utilisation et l'entretien des aspirateurs industriels DEPURECO des séries TX, TX H ACD, et TX Z22. Inclut des informations techniques, consignes de sécurité, procédures d'installation et de maintenance.