Fiber Optic Converter

1. Product Description

The Fiber Optic Converter Series provides high-reliability optical transmission for a wide range of signal types including LIN, CAN-FD, Ethernet (T1), and analog signals. Designed for ultra-low electromagnetic radiation and high EMI immunity, these converters are essential for EMI/EMC testing, automotive communication testing, and critical defense systems.

Each unit features optical isolation, lithium battery operation, and supports Master/Slave configurations. The series is engineered to meet stringent requirements under MIL-STD-461G (EMI/EMC) and MIL-STD-810G (environmental durability).

2. Typical Applications

- EMI/EMC validation under high field strength environments
- Automotive communication system testing (LIN, CAN-FD, Ethernet T1)
- Over-the-Air (OTA) validation in anechoic and semi-anechoic chambers
- Defense communication and radar testing scenarios
- High-EMI laboratory environments requiring optical isolation

3. Product Features

- Optical isolation for maximum EMI immunity
- MIL-STD-461G RE102, CE102 compliant EMC performance
- Ultra-low radiation emission, suitable for EME tests
- Master/Slave mode configurable
- Built-in lithium battery with long working time
- 4-level power indicator for easy monitoring
- Supports LIN, CAN-FD, Automotive Ethernet (100/1000Base-T1), and analog signals
- Portable design with compact and ruggedized housing

4. Technical Data

Item	ND-LIN	ND-CAN-FD	ND-AUTO-ETH	ND-A1M-TX/RX
Supported Protocols	LIN 2.0/2.1/2.2/2.2A	CAN-FD (ISO 11898-2:2016)	100BASE-T1, 1000BASE-T1 (IEEE 802.3bp/bw)	Analog signal transmission (up to 1MHz)
Max Transmission Rate	20kbps	5Mbps	1Gbps	1MHz bandwidth (-3dB), flatness ±1dB up to 500kHz
Bus Connectors	D-Sub 9	D-Sub 9	HSD, SFP (optical), RJ45 (via module)	BNC, LC connectors
Optical Fiber Type	ST, MM 62.5/125μm	ST, MM 62.5/125μm	DLC, SM 9/125μm (single-mode fiber)	LC, SM 9/125μm
Input Signal Range (only TP-A1M)	–	–	–	±8V / ±16V / ±48V (selectable by DIP switch)
Input Impedance (only TP-A1M)	–	–	–	72.5kΩ / 145kΩ / 435kΩ
ADC Resolution (only TP-A1M)	–	–	–	10-bit
Receiving Noise (only TP-A1M)	–	–	–	10mV RMS
Drive Capability (only TP-A1M)	–	–	–	16mA
Signal Type	Differential or Single-Ended	Differential or Single-Ended	Differential or Single-Ended	Differential or Single-Ended
Battery Type	Lithium battery	Lithium battery	Lithium battery	Lithium battery
Charging Interface	DC charger	DC charger	Type-C charger	Type-C charger
Working Time	≥72 hours	≥72 hours	≥12 hours	≥20 hours
EMC Compliance	MIL-STD-461G RE102, CE102; ISO 10605 (ESD ±15kV); Radar wave 600V/m; BCI 200mA	Same as ND-LIN	Same as ND-LIN	Same as ND-LIN

Master/Slave Configuration	Supported	Supported	Supported	Supported
Special Features	Power level indicator (4 levels)	Power level indicator (4 levels)	Power level indicator (4 levels), Ultra-low EMI	Power indicator, adjustable input range, ultra-low latency (1.3μs)

Contact Us

No. 11 Shunyuan Road, Xinbei District, Changzhou, Jiangsu Province, China

+86 0519 86815058

sales@noordin.cn, cyt@noordin.cn, bjw@noordin.cn

www.emcnoordin.com