

**STATE OF NEW JERSEY
BUREAU OF ITS ENGINEERING
DEPARTMENT OF TRANSPORTATION
TRENTON, NEW JERSEY 08625**

MATERIAL SPECIFICATIONS FOR MEDIA CONVERTER

Provide Media Converter conforming to the following specifications:

1-1 Standards and Certifications

- IEEE 802.3 10 Base T
- IEEE 802.3u 100 Base TX / 100 Bases FX
- IEEE 802.3x compliant flow control
- Product Safety: Underwriters Laboratories (UL) Standard 1950 or 60950
- Electromagnetic Emissions: FCC Part 15, Class A
- Environmental: National Electrical Manufacturers Association (NEMA) TS1/TS-2 – Environmental Requirements only
- Surge Protection: IEC 61000-4-5

1-2 Functional Requirements

- Ensure that the media converter converts communication from 10/100 base TX port to 100 Base FX port and vice versa
- Minimum of 2K Media Access Control (MAC) addresses
- Supports Broadcast Storm Filtering
- UDP Mode
- Store-and-forward Switching Method

Non-blocking full wire speed forwarding rate:

- 10 mbps: 14,880 pps (packets per second)
- 100 mbps: 148,800 pps (packets per second)

1-3 Management

- Web management

1-4 Interface and Connectors

Designation	Nominal Wavelength	Fiber Type	Optical Budget	Connector	Minimum Distance*
100Base-FX	1310 nm	10/125 SM	19 dB	SC	20 km
10Base-T 100Base-TX	N/A	N/A	N/A	RJ-45	300 feet

*Minimum distance numbers are based on assumption of ideal fiber installation. For copper ports, minimum distance to be achieved using Category 5 cabling.

1-5 Indicators

- LED Indicator showing Power Status
- LED Indicators showing status and activity of each port

1-6 Mechanical Specifications

- Max. Dimension not to exceed: 2" (W) x 5" (D) x 6" (H)
- Max. Weight not to exceed: 2 lbs.

1-7 Environmental Specifications

Meet or exceed the following criteria as specified in NEMA TS2. Values listed below for reference only, as excerpted from most recent version of NEMA TS2.

- Operating Temperature: -29°F to +165°F (-34°C to +74°C)
- Storage Temperature: -40°F to +185°F (-40°C to +85°C)
- Operating Humidity: 10% to 95% relative humidity non-condensing
- Vibration: Comply with NEMA TS2
- Shock: Comply with NEMA TS2

1-8 Electrical Power

Equip the power supply with a minimum of a six (6) foot power cord terminating in a standard three (3) prong line plug. Maximum power requirement is not to exceed 16 watts for each unit.

1-9 Software

Provide Software License(s) with the unit.

1-10 Identification

Identify Media Converter with a metal plate containing the serial number with bar code identification. Provide phenolic nameplate with switch designation shown on Contract Documents. Provide manuals and training documentation, and electronic version of custom configurations on compact disc media.

1-11 Standard Configuration

Minimum Number of Required Ports	
10 Base-T/100 Base –TX*	100 Base-FX
1	1

Ensure that copper port auto-negotiates speed 10/100 Mbps, MDIX and Duplex (full/half)

1-12 List of Equipment

- Documentation
- External power supply (if required)
- All required custom connections
- Mounting brackets/shelf, mounting plates (if required)