

INSPEXTOR

PRODUCT SERIES SPEC SHEET

MHTi-NODE-90

The **Inspextor platform** is a **Power over Ethernet (PoE) Lighting Management System** that enables intelligent building automation and real-time data collection. The **MHTi-NODE-90** is a UL 2108-compliant PoE device built on the IEEE 802.3bt standard, capable of delivering up to 80W maximum for Constant Current (up to 2A) or Constant Voltage (12–48VDC) applications. Designed for seamless integration, the NODE-90 powers and controls dimmable and tunable white LED fixtures, DC shade motors, adjustable electric desks, DC-powered monitors, docking stations, USB-C chargers, and other low-voltage devices. These network nodes receive both power and data from a PoE switch and interface effortlessly with sensors, PoE shades, and wall switches; all managed through the Inspextor system. Advanced features include short-circuit protection, thermal protection, fault detection, and automatically obtaining an IP address and over the air firmware upgrades, ensuring robust performance, simplified infrastructure, and scalable deployment.



ELECTRICAL SPECIFICATIONS

MHT PD Interface	IEEE 802.3bt Type 4, Class 8 compliant input with LLDP extensions for negotiating power above 30W using all four pairs
Input Voltage	40-60Vdc
Peak Operating Power	80W max.
Nominal Standby Power	1.35W
PoE Input Connection	Shielded female RJ45 jack for CAT5e/6/6A cable to PoE PSE device
Device Type	Class 2 electrical device

 MHT Technologies

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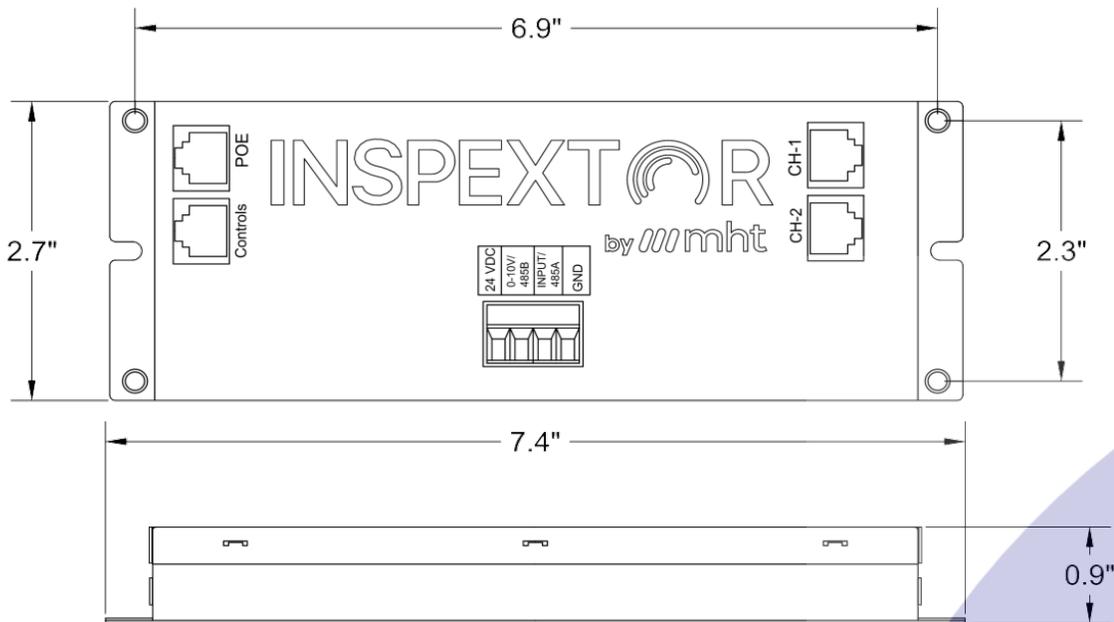
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OUTPUT CHANNEL SPECIFICATIONS

Power	Flexible power and control options are available for either up to eight individual fixtures using the MHTi-SPLT-1x4 splitter or for two-channel fixtures.
Driver Design	The LED driver design varies depending on the node version. It can be common anode constant current (CC), or constant voltage (CV), or a combination of Constant Current/ Constant Universal Voltage (CCUV)
Output Voltage	12V-48Vdc.
Rated Output Power	72W with Dual Channel loading and 60W Single Channel loading on the CC Variant.
	70W with Dual Channel loading or Single Channel loading at 36V or 48V constant voltage driver configuration.
	60W with Dual Channel loading or Single Channel loading at 24V constant voltage driver configuration. 40W with Dual Channel loading or Single Channel loading at 12V constant voltage driver configuration.
485A and 485B	RS-485, half-duplex, 230.4k baud, 120 ohms impedance. Allows communication with compatible devices using this protocol. Such as the <i>MHTi-EM100</i> (battery backup) for EM Lighting, <i>MHTi-SMD-INT</i> (desk interface) for desk applications and DC-RS485 shade Motors.
Protection	Each individual LED driver channel has current limit, short circuit, and thermal protection
Connection	Shielded female RJ45 jack for CAT5e/6/6A cable to PoE PSE device.

PRODUCT DIMENSION



OTHER DIMENSION

Dimension Overall	7.303" (185.5mm) L x 2.755" (70mm) W x 0.857" (21.77mm) H
Mounting Dimensions	4 Mounting holes Ø: .164" 6.948" (176.5mm) L x 2.125" (54mm) W
Origin	Made in USA

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MHT Technologies, reserves the right to make any Design changes for continues improvement which will not affect the overall appearance or performance.

MODEL SELECTION TABLE

Model Number	Variant/Mode	Output Voltage	Maximum Current	Maximum Power	Spring Cage Connector
MHTi-NODE-90-CCUV*	Constant Current/ Constant Universal Voltage	12 - 48V	3.3A	80W	24V, 485A,485B,GND
MHTi-NODE-90-CC**	Constant Current	12 - 48V	2A	80W	24V, 485A,485B,GND
MHTi-NODE-90-CV***	Constant Voltage	12 - 48V	3.3A	80W	24V, 485A,485B,GND
MHTi-NODE-90-CV-USBC^**	Constant Voltage	12 - 48V	3.3A	72W	24V, 485A,485B,GND

Note: * The CCUV node offers on-demand configuration between Constant Current and Constant Universal Voltage mode, with a selectable output range from 12V to 48V in fine 2.4V increment.

** The CC node supports up to 72W in dual-channel loading (Ch1 + Ch2 combined) or up to 60W when loading on single channel (either Ch1 or Ch2).

*** The CV node offers flexible configuration with selectable output settings of 12V/3.3A, 24V/2.5A, 36V/2A, or 48V/1.5A available per channel (Ch1 or Ch2) or combined (Ch1 + Ch2).

^** The CV-USBC node delivers 60-72W of power for USB-C charging applications with selectable output settings of 12V/3.3A, 24V/2.5A, 29V/2.1A, or 41V/1.5A per channel (Ch1 or Ch2) or combined (Ch1 + Ch2).

CONTROL PORT CHARACTERISTICS

Power Supply	24VDC/1 Amps for powering external sensors. The power consumed from a device connected from 24VDC to GND is part of the output channels power budget.
Sensor Input/ Analog Wall Switch MHTi-Wall Switch	<i>MHTi-RJM-3WIRE</i> and <i>MHTi-RJF-3WIRE</i> adapter enables universal connections (24VDC, Trigger, GND) to Control Devices. <i>MHTi-WS-100</i> (4-button) and <i>MHTi-WS-200</i> (7-button) can use an unshielded female RJ45 jack with CAT5e/6/6A cable.
0-10V Dimming Control	<i>MHTi-RJ45-8PIN-1FT</i> adapter by connecting 0-10V signal (pin1) GND (pin8), allowing integration with line voltage lighting fixtures that support 0-10V dimming. When paired with the <i>MHTi-EM-EXT</i> , it ensures the fixture remains powered via an emergency (EM) line voltage source in the event of PoE power loss.
Multiple Control Devices	Using the <i>MHTi-SPLT-1X4</i> splitter, multiple control devices (sensors and wall switches) can be powered and operated through a single control port. It also supports 0-10V dimming for line-voltage fixtures via the <i>MHTi-RJ45-8PIN-1FT</i> adapter.

SPRING CAGE CONNECTOR SPECIFICATIONS

24 VDC	24VDC/1 Amps for powering devices. The power consumed from a device connected from 24VDC to GND is part of the output channels power budget.
485A and 485B	RS-485, half-duplex, 230.4k baud, 120 ohms impedance. Allows communication with compatible devices using this protocol, such as RS-485 sensors, controller, and automation modules.
GND	Circuit ground connection.

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NODE ENVIRONMENTAL REQUIREMENTS

Operating Ambient Temperature	-20°C to 50°C
Operating Environmental	For dry or damp locations
Operating Humidity	10% to 80% RH non-condensing
Storage Temperature	-20°C to 85°C
Storage Humidity	5% to 95% RH non-condensing

APPLICATION VS MODEL

Model Number	CC Light Fixture	CV Light fixture	Adj. electric desks	DC shade motors	Docking stations	DC-powered monitors	MHTi-EM100 (battery backup)	USB-C chargers
MHTi-NODE-90-CCUV	✓	✓	✓	✓	✓	✓	✓	✓
MHTi-NODE-90-CC	✓						✓	
MHTi-NODE-90-CV		✓	✓				✓	
MHTi-NODE-90-CV-USBC		✓	✓					✓

Note: DC shade motor applications require a dedicated firmware. Each node must first be programmed with the initial shade bootloader via physical connection. Once this bootloader is installed, future firmware updates can be performed over the air.

ORDERING INFO: Sample Code -MHT-NODE-90-CCUV

Series	Type	Description
MHTi-NODE-90-	CCUV	Constant Current and Constant Universal Voltage
	CC	Constant Current
	CV	Constant Voltage
	CV-USBC	Constant Voltage