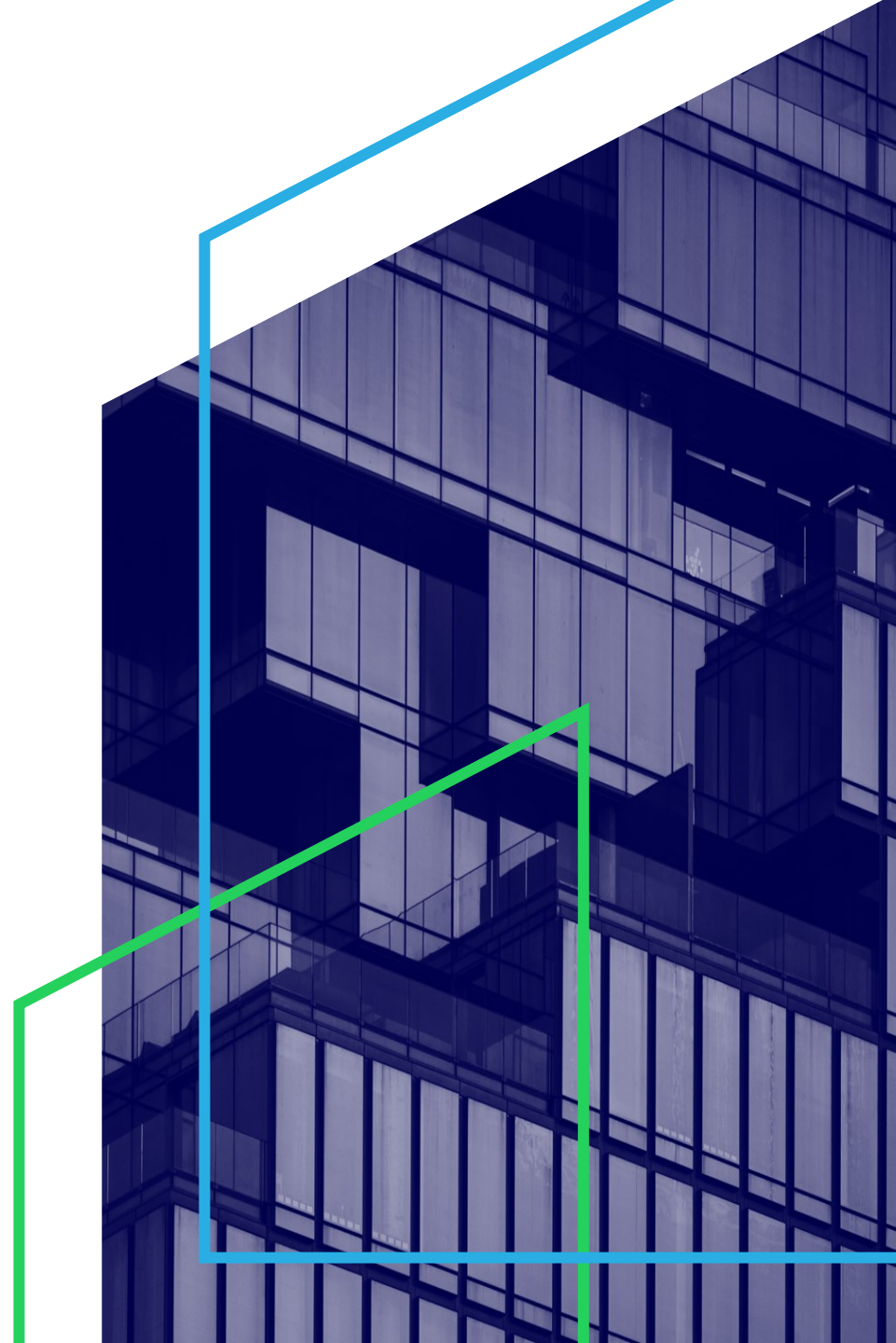




PoE Inspecter System Overview and Training



PoE Inspextor – Overview and Training

KEY OBJECTIVES

1. Learn about MHT's Hardware and Software
2. Learn how we design
3. Learn how to commission and troubleshoot

PoE Inspextor System – Outline

SECTIONS

1. Hardware
2. Design
3. Commissioning



PoE Inspektor

SECTION 1: HARDWARE

Module 1

By:

Rosario Mendez

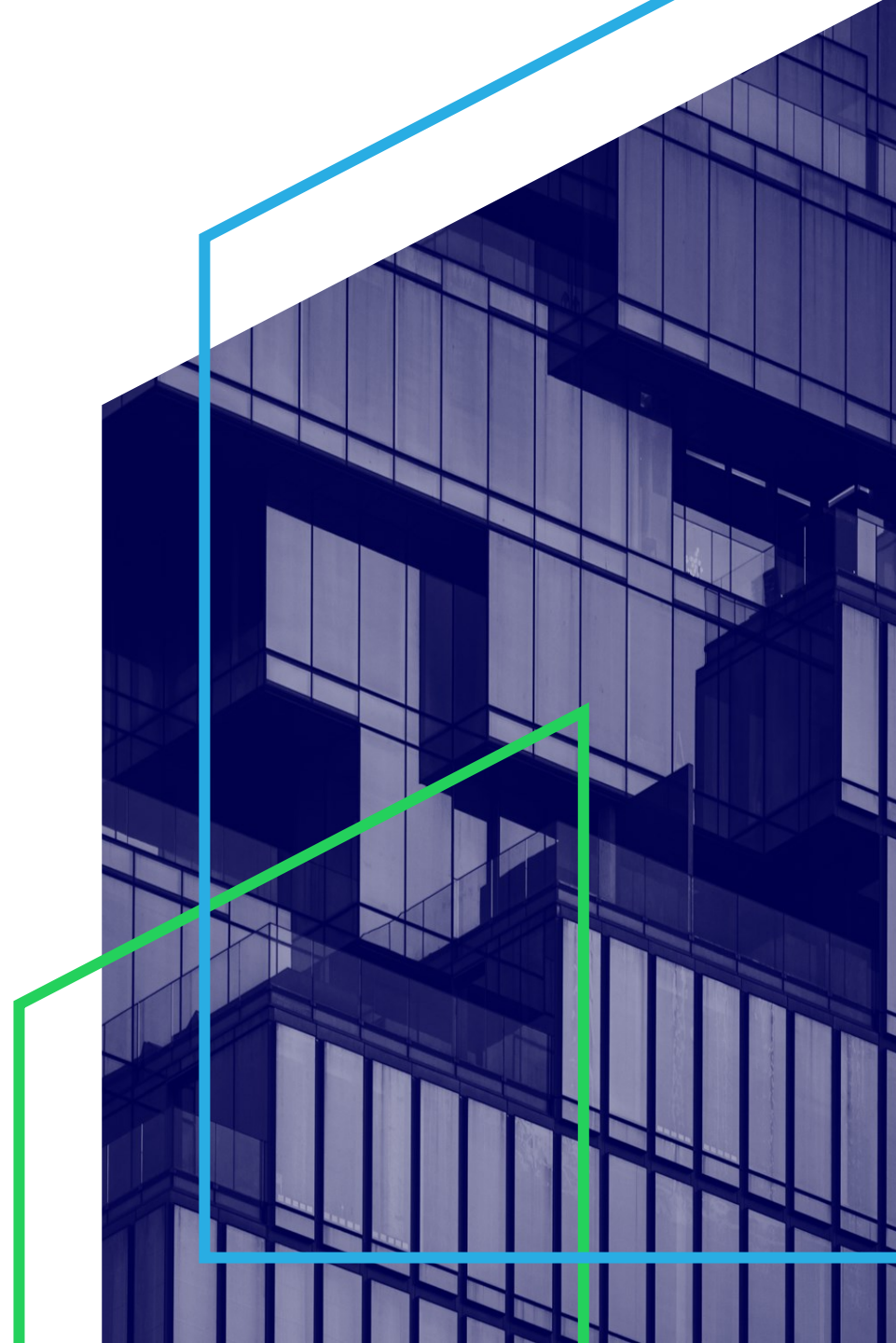
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PoE Inspextor Hardware

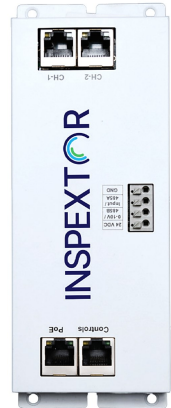
KEY OBJECTIVES

1. Learn about all **components** of the PoE Inspextor System.
2. Learn about **compatible devices** with the Inspextor System.
3. Learn how to **interconnect** all different components on the Inspextor platform and their relationship.

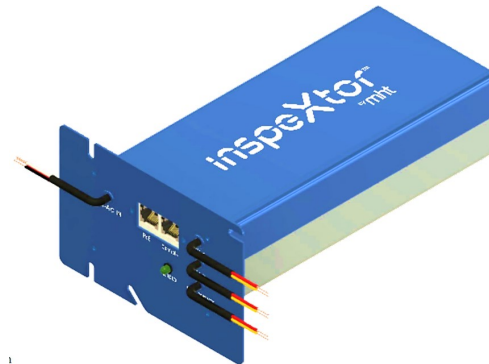
Index	Module/ Week	Category	Module Description
1	1	Hardware	MHTi-NODE-90
2			MHTi-NODE-ELS
3			MHTi-NODE-EXTENDER
4			MHTi-SUPERNODE
5	2		MHTi-Wall Switches
6			MHTi-SPLT-1X4
7			MHTi-EM-EXT
8			MHTi-RJ45-2WIRE
9			MHTi-RJ45-3WIRE
10			MHTi-Inspextor Server
11			MHTi-Inspextor NUC
12			MHTi-EM
13	3	Hardware - Compatible	Cisco C9200
14			Cisco C9300
15			SU2200RTXLCD2U
16			Sensors
17			Ecosense LDCM
18			RIB Relay RIB2401B
19			Rocker Light Switch
20			CAT-6A Cables
21			Light Fixtures
22	4	Hardware - Interconnections	Case 1: PoE Lighting and RGBW
23			Case 2: PoE plus 0-10V LV control
24			Case 3: LED Tunable CCT 2700K to 60000K
25			Case 4: 0-10V ECOSPEC LDCM
26			Case 5: 0-10V Control EM-EXT
27			Case 6: RIB2401B Relay
28			Case 7: ELS
29			Case 8: SUPERNODE

PoE Inspextor Module 1 - Overview

MHTi-NODE-90



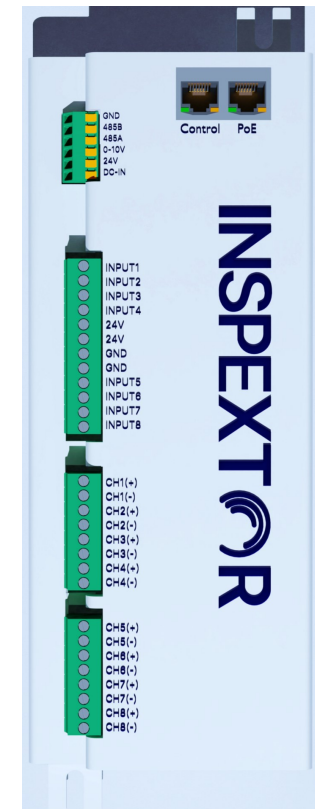
MHTi-NODE-ELS



MHTi-NODE-EXTENDER



MHTi-SUPER-NODE



Hardware Module 1 - MHTi-NODE-90

MHTi-NODE-90:

It is a UL2108 PoE IEEE802.3bt driver with two channels for Constant Current (CC) or for Constant Voltage (CV) lighting applications or other DC power application from 12V to 48Vdc.

It also features: MHTi peripheral communication network, RS485 protocol, 0-10Vdc external driver control and 24Vdc. It can power devices up to **72W max both channels** combined or **70W** max (60W max for CC version) **per single channel** at **50 degrees C** ambient temperature.



Hardware Module 1 - MHTi-NODE-90

MODEL SELECTION TABLE

Model Number	Variant/Mode	Output Voltage	Maximum Current	Output Power	Spring Cage Connector
MHTi-NODE-90-CC	Constant Current	34V to 44V	2A	72W*	
MHTi-NODE-90-CC010	Constant Current	34V to 44V	2A	72W*	0-10V, INPUT**
MHTi-NODE-90-CCRS485	Constant Current	34V to 44V	2A	72W*	485B, 485A***
MHTi-NODE-90-CV	Constant Volatge	12V to 48V	3.3A to 1.5A	40W to 70W^*	
MHTi-NODE-90-CVRS485	Constant Volatge	12V to 48V	3.3A to 1.5A	40W to 70W^*	485B, 485A***
MHTi-NODE-90-CCCV^**	CC and CV Modes Programmable	CV: 12V to 48V CC: 34V to 44V	CV: 3.3A to 1.5A CC: 2A	CV: 40W to 70W^* CC: 72W*	
MHTi-NODE-90-CCCV010^**	CC and CV Modes Programmable	CV: 12V to 48V CC: 34V to 44V	CV: 3.3A to 1.5A CC: 2A	CV: 40W to 70W^* CC: 72W*	0-10V, INPUT**
MHTi-NODE-90-CCCVRS485^**	CC and CV Modes Programmable	CV: 12V to 48V CC: 34V to 44V	CV: 3.3A to 1.5A CC: 2A	CV: 40W to 70W^* CC: 72W*	485B, 485A***

Note: * 72W with Dual Channel Loading (CH1 or CH2) or 60W with Single Channel Loading (either CH1 or CH2)
 ** 0-10V dimming control option, event monitoring analog input
 *** 485B, 485B are the RS-485 A and B pins 120 ohm termination
 ^* The CV node version can be configured anytime to be 12V/3.3A or 24V/2.5A or 36V/1.9A or 48V/1.5A on any channel individually
 ^** The CCCV node version can be configured anytime to be Constant Current or Constant Voltage on any output channel individually

[Click here for all MHTi-NODE cut sheets](#)

Hardware Module 1 - MHTi-NODE-90

OUTPUT CHANNEL POWER TABLE

VERSION	CH1 (W)	CH2 (W)
CC	60	12
	36	36
	12	60
CV (36V/48V)	70	0
	35	35
	0	70
CV (24V)	60	0
	30	30
	0	60
CV (12V)	40	0
	20	20
	0	40

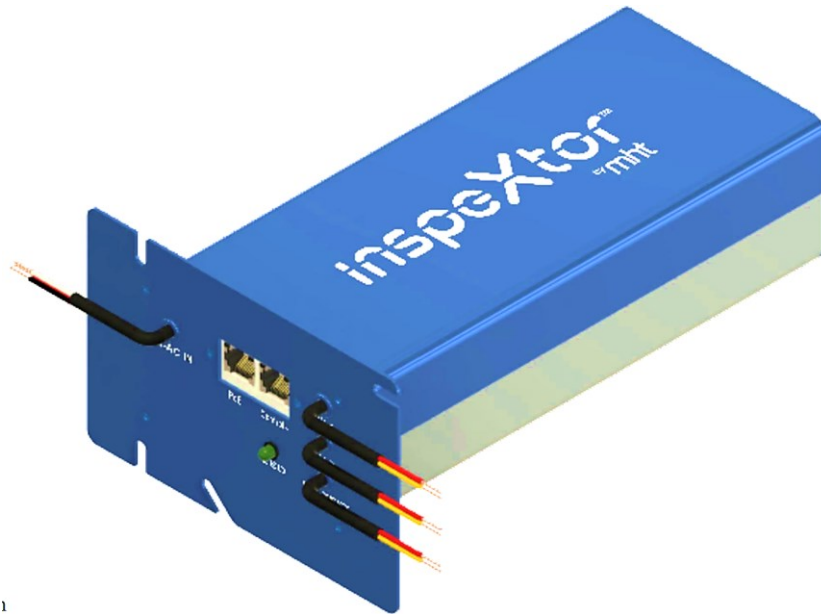
[Click here for all MHTi-NODE cut sheets](#)

Hardware Module 1 - MHTi-NODE-ELS

MHTi-NODE-ELS:

The Emergency Light Switch (ELS) Node is a UL924 PoE IEEE802.3bt driver with two channels for Constant Current (CC) or for Constant Voltage (CV) lighting applications or other DC power application from 12V to 48Vdc. The ELS was designed for applications where there is a line voltage emergency back up power.

It also features: MHTi peripheral communication network, RS485 protocol and 24Vdc. It can power devices up to 72W both channels combined or 70W max (60W for CC version) per single channel at 50 degrees C ambient temperature.



Versions of MHTi-NODE-ELS:

- MHTi-NODE-ELS-CC
- MHTi-NODE-ELS-CV
- MHTi-NODE-ELS-CCCV

[Click here for all MHTi-NODE cut sheets](#)

Hardware Module 1 - MHTi-NODE-EXTENDER

MHTi-NODE-EXTENDER:

It is an UL2108 extender driver up to 150 ft from the MHTi-NODE-90 with four channels to control RGBW or 4 individual Constant Current (CC) luminaires. The MHTi-NODE-EXTENDER input port is connected to either output channel of the MHTi-NODE-90 for a maximum two Node-Extenders per 90W Node.

It also features: 48Vdc, 24Vdc and an Analog Input. It can power light fixtures up to 72W all channels combined or 36W per single channel at 50 degrees C ambient temperature.



[Click here for all MHTi-NODE cut sheets](#)

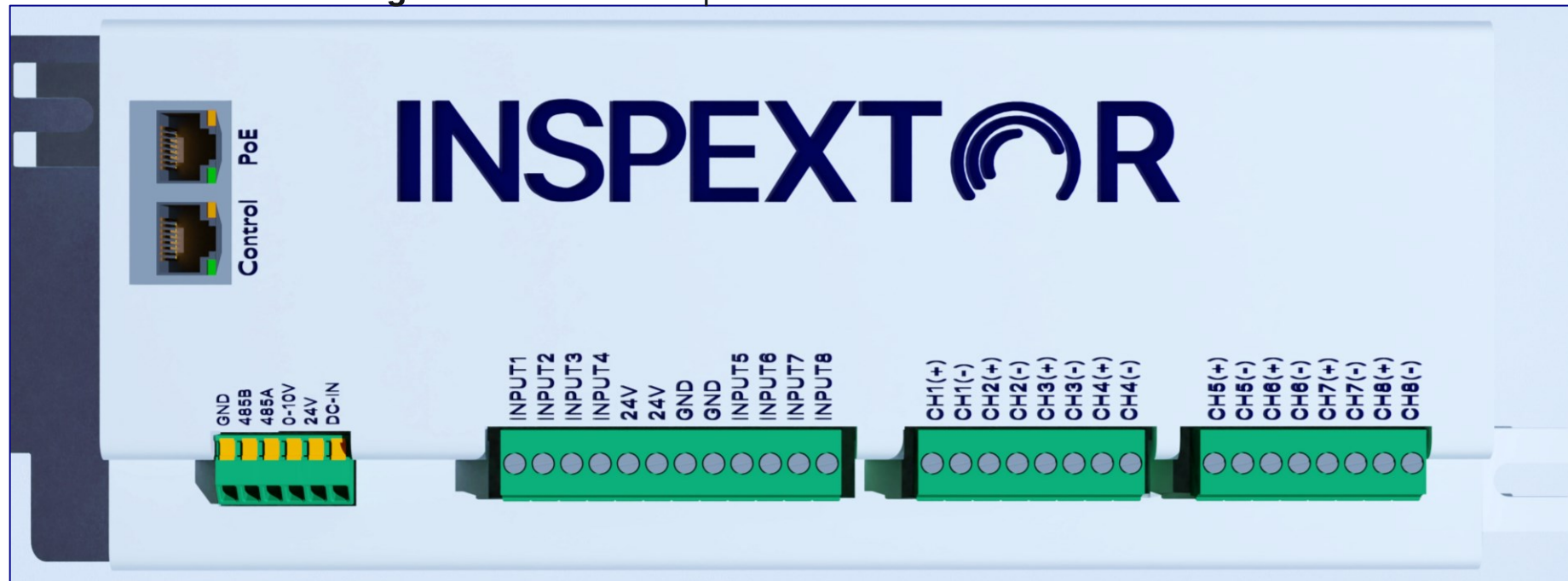
Hardware Module 1 - MHTi-SUPERNODE

MHTi-SUPERNODE:

It is a UL 924 and UL2108 PoE IEEE802.3bt driver with 8 channels for Constant Current (CC) or for Constant Voltage (CV) lighting applications or other DC power application from 12V to 48Vdc. It has 8 analog inputs that can be assigned to any output or multiple outputs to be controlled or external devices in the inspektor network such as shades, AC vent control, temp sensor, etc.

It can be powered from PoE and/or from 24V-60Vdc input with power sharing capabilities when both input sources are present.

It also features: MHTi peripheral communication network, RS485 protocol, 0-10Vdc external driver control and 24Vdc. It can power devices up to **72W maximum** at **50 degrees C** ambient temperature.



[Click here for all MHTi-NODE cut sheets](#)

Hardware Module 1 - MHTi-SUPERNODE

Output Channel Power PoE in or 60V dc In

This table shows the maximum power the Super Node can deliver from PoE or 60V dc in on each output setting at

Mode	Combine Channels (CH1 - CH8) Wattage (Watts)	Single Channel Max Wattage (watts)	Ambient temperature (degrees C)
CC	72	72	50
CV 48V	72	72	
CV 36V	72	72	
CV 24V	65	65	
CV 12V	60	60	

DC IN Boost power Table

This table shows the maximum power the Super Node can deliver from 60V, 48V and 24V DC in on each output setting at maximum ambient temperature

Mode	60V IN Output Power (Watts)	48V IN Output Power (Watts)	24V IN Output Power (Watts)	Ambient temperature (degrees C)
CC	72	72	39	50
CV 48V	72	72	38	
CV 36V	72	62	37	
CV 24V	65	50	35	
CV 12V	60	38	30	