MHT Technologies

PoE Inspextor
SECTION 1: HARDWARE
Module 2

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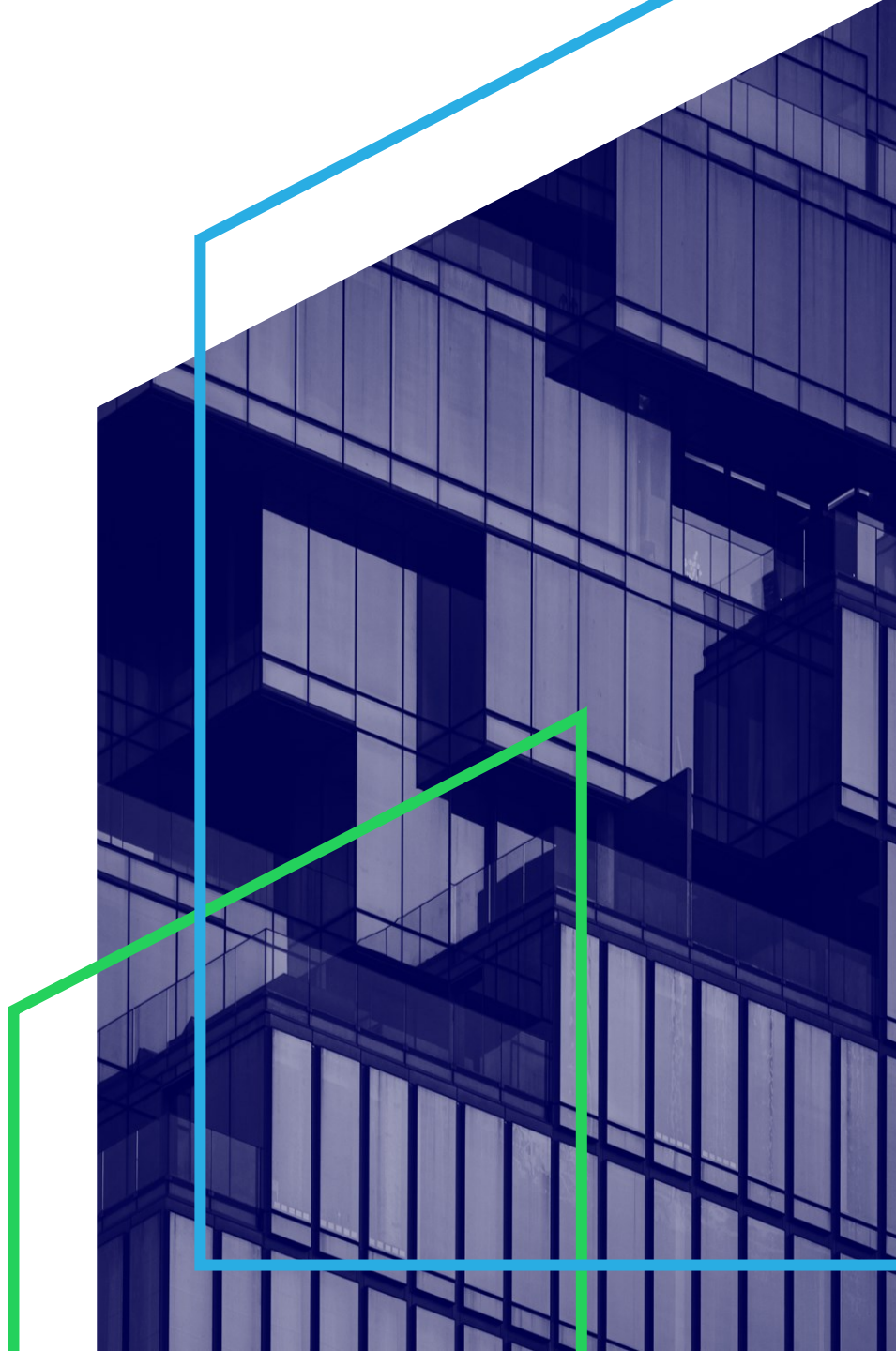

PoE Inspextor Hardware

Module 2 KEY OBJECTIVES

1. Learn about the different **MHT PoE hardware**

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**
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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-6B 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

Hardware Module 2 - MHTi-Wall Switches

MHTi-WS-100 (4BTN):

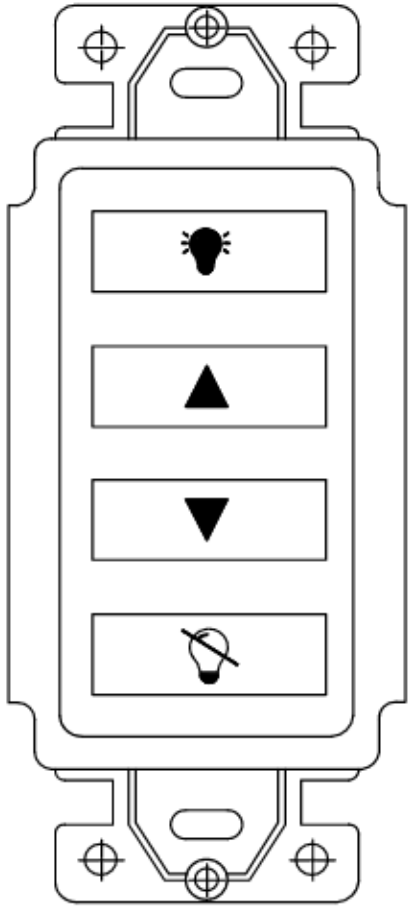
It is our smart four (4) buttons wall switch that can control any light fixture in a facility when connected to the control port of a 90W Node **using a CAT-6 cable** through the Inspextor system.

It uses a single pair of the CAT-6 cable where power and data are transferred using our MHTi patented communication protocol.

The upper button is to turn the light ON, the bottom button turn them off; and UP/DOWN arrow buttons are for **dimming** purposes.

NOTE: Category cables from the NODE to Wall Switch can be up to 100 ft.

Hardware Module 2 - MHTi-Wall Switches



MHTi–WS–4B Buttons		
Symbol	Button Name	Description
	All On	All Driver Channels in the Wall switches assigned cluster will turn on with a Dim level of 100%
	Dim Up*	All Driver Channels in the wall switches assigned cluster will raise up 10% (Default Setting) 10% from previous state not to exceed 100%
	Dim Down*	All Driver Channels in the wall switches assigned cluster will Dim down 10% (Default Setting) from previous state not to exceed 100%
	All Off	All Driver Channels in the Wall switches assigned cluster will turn OFF
* If undeclared the default Dimming rate both up and down will be 10% programmable values (1–100).		

Hardware Module 2 - MHTi-Wall Switches

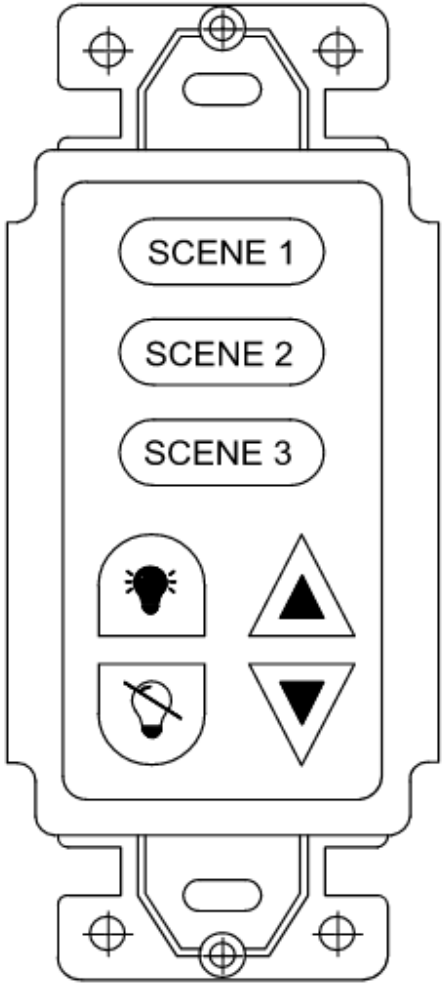
MHTi-WS-200 (7BTN):

The seven (7) buttons wall switch use the same technology as the four (4) buttons version. It just has three additional buttons for **Scene 1, Scene 2 and Scene 3**.

The Scenes buttons can be configured to any desire dimming level creating three different lighting environments.

NOTE: Category cables from the NODE to Wall Switch can be up to 100 ft.

Hardware Module 2 - MHTi-Wall Switches



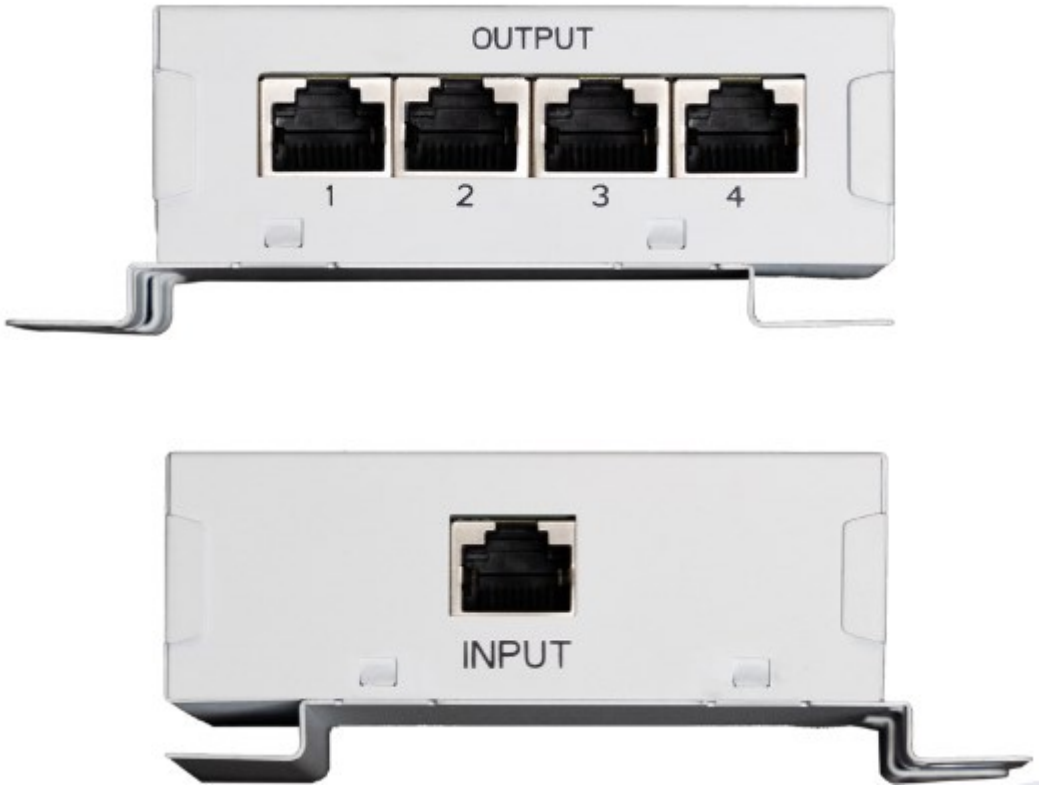
MHTi–WS–7B Buttons		
Symbol	Button Name	Description
	All On	All Driver Channels in the Wall switches assigned cluster will turn on with a Dim level of 100%
	Dim Up*	All Driver Channels in the wall switches assigned cluster will raise up 10% (Default Setting) 10% from previous state not to exceed 100%
	Dim Down*	All Driver Channels in the wall switches assigned cluster will Dim down 10% (Default Setting) from previous state not to exceed 100%
	All Off	All Driver Channels in the Wall switches assigned cluster will turn OFF
	Scene Button	The individual scene buttons allow for the wall switch to set the light level on a cluster between 1 and 100%.
* If undeclared the default Dimming rate both up and down will be 10% programmable values (1–100).		

Hardware Module 2 – MHTi-SPLT-1x4

MHTi-SPLT-1X4:

It is an RJ45 splitter used to split from 1 RJ45 to 4 RJ45 each output channel or the **Controls** port of the 90W Node.

When the splitter on the output channels is to connect multiple light in parallel and when is used on the control port is to connect multiple devices such as WS, rocker switch, sensors, etc.

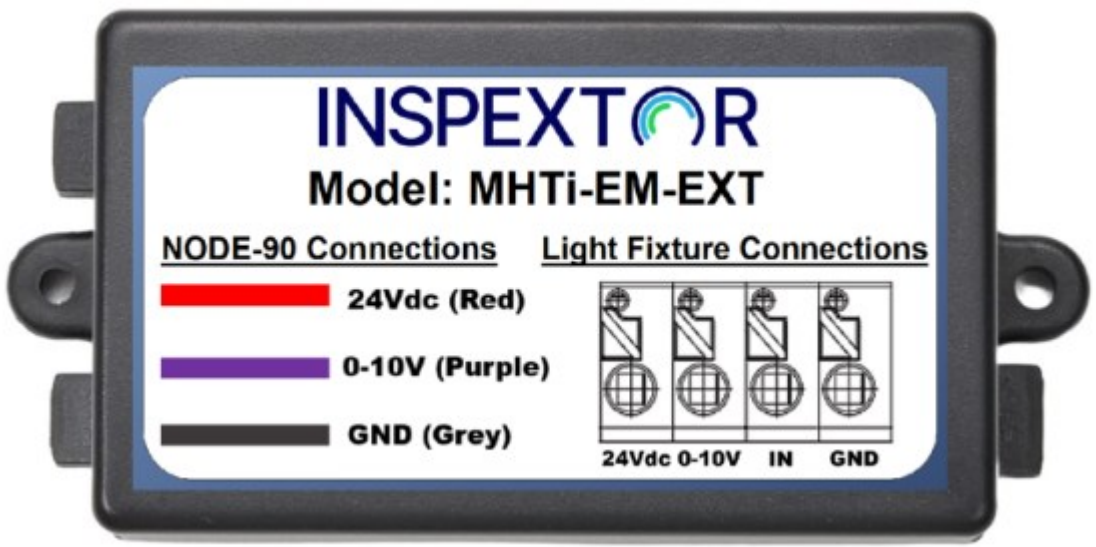


Hardware Module 2 – Emergency Extender

MHTi-EM-EXT:

The EM-EXT is a device that is connected between an **emergency (EM) line voltage fixture** 0-10V dimming control input and the 0-10V diming control output of the 90W Node. The purpose of the EM-EXT is to keep the EM light fixture ON when there is a power outage from the PoE Switch.

It can control up to eight 0-10V EM line voltage fixtures with a maximum wire length of 35FT. It also has accessible DIP Switches to adjust the 0-10V impedance to effective control the light intensity from 0 to 100% dimming level.



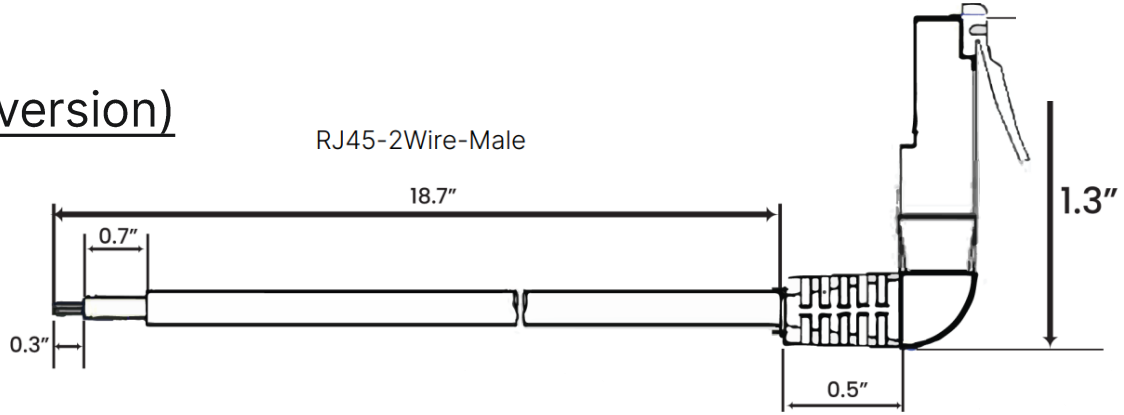
Hardware Module 2 – RJ45 Adapters (2-Wire)

MHTi-RJ45-2WIRE:

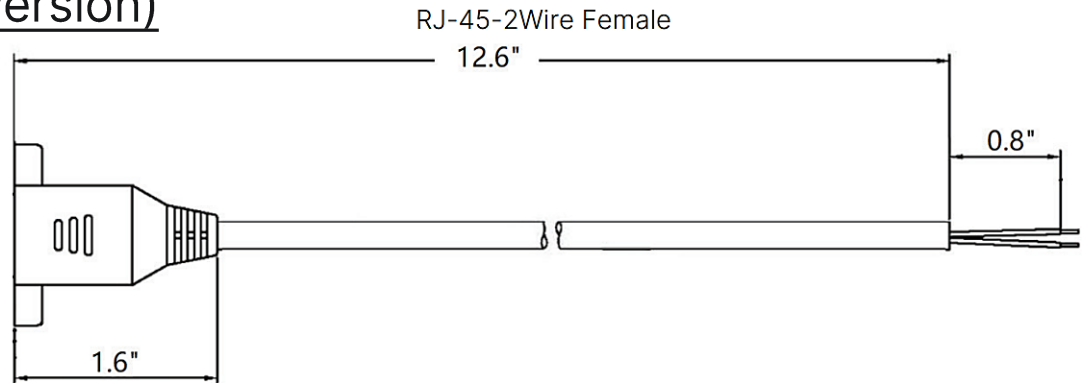
The 2-wire RJ45 adapter adapts the 8-pin output channels of the 90W node to two wires (red and black) to be able to connect them to a **light fixture**. The red wire is positive, and the black is negative.

MHTI-RJF-2WIRE Field Termination

MHTi-RJM-2WIRE (Male version)



MHTi-RJM-2WIRE (Female version)



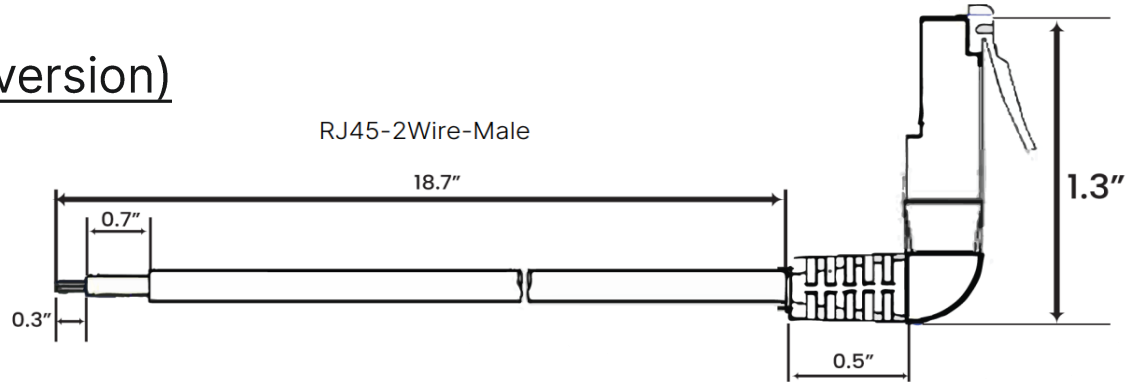
Hardware Module 2 – RJ45 Adapters (3-Wire)

MHTi-RJ45-3WIRE:

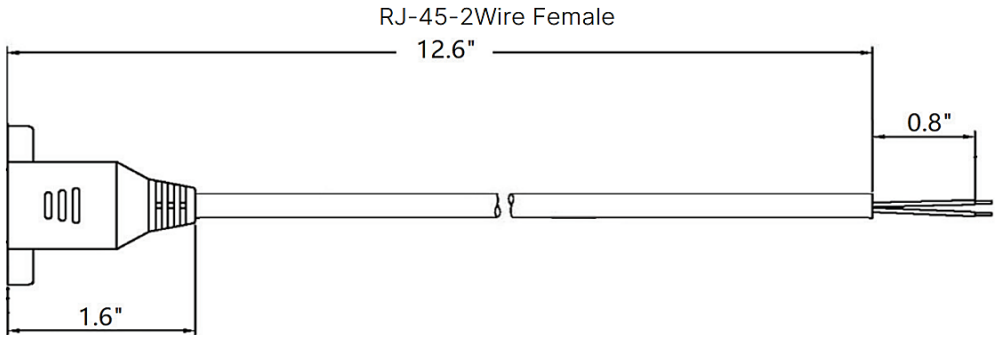
The 3-wire RJ45 adapter adapts the 8-pin Control inputs of the 90W node to three wires (red, white, black) to be able to **connect various sensors, rocker switches and push buttons**. The red wire is 24Vdc, the white wire is the trigger signal and black one is the ground.

MHTI-RJF-3WIRE Field Termination

MHTi-RJM-3WIRE (Male version)



MHTi-RJM-3WIRE (Female version)



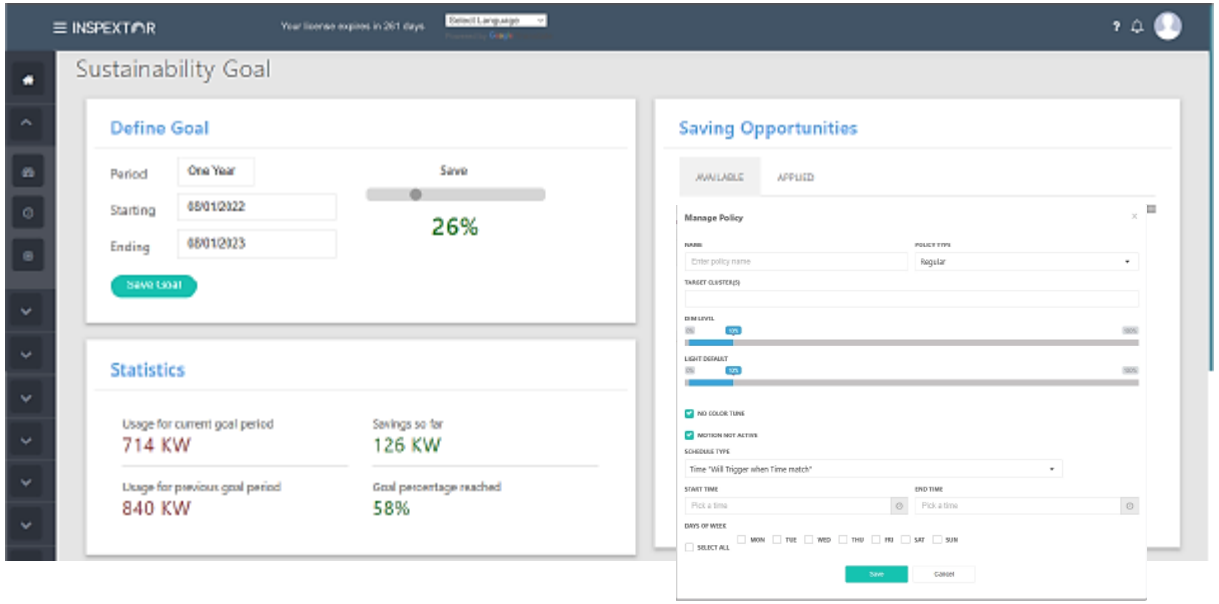
Hardware Module 2 – Inspextor Software

MHTi-Inspextor:

Our Inspextor platform provides two critical functions for enhanced building automation:

First, Inspextor serves as a smart building technology platform, built on the strengths of a PoE-backbone for reliability, scalability, and security. It provides integrated system-wide programmable control functionality without the need for separate control packages.

Second, Inspextor also serves as a monitoring and reporting manager, which enables the collection of powerful data that can be used to improve energy efficiency, streamline building management capabilities, and enhance security.



Hardware Module 2 – Inspextor Hardware

Supermicro SYS-5018A-MLTN4:

Barebone 1U with Atom C2550 CPU SoC (System-on-Chip) FCBGA 1283 4-Core - Supports up to 64GB DDR3 ECC Memory (4x 240-pin DDR3 UDIMM Sockets) - On-Board : C2000 SoC SATA3 (6Gbps), SATA2 (3Gbps), C2000 SoC I354 4x GbE controllers (MACs), IPMI 2.0,VGA, 1x SATADOM (Disk on Module) Power Connector - Includes : Intel Atom Processor C2550, 2x 3.5in SATA-300 Hot-Swap Hard Drive Bays (or, optionally), 4x 2.5in internal SATA-300 HDD bays, 200W Low-Noise Power Supply (PWS-202-1H) w/ PFC - (MBD-A1SAM-2550F + CSE-512L-200B) – Black. To be used up to 1000 devices.

Hardware Module 2 – Inspextor Hardware

Intel NUC BXNUC10i3FNKN1:

Processor Model: i3-10110U, 10th Gen, Dual-core (2 Core), 4.10 GHz - Memory Technology: DDR4 SDRAM, two slots- Ethernet Technology: Gigabit Ethernet-Protocols: Web, SNMP, Telnet– Black. To be use up to 100 devices