

IoT Controller Datasheet



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First Edition



Hooshmand Negar IoT Co.

1. General Description

The HN-ED-LW100 LoRa & Wi-Fi controller offers flexibility in wireless IoT applications with its short to long-distance communication protocols, wide coverage. The controller's specific use is in structural operating system control, which still can be used in a variety of operations. The HN-ED-LW100 performs using smart analytics, scenarios, and also manual directing through a mobile app or via a web-based system.

Some areas of application include:

- Offices
- Residential Buildings
- Commercial Centers
- Smart Cities
- Factories and Warehouses
- Sport Centers



2. Device Performance and Characteristics

Items	Parameters	Specification
General Identifications	Outline Dimensions	12L*5W*3H mm
	Processor	Esp8266
	Weight	200g
Environmental Specifications	Operating Humidity	20 to 100 %RH
	Operating Temperature Range	-30 to 60 C
	Storage Temperature Range	-40 to 80 C
Electrical Characteristics	Input Voltage	220 / AC V
	Output Voltage	220 V
	Output Current	15 A
Interface	Input Port	Phoenix, connecting to light key cable
	Output Port	Relay output, connecting to lights
	LED Indicator	Green LED: Communication Successful White LED: Actuation done
Functions	Wi-Fi Protocol	Frequency Range: 2.4 to 2.5 GHz
	LoRa Protocol	Frequency Range: 433 MHz
	Relay Output	Controlling lights or other actuators
	Compatibility with app	Mobile app / web-based app
PCB	Copper Thickness	35 um
	Thickness	1.6 mm
	Board Type	FR4-TG155
	Dimensions	9.4L*4.8W mm

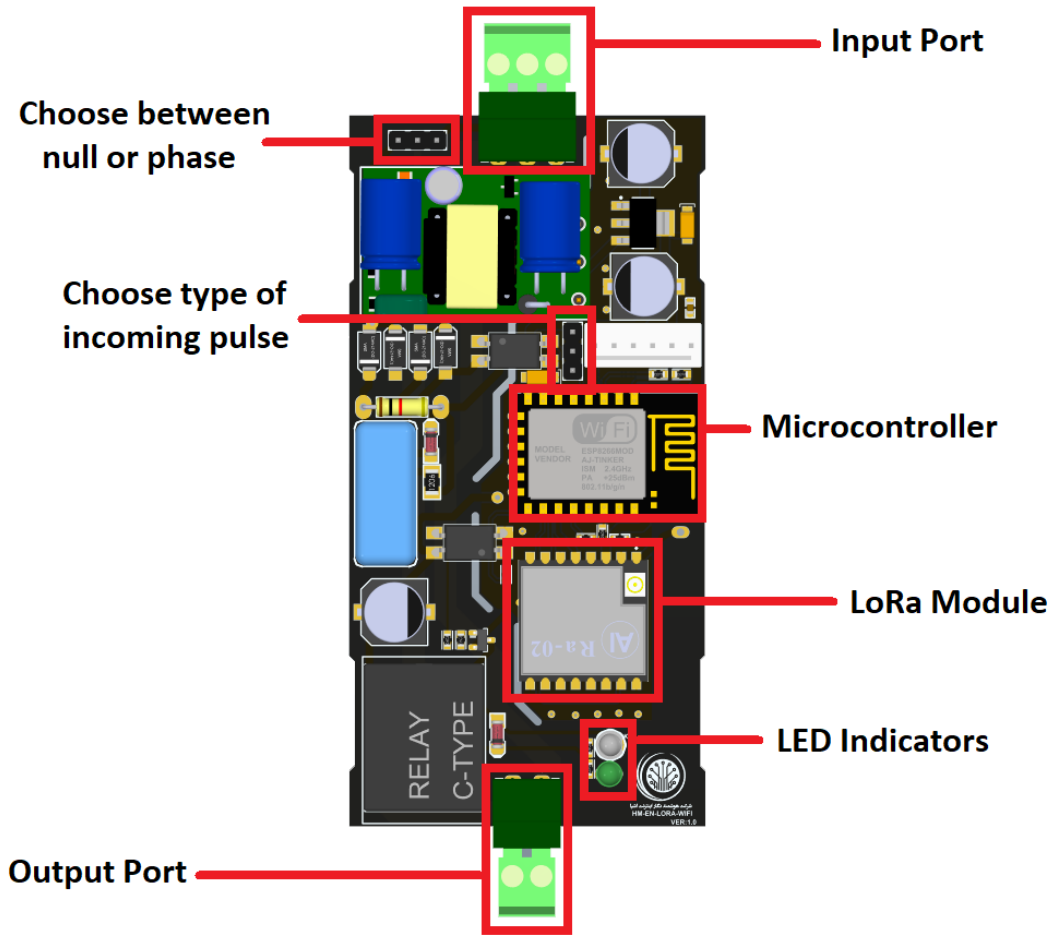


Figure 1, PCB Top view

3. Modules Specifications

3.1 LoRa

- LoRa spread spectrum modulation technology
- Receive sensitivity as low as -141 dBm
- Excellent resistance to blocking
- Supports half-duplex SPI communication
- Programmable bit rate up to 300Kbps
- FSK,GFSK,MSK,GMSK,OOK mod. Modes
- Supports preamble detection
- Automatic RF signal detection
- CAD mode and ultra high-speed AFC
- Frequency range: 410 to 525 MHz
- Antenna: Spring antenna with gain of 2.5 dBi
- Maximum Transmit Power: 18±1 dBm
- Operating Temperature: -30 to 85

Receive Sensitivity:

Frequency	Spread factor	SNR	Sensitivity
433 MHz	7	-7	-125
	10	-15	-134
	12	-20	-141

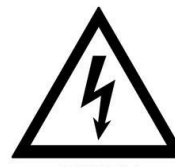
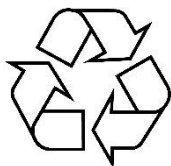
3.2 WiFi

Parameter	Specification
Certification	Wi-Fi Alliance
Protocols	802.11 b/g/n (HT20)
Frequency range	2.4GHz to 2.5GHz (2400MHz to 2483.5MHz)
Antenna	PCB Trace, external, IPEX connector, Ceramic chip
2x virtual Wi-Fi interface	
Defragmentation	
Support infrastructure BSS station mode/SoftAP mode / Promiscuous mode	

3.3 Relay Output

Parameter	Specification
Contact arrangement	1A(spstno) /1B(Spstnc)/1C(Spdt)
Contact resistance	100 mohm (1A 6VDC)
Contact material	Silver alloy: AgCdO, AgSn)2, AgNi
Contact rating	7A/250VAC 10A/250VAC 15A/250VAC
Max switching voltage	250 VAC
Max switching current	15A
Max switching power	3750 VA

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