

# Wireless Multifunctional Control Box

## 3 Dry Contact Inputs and 3 Dry Contact Relay Outputs

Wireless Sensor Network Based on LoRa Technology



## R831D Data sheet

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## Wireless Multifunctional Control Box (DC-powered)

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### Introduction

The R831 series can be equipped with a three-way controllable relay switch. The three-way relay output can be used as a dry contact. The user can separately control it through wireless commands which adopt SX1276 wireless communication module.

### Features

- SX1276 wireless communication module
- Three-way relay control
- Compatible with LoRaWAN™ Class C
- Frequency-hopping spread spectrum
- Applicable to the third-party platforms: Actility/ ThingPark, TTN, MyDevices/Cayenne

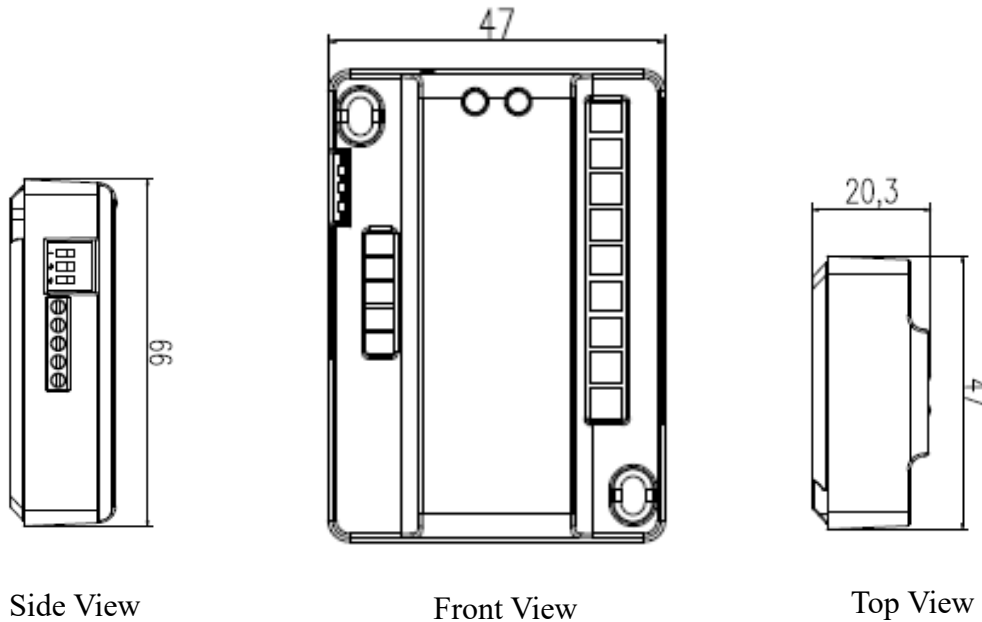
### Applications

- Indoor smart switch for home or business
- Real-time remote-controlled equipment

## Wireless Multifunctional Control Box (DC-powered)

### Dimensions

66mm x 47mm x 20.3mm



### Electrical Specifications

Operating Voltage	Adapter DC 12V/1A
Operating Current	20mA (12V) without switching relays and LoRa data transmission
	<250mA (12V) switching relays and LoRa data transmission
Relay Switch Load Characteristic	Contact load: DC30V/5A
Relay Coil Power Consumption	300mW
Relay Model	HFE60/5-1HSTGL2R
Relay Type	Magnetic latching relay

**Wireless Multifunctional Control Box (DC-powered)**

**Frequency**

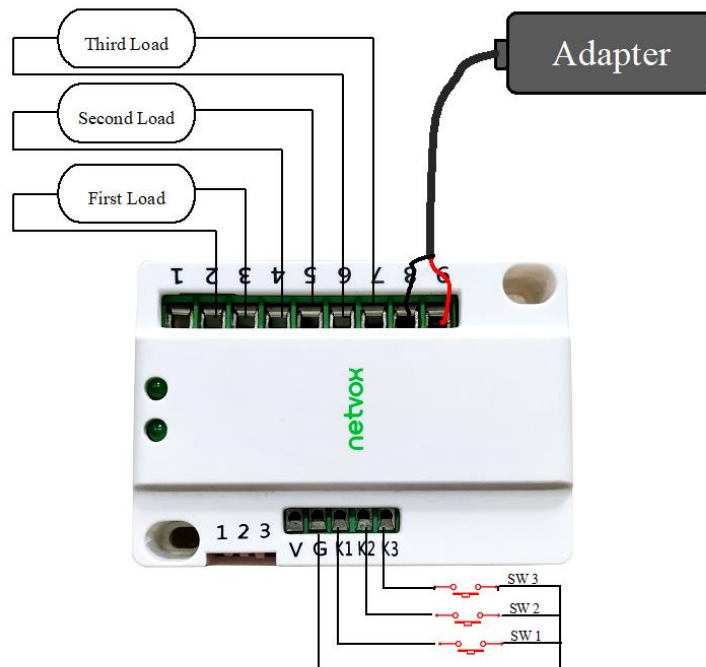
Frequency Range	863MHz-928MHz 470MHz-510MHz
Tx Power	US915 20dbm      EU868 16dbm AS923 16dbm      KR920 14dbm AU915 20dbm      IN865 20dbm CN470 19.15dbm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bit Rate = 293bps)  -121dBm (FSK, Frequency deviation = 5kHz, Bit Rate = 1.2kbps)
Antenna Type	Built-in antenna
Communication Range	10km (line of sight)  Note: The actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbp–50kbps (LoRa); 1.2kbps–300kbps (FSK)
Modulation	LoRa / FSK  Note: One modulation method is required.
Available LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865-867, CN470-510  Note: optional, be configured before shipment

## Wireless Multifunctional Control Box (DC-powered)

### Physical Properties

Dimensions	66mm x 47mm x 20.3mm
Ambient Temperature	-20°C–55°C
Ambient Humidity	<90%RH (no condensation)
Storage Temperature	-40°C–85°C

### Wiring



R831D Wiring Diagram (Relay Load: DC30V/5A)

Note: Improper wiring could cause danger to users. Please follow the wiring diagram while installing.