

Wireless Multifunctional Control Box

Wireless Sensor Network Based on LoRa Technology



R831B Data sheet

Copyright©Netvox Technology Co., Ltd.

This document contains proprietary technical information which is the property of NETVOX Technology and is issued in strict confidential and shall not be disclosed to other parties in whole or in parts without written permission of NETVOX Technology. The specifications are subject to change without prior notice.

Wireless Multifunctional Control Box (DC-powered)

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 LoRaWANTM Class C
- Frequency-hopping spread spectrum
- Applicable to the third-party platforms: Actility/ ThingPark, TTN, MyDevices/Cayenne

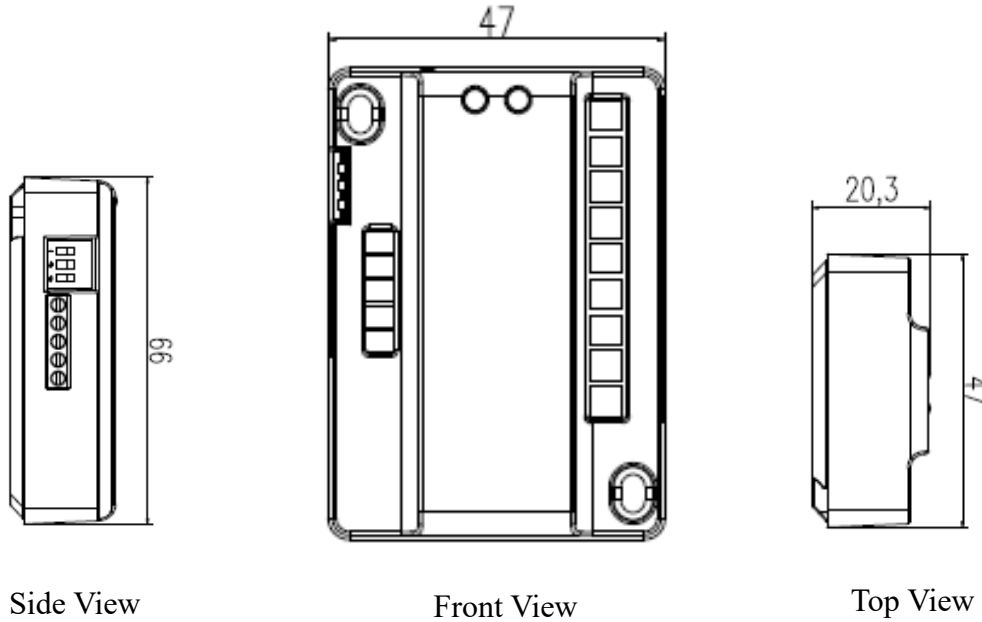
Applications

- 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

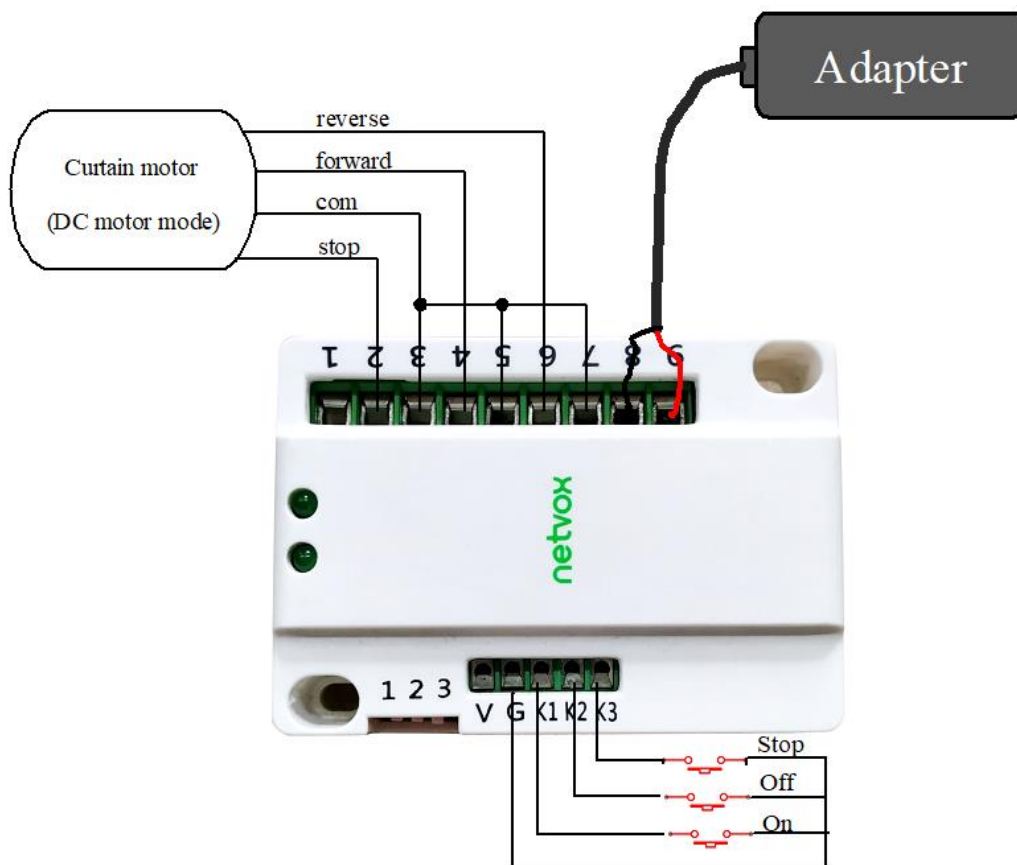
Frequency Range	863MHz-928MHz 470MHz-510MHz
Tx Power	US915 20dbm EU868 16dbm AS923 16dbm KR920 14dbm AU915 20dbm IN865 20dbm CN470 19.15dbm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bit Rate = 293bps) -121dBm (FSK, Frequency deviation = 5kHz, Bit Rate = 1.2kbps)
Antenna Type	Built-in antenna
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



R831B Wiring Diagram (Relay Load: DC30V/5A)

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