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Bluetooth Proximity Relay Module

Product Specification & Integration Guide

5-12 VDC

Wide input supply

10 A

Relay contact rating

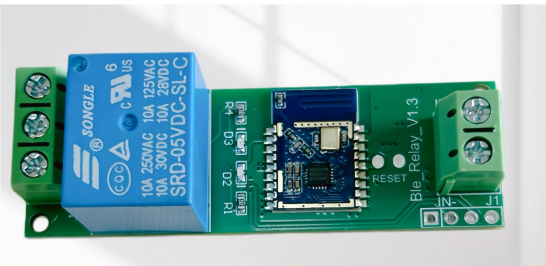
NO/NC/COM

Dry-contact output

62 x 20 x 17

Module size, mm

Product reference image



English datasheet redrawn from supplied product references

Document	English Product Specification
Product	Bluetooth Proximity Relay Module
Revision	1.0
Release Date	June 6, 2026
Document Status	Preliminary customer download edition

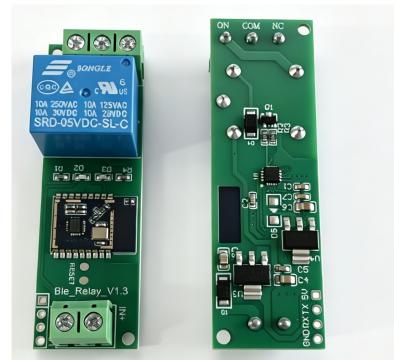
Preliminary data note

Electrical and mechanical data are based on supplied product images and listing text. Final production orders should confirm certification files, firmware revision, and market-specific compliance documents before shipment.

PRODUCT OVERVIEW

Compact Bluetooth proximity control

The Bluetooth Proximity Relay Module is a compact dry-contact control board for near-field enable, unlock, and switching applications. A paired phone can act as the proximity key: when the configured Bluetooth signal condition is met, the relay can close or pulse; when the phone leaves the configured range, the relay can release.



- **Bluetooth proximity trigger**

Uses phone Bluetooth signal strength for approach / leave control logic.

- **Relay dry contact**

SPDT relay output with NO, COM, and NC contacts for external loads.

- **No native app install**

Configuration through a WeChat mini-program on iOS or Android.

- **Configurable behavior**

Name, password, sensing distance, thresholds, and operating mode can be adjusted.

- **OEM friendly**

Suitable for learning, prototyping, and secondary development with custom options.

- **Multi-phone pairing**

Reference listing states support for up to 50 paired phones.

Use-positioning note

This module provides convenience control based on Bluetooth proximity. It should not be used as the only security, life-safety, or functional-safety mechanism unless the complete end product is engineered and certified for that use.

SPECIFICATIONS

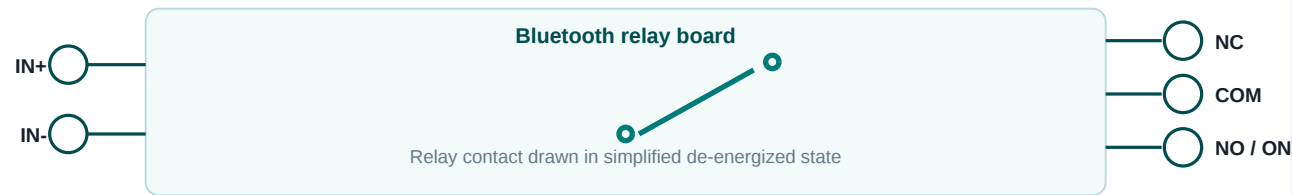
Electrical, wireless, and mechanical data

Product type	Bluetooth proximity relay module / dry-contact switching controller
Supply input	5-12 VDC input range; nominal 12 VDC wiring reference shown in supplier materials
Input terminal	IN+ and IN- low-voltage DC input
Input current reference	DC input terminal reference: 5-12 V / 100 mA
Standby current	Approx. 10 mA, based on supplier listing text
Operating power	Not greater than 0.5 W, based on supplier listing text
Input protection	Reverse-polarity protection indicated in supplier listing text
Relay output	Single SPDT dry contact: NO/ON, COM, NC
Relay contact rating	10 A / 250 VAC max reference; relay package also indicates 10 A ratings at 125 VAC and low-voltage DC loads
Contact behavior	Output is a dry-contact switch. The load circuit supplies its own voltage.
Bluetooth identifier	Default Bluetooth name begins with NBH-
Default pairing password	123456; password is configurable in the mini-program
Configuration method	WeChat mini-program; iOS and Android via WeChat, no native app installation
Supported users	Up to 50 paired phones, based on supplier listing text
Operating modes	Latching proximity mode and momentary / pulse mode
Configurable items	Device name, password, sensing distance, unlock threshold, lock threshold, pulse / latching behavior
Mechanical size	62 x 20 x 17 mm
Board marking	Ble_Relay_V1.3 shown on supplied PCB photos; product package references the newer module version

INTERFACE

Terminals and contact behavior

Simplified terminal map



IN+ / IN-	Low-voltage DC input. Use a regulated 5-12 VDC supply and observe polarity.
COM	Common relay contact. Connects to NO/ON or NC depending on relay state.
NO / ON	Normally-open contact. Open when relay is inactive; closes to COM when relay activates.
NC	Normally-closed contact. Connected to COM when relay is inactive; opens when relay activates.
Dry contact	The output terminals do not provide load voltage. The external circuit supplies AC or DC load power.

Electrical safety note

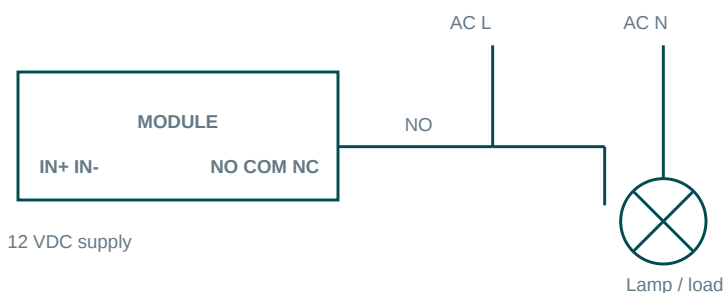
Keep the low-voltage input side isolated from the switched load circuit. Hazardous-voltage loads require a certified enclosure, strain relief, fuse or breaker protection, and installation by qualified personnel under local electrical codes.

INTEGRATION

Typical relay wiring examples

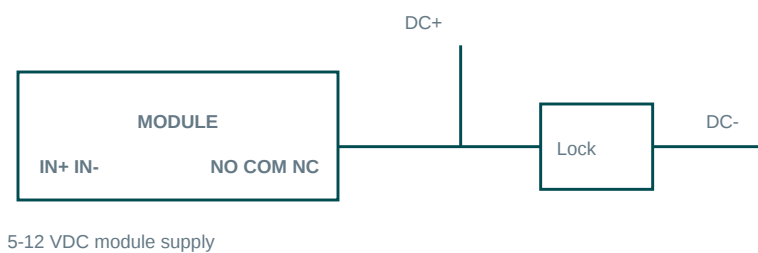
Example A: AC load switched by relay contact

Line is switched through COM and NO/ON. Neutral remains direct to load.



Example B: DC lock or low-voltage load

External DC supply is routed through COM and NO/ON to the controlled load.



Load and code note

Relay contact ratings are component reference ratings, not a full end-product safety approval. Derate inductive loads, add flyback / snubber protection where needed, and validate insulation, creepage, clearance, wiring, and enclosure design for the target market.

SETUP

Pairing and configuration workflow

1

Wire the module

Connect the module power input and the controlled circuit before pairing.

2

Enable phone Bluetooth

Keep Bluetooth enabled. The phone acts as the proximity key after pairing.

3

Open mini-program

Scan the supplier-provided WeChat mini-program QR code; iOS and Android are supported through WeChat.

4

Pair NBH-* device

Select the Bluetooth device whose name begins with NBH-. Default password: 123456.

5

Set behavior

Configure name, password, sensing distance, unlock threshold, lock threshold, and pulse / latching mode.

6

Test and save

Walk toward and away from the module, verify relay behavior, then save settings for the installed environment.

Bluetooth proximity behavior

Sensing distance is inferred from Bluetooth signal strength and may vary with phone model, antenna orientation, body blocking, enclosure material, battery level, and nearby RF noise. Always tune thresholds after final installation.

Configuration scope

- Device name and pairing password can be changed.
- Unlock and lock signal thresholds support proximity-distance tuning.
- Latching mode and momentary mode support different control use cases.

CONTROL LOGIC

Latching and momentary relay behavior

Latching proximity mode

Relay closes when signal exceeds unlock threshold; relay opens when signal falls below lock threshold.



Momentary / pulse mode

Relay closes for the configured pulse duration when the trigger condition is met.



Typical application fit

- E-bike, motorcycle, or small-vehicle keyless enable systems where the final integrator validates safety.
- Garage, cabinet, equipment-enable, or access-control prototypes using a relay dry contact.
- OEM learning platforms and secondary development projects requiring Bluetooth-based proximity behavior.

REGULATORY

Compliance and ordering notes

- **No certification claim is made in this preliminary datasheet** unless supported by current certificates for the exact SKU and production batch.
- Bluetooth radio products and final host devices may require market-specific approvals such as FCC Part 15, CE RED, UKCA, ISED, MIC, SRRC, KC, or other national RF rules.
- Switching mains or vehicle circuits can trigger additional safety, EMC, enclosure, insulation, fusing, cable, and installation-code requirements.
- RoHS, REACH, battery, packaging, and material declarations should be confirmed per order, destination market, and final product configuration.
- The final integrator is responsible for validating security, electrical safety, EMC, RF exposure, labeling, and user documentation for the finished product.

Packaging reference



Reference packaging; final packaging may vary

Ordering item	Bluetooth Proximity Relay Module
Included item	Relay module board; mini-program QR / setup document supplied separately by seller or service team
Support	OEM customization and secondary development support available by project request
Website	www.rogersense.com
Document revision	1.0, June 6, 2026

Customer download edition

This document is prepared for customer evaluation and online product presentation. Before high-volume sale or regulated-market shipment, replace preliminary statements with confirmed certificates, test reports, firmware version, labeling artwork, and final user instructions.