



PODCO BLE RELAY

Datasheet

Rev 0.0

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Revision History

Rev	Description	Date(mm/dd/yy)
0	Initial Release	05/25/23

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Features

- BLE Connectivity
- Rechargeable Internal Battery with up to 30 days of runtime
- USB Power/Charging
- Relay Contact Control
- Feedback LEDs
- On/Off switch



Description

The BLE Relay is a Bluetooth connected Relay device. It is designed as a simple way to wirelessly control a relay output.

It features a single set of relay contacts and an associated status LED. It contains an internal rechargeable battery as well as USB connectivity for power or charging.

Applications

- Remote Control
- Automation

Specifications

Pinouts 2-Pin Header

Pin	Function	Description
1	K0A	Relay Contact 1
2	K0B	Relay Contact 2

Absolute Maximum Ratings

Contact Voltage	60V AC/DC
Contact Current	3A
Temperature Min	0 °C
Temperature Max	45 °C

Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and do not imply functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

Recommended Operating Conditions at 25°C

	Min	AVRG	Max
Temperature	0°C	-	45°C
Battery Runtime	-	30 Days ¹	-
Charge Current	-	-	100mA
Contact Voltage	-	-	48V AC/DC
Contact Current	-	-	2A

1. Average runtime is based on the per day conditions that the device is turned off for 16hrs, BLE Idle for 1hr, BLE Connected (Relay Off) for 3.5hrs, and BLE Connected (Relay ON) for 3.5hrs

Connecting to the Relay

Once the device is turned on the relay advertises in pairing mode for 60 seconds. At this time any device may connect and bond to the relay. After this initial pairing time the relay changes into its secure mode and only previously bonded devices can connect.

When bonding to the relay the Password 123456 is used.

The Bond List will hold 5 controllers in memory. To reset this list see Resetting Bond List

Relay Operation

The BLE Relay is design to operate from a host controller tablet or smartphone. Once the device is turned on and connected to the controller operation of the relay is possible by writing to the relay control characteristic. Feedback is given about the relay state to the controller through the relay monitor characteristic. The device battery level is seen in the battery level characteristic, while the charger state can be seen in the charger characteristic.

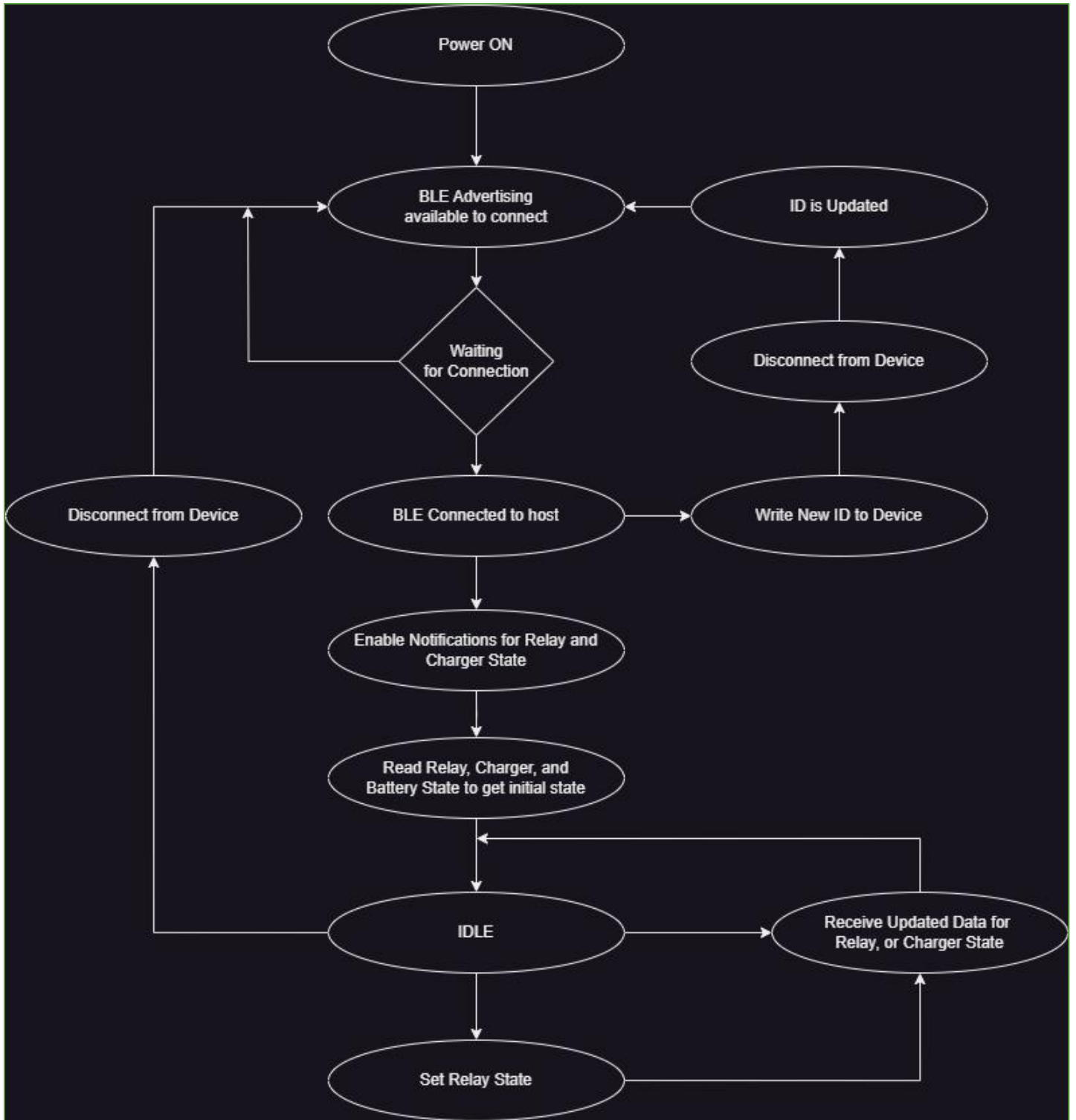


Figure: Operation

Characteristics

Characteristic	UUID	R/W/Notify	Data Length	Payload
Main	0xf5cf0e84, 0x9a35, 0x418e, 0xa627, 0xa1258034b1c7	-	-	
Relay Control	0x00001525, 0x1212, 0xefde, 0x1523, 0x785feabcd124	W	1 byte	1=ON 0=OFF 2=Erase Bonds
Relay Monitor	0x00001524, 0x1212, 0xefde, 0x1523, 0x785feabcd123	R/Notify	1 byte	1=ON 0=OFF
Charger	0xf13b487b, 0xdf5, 0x4db9, 0x9b54, 0xa26a26e750d3	R/Notify	1 byte	1=Charging 0=Not Charging
Battery Level	0x2a19	R	1 byte	0-100%
ID	0xf13b487b, 0xcd5, 0x5db9, 0x9b54, 0xb26a26e750d4	W	2 bytes	XXXX 2 byte hex

Status LEDs

The Relay is equipped with 3 status LEDs

LED	FUNCTION
Yellow	Relay ON/OFF Indicator
Blue	Device ON
Red	Charging (ON= Charging, OFF=Charger, Blinking = Fault)

Changing ID

To change the device ID follow these steps:

- Turn on the device
- Connect device to smartphone or tablet
- Write 4-digits representing a two-byte hex number to the ID characteristic. (i.e 0x1234, 0xabcd etc.)
- Disconnect the device from BLE
- See the advertised name is updated

Resetting Bond List

To erase the bond list follow the following steps:

- Turn on the device
- Connect device to smartphone or tablet on the bond list
- Write 0x02 to the Relay Control Characteristic.
- Disconnect the device from BLE
- Bond list is now cleared excluding the device that preformed the function