

# Relay Interface for the Battery-free Button



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## Introduction

The Relay Interface temporarily closes an array contact when it receives a signal from a wireless button. The array contact is a potential free, mechanical contact.

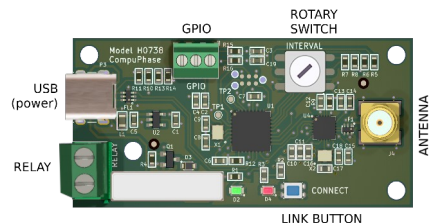
**This interface is only compatible with H0736\* model “Battery-free” Wireless Buttons.**

The Relay Interface has a USB C connector for 5 V power input. It is suitable for a USB power supply or powerbank. When connected to a PC, USB interface may also be used for control or programming.

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## Connecting the Relay Interface

1. Mount the antenna to the SMA connector.
2. Use a USB C cable to connect the interface to a power supply. The green LED should light up.
3. Connect a device that you want to switch on/off to screw terminals marked “RELAY”.



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## Linking the Interface to a Button

To activate the relay with wireless button, the interface must first be linked to the button. The procedure is:

1. Briefly press the button marked “CONNECT” on the interface board. The red LED should blink slowly.
2. Press the wireless button that you want to link. The red LED blinks quickly three times to confirm.

The wireless button should be pressed within 10 seconds of pressing “CONNECT.” After 10 seconds, the red LED stops blinking and the procedure is aborted.

Up to 4 wireless buttons can be linked to the interface. When an interface has 4 linked buttons and an additional button is linked, the oldest link is removed.

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## Standard operation

When you press a wireless button that is linked to the interface, the relay momentarily closes.

The rotary switch marked “INTERVAL” allows you to set the duration that the relay stays actuated (upon receiving a signal from a wireless button). The duration is in seconds, and can be set from 1 to 9 seconds.

Setting the rotary switch to 0 (zero) keeps the relay actuated until the wireless button is pressed another time. That is, a first press makes the contact until a second press breaks the contact.

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## Clearing All Buttons

To clear all linked buttons from an interface, press and hold the “CONNECT” button on the interface board until the red LED stops blinking (approximately 10 seconds).

## Mounting the Relay Interface

The interface has four mounting holes. Three are in the corners of the board and the fourth is just behind the screw terminals for the relay contact. The mounting holes have a diameter of 3.2 mm.

Alternatively, the circuit board can be attached to a flat surface by means of double-sided foam tape.

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User scripts

The built-in standard operation of the interface can be replaced with a user script. A user script allows you to check (or set) the GPIO pins on the board, to control the relay from the USB port, to delay the actuation of the relay after receiving a signal from a button, if multiple wireless buttons are linked, attach a different function to each button.

For creating a user script (in the “Pawn” scripting language), a complete programming environment including full documentation, can be downloaded from:

https://www.compuphase.com/usbkey/

Electronic interface

Operating voltage.....5.0 V, powered through USB C port.  
Current.....30 mA nominal when idle; 60 mA with relay activated.  
Radio frequency.....868 MHz or 915 MHz, depending on model.  
GPIO pins.....on output: 3.3 V, 4 mA;  
on input: 3.3 V nominal (5 V tolerant), internal pull-up on each pin.

Moving the Antenna

When the relay interface is built into a metal object or cabinet, the antenna should be moved to outside that object. Large metallic surfaces near the antenna may negatively affect reception as well.

You can move the antenna to a better position by using an antenna stand on a coax extension cable. An antenna stand must be separately purchased.

To increase reception sensitivity, you may also replace the provided antenna by a high-gain antenna (of the correct frequency, see the specifications).

Relay contact

Rated voltage.....AC: 250 V / DC: 30 V.  
Rated current.....3 A continuous / 5 A peak.  
Contact resistance.....30 mΩ at 100 mA, 6 V DC.

Conformity

Radio Equipment Directive (RED).....Compliant with EU Directive 2014/53/EU:  
ETSI EN 301 489-3:2002 V1.4.1,  
ETSI EN 300 220-2:2012 V2.4.1,  
ETSI EN 300 220-1:2012 V2.4.1

Specifications

Model.....H0738/E (868 MHz),  
H0738/U (915 MHz).

Mechanical

Dimensions.....62×30 mm.  
Mounting holes.....four holes, Ø3.2 mm.

Operating conditions

Operating temperature....-25 °C to +40 °C.  
Humidity.....5% to 95% non-condensing.

EMC.....Compliant with EU Directive 2014/30/EU: EN 55022 and EN 55024 + A1 (2001) + A2 (2003).  
Electrical safety.....Compliant with EU Directive 2014/35/EU: EN 60950-1  
RoHS.....Compliant with EU Directive 2011/65/EU: EN 50581:2012.

Legal disclaimer

CompuPhase shall not be liable for the incidental or consequential losses or damage to tangible property, injury or death of a person in connection with the use of this device.