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Overview

OC03 is a low-voltage control relay module able to switch AC and DC loads.

The optically isolated relay is controlled by a PCA9554A IO expander, which provides an control interface to the switch. The PCA9554A has several selectable I²C addresses accessible via solder pads.

The TLP241A photorelay consist of a photo MOSFET optically coupled to an infrared light emitting diode which switches a AC or DC load. It provides an isolation voltage of 5000 Vrms, making it suitable for applications that require reinforced circuit insulation.

Product Highlights

- Low Voltage AC/DC Control Relay
- Load Voltage Range: 0 - 40 V
- Load Current Rating: 2 A

Applications

- Home Automation
- Remote Control Applications
- Industrial Control
- Remote Interfacing

Specifications

PCA9554A

- 400-kHz Fast I²C Bus
- Three Hardware Address Pins Allow up to Eight I²C Addresses
- Internal Power-On Reset
- No Glitch on Power Up
- Latched Outputs With High-Current Drive

TLP241A

- Normally Open
- OFF-state output terminal voltage: 40 V (min)
- Trigger LED current: 3 mA (max)
- ON-state current: 2 A (max)
- ON-state resistance:
 1. 100 mΩ (max, t < 1 s)
 2. 150 mΩ (max, Continuous)
- Isolation voltage: 5000 Vrms (min)

External Links

Datasheet

- PCA9554A From Texas Instruments (<http://www.ti.com/lit/ds/symlink/pca9554a.pdf>)
- TLP241A From Toshiba (<https://toshiba.semicon-storage.com/info/docget.jsp?did=14237&prodName=TLP241A>)

Shop

- Buy OC03 (<https://xinabox.cc/products/oc03>)

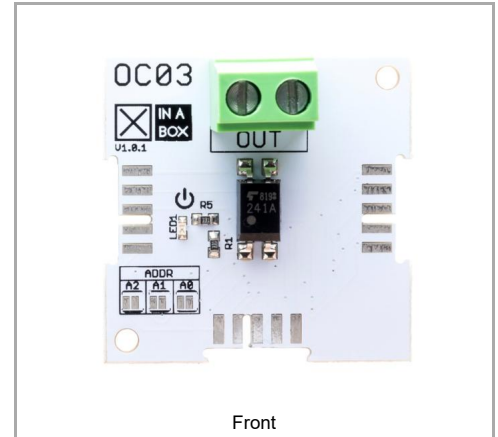
GitHub Libraries

- Arduino (https://github.com/xinabox/Arduino_OC03)
- Zerynth (https://github.com/xinabox/zerynth_OC03)
- MakeCode (<https://github.com/xinabox/pxt-OC03>)

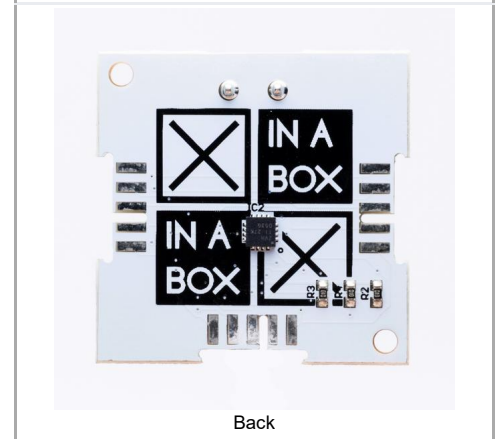
Features Projects

- Virtual Door Button (<https://www.hackster.io/gotfredsen/virtual-door-button-b5298f>)

OC03 - Relay Out (PCA9554A, TLP240A)



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☒CHIP

Main Category	Output
Sub Category	Control
Introduced	1 January 2017
Current version	1.0.0
Current version date	1 January 2017
Dimensions	
Size	2x2U (32x32mm)
Weight	5.1 g
Height	15.0/11.3/2.1 mm
Non-☒BUS Connections	
North	Terminal Block
Main Chip Set	
Main Chip	PCA9554A
I²C Configuration	
Default Address	0x38
Alternative Addresses	0x3B; 0x3D; 0x3E; 0x3F
Change Setting	Solder Pads

- Build a Temperature Controlled Desk Fan in Python (<https://www.hackster.io/dberman/build-a-temperature-controlled-desk-fan-in-python-7703db>)
- Controlling the XinaBox OC03 Relay Module in Python (<https://www.hackster.io/lana-vulic/controlling-the-xinabox-oc03-relay-module-in-python-f42cca>)