

# Single Switch – JS202011 – Trēo™ Module

## Module Features

- C&K JS202011
- RoHS Compliant
- Software Library
- NightShade Trēo™ Compatible
- Breakout Headers

## JS202011 Features

(from C&K)

- 5,000 Cycle Life Expectancy

## Applications

- Control Panel
- Mobile Device

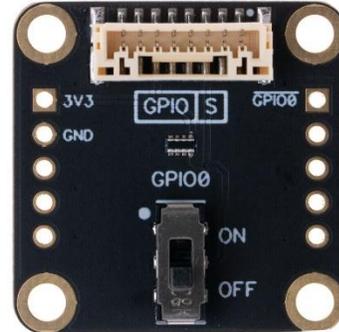
## Trēo™ Compatibility

### Electrical

Communication	GPIO
Max Current, 3.3V	1mA
Max Current, 5V	0mA

### Mechanical

- 25mm x 25mm Outline
- 20mm x 20mm Hole Pattern
- M2.5 Mounting Holes



## Description

The JS202011 Trēo™ Module is a Single Switch module that features C&K’s JS202011 slide switch. This module is a part of the NightShade Treo system, patent pending.

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## 1 Summary

This module is operated using the NightShade\_Treo\_DigitalInput library. The input is monitored with the read() method.

## 2 What is Trēo™?

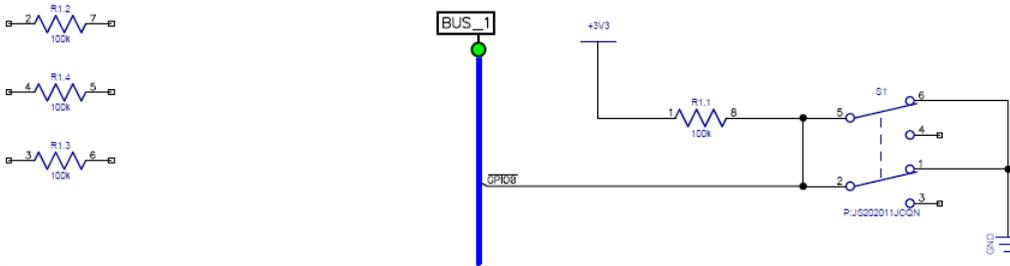
NightShade Trēo is a system of electronic modules that have standardized mechanical, electrical, and software interfaces. It provides you with a way to quickly develop electronic systems around microprocessor development boards. The grid attachment system, common connector/cabling, and extensive cross-platform software library allow you more time to focus on your application. Trēo is supported with detailed documentation and CAD models for each device.

Learn more about Trēo [here](#).

## 3 Electrical Characteristics

	Minimum	Nominal	Maximum
<b>Voltages</b>			
V <sub>i/o</sub> (GPIO)	-0.3V	-	3.6V
V <sub>3.3v</sub>	3.1V	3.3V	3.5V
<b>Operating Temperature</b>	-25°C	-	+85°C

## 4 Electrical Schematic

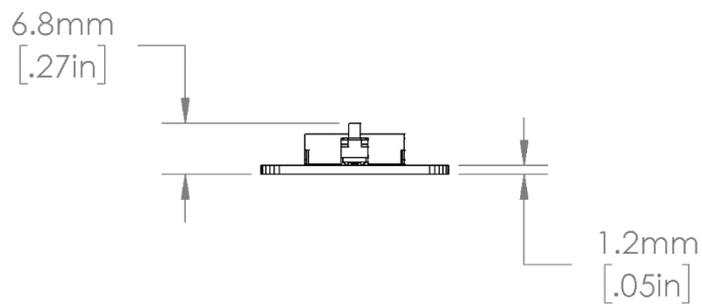
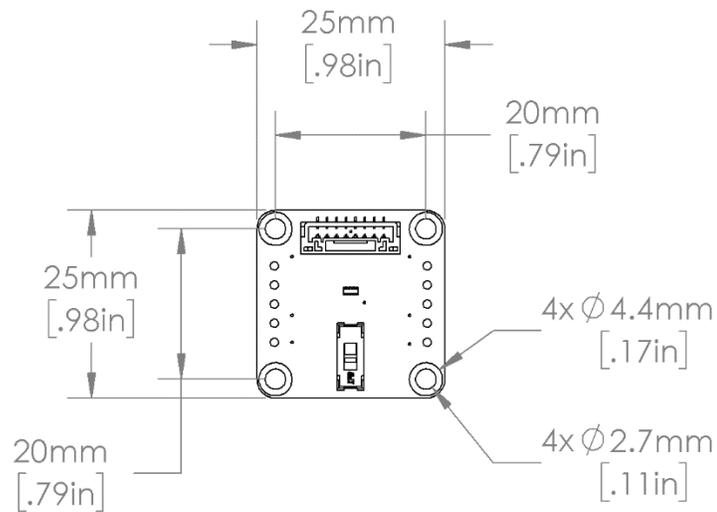
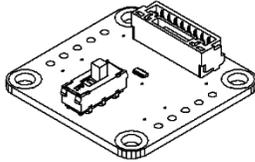


Shown in "ON" State (Active Low)

### Breakout Headers



## 5 Mechanical Outline



## 6 Example Arduino Program

```
/******  
DigitalInput - NightShade_Treo by NightShade Electronics  
  
This sketch demonstrates the functionality of the  
NightShade Trēo digital input modules like buttons and  
switches. It prints any change in state to Serial at  
115200 baudrate.  
  
Created by Aaron D. Liebold  
on February 15, 2021  
  
Links:  
NightShade Trēo System: https://nightshade.net/treo  
  
Distributed under the MIT license  
Copyright (C) 2021 NightShade Electronics  
https://opensource.org/licenses/MIT  
*****/  
  
// Include NightShade Treo Library  
#include <NightShade_Treo.h>  
  
// Declare Objects (Dual Input Device - GPIO0: D5, GPIO1: D4)  
NightShade_Treo_DigitalInput input0(5);  
NightShade_Treo_DigitalInput input1(4);  
  
void setup() {  
  Serial.begin(115200); // Initialize Serial at 115200 baud  
}  
  
void loop() {  
  if (input0.read()) {  
    Serial.println("Input0 Activated!");  
    while (input0.read()); // Wait until input is released  
    Serial.println("Input0 Deactivated!\n");  
  }  
  if (input1.read()) {  
    Serial.println("Input1 Activated!");  
    while (input1.read()); // Wait until input is released  
    Serial.println("Input1 Deactivated!\n");  
  }  
}
```



## 7 Library Overview (C++ & Python)

### C++ Class

```
NightShade_Treo_DigitalInput <classObject>();
```

### Python Module

```
<classObject> = NightShade_Treo.DigitalInput()
```

### 7.1 Constructors

#### NightShade\_Treo\_DigitalInput(int gpioPin)

Creates a DigitalInput object.

Arguments:

gpioPin

Integer of the GPIO pin

Returns:

Nothing

### 7.2 Methods

#### read()

Reads the input value. This method debounces the input by waiting for three consecutive reads of the same value. The reads are taken at 50us

Arguments:

None

Returns:

Input value (int)

on (true)/off (false)