

## External wakeup

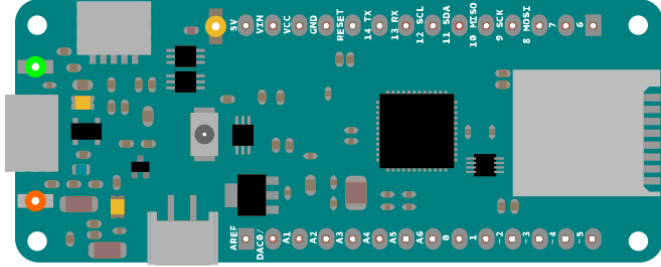
This example for a SAMD21 based board allows you to setup the external wakeup source from power saving mode.

## Hardware Required

- SAMD21 based board (i.e MKR1000, MKRZero, Zero, Tian)

## Circuit

There is no circuit for this example.



fritzing

## Code

```
/*
ExternalWakeup

This sketch demonstrates the usage of External Interrupts (on pins) to wakeup a chip in sleep mode.
Sleep modes allow a significant drop in the power usage of a board while it does nothing waiting for an event to happen. Battery powered application c

In this sketch, shorting pin 8 to a GND will wake up the board.
Please note that, if the processor is sleeping, a new sketch can't be uploaded. To overcome this, manually reset the board (usually with a single or c

This example code is in the public domain.
*/

#include <ArduinoLowPower.h>

// Blink sequence number
// Declare it volatile since it's incremented inside an interrupt
volatile int repetitions = 1;

// Pin used to trigger a wakeup
const int pin = 8;

void setup() {
  pinMode(LED_BUILTIN, OUTPUT);
  // Attach a wakeup interrupt on pin 8, calling repetitionsIncrease when the device is woken up
  LowPower.attachInterruptWakeup(pin, repetitionsIncrease, CHANGE);
}

void loop() {
  for (int i = 0; i < repetitions; i++) {
    digitalWrite(LED_BUILTIN, HIGH);
    delay(500);
    digitalWrite(LED_BUILTIN, LOW);
    delay(500);
  }
  // Triggers an infinite sleep (the device will be woken up only by the registered wakeup sources)
  // The power consumption of the chip will drop consistently
  LowPower.sleep();
}

void repetitionsIncrease() {
  // This function will be called once on device wakeup
  // You can do some little operations here (like changing variables which will be used in the loop)
  // Remember to avoid calling delay() and long running functions since this functions executes in interrupt context
  repetitions ++;
}
```