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FLICKER click

From MikroElektonika Documentation

Thanks to the onboard NA556 dual precision timer from Texas Instruments and the G6D-ASI power PCB relay from Omron, the **FLICKER click** can control loads up to 5A, 250 VAC/30 VDC at a predefined time interval.

The on/off period can last from 0.1 to 6 seconds, that can be set by the two ON/OFF onboard potentiometers (Onboard LED is indicating the duration of relays' ON time). The external load can be connected to the board through the screw terminal. FLICKER click runs on 5V power supply and it communicates with the MCU over RST pin.

FLICKER click

FLICKER click

IC/Module	G6D-ASI Power PCB relay datasheet (https://www.components.omron.com/components/web/pdflib.nsf/0/F1A7985E3FBE90C685257201007DD571/$file/g6d-asi_0911.pdf)
Interface	RST pin
Power supply	5V
Product page	FLICKER click (http://www.mikroe.com/click/flicker/)
Schematic	FLICKER click schematic (http://cdn-docs.mikroe.com/images/0/06/FLICKER_click.pdf)

Contents

Features and usage notes

Onboard PCB relay

Maximum switching capacity of the G6D-ASI PCB relay is 1250VA at 150W. Maximum contact resistance is 100 mΩ.

Potentiometers

The two potentiometers (P1 and P2) set the switching on and off time.

Designator	Name	Type	Description
P1		Potentiometer	Adjusting T_{on}
P2		Potentiometer	Adjusting T_{off}
CN1	Terminal block	Connector	for connecting the device

Maximum ratings

Description	Min	Typ	Max	Unit
Contact resistance			100m	Ω
Operate time			10m	s
Ambient temperature	-25		70	C
Operating current			5	A
Operating voltage			250	VAC

Application

Turning devices on and off at specific time intervals.

Pinout diagram

This table shows how the pinout on FLICKER click corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS™				Pin	Notes
	NC	1	AN	PWM	16	NC	
Turns the NE556 on and off	**FON**	2	RST	INT	15	NC	
	NC	3	CS	RX	14	NC	
	NC	4	SCK	TX	13	NC	
	NC	5	MISO	SCL	12	NC	
	NC	6	MOSI	SDA	11	NC	
This click has 5V power supply only	NC	7	+3.3V	+5V	10	**+5V**	+5V power supply
Ground	**GND**	8	GND	GND	9	**GND**	Ground

Programming

This code snippet configures required port E as digital, sets pins 1 and 2 as input and enters an infinite loop. While in an infinite loop, use potentiometers P1 and P2 to adjust the ON / OFF time period.

- Supply voltage within range of 5 – 15 V.
- Maximum output current detected : 225 mA.
- Usable on : ARM, PIC, PIC32, AVR and FTDI compilers.

```

void main()
 {
   ANSELE = 0;            // Configure PORTE pins as digital
   TRISE2_bit = 1;        // Set RE2 pin as input
   PORTE = 0;
   while(1);              // Endless loop
                          // While Button is held, the onboard LED will blink according to ON/OFF timer
                          // For example, connect beeper from digital multimeter on terminal
 }
```

Resources

- FLICKER click product page (http://www.mikroe.com/click/flicker/)
- G6D-ASI Power PCB relay datasheet (https://www.components.omron.com/components/web/pdflib.nsf/0/F1A7985E3FBE90C685257201007DD571/$file/g6d-asi_0911.pdf)
- NA556 datasheet (http://www.ti.com/lit/ds/symlink/na556.pdf)
- FLICKER click schematic (http://cdn-docs.mikroe.com/images/0/06/FLICKER_click.pdf)
- mikroBUS standard specifications (http://download.mikroe.com/documents/standards/mikrobus/mikrobus-standard-specification-v200.pdf)