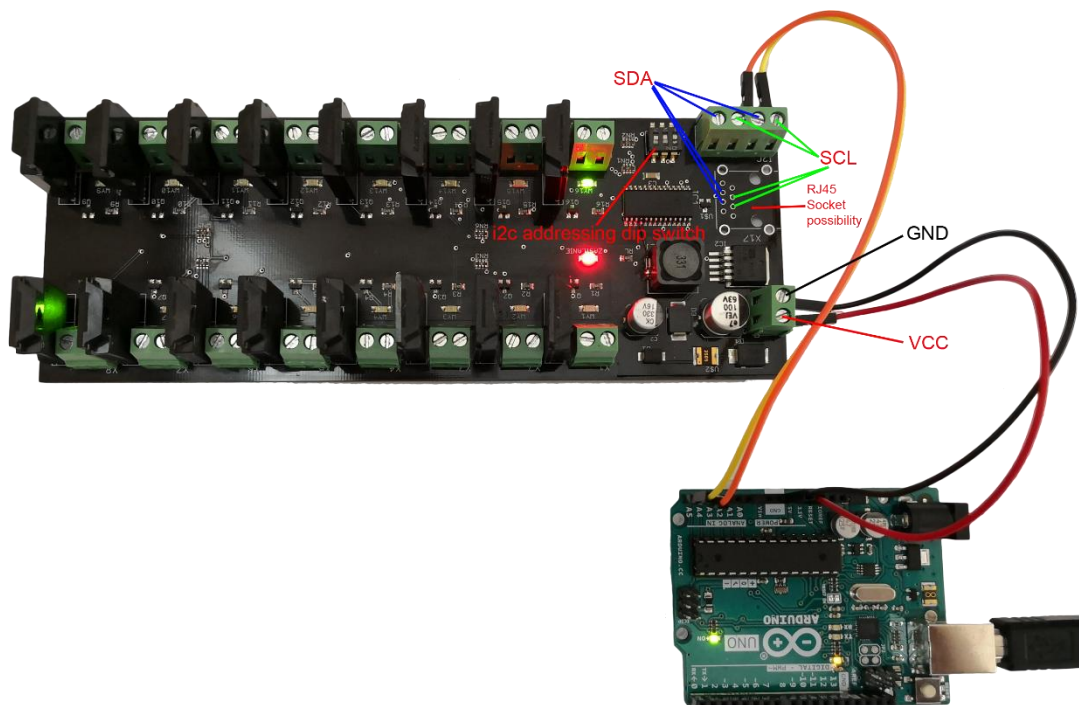


High quality 8A per channel, 16-channel relay board, i2c controlled for IOT.

Product description:

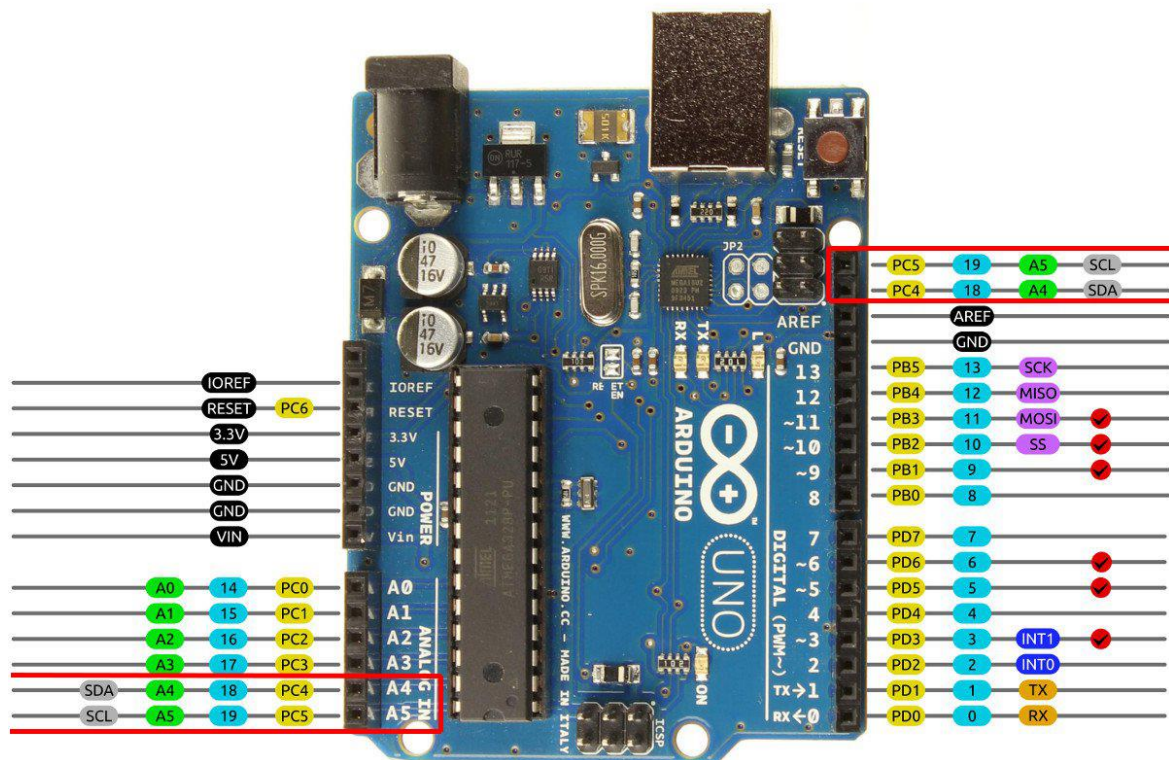
- Operating Voltage: 5 - 24V - SIMPLE SWITCHER® Power Converter 150 kHz 3A Step-Down Voltage Regulator,
- For the boards without relays assembled:
 - Relays control current - 20mA
 - Relays control voltage - 5V
- PCB size: 190x70



Controlling with ARDUINO:

- Connect board to Arduino:
 - SDA to Arduino pin PC4
 - SCL to Arduino pin PC5

Arduino Uno R3 Pinout



AVR DIGITAL ANALOG POWER SERIAL SPI I2C PWM INTERRUPT

- Connect power supply to Arduino and to the board.

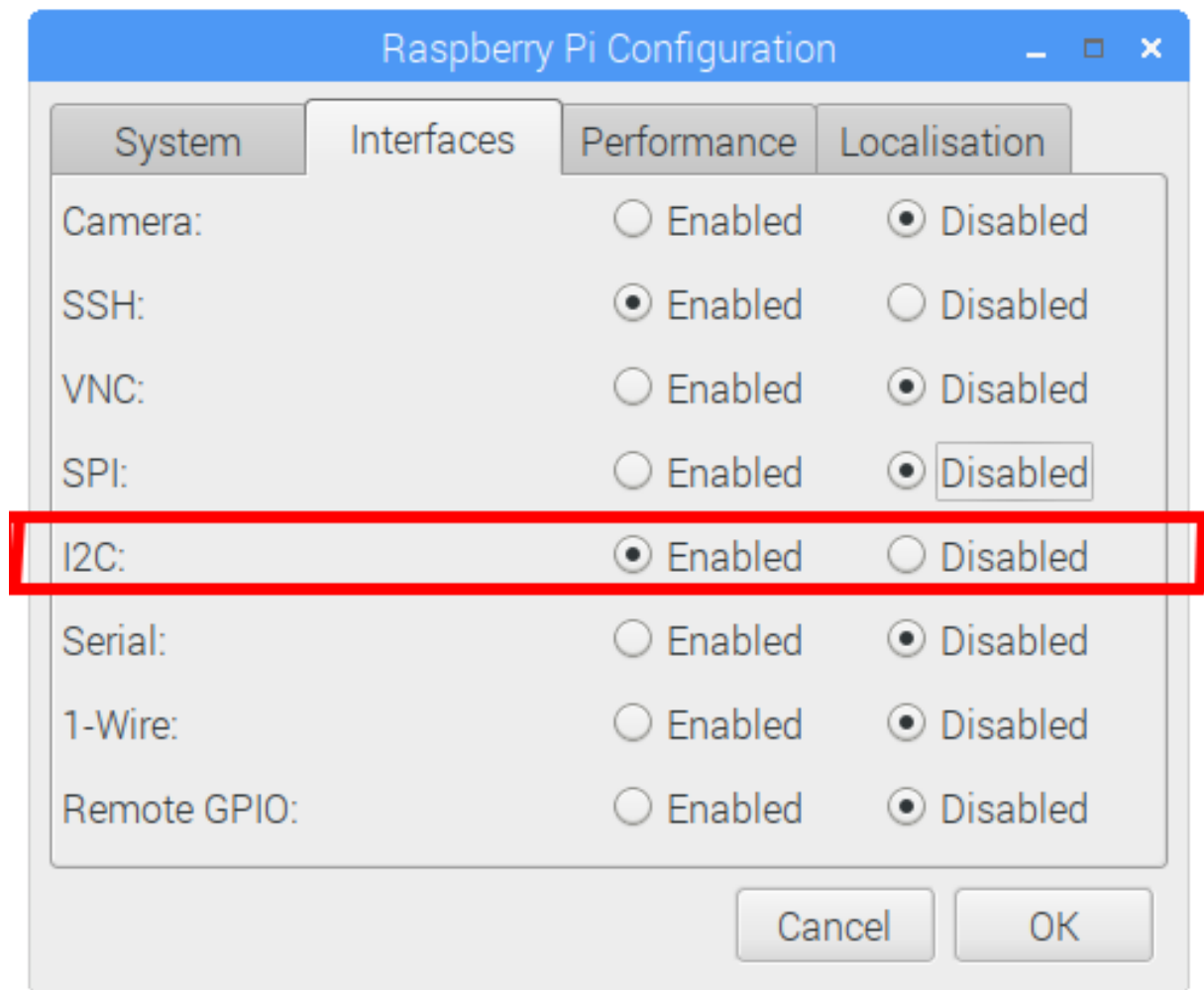
The relay board must be powered from the same power source as Arduino.

- use this example code: [link](#)

Controlling with RASPBERRY PI:

Example for Raspberry Pi 3 version (3B, 3B+)

- Turn on the i2c in Raspberry settings:



- Connect board to Raspberry:
 - SDA to Raspberry pin 3 - GPIO02
 - SCL to Raspberry pin 5 – GPIO03

Raspberry Pi 3 GPIO Header					
Pin#	NAME		NAME	Pin#	
01	3.3v DC Power		DC Power 5v	02	
03	GPIO02 (SDA1 , I ² C)		DC Power 5v	04	
05	GPIO03 (SCL1 , I ² C)		Ground	06	
07	GPIO04 (GPIO_GCLK)		(TXD0) GPIO14	08	
09	Ground		(RXD0) GPIO15	10	

- Connect power supply to Raspberry and to the board.

The relay board must be powered from the same power source as Raspberry.

Use ***i2cdetect -y -1*** command to check if the board is detected.

Now you can manually control the board using commands:

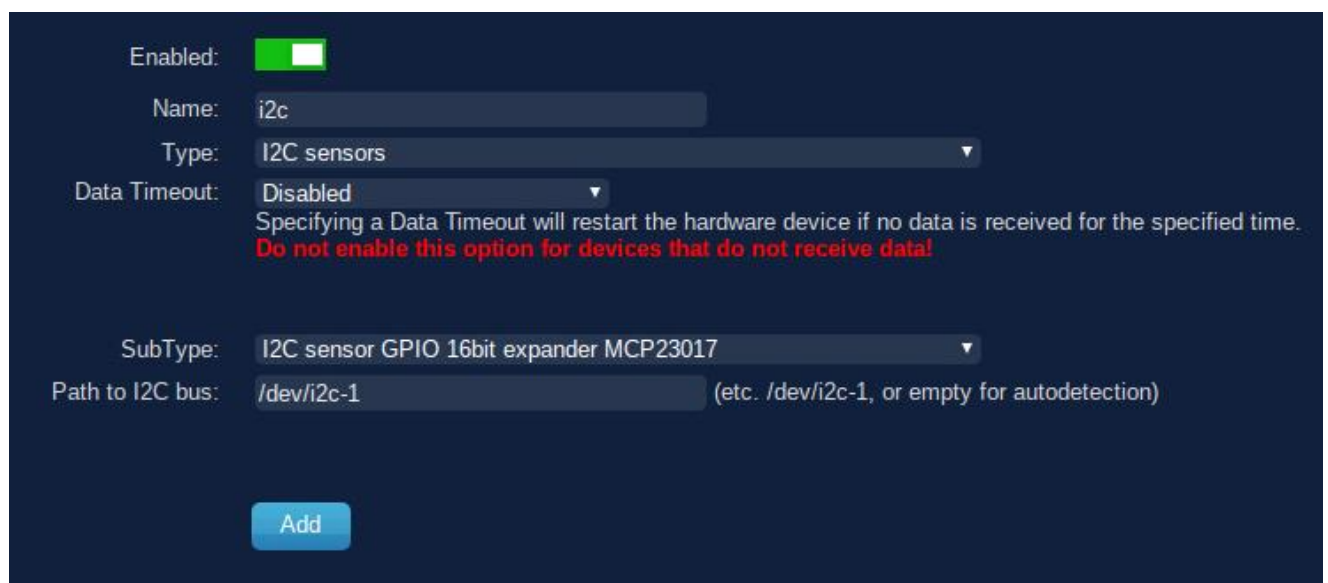
i2cset -y 1 0x20 0x12 0x00 - where 0x20 is i2c board address, 0x12 is MCP port A address, 0x00 is port value (0b00000000 - set all outputs Off)

i2cset -y 1 0x27 0x13 0xff - where 0x27 is i2c board address, 0x13 is MCP port B address, 0xFF is port value (0b11111111 - set all outputs On)

If the board is properly connected to raspberry you can easily add it to Domoticz.

Configuration in DOMOTICZ - takes about 2 minutes:

- 1) Go to Domoticz HARDWARE tab and add hardware as on the screen below:



The screenshot shows the Domoticz hardware configuration interface. It has a dark blue background with white text and input fields. The 'Enabled' checkbox is checked, indicated by a green square. The 'Name' field contains 'i2c'. The 'Type' dropdown menu is set to 'I2C sensors'. The 'Data Timeout' dropdown menu is set to 'Disabled', with a warning message below it: 'Specifying a Data Timeout will restart the hardware device if no data is received for the specified time. Do not enable this option for devices that do not receive data!'. The 'SubType' dropdown menu is set to 'I2C sensor GPIO 16bit expander MCP23017'. The 'Path to I2C bus' field contains '/dev/i2c-1', with a note in parentheses: '(etc. /dev/i2c-1, or empty for autodetection)'. At the bottom, there is a blue 'Add' button.

Enabled: ☒

Name:

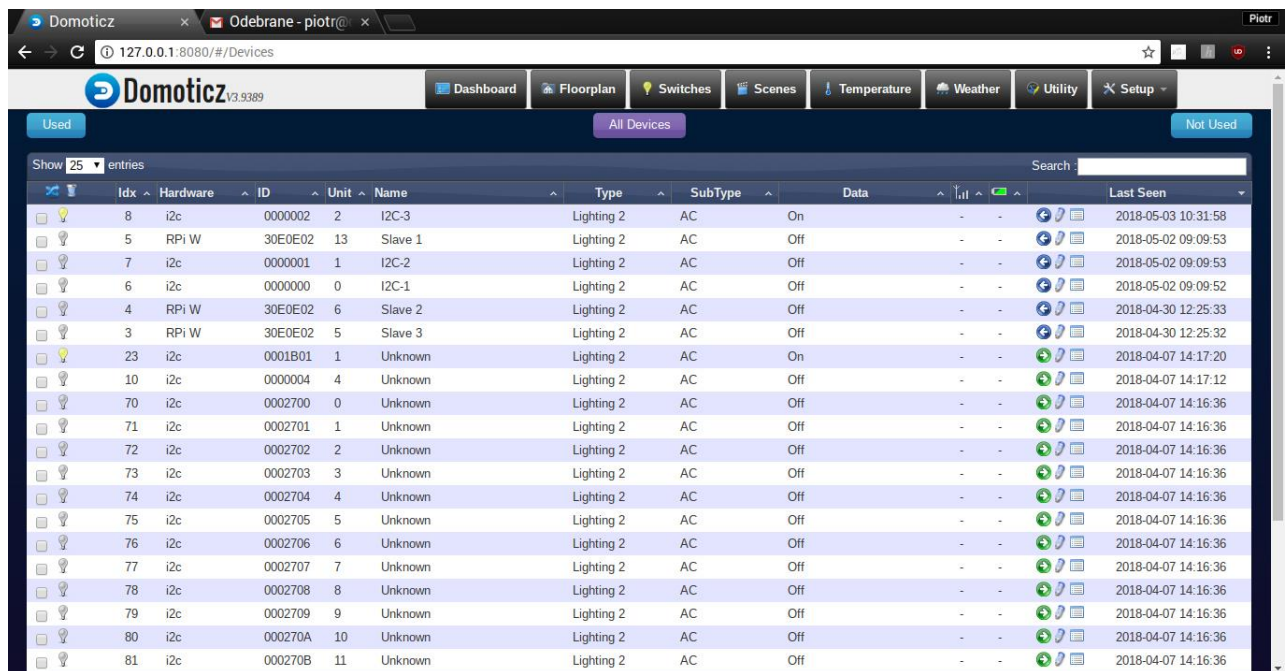
Type:

Data Timeout:
Specifying a Data Timeout will restart the hardware device if no data is received for the specified time.
Do not enable this option for devices that do not receive data!

SubType:

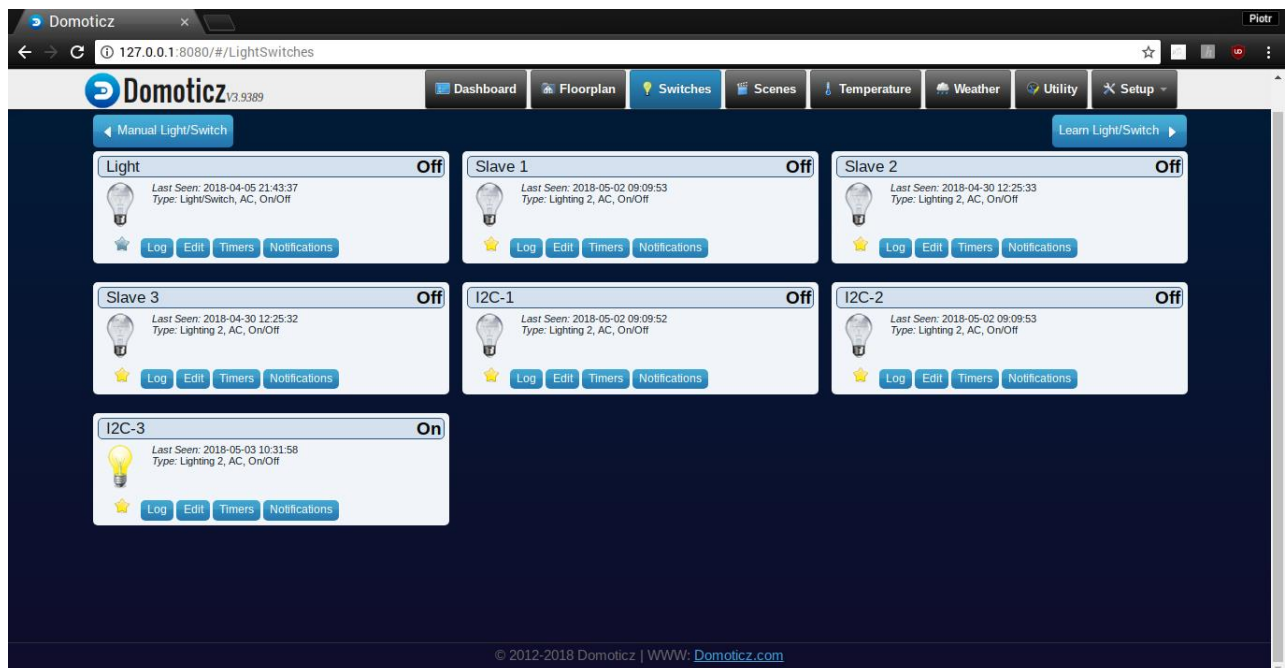
Path to I2C bus: (etc. /dev/i2c-1, or empty for autodetection)

2) Then go to DEVICES tab - all available devices will be listed there:



Idx	Hardware	ID	Unit	Name	Type	SubType	Data	Last Seen
8	i2c	0000002	2	I2C-3	Lighting 2	AC	On	2018-05-03 10:31:58
5	RPi W	30E0E02	13	Slave 1	Lighting 2	AC	Off	2018-05-02 09:09:53
7	i2c	0000001	1	I2C-2	Lighting 2	AC	Off	2018-05-02 09:09:53
6	i2c	0000000	0	I2C-1	Lighting 2	AC	Off	2018-05-02 09:09:52
4	RPi W	30E0E02	6	Slave 2	Lighting 2	AC	Off	2018-04-30 12:25:33
3	RPi W	30E0E02	5	Slave 3	Lighting 2	AC	Off	2018-04-30 12:25:32
23	i2c	0001B01	1	Unknown	Lighting 2	AC	On	2018-04-07 14:17:20
10	i2c	0000004	4	Unknown	Lighting 2	AC	Off	2018-04-07 14:17:12
70	i2c	0002700	0	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
71	i2c	0002701	1	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
72	i2c	0002702	2	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
73	i2c	0002703	3	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
74	i2c	0002704	4	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
75	i2c	0002705	5	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
76	i2c	0002706	6	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
77	i2c	0002707	7	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
78	i2c	0002708	8	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
79	i2c	0002709	9	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
80	i2c	000270A	10	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36
81	i2c	000270B	11	Unknown	Lighting 2	AC	Off	2018-04-07 14:16:36

3) Add the ones you want to control:



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If you have further question feel free to contact me piotr@dziura.org.pl