

Collaboration Document – Specification

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References

<http://arduino.cc/en/Reference/HomePage>

Arduino uses a language which has been derived from the popular processing programming environment. The above link provides a reference over the basic features.

Weblinks

<http://de.wikipedia.org/wiki/Relais#Halbleiterrelais>

https://github.com/forflo/arduino_elsock (Link to repository)

<http://arduino.cc/> (Homepage to Arduino)

<http://arduino.cc/en/Reference/Ethernet> (Reference for ethernet functionality)

<http://arduino.cc/en/Tutorial/DhcpChatServer> (Example code...)

Material list

Electric cable capable of 220V alternating current
Surface mount housing

Design

Arduino acts as controller and serves a static webpage which can be queried by sending requests like

GET / HTTP/1.1

[...]

This site contains n buttons (with n being the number of controllable electrical sockets) which can be clicked. Internally these buttons are just prettified hyperlinks.

```
GET /one HTTP/1.1  
[...]
```

for example would thus result in a status change of the first electrical socket.

Important notes

Arduino hardware

IO-Ports just can handle 40mA of outgoing current. Any higher current would very likely damage the port or the ATMEGA chip.

Each port supplies 4,5V of voltage if used as output IO-Port.

Solid state relay

As the data sheet in ref/dataSheetSSRCW24 suggests, the resistance of the input circuit of the SSR (XSSR-DA2420) might be very high as well.

Measurements:

Turn-On Voltage: 5VDC => Turn-On Current: 0.012ADC = 12mADC

Turn-On Voltage: 10VDC => Turn-On Current: 0.014ADC = 14mADC

Turn-On Voltage: 20VDC => Turn-On Current: 0.016ADC = 16mADC