

## Board

Quantity	References	Value	Purchase
11	C11, C21, C31, C41, C51, C61, C71, C81, C331, C421, C601	100nF 50V	<a href="https://www.lcsc.com">lcsc.com</a>
8	C12, C22, C32, C42, C52, C62, C72, C82	1uF 50V	<a href="https://www.lcsc.com">lcsc.com</a>
3	C101, C311, C321	10nF 25V	<a href="https://www.lcsc.com">lcsc.com</a>
1	C102	470uF 50V	<a href="https://www.lcsc.com">lcsc.com</a>
1	C201	220uF 10V	<a href="https://www.lcsc.com">lcsc.com</a>
8	*R11, R21, R31, R41, R51, R61, R71, R81	OR36 +-1%	<a href="https://www.lcsc.com">lcsc.com</a>
4	R311, R312, R321, R322	10k	<a href="https://www.lcsc.com">lcsc.com</a>
2	R331, R421	39k	<a href="https://www.lcsc.com">lcsc.com</a>
2	R332, R422	6k8	<a href="https://www.lcsc.com">lcsc.com</a>
1	R101	82k	<a href="https://www.lcsc.com">lcsc.com</a>
1	R201	3k9	<a href="https://www.lcsc.com">lcsc.com</a>
1	R701	4k7	<a href="https://www.lcsc.com">lcsc.com</a>
8	L11, L21, L31, L41, L51, L61, L71, L81	100uH, GLE GCNR6045-101MC	<a href="https://www.lcsc.com">lcsc.com</a>
8	D11, D21, D31, D41, D51, D61, D71, D81	MBR0560	<a href="https://www.lcsc.com">lcsc.com</a>
1	D101	BZT52C10	<a href="https://www.lcsc.com">lcsc.com</a>
1	D201	Pow LED	<a href="https://www.lcsc.com">lcsc.com</a>
8	U11, U21, U31, U41, U51, U61, U71, U81	PT4115	<a href="https://www.lcsc.com">lcsc.com</a>
1	U201	VXO7805-1000	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	U601	ESP32 mini (CP2104 drive)	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	U701	DS18B20	<a href="https://www.lcsc.com">lcsc.com</a>
1	F101	Holder 5.2x20mm	<a href="https://www.lcsc.com">lcsc.com</a>
1	F101	4A fast blowing	<a href="https://www.lcsc.com">lcsc.com</a>
1	F201	1A	<a href="https://www.lcsc.com">lcsc.com</a>
9	IN1, LED1, LED2, LED3, LED4, LED5, LED6, LED7, LED8	Screw Terminal 1x2, P5mm Horizontal	<a href="https://www.lcsc.com">lcsc.com</a>
1	Q101	BR50P06	<a href="https://www.lcsc.com">lcsc.com</a>
1	J301	Conn_01x06_Male	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	J401	Conn_01x03_Male	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	J501	Conn_01x04_Male	<a href="https://www.aliexpress.com">aliexpress.com</a>

### \* Note for R1 - R8

The board can handle up to 500mA per channel. Changing the resistor has impact on Iled max which is calculated  $0.1 / R$ .

With  $0.36\Omega$ , it's  $0.1 / 0.36 = 278\text{mA}$  (measured 290mA)

I recommend using +-1% tolerance for constant Iled values over the different channels

Smallest recommended resistor is  $0.22\Omega$  which will end up in Iled max per channel little more than 450mA

## Installation

Quantity	Reference	Value	Purchase
1	Power supply	24V/100W	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	Enclosure box	150x100x50mm	<a href="https://www.aliexpress.com">aliexpress.com</a>
4	M3x5 screw	M3x6	<a href="https://www.aliexpress.com">aliexpress.com</a>
4	M3 washer	M3x6x0.8	<a href="https://www.aliexpress.com">aliexpress.com</a>
9	DC sockets	DC-022B	<a href="https://www.aliexpress.com">aliexpress.com</a>
9	DC plugs	DC-022B	<a href="https://www.aliexpress.com">aliexpress.com</a>
100m	DC cable	20AWG	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	Rotary encoder	EC11	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	Blank cover panel		<a href="https://www.aliexpress.com">aliexpress.com</a>
1	Encoder knob	Marshall white	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	Motion detection sensor	AM312	<a href="https://www.aliexpress.com">aliexpress.com</a>
1	Crimping plier JST XH	SN-2549	<a href="https://www.aliexpress.com">aliexpress.com</a>