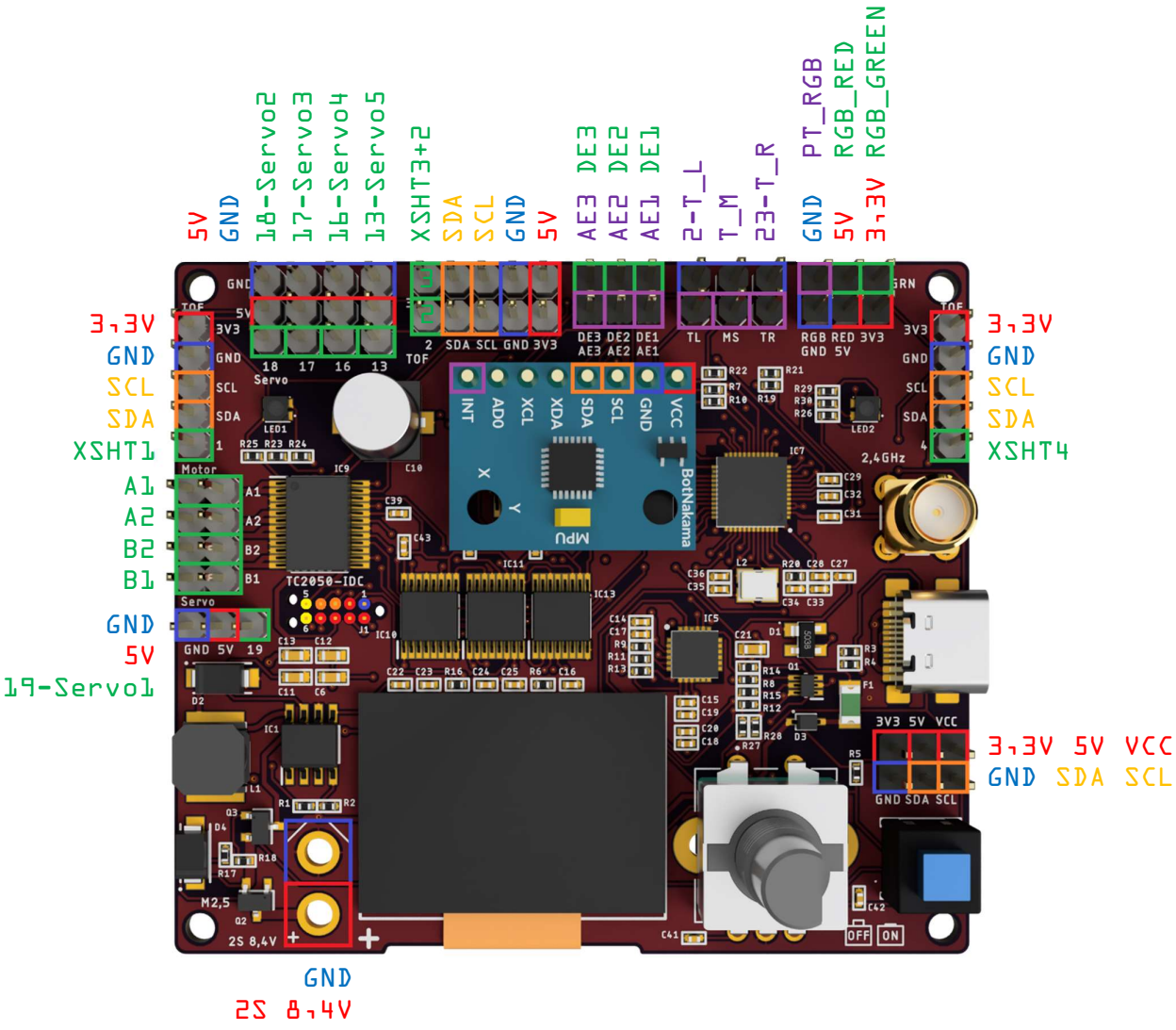
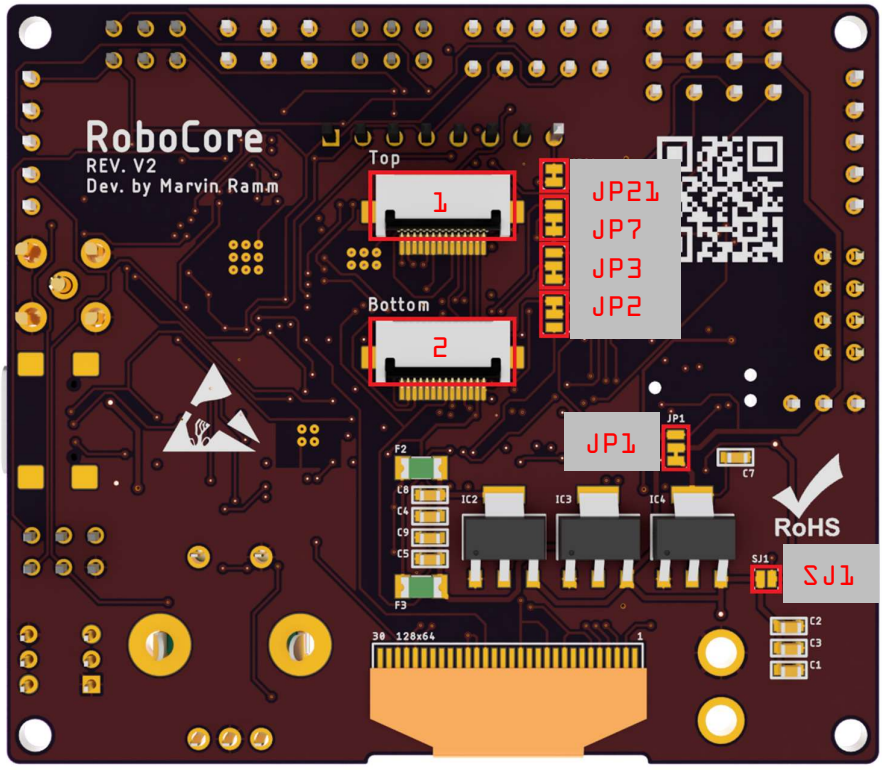
RoboCore V2 Pinout



Voltage
GND/Zero potential
Communication protocol
Digital output
Analog input



Jumper name	Description
SJ1	Can be connected if no voltage regulator is required for the motor driver.
JP1	When switching the jumper, the servos are connected directly to the battery if no voltage regulator is used. Note that the servos can handle a maximum of 8.4V!
JP2	This jumper must be switched if the "old" light sensor strip V2 wants to be used on the upper light sensor strip port.
JP3	This jumper must be switched if the "old" light sensor strip V2 wants to be used on the upper light sensor strip port.
JP7	This jumper must be switched if the "old" light sensor strip V2 wants to be used on the upper light sensor strip port.
JP21	This jumper can be cut if you do not want to use the interrupt function of the MPU6050.

*All JPs are jumpers, where one side is normally connected. This connection must be cut when the other side of the jumper will be connected!

ESP32 GPIO	Pin Name	Description
2	2-T_L	An input pull-up must be defined in the software! Buttons can be connected to this pin, in which case a LOW is present when the button is pressed.
4	4-S0	Used to select the multiplexer output.
5	5-S1	Used to select the multiplexer output.
12	12-S2	Used to select the multiplexer output.
13	13-SERVO5	A servo can be connected to this pin.
14	14-S3	Used to select the multiplexer output.
15	15-ENC_SW	An input pull-up must be defined in the software! This pin is connected to the encoder button, which goes LOW when pressed.
16	16-SERVO4	A servo can be connected to this pin.
17	17-SERVO3	A servo can be connected to this pin.
18	18-SERVO2	A servo can be connected to this pin.
19	19-SERVO1	A servo can be connected to this pin.
21	21-SDA	Data lines for I2C.
22	22-SCL	Data lines for I2C.
23	23-T_R	An input pull-up must be defined in the software! Buttons can be connected to this pin, in which case a LOW is present when the button is pressed.
25	25-PWMB	This pin determines the motor speed.
26	26-PWMA	This pin determines the motor speed.
27	27-SHCP	Controls data shifting within the register.
32	32-STCP	Latches shifted data into output registers.
33	33-DS	New data enters the register.
34	34-ENC_B	Outputs a square wave signal 90 degrees out of phase with Pin A.

35	35-ENC_A	Outputs a square wave signal in phase with encoder rotation.
36	36-VBAT	The battery voltage can be measured with this pin.
39	39-VOUT	The voltage of the multiplexer is applied to this pin.

Multiplexer GPIO	Pin Name	Description
I0	PT_REF_L	Reflection sensor left.
I1	PT_L_1	Light sensor left outside.
I2	PT_L_0	Light sensor left inside.
I3	PT_M	Light sensor center.
I4	PT_R_0	Light sensor right inside.
I5	PT_R_1	Light sensor right outside.
I6	PT_REF_R	Reflection sensor right.
I7	PT_RGB	90° RGB sensor.
I8	PT_L_3	Light sensor left outside.
I9	PT_L_2	Light sensor left inside.
I10	PT_R_2	Light sensor right inside.
I11	PT_R_3	Light sensor right outside.
I12	T_M	Button center or metal sensor.
I13	AE1	External analog pin.
I14	AE2	External analog pin.
I15	AE3/INT	External analog pin / MPU6050 interrupt (LOW when new data is available)

*PT_L_3-PT_R_3 belong to the second light sensor strip (V2)

Shiftregister GPIO	Pin Name	Description
Q0.0	AIN1	Determines the motor direction.
Q1.0	AIN2	Determines the motor direction.
Q2.0	BIN1	Determines the motor direction.
Q3.0	BIN2	Determines the motor direction.

Q4,0	STBY	If the pin is set LOW, the motor driver is off and at HIGH it is on.
Q5,0	LED_L_RED	Status LED left red. LOW = ON
Q6,0	LED_L_GREEN	Status LED left green.
Q7,0	LED_L_BLUE	Status LED left blue.
Q0,1	LED_R_RED	Status LED right red.
Q1,1	LED_R_GREEN	Status LED right green.
Q2,1	LED_R_BLUE	Status LED right blue.
Q3,1	XSHT1	A HIGH activates the TOF sensor.
Q4,1	XSHT2	A HIGH activates the TOF sensor.
Q5,1	XSHT3	A HIGH activates the TOF sensor.
Q6,1	XSHT4	A HIGH activates the TOF sensor.
Q7,1	RGB_RED	90° RGB sensor LED red. LOW = ON
Q0,2	RGB_GREEN	90° RGB sensor LED green.
Q1,2	PT_WHITE	Light sensor strip LED white. HIGH = ON
Q2,2	PT_RED	Light sensor strip LED red.
Q3,2	PT_GREEN	Light sensor strip LED green.
Q4,2	PT_BLUE	Light sensor strip LED blue.
Q5,2	DE1	External digital pin.
Q6,2	DE2	External digital pin.
Q7,2	DE3	External digital pin.
Q0,3	LED_RED	Red LED of light sensor strip 1 (V3). LOW = ON
Q1,3	LED_GREEN	Green LED of light sensor strip 1 (V3).
Q2,3	LED_L_1	LED of sensor L_1 of the light sensor strip 1 (V3).
Q3,3	LED_L_0	LED of sensor L_0 of the light sensor strip 1 (V3).
Q4,3	LED_M	LED of sensor M of the light sensor strip 1 (V3).
Q5,3	LED_R_0	LED of sensor R_0 of the light sensor strip 1 (V3).
Q6,3	LED_R_1	LED of sensor R_1 of the light sensor strip 1 (V3).
Q7,3	LED_REF	LEDs of sensor REF of the light sensor strip 1 (V3).