Power supply UNIT

J1
TBlock 3

+12
D1
1N4007
C2
1000uF
R1
1k
D2

U1
VIN   VOUT
GND
LM7805

VCC
C3
10uF

U2
VIN   VOUT
GND
LD1117V33

+3V3
C1
10uF

GND

UART

J2
Header 4
reset
tx
rx
GND

Oscilator

xtal1   Y1   xtal2
16MHz
C5
22pF
C6
22pF
GND   GND

Control UNIT

C4
100nF
GND

R7
10k
VCC   reset

U3
AREF   21
PB0   14
PB1   15
PB2   16   esp_rx
PB3   17   esp_tx
PB4   18
PB5   19
PB6   9   xtal1
PB7   10   xtal2
PC0   23   ldr1
PC1   24   ldr2
PC2   25   ldr3
PC3   26   ldr4
PC4   27   ldr5
PC5   28
PC6/RESET

calibrate

AVCC   20
VCC   7
PD0   2   tx
PD1   3   rx
PD2   4
PD3   5   button2
PD4   6
PD5   11
PD6   12
PD7   13

GND   8
GND   22
GND

ATMEGA328P-PU

LDR Connections

P1   VCC
1
2
Header 2
R2
10k
GND

P2   VCC
1
2
Header 2
R3
10k
GND

P3   VCC
1
2
Header 2
R4
10k
GND

P4   VCC
1
2
Header 2
R5
10k
GND

P5   VCC
1
2
Header 2
R6
10k
GND

Wi-FI Module

+3V3
R8
1k1
esp_rx
R10
2k2
GND

+3V3
U4
RST   7
EN   6
RXD   4   esp_tx
TXD   5

VCC   8
IO0   3
IO2   2
GND   1

GND

Laser supply

calibrate
R9
10k
Q1

VCC
J3
TBlock 2

GND

Buttons

button2
B2
GND

Title

Size	Number		Revision
A4			

Date:	5-17-2023	Sheet of
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Comment	Description	Designator	Footprint	LibRef	Quantity
Push button		B2	SW_TS02-66-95-BK-260-LCR-D	Push button	1
10uF	FS-A	C1, C3	CAPPRD500W50D500H1100	Electrolytic capacitor	2
1000uF	FS-A	C2	CAPPRD500W50D500H1100	Electrolytic capacitor	1
100nF	2200 pF Â±10% 250V Ceramic Capacitor X7R Radial	C4	CAPRB500W50L450T300H550	Ceramic capacitor	1
22pF	2200 pF Â±10% 250V Ceramic Capacitor X7R Radial	C5, C6	CAPRB500W50L450T300H550	Ceramic capacitor	2
1N4007	Diode Switching 1KV 1A 2-Pin DO-41	D1	DIOAD1060W80L520D270	1N4007	1
L08R5000Q1	LED, Orange, Through Hole, T-1 3/4 (5mm), 30 mA, 2.1 V, 635 nm	D2	LEDRD254W57D500H1070	LED	1
TBlock 3	5.08 MM TERMINAL BLOCK:	J1	Terminal block - 3Pins	3Pins Terminal block	1
Header 4	4 Position Header Connector Through Hole	J2	SULLINS_PPTC041LFBN-RC	Female header - 4Pins	1
TBlock 2	2 Position Wire to Board Terminal Block Horizontal with Board 0.197 _5.00mm_ Through Hole	J3	691111710002	Terminal Block - 2Pins	1
Header 2	Header, 2-Pin	P1, P2, P3, P4, P5	HDR1X2	Header 2	5
BJT Transistor	Check availability Check availability	Q1	TO92250P510H770-3	BC547B	1
1k	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R1	RESAD1100W55L680D260	Resistor (0.25W)	1
10k	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R2, R3, R4, R5, R6, R7, R9	RESAD1100W55L680D260	Resistor (0.25W)	7
1k1	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R8	RESAD1100W55L680D260	Resistor (0.25W)	1
2k2	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R10	RESAD1100W55L680D260	Resistor (0.25W)	1
LM7805		U1	TO255P1020X450X1968-3	LM78__	1
LD1117V33		U2	TO255P1020X450X1968-3	LD1117V33	1
ATMEGA328P-PU	ATmega Series 20 MHz 32 KB Flash 2 KB SRAM 8-Bit Microcontroller - DIP-28	U3	DIP794W46P254L2967H457Q28B	ATMEGA328P-PU	1
ESP8266-01/ESP-01	MakerFocus 4pcs ESP8266 ESP-01 Serial Wireless WiFi Transceiver Receiver Module 1MB SPI Flash DC3.0-3.6V Internet of Things WiFi Module Board Compatible with Arduino	U4	XCVR_ESP8266-01/ESP-01	ESP8266-01 Module	1
16MHz	CRYSTAL T/H	Y1	XTAL_ECS-160-20-4X	Crystal oscilator	1