U1
ESP32_S3_DevBoard
CDC MODE – POGRAM VIA USB, USE UART0

3V3
3V3
RST
GPIO_04
GPIO_05
GPIO_06
GPIO_07
GPIO_15
GPIO_16
GPIO_17
GPIO_18
GPIO_08
GPIO_03
GPIO_46
GPIO_09
GPIO_10
GPIO_11
GPIO_12
GPIO_13
GPIO_14
5Vin
GND

GND
GPIO_43 UART0_TX
GPIO_44 UART0_RX
GPIO_01
GPIO_02
GPIO_42
GPIO_41
GPIO_40
GPIO_39
GPIO_38 (LED_BUILTIN)
GPIO_37
GPIO_36
GPIO_35
GPIO_00
GPIO_45
GPIO_48
GPIO_47
GPIO_21
GPIO_20 (USB D+)
GPIO_19 (USB D–)
GND
5V

+3.3V
D5 YELLOW
D6 YELLOW
R27 10K
R28
1WIRE_0
UART_RX
UART_TX
RS485_TX
RS485_RX
RS485_DE
AIN_1
AIN_0
I2C_SCL
I2C_SDA
1WIRE_1
AIN_2
SHIFT_DATA
SHIFT_CLK
PWR_ON

N1
Housing

U4
DS18B20
GND VDD
DQ
1WIRE_1

+5V
U2
AJ3B_5–30_to3V3
IN+ OUT+
IN– OUT–
C13 22u
C14 22u
+3.3V +5V +12V
VPOWER
USB_5V_PWR

JP3
USB_5V_PWR
JP1
+12V
U7
PC817
R16 10K
IRF9540
Q1
R2 330R
R15 1K
U3
DCDC_LM2596_BasedADJ
IN+ OUT+
IN– OUT–
ADJ
PWR_ON

J2
USB_C_Receptacle_USB2.0
VBUS A4
A5
CC1
CC2 B5
D– A7
D– B7
D+ A6
D+ B6
SBU1 A8
SBU2 B8
SHIELD
S1 A1 GND
R9 10K
R10 10K
USB_5V_PWR
VBUS
GND

J?
RJ45_Shielded
SH

VBUS +12V
D2 D
12V_B
J3 1
2
GND_A
D1 D
VDD GND

+5V
+5V
C6 10u
C7 100n
GND GND
D3 YELLOW
R25 10K
R6 10K
R7 10K
R8 10K
R26 10K
D4 GREEN
U5
SP3485CN
RO
RE
DE
DI
VCC
A
B
GND
R19 1K2
R23 1K2
R12 120R
JP5
RS485_A
C8 10u
RS485_PWRLN_A
J10 10u
JP6
RS485_PWRLN_B
RS485_B
RS485_RX
RS485_DE
RS485_TX

+5V +3.3V
R?4K7 R?4K7 R?4K7 R?4K7 R?4K7
J5
I2C_SCL
I2C_SDA
1WIRE_1
1WIRE_0
GND
+5V
+3.3V
GND

J4
GND
+3.3V
+3.3V
GND
GND
GND
GND
+5V
ANALOG_IN01
ANALOG_IN00
ANALOG_IN02
ANALOG_IN03
SHIFT_DATA
SHIFT_CLK
+5V
+5V
+5V
+5V

I2C adresses:
AS5600 -- 0x36
BH1750 -- 0x23/ 0x5C
BME280 -- 0x77/ 0x76

U11
HX711_wheatstoneAmplifierADC
VCC B+
SCK B–
DT A+
GND A–
E–
E+

U6
BH1750_DEVBrd
ADDR
SDA
SCL
GND
3v3
I2C_SDA
I2C_SCL
GND
+3.3V

U10
BME280_DevBoard
3v3
GND
SCL
SDA
CSB
SDO
+3.3V
GND
I2C_SCL
I2C_SDA

U9
MH_Z19_CO2Sensor
Vout Vin
Rxd GND
Txd AOT
SR PWM
HD
UART2_RX
UART2_TX
GND

+3.3V +5V
UART_TX
UART_RX
J11
GND

+3.3V +5V
JP2
POWER
V_MCU
PWR_EN
GNS_PWR_EN
RXD
TXD
DTR
GND
GND
+5V
C11 1000u16V
U8
SIM7000G_DEVBoard
UART_TX
UART_RX

ANGLE_SENS
ANGLE_SENSOR

R20 1K
VPOWER
C3 100n
R11 10K
GND GND

AIN_0
R21 470R
ANALOG_IN00
C1 100n
R13 10K
GND GND

AIN_1
R22 470R
ANALOG_IN01
C4 100n
R17 10K
GND GND

AIN_2
R24 470R
ANALOG_IN02
C5 100n
R18 10K
GND GND

AIN_3
R29 470R
ANALOG_IN03
C2 100n
R14 10K
GND GND

H1 MountingHole
H2 MountingHole