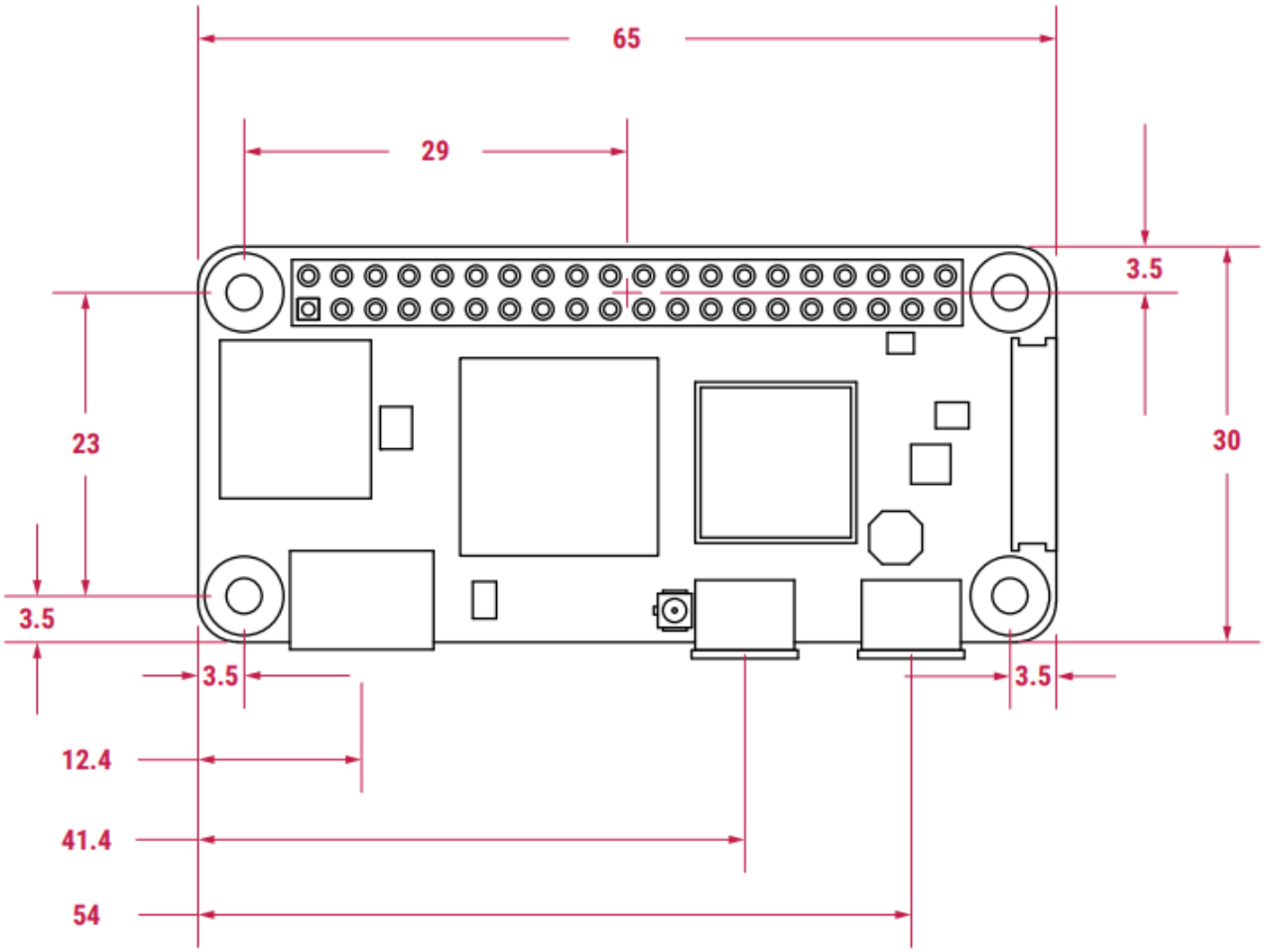
CTC Bizer Klipper

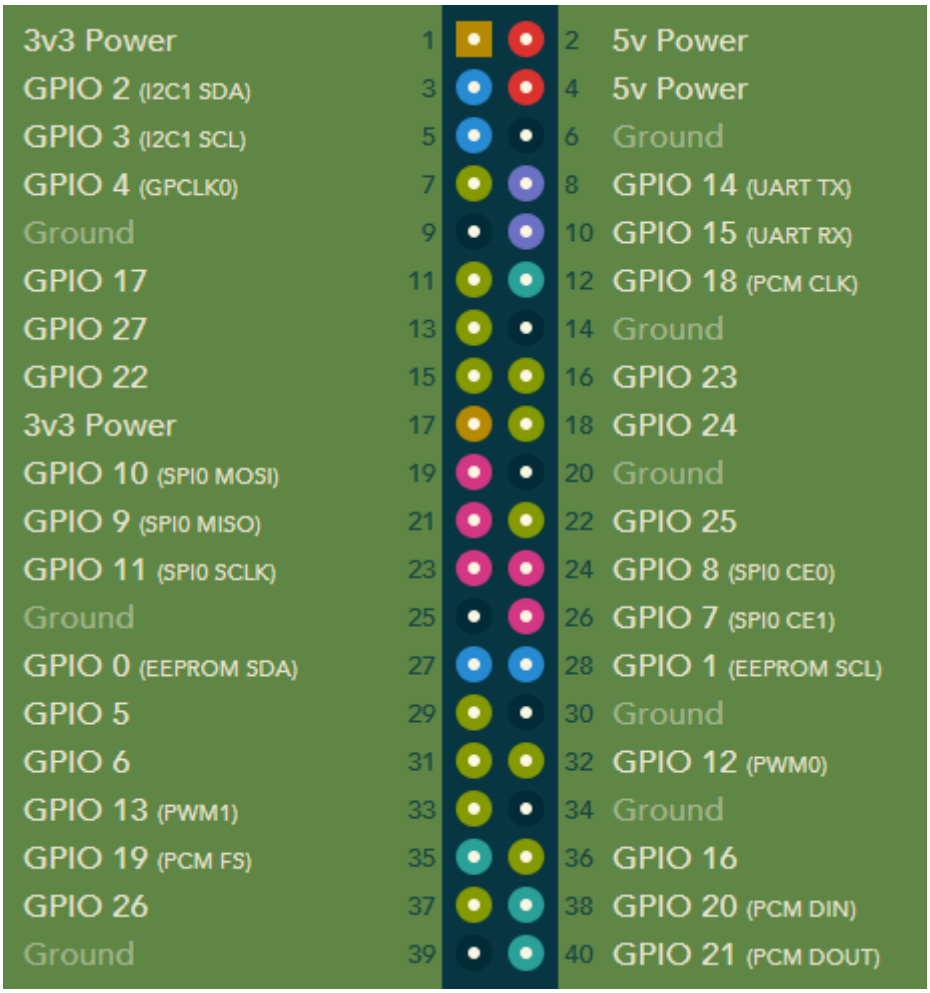
- Raspberry zero 2 w
- BCZAMD 3D Drucker Upgrade Zubehör Ganzmetall V6
- BTT SKR Pico V1.0
- BLTouch on BTT SKR pico 1.0
- Klipper

Raspberry zero 2 w

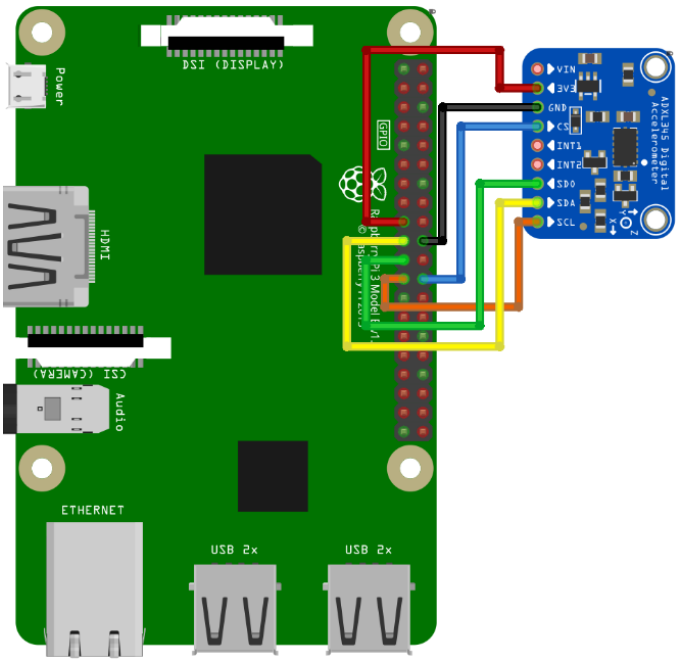
Size

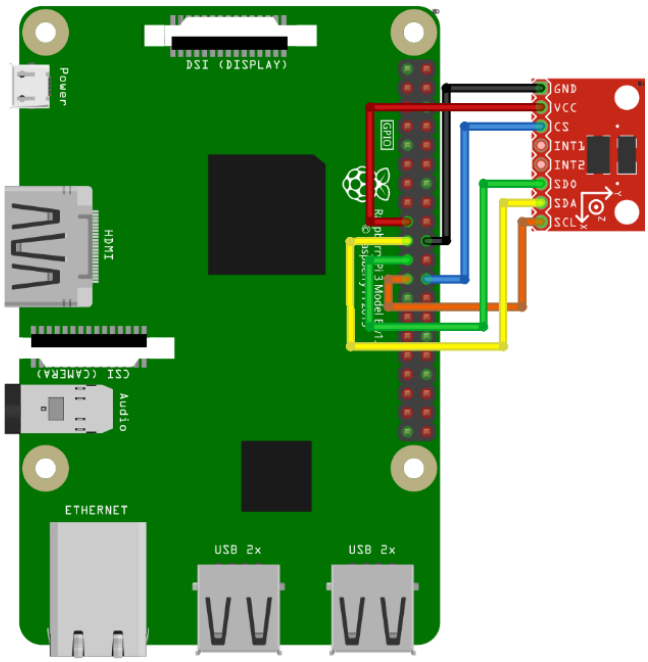


Pinout


3v3 Power 1
2 5v Power
GPIO 2 (I2C1 SDA) 3
4 5v Power
GPIO 3 (I2C1 SCL) 5
6 Ground
GPIO 4 (GPCLK0) 7
8 GPIO 14 (UART TX)
Ground 9
10 GPIO 15 (UART RX)
GPIO 17 11
12 GPIO 18 (PCM CLK)
GPIO 27 13
14 Ground
GPIO 22 15
16 GPIO 23
3v3 Power 17
18 GPIO 24
GPIO 10 (SPI0 MOSI) 19
20 Ground
GPIO 9 (SPI0 MISO) 21
22 GPIO 25
GPIO 11 (SPI0 SCLK) 23
24 GPIO 8 (SPI0 CE0)
Ground 25
26 GPIO 7 (SPI0 CE1)
GPIO 0 (EEPROM SDA) 27
28 GPIO 1 (EEPROM SCL)
GPIO 5 29
30 Ground
GPIO 6 31
32 GPIO 12 (PWM0)
GPIO 13 (PWM1) 33
34 Ground
GPIO 19 (PCM FS) 35
36 GPIO 16
GPIO 26 37
38 GPIO 20 (PCM DIN)
Ground 39
40 GPIO 21 (PCM DOUT)

ADXL345


DSI (DISPLAY)
Power
HDMI
CSI (CAMERA)
Audio
ETHERNET
USB 2x
USB 2x
GPIO
VIN
3V3
GND
CS
INT1
INT2
SDO
SDA
SCL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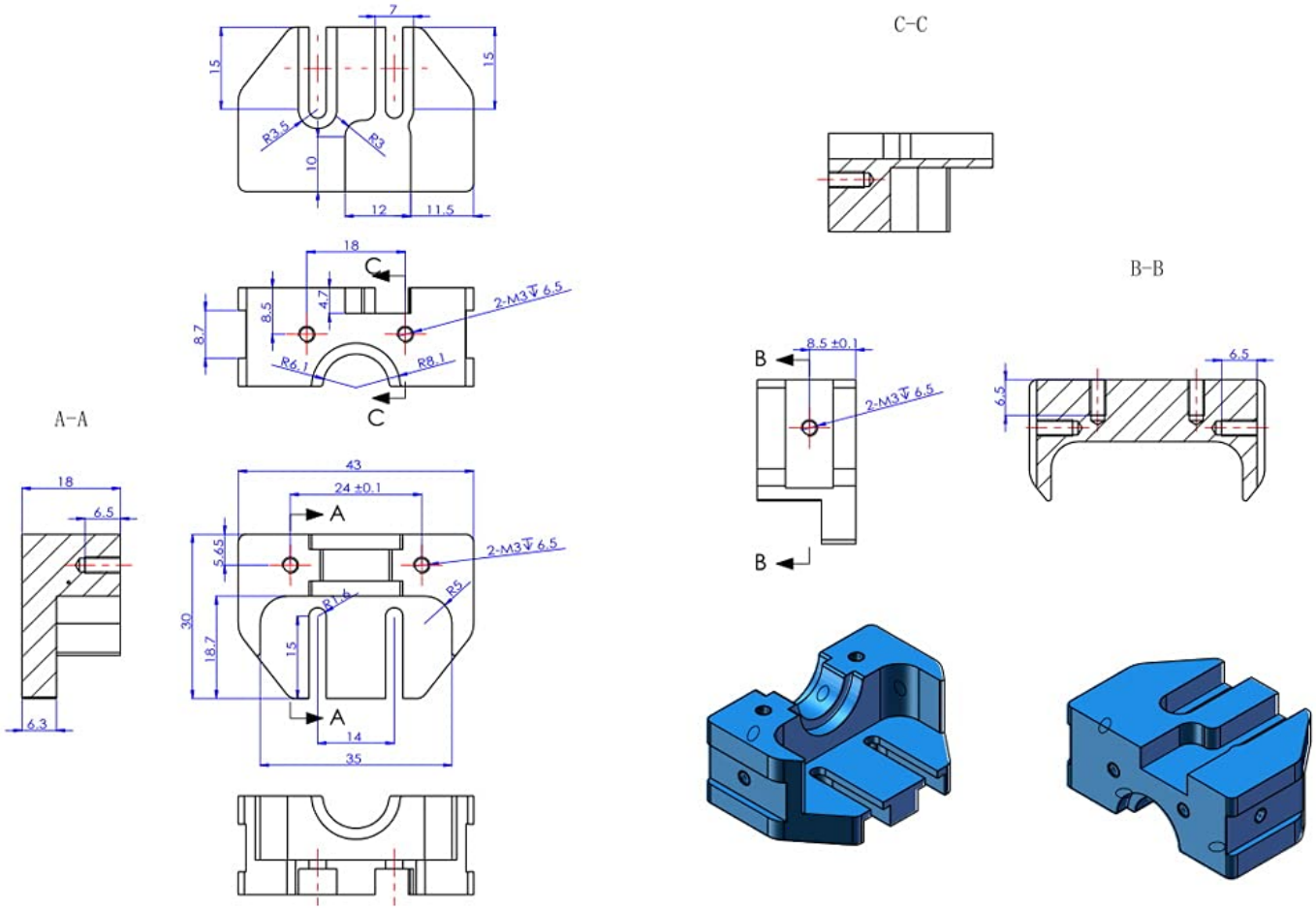
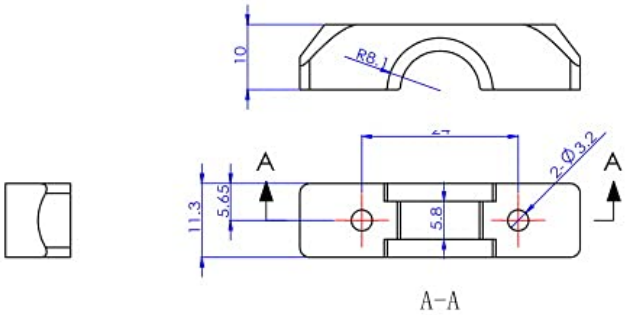
SCL

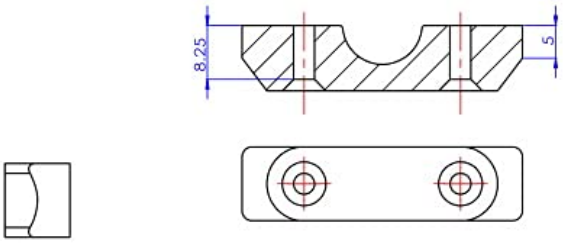
BCZAMD 3D Drucker Upgrade Zubehör Ganzmetall V6

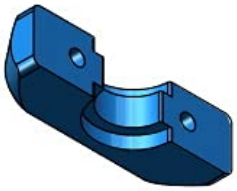
Schematic

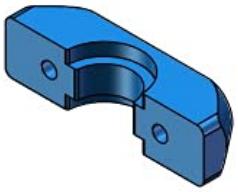




A-A

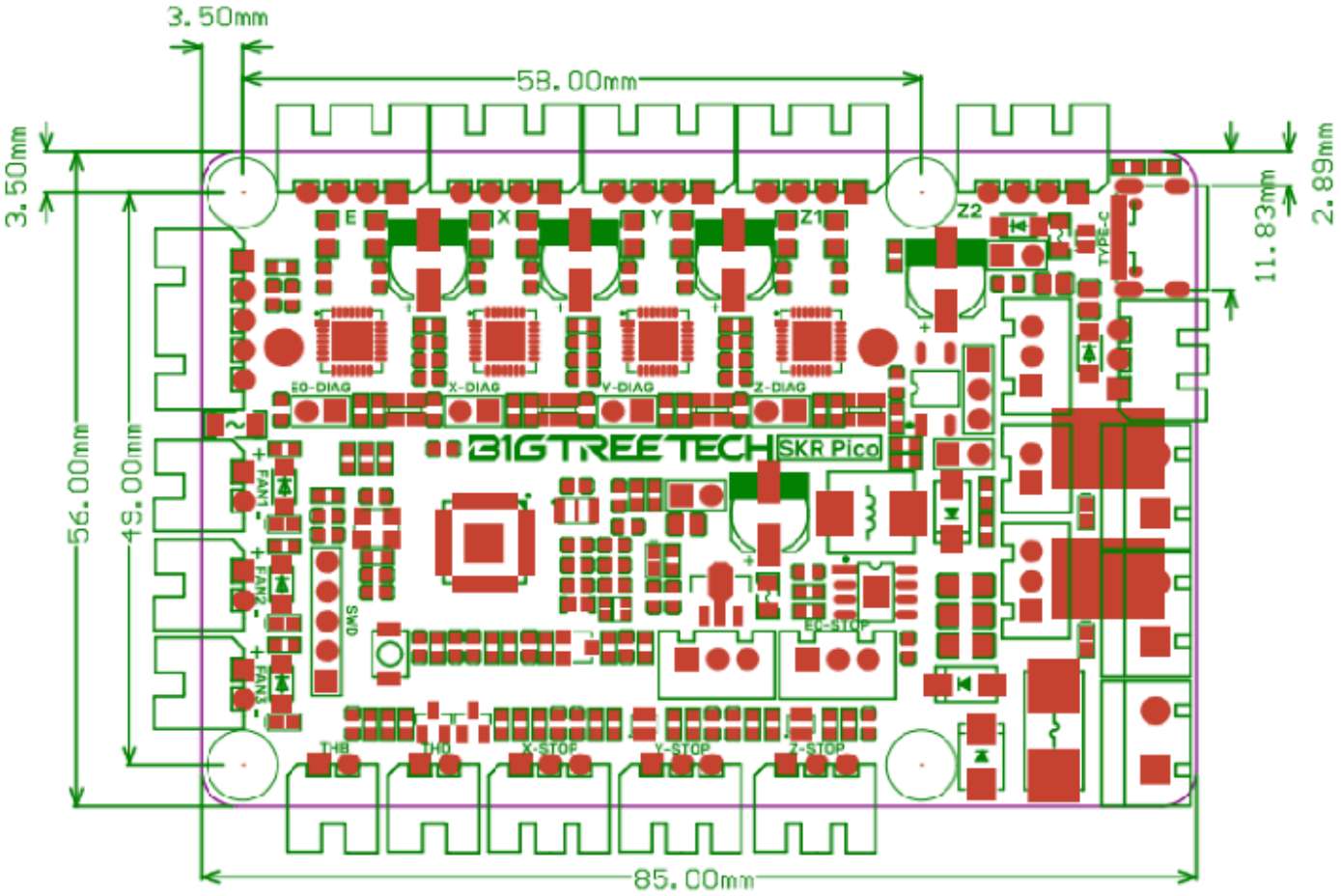




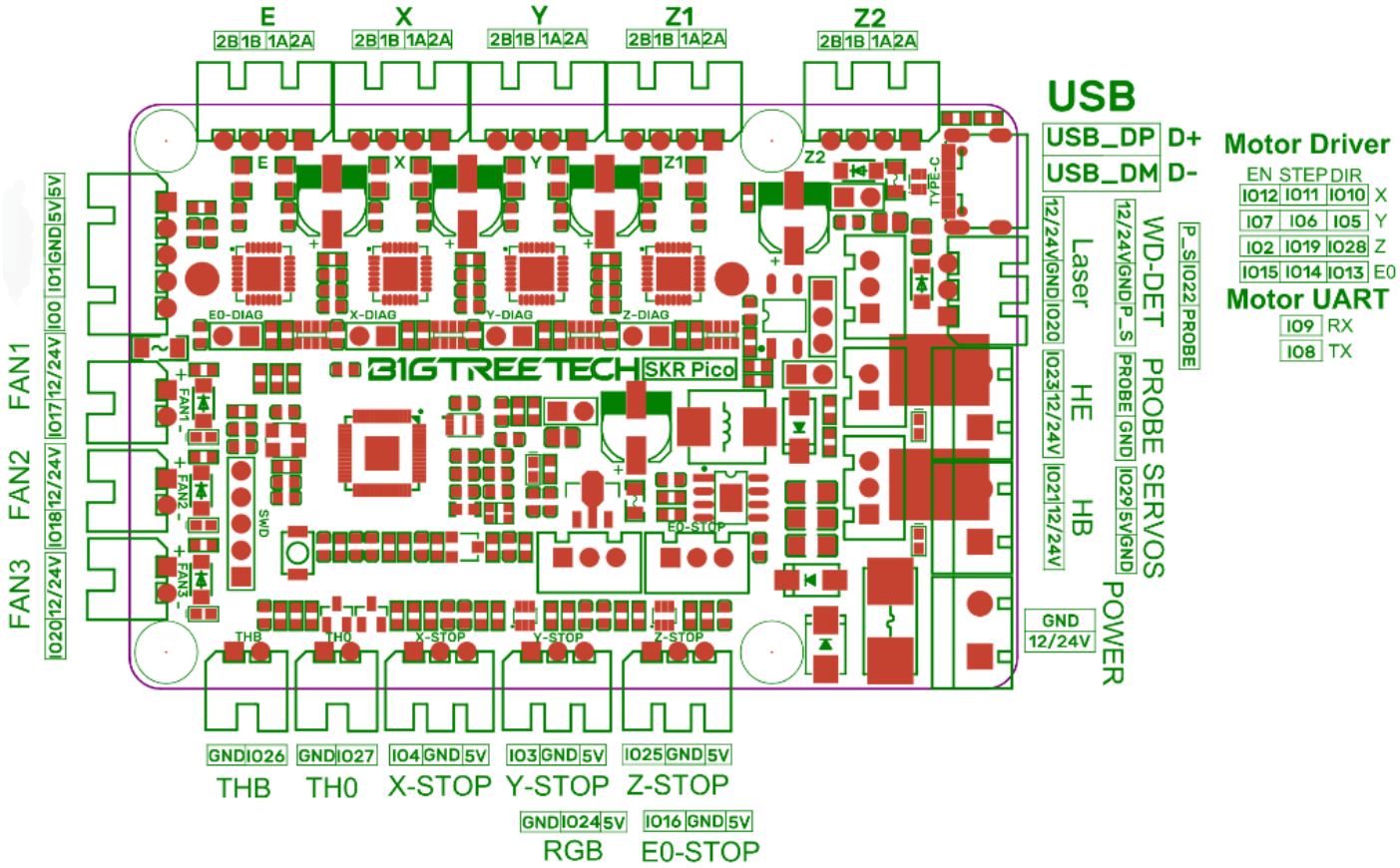


BTT SKR Pico V1.0

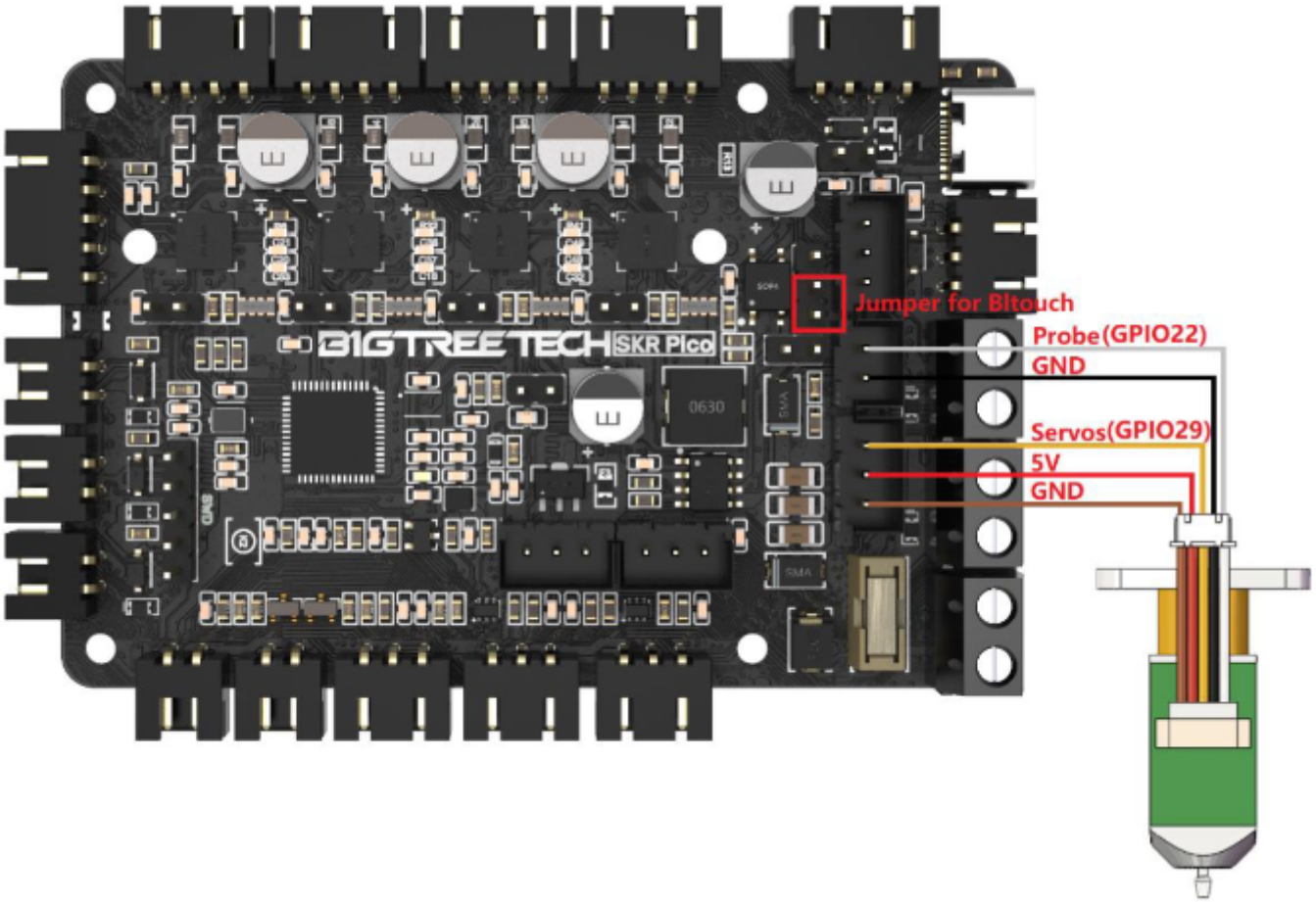
Size Diagram



Wiring Diagramm


E
2B 1B 1A 2A
X
2B 1B 1A 2A
Y
2B 1B 1A 2A
Z1
2B 1B 1A 2A
Z2
2B 1B 1A 2A
USB
USB_DP D+
USB_DM D-
Motor Driver
EN STEP DIR
I012 I011 I010 X
I07 I06 I05 Y
I02 I019 I028 Z
I015 I014 I013 E0
Motor UART
I09 RX
I08 TX
FAN1 I017 12/24V
FAN2 I018 12/24V
FAN3 I020 12/24V
I00 I01 GND 5V
E0-DIAG
X-DIAG
Y-DIAG
Z-DIAG
BIGTREETECH SKR Pico
SWD
E0-STOP
THB
TH0
X-STOP
Y-STOP
Z-STOP
12/24V GND I020 Laser
I023 12/24V HE
I021 12/24V HB
GND 12/24V POWER
12/24V GND P_S
PROBE GND
I029 5V GND
WD-DET PROBE SERVOS
P_S I022 PROBE
GND I026 THB
GND I027 TH0
I04 GND 5V X-STOP
I03 GND 5V Y-STOP
I025 GND 5V Z-STOP
GND I024 5V RGB
I016 GND 5V E0-STOP

BLTouch on BTT SKR pico 1.0



Klipper

```
[include mainsail.cfg]
[include macros/*.cfg]

[virtual_sdcard]
path: /home/pi/printer_data/gcodes
on_error_gcode: CANCEL_PRINT

[mcu]
serial: /dev/ttyAMA0
restart_method: command

[include mainsail.cfg]
[include macros/*.cfg]

[virtual_sdcard]
path: /home/pi/printer_data/gcodes
on_error_gcode: CANCEL_PRINT

[mcu]
serial: /dev/ttyAMA0
restart_method: command

[printer]
kinematics: cartesian
max_velocity: 200
max_accel: 1500
max_z_velocity: 10
max_z_accel: 500
square_corner_velocity: 10.0

########################################
# Temperature configuration
########################################

[temperature_sensor pi-zero]
```

```
sensor_type: temperature_host
min_temp: 10
max_temp: 100

[temperature_sensor pico-board]
sensor_type: temperature_mcu
min_temp: 0
max_temp: 100

########################################
# Fan configuration
########################################

[heater_fan Hotend_Fan]
pin: gpio18
max_power: 1.0
fan_speed: 0.6
kick_start_time: 0.1
heater: extruder
heater_temp: 50.0

[heater_fan controller_fan]
pin: gpio17
heater: extruder
max_power: 1.0
heater_temp: 30.0

[fan]
pin: gpio20

########################################
# bl-touch configuration
########################################

[bltouch]
sensor_pin: gpio22
control_pin: gpio29
z_offset: 0

########################################
```

```
# adxl345 configuration
#######################################

[mcu host]
serial: /tmp/klipper_host_mcu

[adxl345]
cs_pin: host:None

[resonance_tester]
accel_chip: adxl345
probe_points:
    100, 100, 20  # an example

#######################################
# X-Axis configuration
#######################################

[stepper_x]
step_pin: gpio11
dir_pin: !gpio10
enable_pin: !gpio12
microsteps: 16
rotation_distance: 40
endstop_pin: ^gpio4
# endstop_pin: tmc2209_stepper_x:virtual_endstop
# homing_retract_dist: 0
position_endstop: 0
position_max: 235
homing_speed: 50

[tmc2209 stepper_x]
uart_pin: gpio9
tx_pin: gpio8
uart_address: 0
run_current: 0.8
hold_current: 0.6
stealthchop_threshold: 999999
# diag_pin: ^gpio4
# driver_SGTHRS: 100
```

```
########################################
# Y-Axis configuration
########################################

[stepper_y]
step_pin: gpio6
dir_pin: !gpio5
enable_pin: !gpio7
microsteps: 16
rotation_distance: 40
endstop_pin: ^gpio3
# endstop_pin: tmc2209_stepper_y:virtual_endstop
# homing_retract_dist: 0
position_endstop: 0
position_max: 235
homing_speed: 50

[tmc2209 stepper_y]
uart_pin: gpio9
tx_pin: gpio8
uart_address: 2
run_current: 0.8
hold_current: 0.6
stealthchop_threshold: 999999
diag_pin: ^gpio3
driver_SGTHRS: 100

########################################
# Z-Axis configuration
########################################

[stepper_z]
step_pin: gpio19
dir_pin: gpio28
enable_pin: !gpio2
microsteps: 16
rotation_distance: 8
# endstop_pin: ^gpio25
# position_endstop: 0
```

```
endstop_pin: probe:z_virtual_endstop
position_min: -2.0
position_max: 250
homing_speed: 12

[tmc2209 stepper_z]
uart_pin: gpio9
tx_pin: gpio8
uart_address: 1
run_current: 0.580
hold_current: 0.500
stealthchop_threshold: 999999

[safe_z_home]
home_xy_position: 117,85 # Change coordinates to the center of your print bed
speed: 50
z_hop: 10                 # Move up 10mm
z_hop_speed: 5

#########################################
# Extruder configuration
#########################################

[extruder]
step_pin: gpio14
dir_pin: !gpio13
enable_pin: !gpio15
microsteps: 16
rotation_distance: 33.500
nozzle_diameter: 0.4
filament_diameter: 1.75
heater_pin: gpio23
sensor_type: EPCOS 100K B57560G104F
sensor_pin: gpio27
#control: pid
#pid_kp: 30.001
#pid_ki: 1.563
#pid_kd: 144.003
min_temp: 0
max_temp: 260
```

```
max_extrude_cross_section:2

[tmc2209 extruder]
uart_pin: gpio9
tx_pin: gpio8
uart_address: 3
run_current: 0.650
hold_current: 0.500
stealthchop_threshold: 999999

########################################
# Bed configuration
########################################

[heater_bed]
heater_pin: gpio21
sensor_type: EPCOS 100K B57560G104F
sensor_pin: gpio26
control: pid
pid_Kp: 54.027
pid_Ki: 0.770
pid_Kd: 948.182
min_temp: 0
max_temp: 90

#####################################################################
# Bed Mesh Settings
#####################################################################

[bed_mesh]
speed: 100
horizontal_move_z: 10
mesh_min: 10, 5
mesh_max: 113, 135
probe_count: 4, 4
mesh_pps: 2,2
fade_start: 1
fade_end: 10
fade_target: 0
```