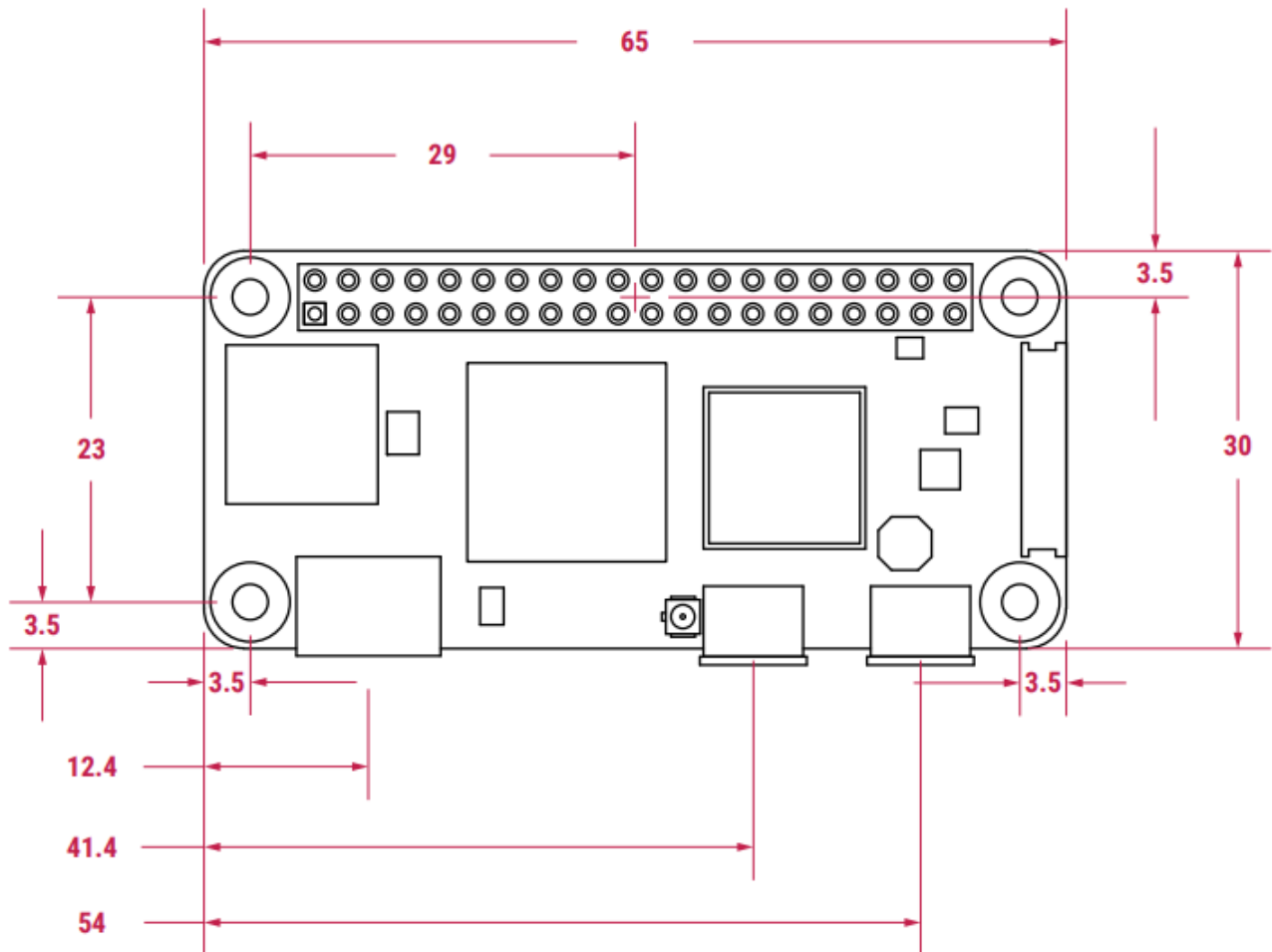


CTC Bizer Klipper

- [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

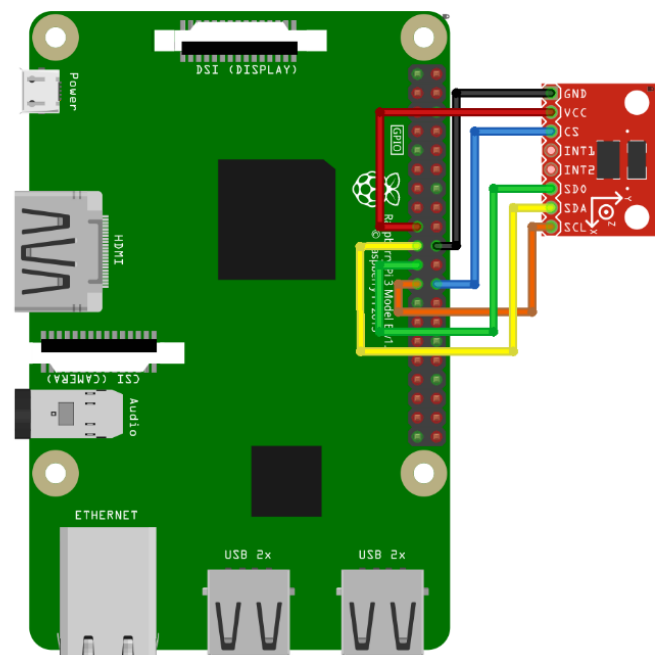
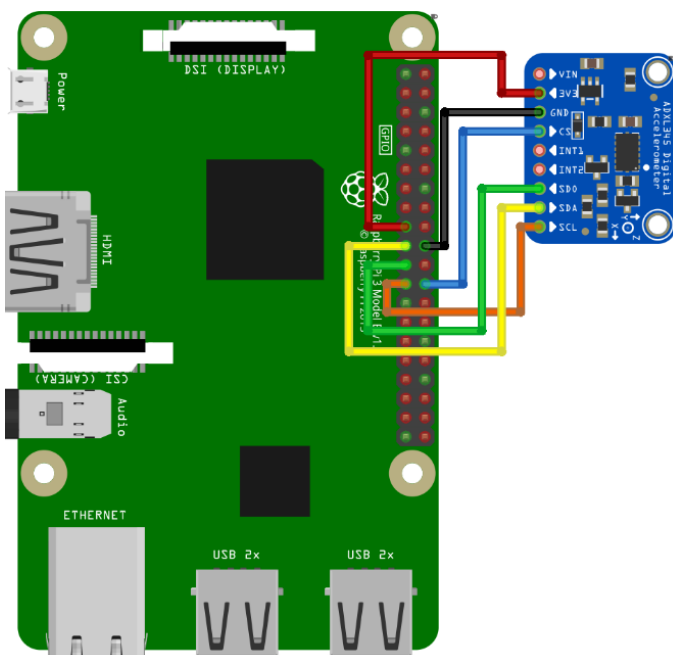


Note: all dimensions in mm

Pinout

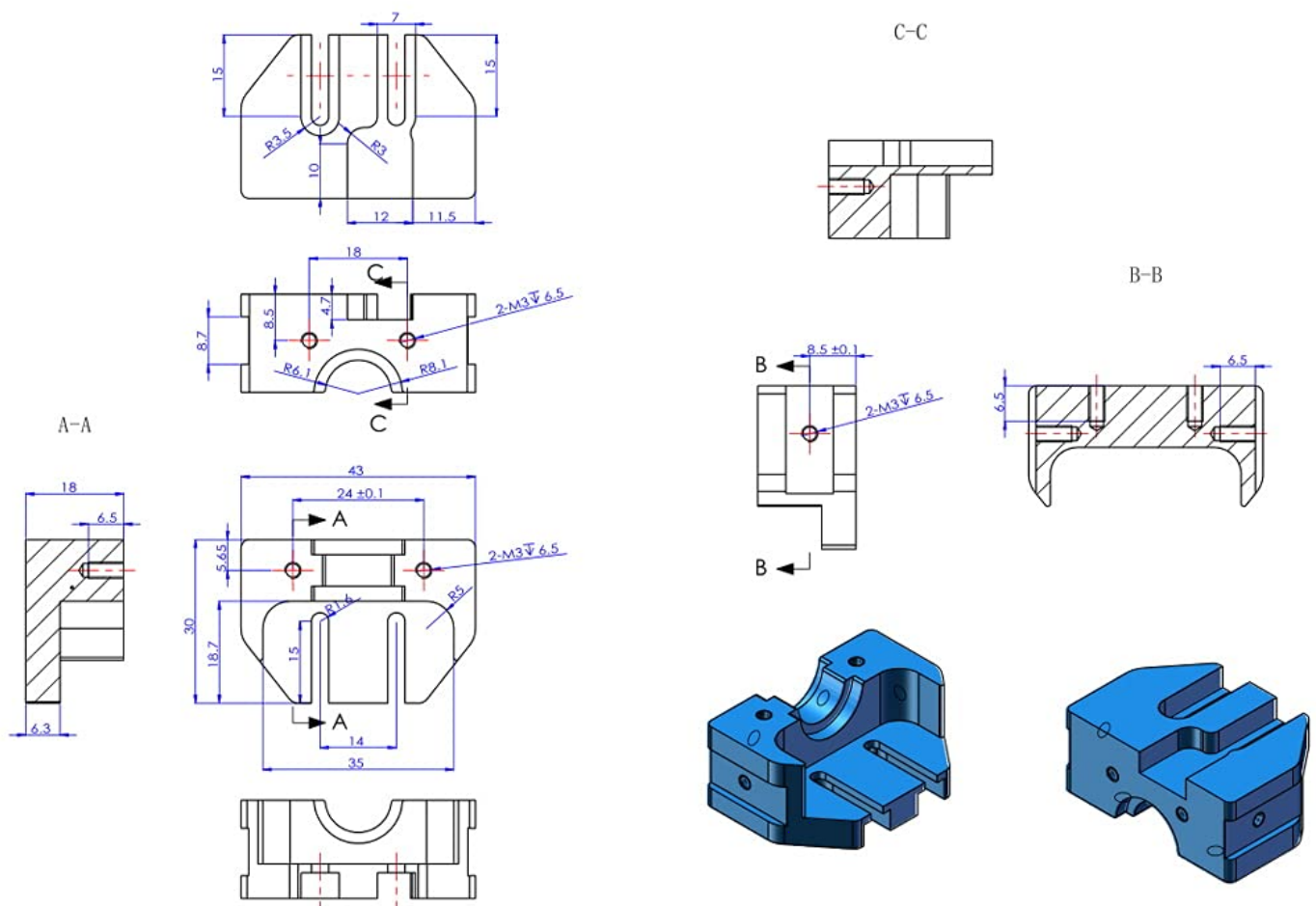
3v3 Power	1		2	5v Power
GPIO 2 (I2C1 SDA)	3		4	5v Power
GPIO 3 (I2C1 SCL)	5		6	Ground
GPIO 4 (GPCLK0)	7		8	GPIO 14 (UART TX)
Ground	9		10	GPIO 15 (UART RX)
GPIO 17	11		12	GPIO 18 (PCM CLK)
GPIO 27	13		14	Ground
GPIO 22	15		16	GPIO 23
3v3 Power	17		18	GPIO 24
GPIO 10 (SPI0 MOSI)	19		20	Ground
GPIO 9 (SPI0 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)

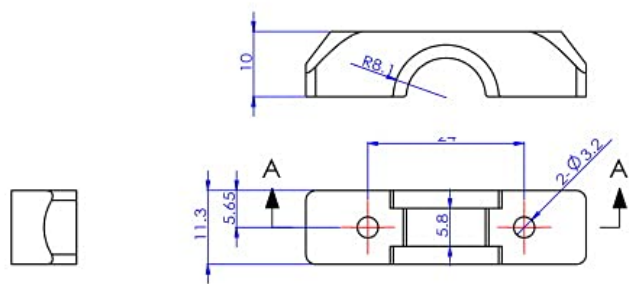
ADXL345



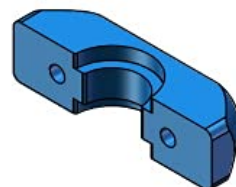
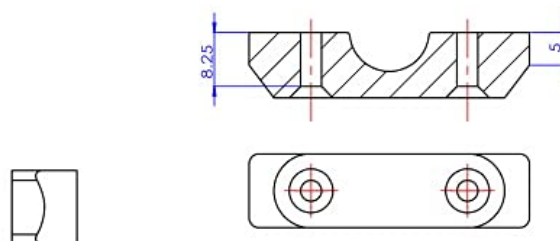
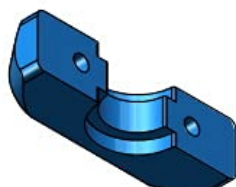
BCZAMD 3D Drucker Upgrade Zubehör Ganzmetall V6

Schematic



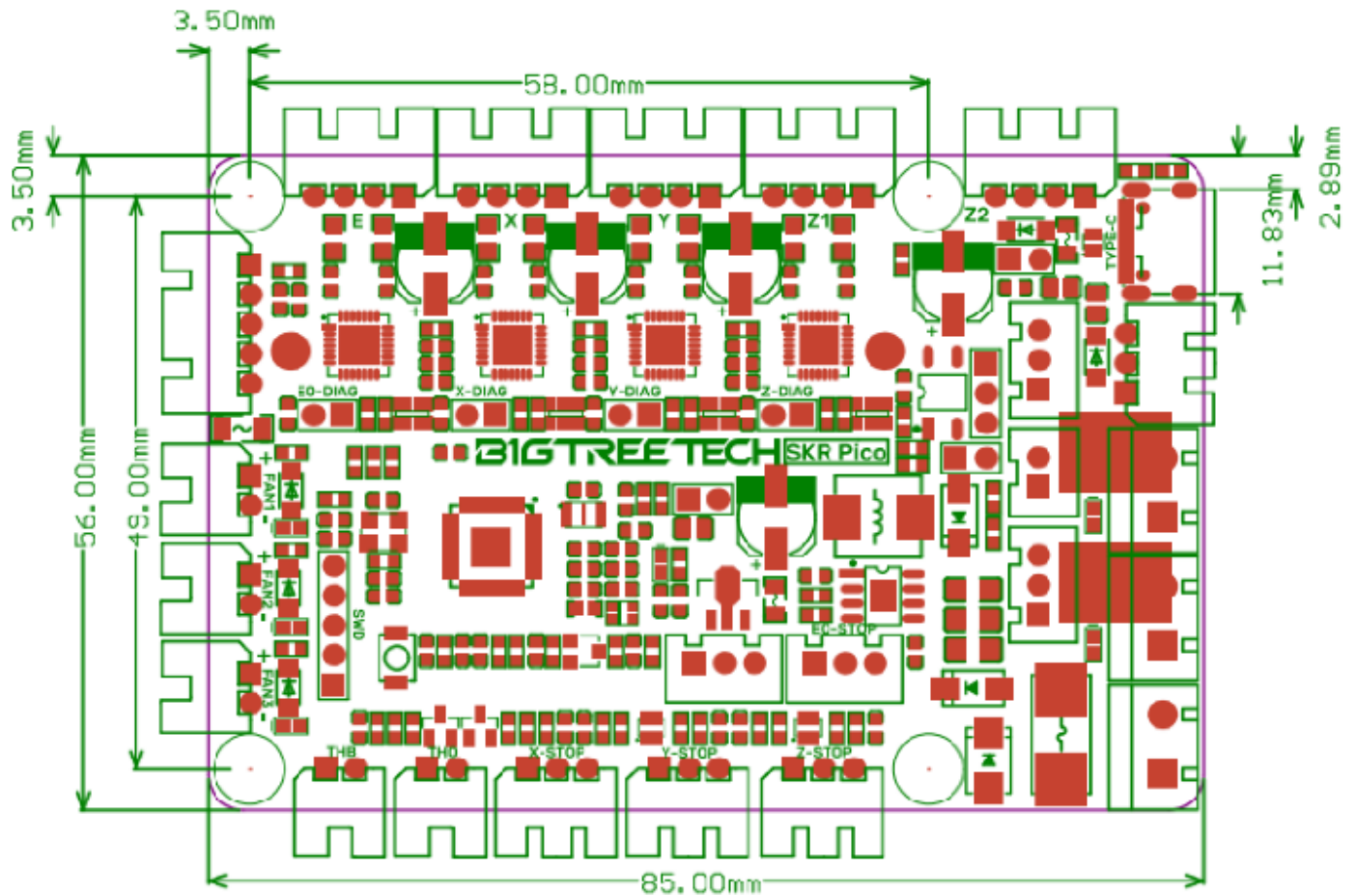


A-A

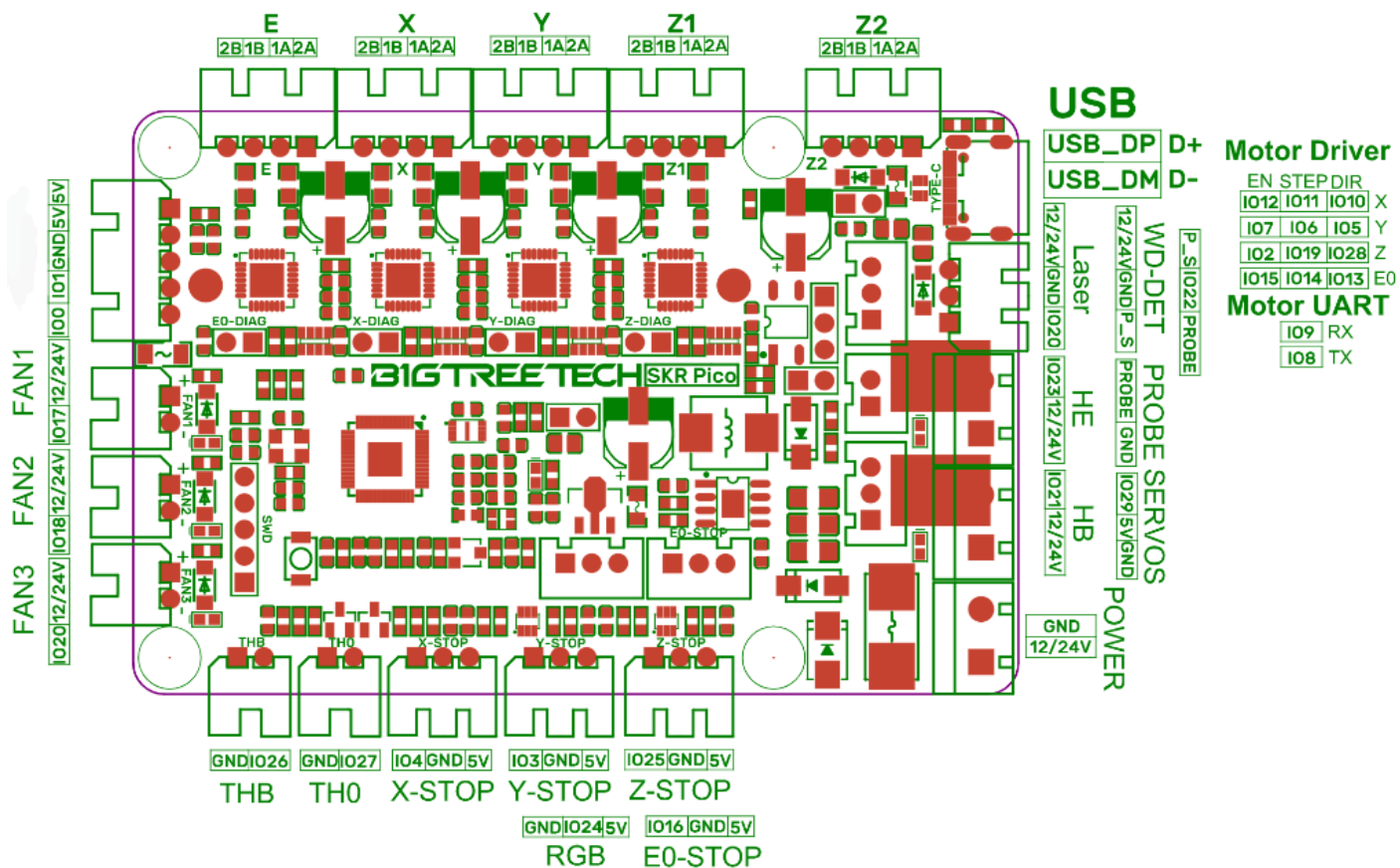


BTT SKR Pico V1.0

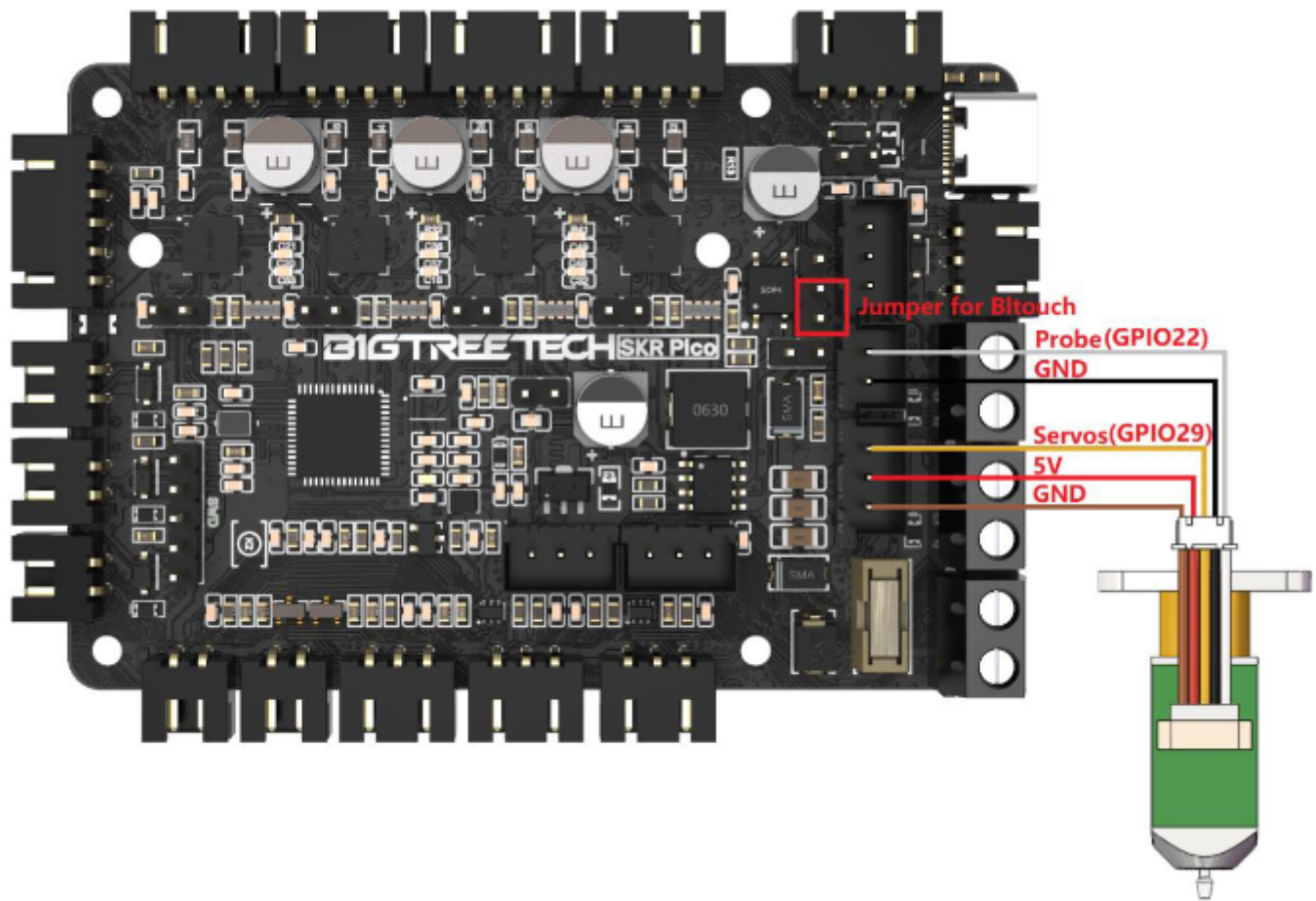
Size Diagram



Wiring Diagramm



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
```