Tru-Touch v1.2 Wiring Diagram – 1.25 mm Picoblade Connector

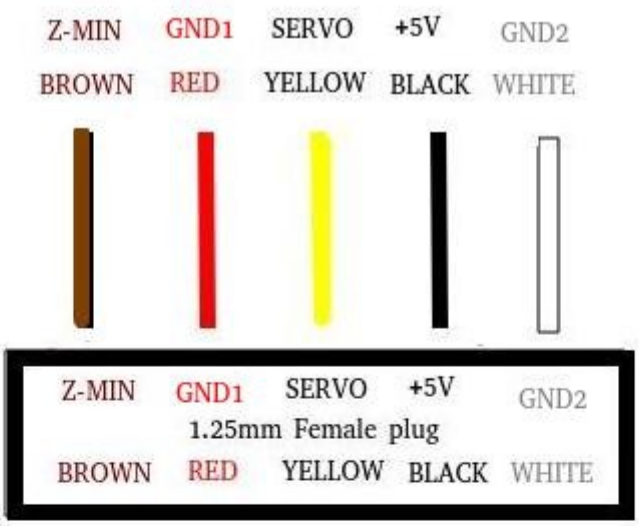
CRITICAL SAFETY WARNING – READ BEFORE CONNECTING POWER

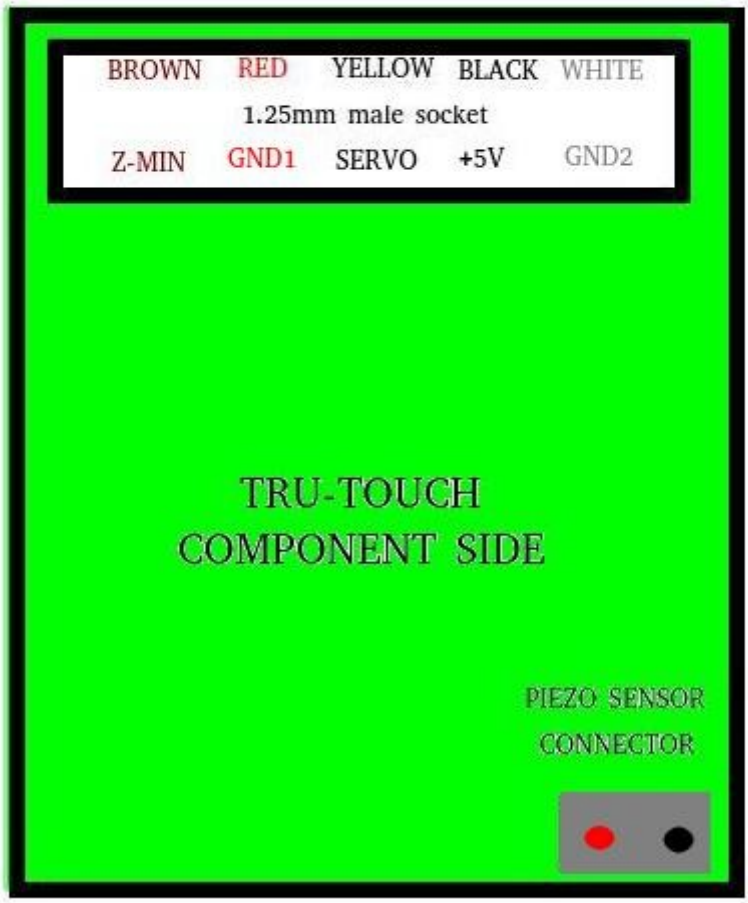
Re-pin the printer-side female plug to match the colors and functions shown below.

Incorrect wiring order **WILL DAMAGE** the probe and/or printer electronics.

Always verify with a multimeter before first power-up.

Two GND wires (red and white) — connect both to the printer board's GND (signal & power noise reduction).





Viewed from Component Side & Quick Reference – Wire Matching

(green PCB facing you, with the connector also on the component side).

- Brown → Z-MIN (probe trigger output to Klipper sensor_pin)
- Red → GND1
- Yellow → SERVO (PWM command from Klipper)
- Black → +5V (power from printer)
- White → GND2

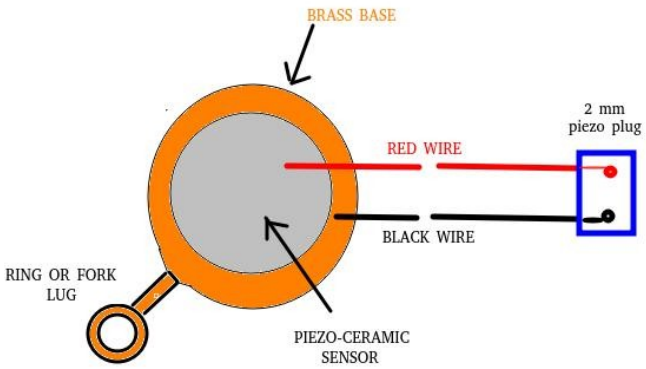
Piezo Sensor

The piezo sensor is a small disc with a diameter of roughly 30 mm.

It consists of a brass base (yellow, metallic part) and a piezo-ceramic sensor located centrally on the brass base.

There are two wires soldered to the component.

The red one is soldered to the piezo-ceramic disc, while the black one is soldered to the brass rim. Those wires are crimped into the 2 mm female plug, which should be plugged into the Piezo Sensor Connector on your Probe as discussed below.



You can see the Fork Lug (left picture), and the Ring Lug (right picture) soldered to the brass rim of the disc. This lug is used to attach the whole piezo assembly to your printer's carriage.

It must be attached with a suitable screw to allow it to receive the vibrations from the nozzle tapping against your printer's bed.

Best place to attach your piezo assembly:

1. The piezo disc must be fixed parallel to the printer's bed.

2. It must be attached to the same back-plate that the hot-end is attached to,

3. For best performance it should be not closer to the bed than 45 – 50 mm,

4. It must be attached firmly to let the vibration easily pass from the nozzle.

Piezo Sensor Connector (bottom right on PCB**)**

Connect the piezo disc:

red wire to the marked (+) pin,

black wire to the marked (GND) pin.

Polarity matters: The brass part of the piezo disc connects to the printer's ground via the frame.

Note: Ensure the nozzle and the bed are clean and debris-free for reliable performance.

First Power-Up Check

After wiring:

1. Power on the printer → the RED LED and the WHITE LED should blink quickly several times (self-test state), and eventually rest with the RED LED OFF and the WHITE LED dimmed.

2. Send the "BLTOUCH_DEBUG COMMAND=pin_down" → the heartbeat LED (white) dims, then turns ON.

3. Manually trigger piezo → the contact LED (red) turns on, and remains triggered (ON) until the "BLTOUCH_DEBUG COMMAND=pin_up" is received.

If no LEDs light up or if there is wrong behavior → re-check the wiring & re-pin the connector.

When all steps have been passed successfully, you may proceed to the Klipper Integration Guide.

Tools needed:

Multimeter, small flat or philips screwdriver, caliper for verification, sharp needle or a pin for signal connector re-pinning.