Wiring

RepRapPro Ormerod 3D printer kits are supplied with pre-assembled wiring looms. The wiring sequence should be to connect all looms to the motors, hot end and sensor board, route them back to the electronics, then make the connections on the board.

Wiring the printer

**C**AUTION: Never plug in or unplug motors or heaters from your Duet board when the power is on.**
Especially with the motors, you risk damaging the motor driver chip, and rendering the whole Duet board useless. This includes unplugging the motor end of the loom, too.
A good rule is to ALWAYS turn off the power when connecting or disconnecting ANYTHING from the board.

Hot end loom.
Length: 930mm

Proximity sensor: Attach the proximity sensor to the X carriage to the left of the hot end with 2 x M2.5x5mm cap head screws. Connect loom. **NOTE:** the sensor has a polarity; the order of the wires is very important. It should be as the picture; blue, black, red (or pink on some looms).
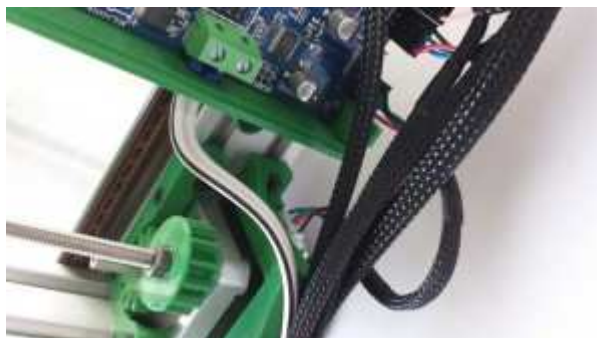Loom length: 960mm
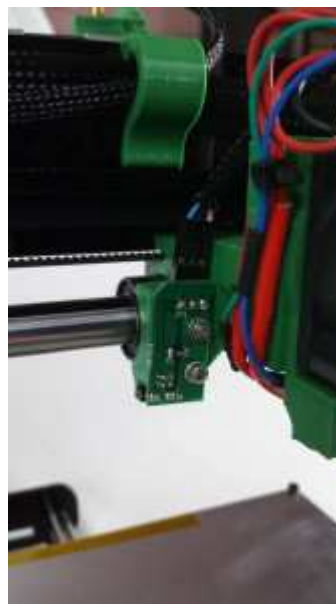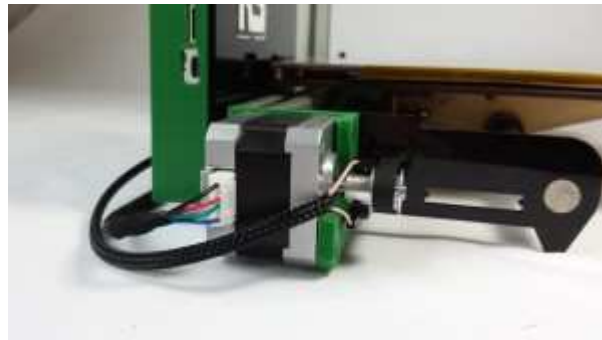
Extruder drive motor loom.
Length: 720mm

X axis motor loom.
Length: 440mm

Z axis motor loom.
Length: 90mm

Y axis motor loom.
Length: 160mm

Y axis endstop: The loom connects
to the outer two pins of the
microswitch. You will need to
bend the top pin upwards to 45
degrees, so the wire doesn't foul
the Y axis belt pulley.
Length: 260mm

NOTE: You may have received the Y axis endstop wires and the Hot End fan wires
with a 2-way housing. It should be a 3-way housing on each of these, with the centre
connector unused. However, you can remove one crimp from the housing (lift the
little tab on the housing and pull out the wire and crimp) and plug it into the board
directly; the image below shows we have done this on the hot end fan.

Wiring the Duet

Connect each loom as per the diagram shown:

Pay particular attention when connecting the hot end heater and hot end thermistor
connectors. If you put them in the wrong place, 12V can run down the 3.3V line of the
thermistor, and will immediately destroy the main processor. We regard this mistake
as a user error, and is NOT covered by the warranty. Also take care with the Extruder
motor and proximity sensor connections
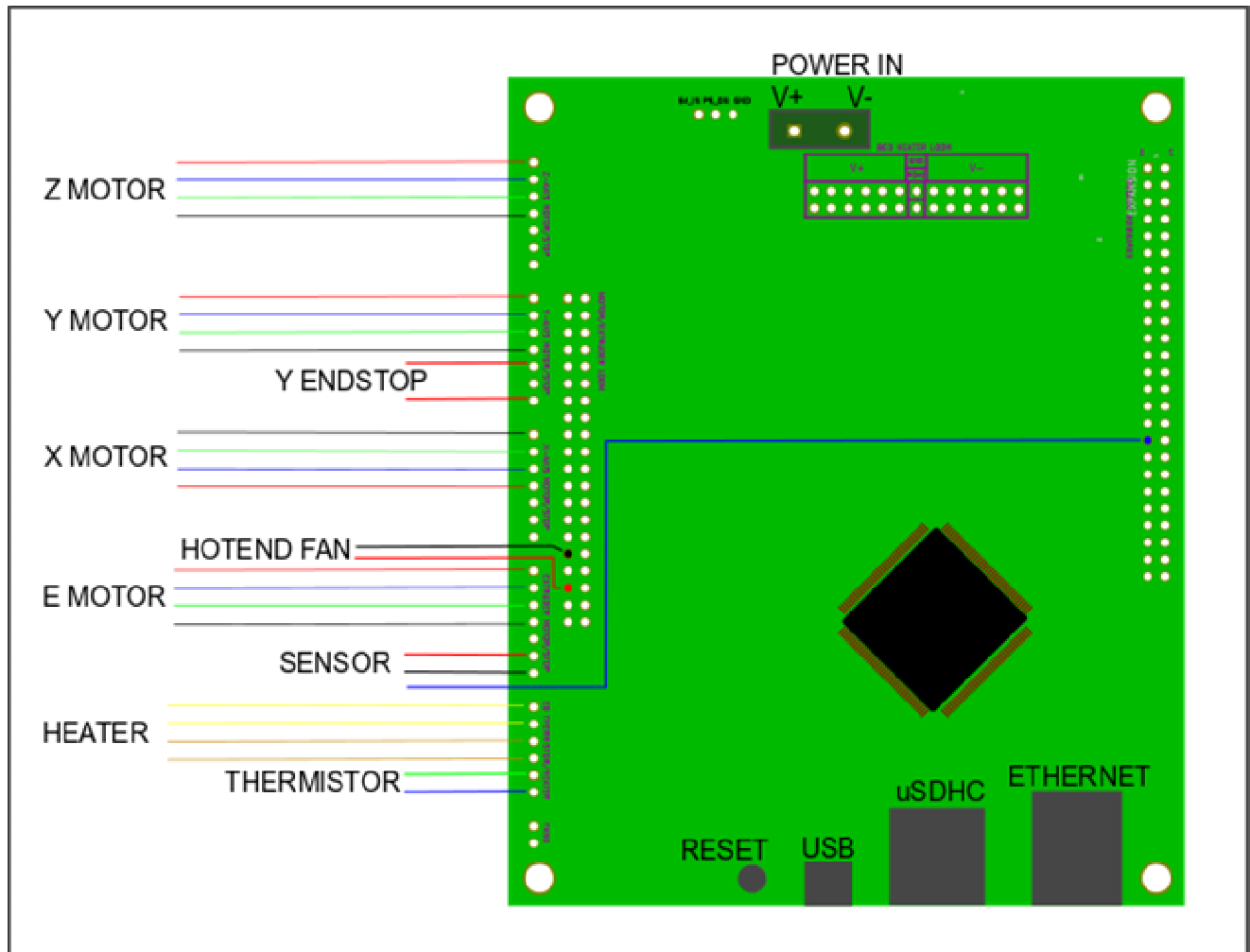
NOTE: that the order of the X motor wires are reversed compared to the Y, Z and Extruder motors. If you plug the X axis in the same as the other axes, the direction of movement of the X axis will be wrong.

The wiring should now look like the image below; there is a difference between the hot end fan connections between the picture and wiring diagram, but either works: