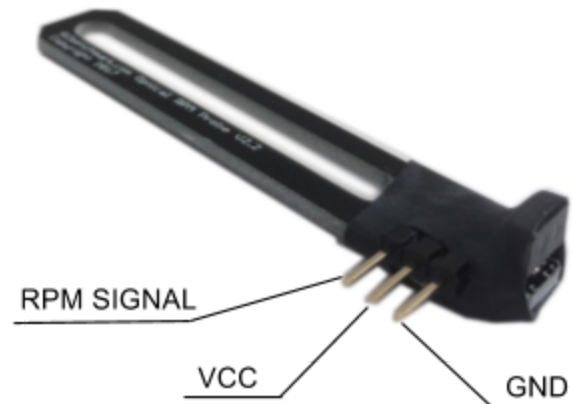# 1520 and 1580 Optical RPM Probe v2.2 Datasheet

TYPICAL USE

- Motor RPM testing

FEATURES

- High accuracy and reliability
- Compatible with both series 1520 (SKU# Q81X) and 1580 (SKU# J8UD) with different installation kit
- 3 pin servo connector
- Adjustable position
- Supported by the RCbenchmark GUI App

DESCRIPTION

This optical RPM probe v2.2 will come with different **installation kit** depending on the product (1520 and 1580) that it is used on. This optical probe is using a reflective sensor (reflective tape is included in the optical probe kit) to detect the rotating speed of the motor and transmit the data to the 1520 or 1580 PCB with a 3 pin servo connector and servo extension cable.

TECHNICAL SPECIFICATION

Table 1 Design Specification of Optical RPM Probe

Specification	Min.	Max.	Unit
Detected Speed	0	100k	RPM*

*RPM: Revolutions per minute

MATERIALS LIST OF 1520 AND 1580 OPTICAL RPM PROBE KIT

1520:

- M5 Screw 30mm (2)
- M5 Washer (2)
- Spacer 11/64'' Long (2)
- Spacer 9/32'' Long (2)
- Spacer 7/32'' Long (2)
- Optical RPM Probe v2.2 (1)
- Servo Extension 20cm Female to Female (1)
- 2'' Reflective Tape (1)
- 1520 Optical RPM Probe Kit Installation Instruction (1)

1580:

- M4 Low-Profile Screw 12mm (2)
- M4 Screw 10mm (2)
- M4 Washer (4)
- M4 Nut (4)
- Optical RPM Probe v2.2 (1)
- Servo Extension 20cm Female to Female (1)
- Aluminum Arm (1)
- 2'' Reflective Tape (1)
- 1580 Optical RPM Probe Kit Installation Instruction (1)

INSTALLATION

Series 1520

1. Make a connection between the 1520 PCB and the optical RPM probe via the servo extension. The black wire should be connected to the negative pin in the "S1" plug on the 1520 PCB.

2. The probe should be powered by 5V using your own BEC or ESC.
   The pinout of probe is:
   - Black - GND
   - Red - VCC
   - White - RPM SIGNAL

3. Cut the reflective tape to a correct size and place it on the rotating part of the motor.

4. Install the optical RPM probe following the image on the right. Use different combination of the spacers to adjust the position of the optical RPM probe depending on your motor thickness.

5. The distance between the optical probe and the tape must be less than 4mm.
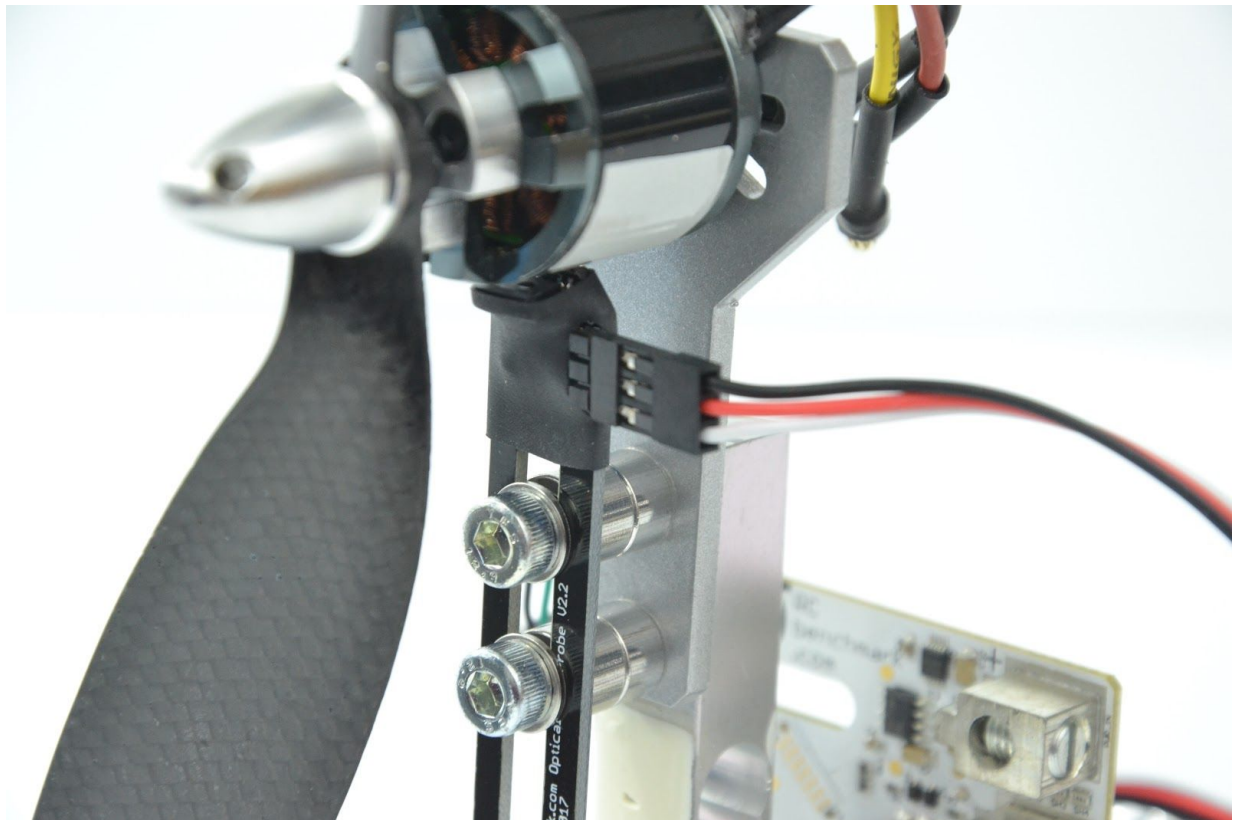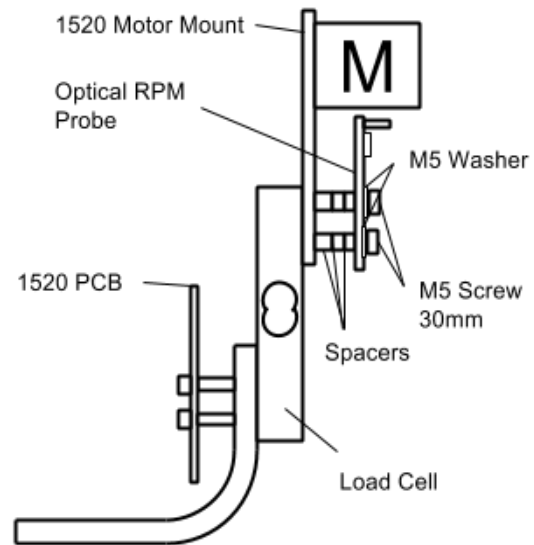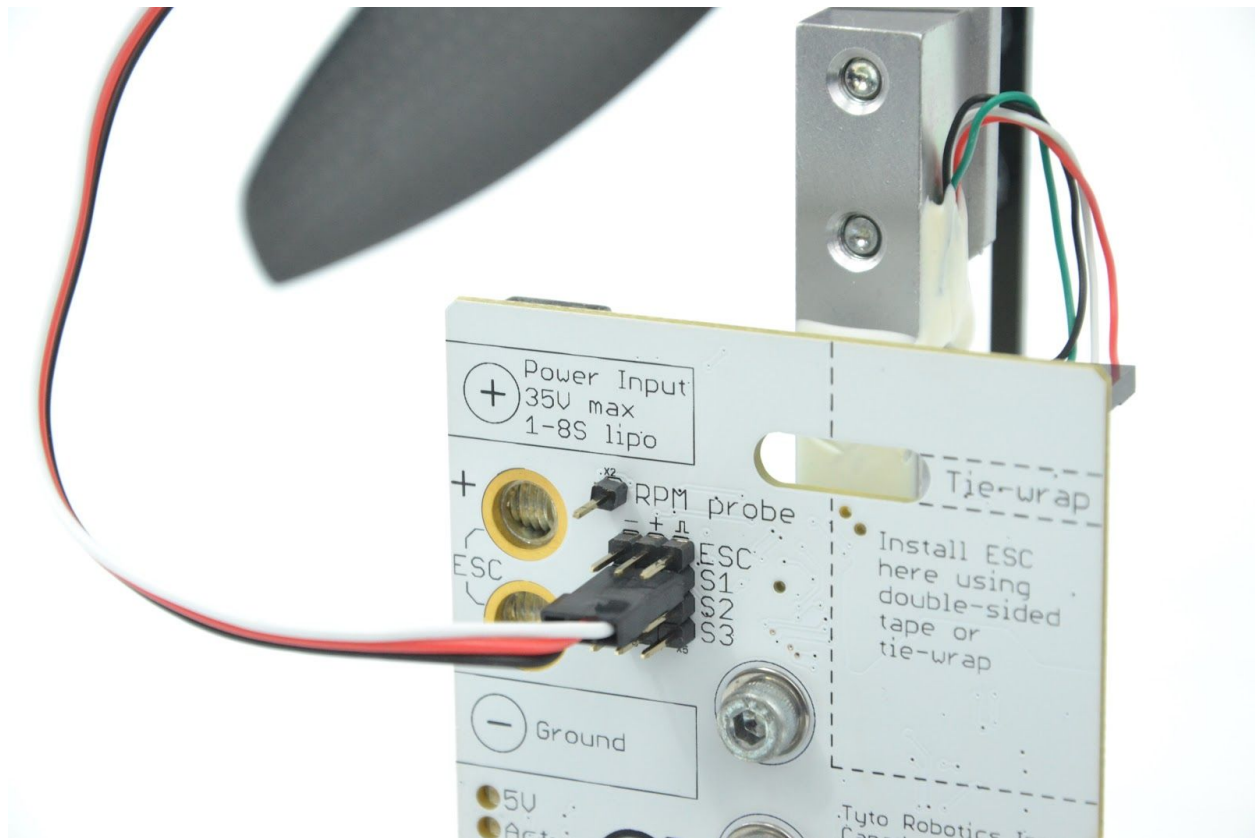
Series 1580

1. Make a connection between the 1580 PCB and the optical RPM probe via the servo extension. The black wire should be connected to the negative pin in the "Servo 1" plug on the 1580 PCB.

2. The probe should be powered by 5V using your own BEC or ESC.
   The pinout of probe is:
   > Black - GND
   > Red - VCC
   > White - RPM SIGNAL

3. Cut the reflective tape to a correct size and place it on the rotating part of the motor.

4. The distance between the optical probe and the tape must be less than 4mm.