



Filament sensor for Prusa i3 mk3, mk3s (mechanical microswitch, no optical)



rosch8

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Summary

I have enough of false signals from my several Prusa mk3. Mk3s is better but still any 5 stars reliability.

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I have enough of false signals from my several Prusa mk3. Mk3s is better but still any 5 stars reliability.

I designed this sensor with just one focus, reliability. It is not pretty, but it works without any false signal.

Printing is easy, just lever needs some 2 - 3 mm brim to be printed well. 0,1 mm layer, classic PETG.

It needs one small ball bearing MR63 (3 x 6 x 2,5 mm) on M3 screw 10- 15 mm.

Then one small piece of bicycle spoke 2 mm diameter for lever hinge.

OMRON SS5GL2 or substitution with 2x M2 x 10 mm screws.

and tapped head screws for cover

2x M3x 6-8 mm.

PTFE tube as filament guide. You need to cut the U shape cut out. Just

follow the shape of the sensor body.

Then need some wirings. Connect sided legs of microswitch to the black (GND) and the white (signal out) wire. And 10 k resistor for pull up the output for Rambo input to define HIGH level when switch not triggered.

On the other side, just unplug the connector from Rambo board and move white wire from position 4 to position 5 in DuPont black connector body.

Plug it back to LOWER! row.

Then last step is flash mk3s firmware.

Yes printer give you message on display, that you changed printer type.

But you do not worry, everything will work fine.

Edit:

After testing i have to change spring. plastic one goes weak in enclosure in higher temperatures.

So I updated design with spring from common office ball pen. It works well i tested it.

So please download newer version v2 of the lever and sensor body. Cover remains the same.

Print instructions

0,1 mm 4 walls , 40% infill, no support, material PETG.

Model files



filament_sensor_ss5gl2_v2.stl



cover_sensor.stl



lever_v2.stl



mk3s_pad.stl



ptfe_form_cutter.stl

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