

## A1 Clogging Monitor Overview

PAN, May 22, 2023

The Clogging Monitor (CM) is recommended for 3D Printers. A common trouble is the jamming of the filament within the extruders. The CM detects the jamming by sensors CS and the CM appliance pause the printing by optical and acoustical alarm.

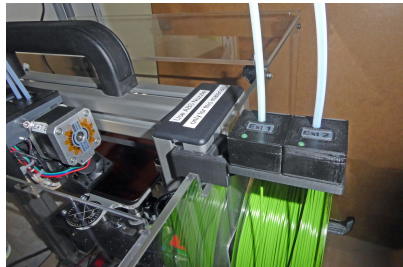


Fig.1: Clogging Sensors for Extruder 1 and 2



Fig.2: In case of clogging: Alarm here for Extruder2

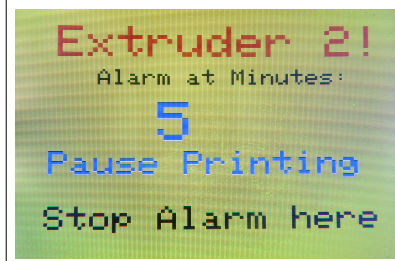


Fig.3: If Alarm stopped: Clean extruder and continue: If not: Power OFF after 1/2h

Descriptions of the CM components:

### A2 Clogging Sensor CS

- Design of the Sensor and experimental results

### A3 Clogging Monitor appliance CM

- Design of the of the appliance and results at work

### A4 Arduino Program

- Program for Arduino Nano and Velleman Display

### A5 Overview of the STL files for 3D-Printing

### A6 STL files in Zip

### A7 Program Target 3001 PCB with Velleman Display on top

### A8 PCB designed with Target 3001

### Acknowledgement

Many thanks to:

Samuel Pinches, Australia, for the first Arduino Program

Peter Zankl, Switzerland, for the PCB Design with Target 3001