

FlashForge Gcode Protocol v1.04 (Partial)

Induction

This document describes the GCode protocol used in Flashfoge Dreamer 3D Printer. PC and mobile devices can control the printer by GCode.

Please ignore the "~" symbol at the head of the command line.

Supported G Codes

G1 - Linear interpolation

Move to the specified position at the current or specified feedrate.

Parameters

```
X: (code, optional) If present, new X axis position, in mm  
Y: (code, optional) If present, new Y axis position, in mm  
Z: (code, optional) If present, new Z axis position, in mm  
E: (code, optional) If present, new A/B (depending on internal state machine) axis position, in mm  
F: (code, optional) Feedrate, in mm/min
```

Example

```
~G1 X10 Y20 Z30 E1.0 F3000  
~G1 Y40
```

Reply

```
ok
```

G4 - dwell

Tells the machine to pause for a certain amount of time.

Parameters

```
P: dwell time, in ms  
S: dwell time, in s
```

Example

```
~G4 P10000  
~G4 S10
```

Reply

```
ok
```

G28 - Home

Move to the home position.

Parameters

```
X: (flag, optional) If present, home the x axis.  
Y: (flag, optional) If present, home the y axis.  
Z: (flag, optional) If present, home the z axis.  
Default for all axes.
```

Example

```
~G28  
~G28 X Y
```

Reply

```
ok
```

G90 - Set to Absolute Positioning

All coordinates from now on are absolute relative to the origin of the machine.

Parameters

```
None
```

Example

```
~G90
```

Reply

```
ok
```

G91 - Set to Relative Positioning

All coordinates from now on are relative to the last position.

Parameters

```
None
```

Example

```
~G91
```

Reply

```
ok
```

G92 - Set Position

Sets the position of the bot.

Parameters

```
X: (code, optional) If present, new X axis position, in mm  
Y: (code, optional) If present, new Y axis position, in mm  
Z: (code, optional) If present, new Z axis position, in mm  
E: (code, optional) If present, new A/B (depending on internal state machine) axis position, in mm
```

Example

```
~G92 E0  
~G92 X10 Y20 Z5
```

Reply

```
ok
```

Supported M Code (Unbuffered Commands)

M105 - Get Extruder and HBP Temperature

Query the current temperature of the nozzle and bottom plate.

Example

```
Send: ~M105
Reply(Single): T0: 25/220 B:25/100
               ok
Reply(Dual):   T0: 25/220 T1: 25/220 B:25/100
               ok
```

M114 - Get Current Position

Get Current Position.

Example

```
Send: ~M114
Reply: X:10 Y:10 Z:10 A:5 B:0
       ok
```

M115 - Get Machine Information

Query the machine information, including type, SN, Size, tool count and so on.

Example

```
Send: ~M115
Reply: Machine Type: Flashforge Dreamer
       Machine Name: My Dreamer
       Firmware: V1.40 20140520
       SN: 2324-1341-3453
       X: 230 Y: 150 Z: 140
       Tool Count: 2
       ok
```

M119 - Get Machine Status

Query the current status of the machine, including endstops and move mode.

Example

```
Send: ~M119
Reply: Endstop: X-max: 0 Y-max: 0 Z-min: 1
       MachineStatus: READY
       MoveMode: READY
       ok
```

M112 - Emergency Stop

Emergency Stop, Command buffer will be empty.

Reply

```
ok
```

Supported M Code (Buffered Commands)

M6 - Wait For Toolhead

Instruct the machine to wait for the toolhead to reach its target temperature.

Parameters

```
T: The extruder to wait for, T0(Right extruder) or T1(Left extruder)
S: (code, option) If present, sets the time limit that we wait for, in s (Default value is 600s)
```

Example

```
~M6 T0
```

Reply

```
ok
```

M7 - Wait For Platform

Instruct the machine to wait for the platform to reach its target temperature

Parameters

```
S: (code, option) If present, sets the time limit that we wait for, in s (Default value is 600s)
```

Example

```
~M7
```

Reply

```
ok
```

M17 - Enable Axes Stepper Motor

Instruct the machine to enable the stepper motors for the specified axes.

Parameters

X: (flag, optional) If present, enable the X axis stepper motor
Y: (flag, optional) If present, enable the Y axis stepper motor
Z: (flag, optional) If present, enable the Z axis stepper motor
A: (flag, optional) If present, enable the A axis stepper motor
B: (flag, optional) If present, enable the B axis stepper motor
E: (flag, optional) If present, enable the A & B axis stepper motor
Default for all axes.

Example

```
~M17
```

Reply

```
ok
```

M18 - Disable Axes Stepper Motor

Instruct the machine to disable the stepper motors for the specified axes.

Parameters

X: (flag, optional) If present, disable the X axis stepper motor
Y: (flag, optional) If present, disable the Y axis stepper motor
Z: (flag, optional) If present, disable the Z axis stepper motor
A: (flag, optional) If present, disable the A axis stepper motor
B: (flag, optional) If present, disable the B axis stepper motor
E: (flag, optional) If present, disable the A & B axis stepper motor
Default for all axes.

Example

```
~M17
```

Reply

```
ok
```

M104 - Set toolhead temperature

Set the target temperature for the current toolhead

Parameters

S: (code) Temperature to set the toolhead to, in degrees C
T: (code) The toolhead to heat, T0 or T1.

Example

```
~M104 S220 T0
```

Reply

```
ok
```

M140 - set build platform temperature

Sets the target temperature for the current build platform

Parameters

S: (code) Temperature to set the platform to, in degrees C

Example

```
~M140 S100
```

Reply

```
ok
```

M106 - Enable Cooling Fan

Enable Cooling Fan.

Parameters

```
None
```

Example

```
~M106
```

Reply

```
ok
```

M107 - Disable Cooling Fan

Disable cooling fan.

Parameters

```
None
```

Example

```
~M107
```

Reply

```
ok
```

M108 - Tool Change

Instructs the machine to change its toolhead.

Parameters

```
T: (code) The toolhead for the machine to switch to, T0 or T1
```

Example

```
~M108 T0
```

Reply

```
ok
```

M132 - Load current home position from EEPROM

Recalls current home position from the EEPROM and waits for the buffer to empty.

Parameters

```
X: (flag, optional) If present, loads the X offset from the EEPROM  
Y: (flag, optional) If present, loads the Y offset from the EEPROM  
Z: (flag, optional) If present, loads the Z offset from the EEPROM  
A: (flag, optional) If present, loads the A offset from the EEPROM  
B: (flag, optional) If present, loads the B offset from the EEPROM
```

Example

```
~M132 X Y Z A B
```

Reply

ok

M907 - Set digital potentiometer value

Set the digital potentiometer value for the given axes. This is used to configure the current applied to each stepper axis. The value is specified as a value from 0-127; the mapping from current to potentiometer value is machine specific.

Parameters

X: (code, optional) If present, X axis potentiometer value

Y: (code, optional) If present, Y axis potentiometer value

Z: (code, optional) If present, Z axis potentiometer value

A: (code, optional) If present, A axis potentiometer value

B: (code, optional) If present, B axis potentiometer value

Example

```
~M907 X100 Y100 Z40 A100 B80
```

Reply

ok