Gcode	Description	Arguments	Details	Examples
G0	Rapid Move	[X/Y/Z/E]Axis [F] Feedrate [H] Move Type [S] Laser Power|Move Type [R]Recall Slot		G0 X12 ;move to 12mm on the X axis
G1	Controlled Linear move			
		Xnnn The position to move to on the X axis		G0 F1500 ;Set the feedrate to 1500mm/minute
		Ynnn The position to move to on the Y axis		
		Znnn The position to move to on the Z axis		G1 X90.6 Y13.8 E22.4
		Ennn The Extrusion amount		; Move to X90.6mm Y13.8mm while extruding 22.4mm
		Fnnn Feed Rate		
		Hnnn Move type (RRF_2.02 and later, RRF_3	H0: no special action	
		Snnn Set Laser Power | Move Type (see H)	H1: terminate move on endstop, set axis = M208	
			H2: Individual Motor Mode, use with G91	
			H3: terminate move on endstop, set axis = position	
			H4: terminate move on endstop, update position	
G2	Clockwise Arc Move	[Xnn/Ynn/Znn/Inn/Jnn/Enn/Fnn/Rnn]		G2 X90.6 Y13.8 I5 J10 E22.4 ; Move in a Clockwise arc from the current point to point (X=90.6,Y=13.8), with a center point at (X=current_X+5, Y=current_Y+10), extruding 22.4mm of material between starting and stopping)
G3	Anti-Clockwise Arc Move			G2 X100 Y50 R200 ; draw a clockwise arc with R=200 from current position to X=100 Y=50
G4	Wait / Dwell	[Pnn/Snn]	Pnn Time in milliseconds, Snn Time in Seconds	G4 P500
G10	Tool Temperature Setting	[Pnn/Rnn/Snn]		G10 P1 R140 S205
			Pnn Tool Number	;set standby and active temperatures for tool 1
			Rnn Standby Temperature	
			Snn Active Temperature	
G10	Set workplace coordinate offset	[Lnn/Pnn/Xnn/Ynn/Znn/Rnn/Snn]		G10 P2 X17.8 Y-19.3 Z0.0
		Lnn Mode	L1 Default	
		Pnn Toll Number	L2 sets origin of coord system specified by P parameter	
		Xnn X offset	L20 sets origin realtive to current position of tool	
		Ynn Y offset		
		Znn Z offset		
		{U,V,W} axis offset		
G10	Retracts filament then performs any zlift/hop			G10
G11	Unretracts filament after undoing any zlift/hop			G11
G28	Home Axis	[X/Y/Z/U,V,W,A,B,C,D]	Axis that is flagged is homed.	G28 X Y
G29	Mesh Bed Probe	[S0/S1/S2/S3/P"file.csv/Kn]		G29 S0
			S0 Probe Bed, save heightmap.csv, activate bed comp	
			S1 Load heightmap and activate bed comp	
			S2 Clear heightmap	
			S2 Save height map	
			P"file.csv" Optional file name for bed height map	
			Kn Use Z probe number	
			(Define probe grid with M557)	
G30	Single Z Probe	[Pnn/Xnn/Ynn/Znn/Hnn/Knn/Snnn]		G30 ; Probe the bed set Z to the probe trigger height.
				G30 P0 X20 Y50 Z-99999
		Pnn Probe point number		; Probe the bed at X20 Y50, save XY coords & height error slot 0

		Xnn X coordinate Ynn Y coordinate Znn Z coordinate Hnn Height correction Knn Z probe number Snn set parameter	S1: report only, do not adjust Z S2: adjust offset of current tool Z=0 S3: sets Z probe trigger height to the height it stopped at	G30 S-1 G30 S-2
G31	Set or Report Probe Status	[Pnn/Xnn/Ynn/Znn/Cnn/Snn/Tnn/Knn/Hnn]	Pnnn Trigger value Xnnn Probe X offset from noxxle Ynnn Probe Y offset from nozzle X,Y,U,V,W,A,B,C...nnn Probe Offsets for all axes except Z1 (RRF >=3.3beta2) Znnn Trigger Z height Cnnn Temperature coefficient2 Tnnn Temperature coefficient2 Snnn Calibration temperature2 Tnnn Z probe type (see M558) Knnn Z probe number (current Z probe)Z probe 0 at startup. Hnnn Selects the sensor for temp comp when C & S used	G31 X16.0 Y1.5 G31 P500 Z2.6 G31 X16.0 Y1.5
G32	Run bed.g			G32
G38.2-5	Striaght Probe			
G60	Save current position to slot	[Snn}	Snn memory slot to save current coordinates to S0 Slot 1 S1 Slot 2 S2 Slot 3	G60 S2 (recall with G1 R0 / R1 / R2)
G90	Set to Absolute Positioning			
G91	Set to Relative Positioning			
G92	Set Axis to current position	[Xnn/Ynn/Znn/Enn]	Xnn X coordinate Ynn Y coordinate Znn Z coordinate	G92 Z0.10 G92 E0.0

Mcode	**Description**	**Arguments**	**Details**	**Examples**
M0	Stop, Unconditional Stop	[Hnn}	Finishes moves in buffer, Heaters off, Motors Idle If Homed & Printing-> cancel.g | else stop.g executed Hnn - keep heaters on	M0 M0 H1
M1	Sleep, Conditonal Stop		Finishes moves in buffer, Heaters off, Motors Idle If Homed & Printing-> cancel.g | else stop.g executed Next send command will wake	M1
M17	Enable Steppers	[X/Y/Z/U/V/W/E]Axis	Enable all steppers, Enable specific axis	M17 M17 X E0
M18	Disable Steppers	[X/Y/Z/U/V/W/E]Axis	Disable all steppers, Disable specific axis	M18 M18 X E0
M24	Start/resume SD print		Resumes a paused print -> resume.g	M24
M25	Pause SD print		Pauses the current print -> pause.g	M25
M32	Select file and start SD print	"filename.gcode"	Prints the file 'filename.gcode"	M32 "filename.gcode"
M37	Simulation Mode	[Snn/Pnn]	Simulates printing a file from SD card S1: enter simulatio mode	M37 P"MyModel.g"

			S0: Leave simulation mode P:"filename"	
M80	ATX Power On		Toggles PS_ON pin via the External 5V header	M80
M81	ATX Power Off	Snn	Toggles PS_ON pin via the External 5V header S0: turns off power immediatley S1: Turns off power after themostatic fans are off	M81 M81 M81 S1
M82	Set extruder to absolute mode			M82
M83	Set extruder to relative mode			M83
M84	Stop idle hold			
M92	Set axis steps per unit	[Xnn/Ynn/Znn/Unn/Vnn/Wnn/Enn/Snn]	Xnnn The steps per mm on the X axis Ynnn The steps per mm on the Y axis Znnn The steps per mm on the Z axis Ennn The steps per mm on the E extruder drive Snnn Defines the microstepping the units are given. (if none, defaults to those given in M350)	M92 X80 Y80 Z80 M92 E420:500
M98	Call Macro/Subprogram	[P"nnn"]	P"nnn" Macro filename	M98 P"mymacro.g"
M111	Set Debug Level	[Pnn/Snn]	P: Debug Modeul number S: Debug ON(S1), OFF(S0)	M111 without parameters lists all the modules, their numbers, and whether debugging is enabled for each M111 P1 S1 ; enable debugging for module 1
M112	Emergency Stop		Any moves in progress are immediately terminated, then RepRap shuts down	M112
M114	Get Current Position		Rreports the configured axis and E coordinates	M114
M115	Get Firmware Ver. & Capabilities	[Pnn/Bnn]	Request the Firmware Version and Capabilities P:Electronics Type B:Baord Number	
M119	Get Endstop Status		Returns the current state of configured endstops	M119

Mcode	**Description**	**Arguments**	**Details**	**Examples**
M108	Cancel Heating			M108
M104	Set Extruder Temp Fast (Depricated- use G10/M568 +M116)	[Snn / Tnn]	Snnn Temperature Value Tnn Tool Number	M104 S220 T0 ; sets Tool 0 to Temp 220 and resumes
M109	Wait for Extruder Temp (Depricated- use G10/M568 +M116)	[Snn/Rnn/Tnn]	Snnn Minimum Temperature Value, +/- 2.5C Rnn Accurate Temperature Value, +/- 2.5C Tnn Tool number	M109 S215 ; sets temp to min of 215 waits till reached M109 R215 ; sets temp to 215 +/-2.5 waits till reached
M140	Set Bed Temp Fast	[Pnn/Hnn/Snn/Rnn]	Pnn Bed Heater Index Number, Default 0 Hnn Heater Number Snn Target Temp Rnn Standby Temp	M140 S75 ; sets bed heater to 75C and resumes M140 S65 R45 ; set bed to 65C, standby 45C and resumes
M190	Wait for bed temp	[Snn / Pnn /Rnn]		M190 S60
M141	Set Chamber Temp Fast	[Pnn/Hnn/Snn/Rnn]	Pnn Chamber Heater Index Number, Default 0 Hnn Heater Number Snn Active/Target Temp Rnn Standby Temp	M141 S30 ; set chamber temp tp 30C resume commands M141 H3 ; chamber heater 0 uses heater 3
M191	Wait for chamber temp	[Pnn / Snn / Rnn]		
M105	Get Extruder Temp	[None /Rnn/Snn]	Rnn Response Sequence Number Snn Response Type	M105 M105 S2

M108	Cancel Heating			M108
M144	Bed Standby	[Pnn / Snn}	Pnn Bed Index Snn 0=standby, 1=heater active	M144
M302	Allow Cold Extrudes	[Pnn / Snn / Rnn]	No Option: Report State Pnn Cold Extrude Allow State 0=No, 1=Yes Snn Minimum extrusion temp Rnn Minimum retractions temp	M302 ; Report current state M302 P1 ; Allow cold extrusion M302 S120 R110 ; Allow extrusion at 120°C and retractions at 110°C
M303	Run Heater tuning	[Hnn/Pnn/Snn/Tnn/Ann/Ynn/Fnn]	Hnn Heater Number Pnn PWM to use: 0 or 1 Snn Target Temp Tnn Tool Number Ann Ambiernt Temp Ynn Tuning Cycle Hysterisis Fnn Fan PWM	M303 H1 P1 S240 ; tune heater 1, 100% PWM, target temp 240C M303 T0 S205 ; tune the primary heater of tool 0 (RRF >=3.2beta3.2) M303 T0 P1 S250 F1 ; tune tool 0, to 250 Fan 100%
M304	Set PID parameters - Bed	[Pnn/Inn/Dnn]	Pnnn proportional (Kp) Innn integral (Ki) Dnnn derivative (Kd)	M304 P1 I2 D3 M304 ; Report parameters
M307	Set/report heating process parameters	[Hnn/Ann/Cnn/Dnn/Inn/Rnn]	Hnn Heater Number Ann gain: ratio of Utimate Temp / PWM Power Cnn Dominant Time Dnn Dead Time Inn Invert PWM Signal Rnn Heating Rate Bnn Bang-Bang Control 0- Extruder, 1-Bed Heater Fnn PWM freq to use Snn max PWM to use	M307 H0 ; report the process parameters for heater 0 M307 H1 A346.2 C140 D5.3 B0 S0.8 V23.8; set process parameters for heater 1, use PID, and limit heater 1 PWM to 80% M307 H2 R2.186 C202.1:155.0 D5.67 S1.00 V24.0 ; set the process parameters (RRF 3.2beta3.2 or later)
M106	Fan On	[Snn/Pnn]	S defined as either 0.0-1.0 or 1-255 PWM	M106 S255 M105 S1.0
M107	Fan Off (depricated)			M107
M201	Set max accleration	[Xnn/Ynn/Znn/Unn/Vnn/Wnn/Enn/Snn]	Sets the maximum axis acceleration in mm/sec^2	M201 X1000 Y1000 Z100 E2000
M203	Set max feedrate	[Xnn/Ynn/Znn/Unn/Vnn/Wnn/Enn/Snn]	Sets the maximum feedrates in mm/min	M203 X6000 Y6000 Z300 E10000
M204	Set print & travel acceleration	[Pnn/Tnn]	Sets acceerations to move, observes limits of M201	M204 P500 T2000
M205	Set max instant speed change	[Xnn/Ynn/Znn/Unn/Vnn/Wnn/Enn/Snn]	Sets max instantaneous speed change per axis, mm/sec	
M207	Set retract length	[Pnn/Snn/Rnn/Fnn/Tnn/Znn]	Sets the retract length used by G10 & G11	M207 S4.0 F2400 Z0.075
M220	Set speed factor override, %	[Snn]	Speed Factor Override Percentage (0..100,or more)	M220 S80 ; sets speed factor overide to 80%
M221	Set extrude factor overrider, %	[Snn/Dnn]	Extruder Factor Override Percentage (0..100,or more)	M221 S95 D1 ; sets extrude factor overide to 95% Extruder 1
M290	Baby Stepping	[Snn/Znn/Xnn/Ynn/Rnn]	Apply offset to the axis, defaults to Z, REL or ABS	M290 S-0.02; baby step 0.02 closer
M302	Allow Cold Extrudes	[Pnn/Snn/Rmm]	Allow cold extrude, set min extrude & retract temps	M302 P1 ; Allow cold extrusion
M552	Set IP, enable/disable network in	[Pnn / Snn/ Rnn]	P(IPV4 address) S(0|1 enable|disable,	M552 S1 P192.168.1.43
M562	Reset Temperature Fault	[Pnn]	Reset temp fault on all heaters or on heater Pnn	M562
M564	Limit Axes	[Hnn/Snn]	Limit Axis travel H(homed state 0|1), S(boundaries 0|1)	M564 S0 H0 ; Allow axis moves not homed & outside boundary
M701	Load Filament	[Snn]	Load filament	M701 S"PLA"
M701	Unload Filament		Unload Filament	