

Smartto G-code Support V1.0

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- Custom code (※), add the support printer at the below;
- The single code add'\r'or'\n', for SDcard and PC analysis code';' followed is code comments,but it is the valid character for the wifi module;
- Some code only use the part function
- Marked with the red is for 3Dwifi but not added on the printer

1、Specification description:

word	Define
Gnnn	Standard G code, eg:Move the motor to the some point
Mnnn	M code
Tnnn	T code,usually use for change the extruder
nnn	Corresponding to the parameter data following the instruction or parameter identifier
Snnn	Code for define the temp(eg)
Pnnn	Set the time (ms)
Xnnn	For X axis
Ynnn	For Y axis
Znnn	For Z axis
Fnnn	Hotend move speed,min/mm
Ennn	The length of extruder move (mm)
Nnnn	Line number. Used to request repeated transmissions in case of communication errors.
*nnn	Check code. For check the communication errors.

2、G code

code	description
G0-1	straight move to the specified location G1 Xnnn Ynnn Znnn Ennn Fnnn
G2	Clockwise movement, not used
G3	Anti-clockwise arc motion, not used
G4	Set the time of pause the motor ms (s)。P:ms, S:second G4 Pnnn or G4 Snnn
G20	Setting unit to INCH G20

G21	Setting unit to MM
	G21
G28	All axes return to the origin or specify a few axes (X, Y, Z) to return to the origin.
	G28 or G28 X0 or G28 Y0 or G28 Z0
G29	Calculate the tilt of the plane by nine points
	G29
G90	Set absolute coordinates
	G90
G91	Set relative coordinates
	G91
G92	Reset the coordinate, which allows programming the absolute zero point, by resetting the current position to the specified value, no physical motion occurs. If no coordinate is specified, G92 will reset all axes to zero.。
	G92 or G92Xnnn Ennn etc....

3、 M code

code	description
M17	Enable all axes (x/y/z/e) motors, not allowing free movement of the axes
	M17
M18	All axis motors are disabled and the motor is on free status
	M18
M20	Read the list of root directory files in the SD card
	M20, retrun to the gcode file list Retrun Specification: Begin file list\n Filename1\n Filename2\n ... End file list\n ok\r\n
M21	Initialize the SD card
	M21 Retrun echo:SD init fail\n or echo:SD card ok\n
M23	Choose the file you want to print
	M23 filename.gco Return these if it success:file select succed!\r\n Failed: erro1\r\n
M24	Start/restore the file selected from the M23 command
	M24

	Return if it succues:Start Print\r\n
M25	Pause printing from the current position of the file selected by the M23 command
	M25 Return these if it success :Stop Print\r\n
M26	Set the file to print from a certain byte
	M26 Snnn
M27	Report SD print status.
	M27
M30	Delete the specified SD card file
	M30 filename.gco Return these if it success :delete file succeed ok\r\n, Failed:delete file fail\r\n
M80	The printer sleeps and resumes, and the function is not perfect.
	M80
M81	The printer is dormant and the function is not perfect.
	M81
M84	All axes are prohibited from moving, so that the motor is in a free state. When the serial port is printed, the printer is returned and the serial port print mark is cleared.
	M84
M92	Set the axis steps per mm
	M92 Xnnn Ynnn Znnn Ennn, M92 E1nnn etc...
M104	Set the extruder hotend temperature, T is the extruder number , S is the temperature, if you don't sent Tnnn, the default is the extruder 0
	M104 Tnnn Snnn
M105	Get the temperature status, B is the hot bed, T is the extruder, F is the fan, R is the printing rate, the front of the "/" is the current value, followed by the set value
	M105 Return: ok B:%.1f /%.1f T0:%.1f /%.1f T1:%.1f /%.1f T2:%.1f /%.1f F:%d R:%d @:0 B@:0\r\n等
M106	Set the fan speed, P is the fan number, and S is the fan speed percentage. If Tnnn is not sent, it is considered to be the fan 0 operation.
	M106 Pnnn Snnn
M107	Turn off the fan. If the M107 is sent separately, turn off the fan.
	M107 or M107 Pnnn
M109	Set the hotend temperature and wait for the temperature to set
	M109 Tnnn Snnn
M110	Set the line number, set the current line number nnn, so that the next line corresponds to the line number nnn+1
	M110 Nnnn
M114	Query current x/y/z/e location

	Retrun: X:nnn Y:nnn Z:nnn E:nnn\r\n
M115	Get the printer firmware info
	eg: FIRMWARE_NAME: VERSION PROTOCOL_VERSION:V1.0 MACHINE_TYPE: MACHINE_TYPE EXTRUDER_COUNT:1 UUID: Setting.SN \r\n"
M117	Send print time information
	Receiving Specification:M117 ETEnnn 或者M117 ETE nnnh nnnm nnnn
M119	Check the endstop status.
	Return: X MIN Endstop:ON(OFF) X MAX Endstop:ON(OFF) Y MIN Endstop:ON(OFF) Y MAX Endstop:ON(OFF) Z MIN Endstop:ON(OFF) Z MAX Endstop:ON(OFF) or x_min:H y_min:H z_min:L or x_min:OPEN x_max: TRIGGERED y_min:OPEN y_max: TRIGGERED z_min: TRIGGERED z_max: OPEN
M140	Set the heatbed temp
	M140 Snnn
M190	Set the heatbed temp and wait for it up to the set temp
	M190 Snnn
M163	Set a single proportion for a mixing extruder. (Requires MIXING_EXTRUDER)
	M163 Snnn Pnnn
M164	Save the mix as a virtual extruder. (Requires MIXING_EXTRUDER)
	M164 Snnn or M164
M165	Set the proportions for a mixing extruder. Use parameters ABCDHI to set the mixing factors. (Requires MIXING_EXTRUDER)
	M165 Annn Bnnn Cnnn Dnnn Hnnn Innn
M201	set max acceleration
	M201 Xnnn Ynnn Znnn Ennn
M203	Set max feedrate (units/sec)
	M203 Xnnn Ynnn Znnn Ennn
M204	Set acceleration
	M204 Pnnn Rnnn
M205	Set advanced settings. Current units apply: S<print> T<travel> minimum speeds B<minimum segment time> X<max X jerk>, Y<max Y jerk>, Z<max Z jerk>, E<max E jerk>
	M205 Xnnn Ynnn Znnn Ennn/M205 Snnn Tnnn Bnnn

M220	Set the speed rate of pirnting
	M220 Snnn
M280	set servo position absolute. P: servo index, S: angle or microseconds
	M280 Pnnn Snnn
M300	Set the buzzer sound frequency and time, the function has been set, improving
	M300 Snnn Pnnn
M301	Set the PID for hotend
	M301 Hnnn Pnnn Innn Dnnn
M304	Set the heatbed PID setting
	M304 Pnnn Innn Dnnn
M500	Save the setting on EEPROM or Flash
	M500
M502	Set Default setting
	M502
M665	set delta configurations L<diagonal_rod> R<delta_radius> S<segments_per_sec>
	M665 Lnnn Rnnn Snnn
M666	set delta endstop adjustemnt
	M666 Xnnn Ynnn Znnn
M851	Set Z probe's Z offset in current units. (Negative = below the nozzle.)
	M851 Znnn
M2000(※)	Set the printer SN,SN=17SxxxxD200xxxx, 16 number(Attension: setting the wrong SN will make you lose the warranty.)
	Eg:M2000 17SxxxxD200xxxx Return:SN_set_ok\n
M2001(※)	Earse whole flash -----Not available now
M2002(※)	Read print setting Query the printer's XYZ axis maximum and minimum position, XYZE axis motor steps per mm, maximum feed speed, homing speed and home position, motor direction, and machine serial number
	return: min_position[X_AXIS]:%.2f;min_position[Y_AXIS]:%.2f;min_position[Z_AXIS]:%.2f;max_position[X_AXIS]:%.2f;max_position[Y_AXIS]:%.2f;max_position[Z_AXIS]:%.2f; steps_per_mm[X_AXIS]:%.2f;steps_per_mm[Y_AXIS]:%.2f;steps_per_mm[Z_AXIS]:%.2f;steps_per_mm[E_AXIS]:%.2f; max_feedrate[X_AXIS]:%d;max_feedrate[Y_AXIS]:%d;max_feedrate[Z_AXIS]:%d;max_feedrate[E_AXIS]:%d; home_speed[X_AXIS]:%d;home_speed[Y_AXIS]:%d;home_speed[Z_AXIS]:%d;home_position[X_AXIS]:%d;home_position[Y_AXIS]:%d;home_position[Z_AXIS]:%d; motor_direction[X_AXIS]:%d;motor_direction[Y_AXIS]:%d;motor_dir

	<pre> ection[Z_AXIS]:%d;motor_direction[E_AXIS]:%d;motor_direction[E1_ AXIS]:%d;motor_direction[E2_AXIS]:%d; SN:%s; </pre>
M2003(※)	set max printing range --Set the printer's maximum print range and save to user settings
	<pre> M2003 Xnnn Ynnn Znnn Return: max_position_set_ok\n </pre>
M2004(※)	set motor steps/mm --Set the motor steps per mm of the X/Y/Z/E axis and save to the user settings
	<pre> M2004 Xnnn Ynnn Znnn Ennn or: steps_per_mm_set_ok\n </pre>
M2005(※)	set motor move direction --Set the direction of each axis motor, only 0 and 1 parameters in the direction, and save to factory settings
	<pre> M2005 Xnnn Ynnn Znnn E0nnn E1nnn E2nnn Return: motor_direction_set_ok\n </pre>
M2006(※)	set max feedrate --Set the maximum feed rate and save to factory settings
	<pre> M2006 Xnnn Ynnn Znnn Ennn Return: max_feedrate_set_ok\n </pre>
M2007(※)	set homing speed --Set the homing speed and save it to the factory settings
	<pre> M2007 Xnnn Ynnn Znnn Ennn Return: home_speed_set_ok\n </pre>
M2009(※)	set hardware_version --Set the hardware version number, the hardware version number is 6 characters. (Attention: setting the wrong HV will make you lose the warranty.)
	<pre> Eg:M2009 V1.01 Return: HV_set_ok\n </pre>
M2100(※)	LCD file transmission --Use the firmware upgrade control command in the application, currently used on the LCD screen upgrade
M2101(※)	Printer state read --Send printer status, there are currently five printer status, printer status followed by added motor unlock status, print file, path, print time percentage, consumable status, etc., currently used as app status command
	<pre> printer_standby;... printer_printing;... printer_paused;... printer_finish;... printer_idle;... </pre>
M2102(※)	The printer obtains the signal strength of the wifi module, which is an instruction sent from the wifi module.

	M2102 Snnn nnn为0-5
M2103(※)	Stop SD card printing