myFP2ESP Comms Protocol

myFP2™, myFP2ESP8266™, myFP2ESP32™

v207 (17-February-2021)

Applicable to Firmware version 144+

GENERAL PRINCIPLES

// Command Protocol, commands to controller begin with : and end with #
// responses from controller begin with Char, then response and end with #
// the char response indicates what command requested the response, ie. P = Get focuser Position

// Not all commands return responses

COMPATIBILITY WITH MYFOCUSERPRO2 IN LOCALSERIALMODE

In general, when configured as LOCALSERIAL, myFP2 applications and drivers should be able to be control the myFP2ESP controller.

INDI

In general, the myFP2ESP controller will work with the existing INDI driver for myFP2 either in Serial USB or TCP/IP modes.

COMMANDS [TCP/IP OR SERIAL OR BLUETOOTH]

:00#	**Pxxxx#**	**Get current focuser position**
:01#	**Ixx#**	**Get motor moving status - 1 if moving, 0 otherwise**
:02#	**EOK#**	**Get motor controller status - Controller Response to "Are we connected"**
:03#	**F204#**	**Get Controller firmware version string (Fxxx#)**
:04#	**FString#**	**Get firmware version string (Fprogram name, version, #)**
:05xxxxxx#	**None**	**Set new target position to XXXXXX**
		(and focuser initiates immediate move to XXXXXX)
:06#	**Zxxxxxx#**	**Get temperature as a float xx.xx**
:07xxxxxx#	**None**	**Set MaxStep between 1000 and 2000000**
:08#	**Mxxxxxx#**	**Get MaxStep, returns Long Integer XXXXXX**
:09#		Not used
:10#	**Yxxxxxx#**	**Get MaxIncrement, returns maxsteps value XXXXXX**
:11#	**Oxx#**	**Get Coil Power setting**
		(0 = coils released after move, 1 = coil pwr on after move)
:12xx#	**None**	**Set Coil Power 0=release pwr after move, 1=keep power on after move**
:13#	**Rxx#**	**Get Reverse Direction setting, 0 off, 1 on**
:14xx#	**None**	**Set Reverse Direction setting 0=normal, 1=reversed**
:15xx#	**None**	**Set Motor speed, 0 = Slow, 1 = Med, 2 = Fast**
:16#	**None**	**Display in Celsius (LCD or TFT)**
:17#	**None**	**Display in Fahrenheit (LCD or TFT)**
:180#	**None**	**Set the return of user specified stepsize to be OFF - default**
:181#	**None**	**Set the return of user specified stepsize to be ON**
:19xxxx#	**None**	**Set the step size value - double type, eg 2.1 (0.001-50.0)**
:20xx#	**None**	**Set the temperature resolution setting for DS18B20 temperature probe**
:21#	**Qxx#**	**Get temperature probe resolution setting (9, 10, 11 or 12)**
:22xxx#	**None**	**Set the temperature coefficient value to xxx**
:23x#	**None**	**Set the temperature compensation ON (1) or OFF (0)**
:24#	**1xx#**	**Get state of Temperature Compensation, 0=disabled, 1=enabled**
:25#	**Ax#**	**Get if Temperature Compensation available 0=No, 1=Yes**
:26#	**Bxxx#**	**Get Temperature Coefficient (in steps per degree)**
:27#	**None**	**Stop a move - like a Halt**
:28#	**None**	**Home the motor to position 0**
:29#	**Sxx#**	**Get stepmode, returns XX**
:30xx#	**None**	**Set stepmode**
	(1=Full, 2=Half, 4=1/4, 8=1/8, 16=1/16, 32=1/32, 64=1/64, 128=1/128, 256=1/256)	
:31xxxxxx#	**None**	**Set current motor position to XXXXXX**
		(does not move, updates currentpos and targetpos to XXXXXX)
:32#	**Ux#**	**Get if Stepsize is enabled in controller (true or false, 0/1)**
:33#	**Txxxxx#**	**Get step size in microns (if enabled by controller)**
:34#	**Xxxxxx#**	**Get the time that an LCD screen is displayed for**
		(in milliseconds, eg 2 = 2seconds
:35xxxx#	**None**	**Set length of time an LCD page is displayed for in seconds 2-10s**
:360#	**None**	**Disable Display**
:361#	**None**	**Enable Display**
:37#	**Dxx#**	**Get Display status 0=disabled, 1=enabled**
:38#	**b#**	**Get Temperature Mode, Celsius=1, Fahrenheit=0**
:39#	**Nxxxxxx#**	**Get the new motor position (target) XXXXXX (not used yet)**
:40#	**None**	**Reboot controller**
:41#	String#	Troubleshooting only

:42#	**None**	**Reset focuser defaults**
:43#	**Cx#**	**Get motorspeed (0=slow, 1=medium, 2=fast)**
:44xxx#	None	RETIRED from firmware 292 onwards (set motorspeed threshold when moving)
:45#	Gxxx#	RETIRED from firmware 292 onwards (get TSWTHRESHOLD - 200)
:46x#	None	RETIRED from firmware 292 onwards (set enable/disable motorspeed change when moving)
:47#	Jx#	RETIRED from firmware 292 onwards (get state of motorspeedchange, enabled/disabled)
:48#	**None**	**Save settings in SPIFFS**
:49#	**aString#**	**Get authenticated firmware MD5 Hash**
:50#	**lx#**	**Get if Home Position Switch enabled in firmware, 0 = no, 1 = yes**
:51#	**dipaddr#**	**Get ESP-WiFiController IP Address**
:52#	**enum#**	**Get ESP-WiFiController number of TCP packets sent**
:53#	**fnum#**	**Get ESP-WiFiController number of TCP packets received**
:54#	**gstr#**	**Get ESP-WiFiController SSID**
:55#	**0xxxx#**	**Get motor speed delay (for current speed setting)**
:56xxxx#	**None**	**Set motor speed delay (for current speed setting)**
:57#	**None**	**Set Super Slow Jogging Speed [0 or 1]**
:58#	mxxxx#	get Features [now redundant]
:59#		Unused
:60xx#	**None**	**Set MotorSpeed when jogging**
:61xx#	**None**	**Set update of position on lcd when moving (0=disable, 1=enable)**
:62#	**Lxx#**	**Get update of position on lcd when moving (0=disable, 1=enable)**
:63#	**Hxx#**	**Get status of home position switch (0=off, 1=closed, position 0)**
:64xxx#	**None**	**Move a specified number of steps (relative mode + or -)**
:65x#	**None**	**Set jogging state enable/disable**
:66#	**Kxx**	**Get jogging state enabled/disabled**
:67x#	**None**	**Set jogging direction, 0=IN, 1=OUT**
:68#	**Vx#**	**Get jogging direction, 0=IN, 1=OUT**
:69#	None	RETIRED (sets EEPROMWRITES to 0)
:70#	Wxxxxxx#	RETIRED (gets number of EEPROMWrites so far, Nano up to 10,000)
:71xxx#	**None**	**Set DelayAfterMove**
:72#	**3xxx#**	**Get DelayAfterMove**
:730#	**None**	**Disable backlash IN (going to lower focuser position)**
:731#	**None**	**Enable backlash IN**
:74#	**4x#**	**Get backlash IN enabled status [0 or 1]**
:750#	**None**	**Disable backlash OUT (going to higher focuser position)**
:751#	**None**	**Enable backlash OUT**
:76#	**5x#**	**Get backlash OUT enabled status [0 or 1]**
:77xx#	**None**	**Set backlash steps IN**
:78#	**6xx#**	**Get number of backlash steps IN**
:79xx#	**None**	**Set backlash steps OUT**
:80#	**7xx#**	**Get number of backlash steps OUT**
:81#	**8xxx#**	**Get number of backlash maximum steps**
:82xxx#	**None**	**Set backlash maximum steps**
:83#	**cx#**	**Get if there is a temperature probe, 0 = No, 1 = Yes**
:84#	**None**	**Set Nextion Page**
:85xxx#	**None**	**Set Serial Port Speed [Nextion only], xxx=9600, 19200, 38400, 57600**
:86#	**jxxxx#**	**Get Serial Port Speed [Nextion only]**
:87#	**kx#**	**Get Temperature compensation direction (1=IN, 0 =OUT)**

:88x#	**None**	**Set Temperature compensation direction (1=IN, 0 =OUT)**
:89x#	**9x#**	**Get stepper power [myFP2]**
:90xyyyy#	**None**	**Set preset x [0-9] with position value yyyy [unsigned long]**
:91x#	**hyyyyy#**	**Get preset number x [0-9] [as unsigned long]**
:92xxx#	**None**	**Set OLED page display option**
:93#	**lxxx#**	**Get OLED page display option**
:94x#		**Set DelayedDisplayUpdate (0=disabled, 1-enabled)**
:95#	**nx#**	**Get DelayedDisplayUpdate (0=disabled, 1-enabled)**
:96x#	**None**	**Set management options (ASCOM server=1, in-out leds=2, temp probe=4, webserver=8)**
:97#	**mx#**	**Get management options (ASCOM server=1, in-out leds=2, temp probe=4, webserver=8)**
:98#	**sx#**	**Get Network Signal Strength RSSI**
:99x#		**Set Home Position Switch state [0=disabled, 1-enabled]**

RETURNED VALUES BEGIN WITH A CHAR, FOLLOWED BY A VALUE (AS A STRING) AND TERMINATED WITH A HASH #

MANAGEMENT SERVER [PORT 6060]

FILE MANAGEMENT

/delete	Delete a SPIFFS file
/list	List all SPIFFS files
/upload	Upload a file to SPIFFS

ASCOM REMOTE ALPACA SERVER

/ascomoff
/ascomon

IN-OUT LED's

/ledsoff
/ledson

TEMPERATURE PROBE

/tempon
/tempoff

WEB-SERVER

/webserveroff
/webserveron

CONTROLLER OPTIONS

/halt	Halt the focuser motor [if moving]
/reboot	Reboot the myFP2ESP controller

NETWORK OPTIONS

/rssi	Return Network Signal Strength

JSON CALLS

/set?	**Set specific service or value**
/set?ascom=off	Stop the ASCOM Alpaca remote server
/set?ascom=on	Start the ASCOM Alpaca remote server
/set?coilpower=off	Disable Coil power
/set?coilpower=on	Enable Coil power
/set?display=off	Disable the OLED display
/set?display=on	Enable the OLED display
/set?hpsw=off	Disable Home Position Switch
/set?hpsw=on	Enable Home Position Switch
/set?leds=off	Disable the IN-OUT LED's
/set?leds=on	Enable the IN-OUT LED's
/set?motorspeed=0	Set Motor speed [0=slow, 1=medium, 2=fast]
/set?move=4192	Move the focuser to position 4192
/set?position=5000	Set focuser position to 5000 [Not a move]
/set?reverse=off	Set Reverse Direction off
/set?reverse=on	Set Reverse Direction on
/set?tempprobe=on	Enable the temperature probe [if fitted]
/set?tempprobe=off	Disable the temperature probe [if fitted]
/set?webserver=off	Stop the web-server
/set?webserver=on	Start the web-server

/get?	**Get specific service or value**
/get?ascom=	Return state of ASCOM Alpaca Remote Server [0 = off/disabled, 1=on/enabled]
/get?coilpower=	Return state of Coil power
/get?display=	Return state of display
/get?leds=	Return state of IN-OUT LED's
/get?hpsw=	Return state of Home Position Switch [0=disabled, 1=enabled]
/get?ismoving=	Return if focuser is moving
/get?motorspeed=	Return motorspeed [0=slow, 1=medium, 2=fast]
/get?position=	Return the focuser position
/get?reverse=	Return reverse direction [0 = off/disabled, 1=on/enabled]
/get?tempprobe=	Return state of temperature probe
/get?webserver=	Return state of web-server
/get?rssi=	Return network strength