

myFP2ESP Comms Protocol

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myFP2™, myFP2ESP8266™, myFP2ESP32™

v206 (16-February-2021)

Applicable to Firmware version 141+

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#	hyyyy#	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

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
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JSON CALLS

/set?

/set?ascom=off
/set?ascom=on
/set?coilpower=off
/set?coilpower=on
/set?display=off
/set?display=on
/set?leds=off
/set?leds=on
/set?motorspeed=0
/set?move=4192
/set?position=5000
/set?reverse=off
/set?reverse=on
/set?tempprobe=on
/set?tempprobe=off
/set?webserver=off
/set?webserver=on

/get?

/get?ascom=
1=on/enabled]
/get?coilpower=
/get?display=
/get?leds=
/get?ismoving=
/get?motorspeed=
/get?position=
/get?reverse=
/get?tempprobe=
/get?webserver=
/get?rssi=

Set specific service or value

Stop the ASCOM Alpaca remote server
Start the ASCOM Alpaca remote server
Disable Coil power
Enable Coil power
Disable the OLED display
Enable the OLED display
Disable the IN-OUT LED's
Enable the IN-OUT LED's
Set Motor speed [0=slow, 1=medium, 2=fast]
Move the focuser to position 4192
Set focuser position to 5000 [Not a move]
Set Reverse Direction off
Set Reverse Direction on
Enable the temperature probe [if fitted]
Disable the temperature probe [if fitted]
Stop the web-server
Start the web-server

Get specific service or value

Return state of ASCOM Alpaca Remote Server [0 = off/disabled,
Return state of Coil power
Return state of display
Return state of IN-OUT LED's
Return if focuser is moving
Return motorspeed [0=slow, 1=medium, 2=fast]
Return the focuser position
Return reverse direction [0 = off/disabled, 1=on/enabled]
Return state of temperature probe
Return state of web-server
Return network strength