



## Pocket Powerbox Micro & Advance Serial Command Language Firmware >=v.2.5 (review Jan 2021)

### Abbreviations used:

nnnn.. = one or more digits

b = Boolean (0 or 1 digit)

New commands are **marked with a yellow line**

Connection Settings: 9600, 8N1  
(All commands should be terminated by new line /n)

Command	Description	Response
P#	Status	PPBA_OK
PE:bbbb	Set Power Status on boot. Every number represents 1-4 power outputs. (0=OFF, 1=ON).	PE:1
P1:b	ON/OFF Power 4x12V Outputs , (0=OFF, 1=ON)	P1:b
P2:n	ON/OFF Power 8V DSLR, (0=OFF, 1=ON) n can also accept values of: <b>3, 5, 8, 9, 12</b> (represents Volts)	P2:n
P3:nnn	PWM Duty Cycle Power 5 (DewA) X=0-255 (0-100%)	P3:nnn
P4:nnn	PWM Duty Cycle Power 6 (DewB) X=0-255 (0-100%)	P4:nnn
PF	Reboot Device / Reload Firmware	[none]
PA	Print Power and Sensor Readings	[Check table below]
PS	Prints Power Consumption Statistics	PS:averageAmps:ampHours:wattHours: uptime_in_millisecond
PC	Print Power Metrics *Current is represented in Amps and does not require conversion	PC:total_current:current_12V_output: current_dewA:current_dewB: uptime_in_millisecond
PR	Prints discovered I2C devices plugged to EXT port	PR:HDC:DHT:XS <b>if there is a discovered device command will output its name</b> HDC = temp/humidity sensor TI HDC1050 DHT =stock temp/humidity sensor AM2301 XS: eXternal Motor (stepper) Controller
<b>DA</b>	<b>(Auto) Dew Aggressiveness.</b> <b>from 0 to 255 (210 default value)</b>	<b>DA:nnn</b>
PD:b	Enable/Disable Auto Dew Feature (X=0,1) <b>PD:99 Reports Auto Dew Aggressiveness value</b>	PD:nnn
PV	Firmware Version	n.n
PI	Reset I2C channel	PI:1
PL:b	OF/OFF Led Indicator (0=OFF, 1=ON)	PL:b
XS	eXternal Motor Controller commands	check table below

Transmit: PA

Receive: PPBA:12.2:0.5.22.2:45:17.2:1:1:120:130:1:0:1

### Meaning:

PPBA:voltage:current\_of\_12V\_outputs\_:temp:humidity:dewpoint:quadport\_status:adj\_output\_status:dew1\_power:dew2\_power:autodew\_bool:pwr\_warn:pwradj

PPBA	Device Name
voltage	Input Voltage in Volts (decimal) e.g 12.2
current	Quad 12V output sens current 0-1024 (need to convert to Amps by dividing by 65 *for compatibility issues with PPB. <b>Better use output from PS command</b>
temp	Temp in Celsius Degrees (decimal) e.g 23.2
humidity	Relative Humidity in % (integer) e.g 59
dewpoint	Dewpoint in Celsius Degrees (decimal) e.g 14.7
quadport_status	Boolean 0 or 1 (1 means port is ON, 0 means port is OFF)
adj_output_status	Adjustable Output. Boolean 0 or 1 (1 means port is ON, 0 means port is OFF)
dew1_power	Power of Dew1 channel - duty cycle 0-255
dew2_power	Power of Dew2 channel - duty cycle 0-255
autodew_bool	Boolean for autodew function (controls power of both Dew channels): 0 is OFF, 1 is ON
pwr_warn	Boolean. 1 means power alert (short wire detection / output overload). This is a generic flag for any 12V and DewA, DewB power outputs.
pwradj	Adjustable Output: Selected voltage in EEPROM (3,5,8,9,12)

## eXternal Motor Controller (XMC) Command Set (through powerbox)

Below command language should be given from the USB serial (9600/8N1) of the Powerbox.  
The I2C command language is not described here.

**XS: [command number]#value**

Command	Description	Response
XS	Status	200 response = discovered 000 response = non present E.g XS:200:0
XS:1	Motor is running (1) or is idle (0)	XS:1#b
XS:2	Motor current position (long value)	XS:2#nn...
XS:3#nn..	Move to position (long value)	XS:3#nn
XS:4#nn..	Goto +steps from current position (long value)	XS:4#nn..
XS:5#nn..	Set a new motor position (long value)	XS:5#nn

XS:6	Halt motor	XS:6#1
XS:7#nn..	Set / Get motor max speed	XS:7#nn..
XS:8#b	Set motor reverse (0 = normal, 1= reverse)	XS:8#b
XS:9#n	Set Microstepping drive 1 = FULL 2 = HALF 3 = 1/4 4 = 1/8	XS:9#n
XS:10#nn..	Set Motor Backlash (enables backlash compensation). Set 0 disabled the backlash compensation	XS:10#nn