# Pegasus Astro
## Prodigy Microfocuser Serial Command Language

**Firmware >= v.1.4 (Nov 2021)**

**Abbreviations used:**
- `n..` = one or more digits
- `b` = boolean (0 or 1)

**Serial Connection Settings:** 19200, 8N1

(All commands should be terminated by new line: `\n`)

(All responses are terminated by new line: `\n`)

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>#</code></td>
<td>Status (Controller is operational)</td>
</tr>
<tr>
<td><code>A</code></td>
<td>Consolidates printed values status: version: motor_mode: temperature: position: moving_status: led_status: (for this product always 0) reverse: (for this product always 0) disabled encoder: (for this product always 0) backlash value:</td>
</tr>
<tr>
<td><code>B</code></td>
<td>Returns motor max speed (steps per sec)</td>
</tr>
</tbody>
</table>
| `C`     | Backlash compensation  
C:0 (Disables compensation)  
C:nnnn (Enables compensation and sets nnn steps)  
**Setting is stored in EEPROM** | C:nnnn |
| `D`     | Status of Power and Data (USB) ports.  
(Power Port 1: Power Port 2: USB 1: USB 2)  
(0 = OFF, 1 = ON) | D:b:b:b:b  
E.g: D:1:1:0:1 |
| `V`     | Firmware version | n.n |
| `T`     | Temperature in Celsius degrees | nn.nn |
| `P`     | Returns current position | nnn |
| `H`     | Halt Focuser (emergency stop) | 0 |
| `I`     | Stepper motor moving status  
(0 = idle, 1 = is moving) | 0 | 1 |
| `U`     | Disable / Enable USB Port 1  
(0 = OFF, 1 = ON) | U:b |
| `J`     | Disable / Enable USB Port 2  
(0 = OFF, 1 = ON) | J:b |
| `M`     | Move motor to new absolute position  
E.g M:1100 | M:nnnn |
| `G`     | Move motor +/steps from current position  
E.g G:-100 or G:100 | G:nnnn |
| `S`     | Set motor max speed (unsigned int)  
E.g S:400  
**Setting is stored in EEPROM** | S:nnnn |
| `X`     | Disable / Enable Power Port 1  
(0 = OFF, 1 = ON) | X:b |
| `Y`     | Disable / Enable Power Port 2  
(0 = OFF, 1 = ON) | Y:b |
| `N`     | Reverse motor direction  
Report always normal (0) / cannot change value | N:0 |
| `W`     | Change existing motor position  
E.g W:1000 will set controller’s position to 1000 without moving the motor | W:nnnn |
| `Q`     | Device reboot /reset | - |
| `Z`     | Park Focuser to zero position (until it reached zero encoder) | Z:1 |