# Nebula Serial Protocol

## MCU OUT

|  |  |
| --- | --- |
| NAME,{text} | reports the name of the firmware at startup and requested by NAME |
| VERSION,{text} | reports the version of the firmware at startup and requested by VERSION |
| MSG,{text} | unsolicited updates akin to logging. Reports the capability of the MCU to communicate with the ADC and IO modules downstream |
| DO,{pin},{value},{status} | Acknowledge the digital out request and return the status SUCCESS (1) or ERROR (0) |
| DI,{pin},{value} | Acknowledge the digital in request and return the value LOW (0) or HIGH (1) |
| AO,{pin},{value} | Acknowledge the analog out request and return the value (see request) |
| AI,{pin},{value} | Acknowledge the analog in request and return the value 0 (0V) to 2048 (3.3V) |

## MCU IN

|  |  |
| --- | --- |
| NAME | request the firmware name |
| VERSION | request the firmware version |
| DO,{pin},{value} | set the digital output pin to LOW (0) or HIGH (1) |
| DI,{pin} | request the digital input pin |
| AO,{pin},{value} | set the analog output pin between 0 (HIGH) - 255 (LOW) |
| AI,{pin} | request the analog input pin |