Serial Protocol for WandererRotator Mini/Mini V2-20240226

This protocol is ONLY valid for firmware version newer than 20240226 !

Baud rate: 19200
Data bits: 8
Parity: None
Stop bits: 1

Handshake command: Once the rotator receives the handshake command of 1500001, it will send a feedback message to the COM port. The feedback message for handshake has the following format:

WandererRotatorMiniAxxxxxxxxAxxxxAxxAxA

The red part is the firmware version. The blue part is the **mechanical** angle multiplied by 1000. The yellow part is the backlash. The green part is the reverse setting, 0 represents normal direction and 1 represents reversed direction.

Action	Command	Example
Rotate counterclockwise for angle x with reverse setting 0	1142*x	114200 for rotating 100° counterclockwise
Rotate clockwise for angle x with reverse setting 0	-1142*x	-114200 for rotating 100° clockwise
Set the current mechanical position as zero	1500002	
Set the backlash as x	10*x+1600000	1600005 for backlash 0.5°
Set the rotation direction as normal	1700000	
Set the rotation direction as reversed	1700001	
Stop during rotation	stop	

After a rotation command is sent and the rotation is completed, the rotator will send a feedback message to the COM port. The feedback has the following format:

xx.xxAxxxxxxA

The red part is the angle rotated and the blue part is the **mechanical** angle multiplied by 1000.

For example, if a handshake command "1500001" is sent and you get the feedback of WandererRotatorMiniA20240226A0A0.5A0A. It means that the mechanical angle is 0, the backlash is 0.5° and the rotation direction is normal. Then after sending a rotation command of "11420" you will get the feedback of "10.00A10000A". Again, send a rotation command of "50000", this time you will get the feedback of "43.78A53782A". The last digit of the accumulated angle may be affected by rounding error, which can be ignored.

In addition, for WandererRotator Mini V2, if the chip detects that the input voltage is under 11V, then it will not move and send an "NP" message to the COM port.