**Thorlabs PDXC Piezo Inertia Stage Controller - Firmware Changelog**

This firmware is a device internal program for the PDXC Piezo Inertia Stage Controller. For installation instructions consult the user guide.

**Changelog**

07-02-2021 Release V1.0

09-15-2021 V1.25

- Added output amplitude adjustment per direction in SMC mode

- New stages support

07-14-2022 V1.27

- Add analog In mode in open loop in D-Sub mode and SMC mode, when the input range of analog In signal is from 1V to 10V, representing with output forward amplitude 10% to 100% with 1x for Gain and 0 for offset, when the input range of analog In signal is from -1V to -10V, representing with output backward amplitude 10% to 100% with 1x for Gain and 0 for offset. The type of trigger edge to start the conversion can also be defined.

- Support the D-Sub stage without encoder

- Support 3-Axis USB joysticks

- Config the knob of joystick in Daisy-Chain mode

09-27-2022 V1.28

- Improve PD2 stage movement below 10Khz

- Fix the waveform output bug in SMC CH1

05-23-2023 V1.31

- Fix the communication error when in daisy-chain mode

- Fix the home fail error when the stage moves to the limit position

07-27-2023 V1.34

- Support new encoder for D-Sub stages;

- Optimize position cleared to zero algorithm of the stages;

- Optimization for some PDXR1 stages searching home position;

- Support fast return when the stage was out of target position in closed loop.

- Expanded the Analog in gain range for PDXR1;

-fix the bug when the firmware upgraded from V1.28 to V1.31 or above, the SN will be missed

-Add the position range limit of the stage displayed when the controller powered on.

-Set PID Kd parameter limit>=0;

Notice: Please restore to factory setting after the firmware upgraded from V1.28!

10-25-2023 V1.36

-Enhanced anti-jamming capability in searching Home peration, If the customer experiences Home fail In older versions firmware, please upgrade to version V1.36.

-Read Pid parameter from custom set in the controller or the eeprom of the stage;

-add warning “MOVE ABNORMAL” in open loop mode when the stage was stuck out of travel range;

02-18-2024 V1.37

-New option for the stage will return the previous position after a power cycle;

-Fix the Pid parameters mistake after load factory setting and save all parameters;

-Fix the controller will disconnected in Daisy-chan mode;

07-29-2024 V1.38

-Fix bug for PDX1A/PDX1AV stage;

-Fix bug for Trigger in mode accuracy;

10-12-2024 V1.39

- Support new encoder type for D-Sub stages;

- Adjust the default speed of the stages;