

Xtrapulspack Servo drive TTL Incremental Encoder

for the configuration of the Xtrapulspack Gem Drive Studio software is used.

Please use our [Datasheet engine](#) to see the motor parameters.

Step 1) ⇒ Motor config ⇒ Current limit

The screenshot displays the 'Current limit' configuration window in the Xtrapulspack Gem Drive Studio software. The window is divided into two main sections: 'Motor data' on the left and 'Current limit' on the right.

Motor data section:

- A large empty text area for motor data.
- Buttons: 'Motor select' and 'Erase data'.
- Motor feedback:** SinCos track resolver.
- A collage of images showing various servo motors and encoders.

Current limit section:

- Maximum current (A): 4 x Rated Current
- Rated current (A): Rated Current

At the bottom of the window, there are four buttons: 'Apply', 'Refresh', 'Cancel', and 'Close'.

Step 2) => Motor config => Current Loop

Motor data

Motor select Erase data

Motor feedback
SinCos track resolver

Current loop

Phase-to-phase inductance (mH): Inductance value

Bandwidth:
☐ Low ☒ High

Calculate current loop gains

ID loop proportional gain:

ID loop integral gain:

IQ loop proportional gain:

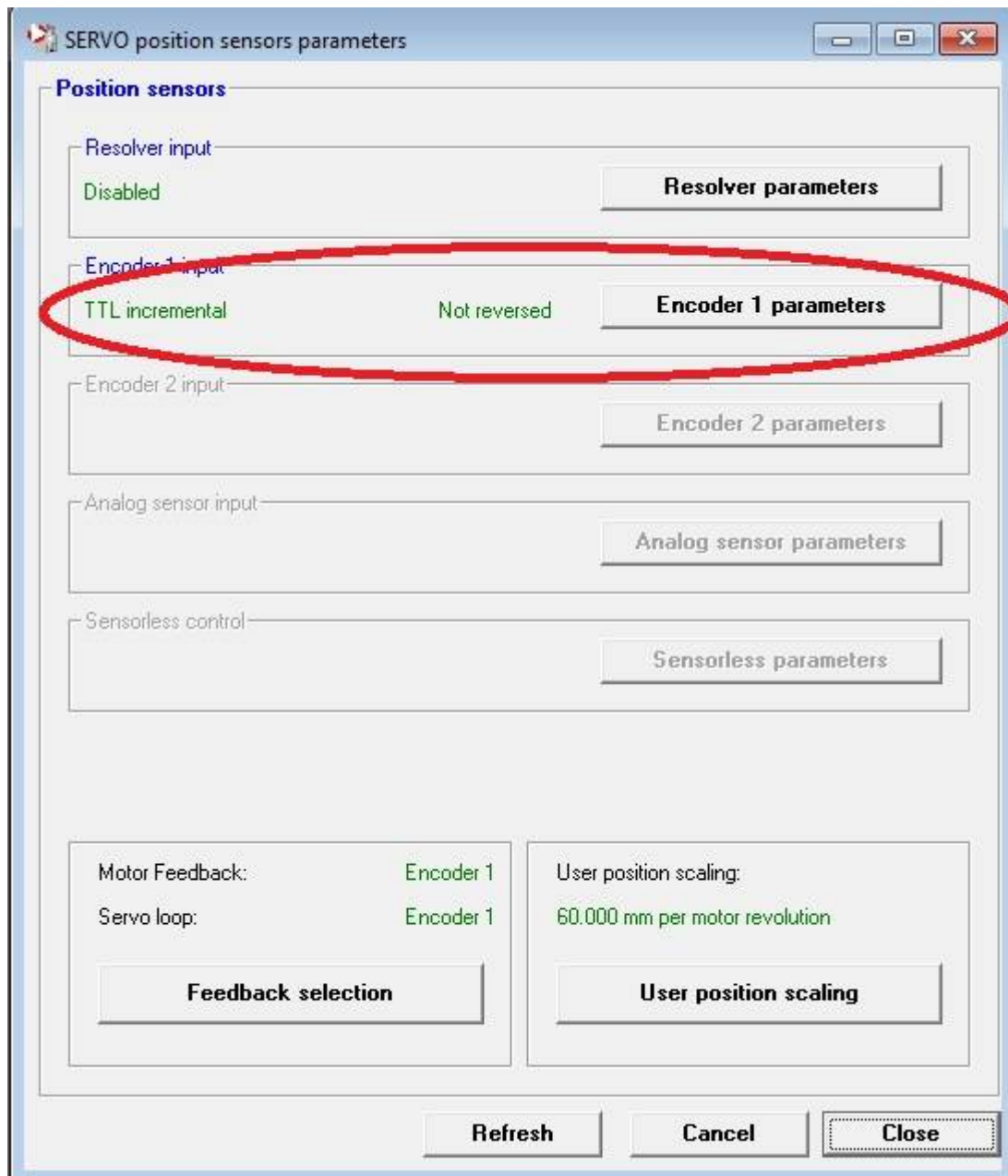
IQ loop integral gain:

Low pass filter (Hz):

Apply Refresh Cancel Close

Step 3) Position sensors

In order to use the digital output incremental encoder as motor feedback please disable Resolver input and select TTL incremental.



As a default use the resolution of 8192 pulses/cycle. If the motor as different resolution please use the right one here.

The screenshot shows a window titled "SERVO position sensors parameters" with a standard Windows-style title bar (minimize, maximize, close buttons). The main content area is titled "Encoder 1 parameters" in blue text. It contains several sections:

- Enable encoder 1 input:** A checkbox that is checked.
- Encoder type:** A dropdown menu showing "TTL incremental encoder".
- Resolution (inc per motor revolution):** A text box containing "8192" with the subtext "(1 signal period = 4 inc)".
- Zero mark pitch (inc):** A text box containing "0" with the subtext "(1 signal period = 4 inc)".
- Encoder 1 parameters:** A section containing:
 - Zero mark shift (inc):** A text box containing "0".
 - Zero mark width (inc):** A text box containing "32".
 - Reverse direction:** An unchecked checkbox.
- Absolute encoder init.:** A section containing:
 - Max. value (encoder modulo):** A label showing "4095".
 - Buttons:** "Init. position range" and "Read encoder position".
 - Encoder position value:** A label showing "...".

At the bottom of the window are four buttons: "Apply", "Refresh", "Cancel", and "Close".

Step 4) Position sensors ⇒ User position scaling

User position scaling

Position unit

☐ Revolution

☐ Increment

☒ Millimeter

☐ Meter

☐ Degree

☐ Other unit:

Display factor

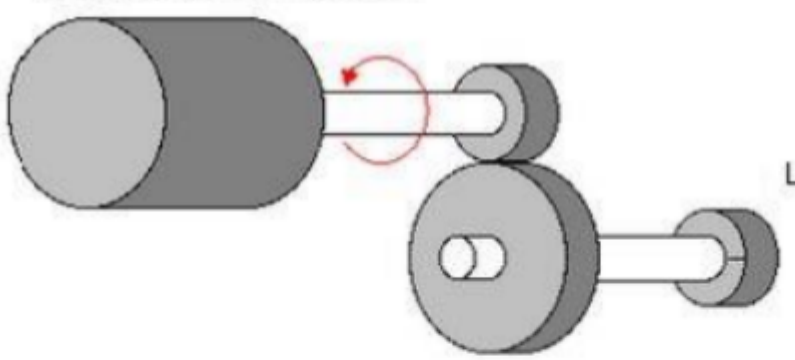
☐ 1

☐ 0.1

☒ 0.01

☐ 0.001

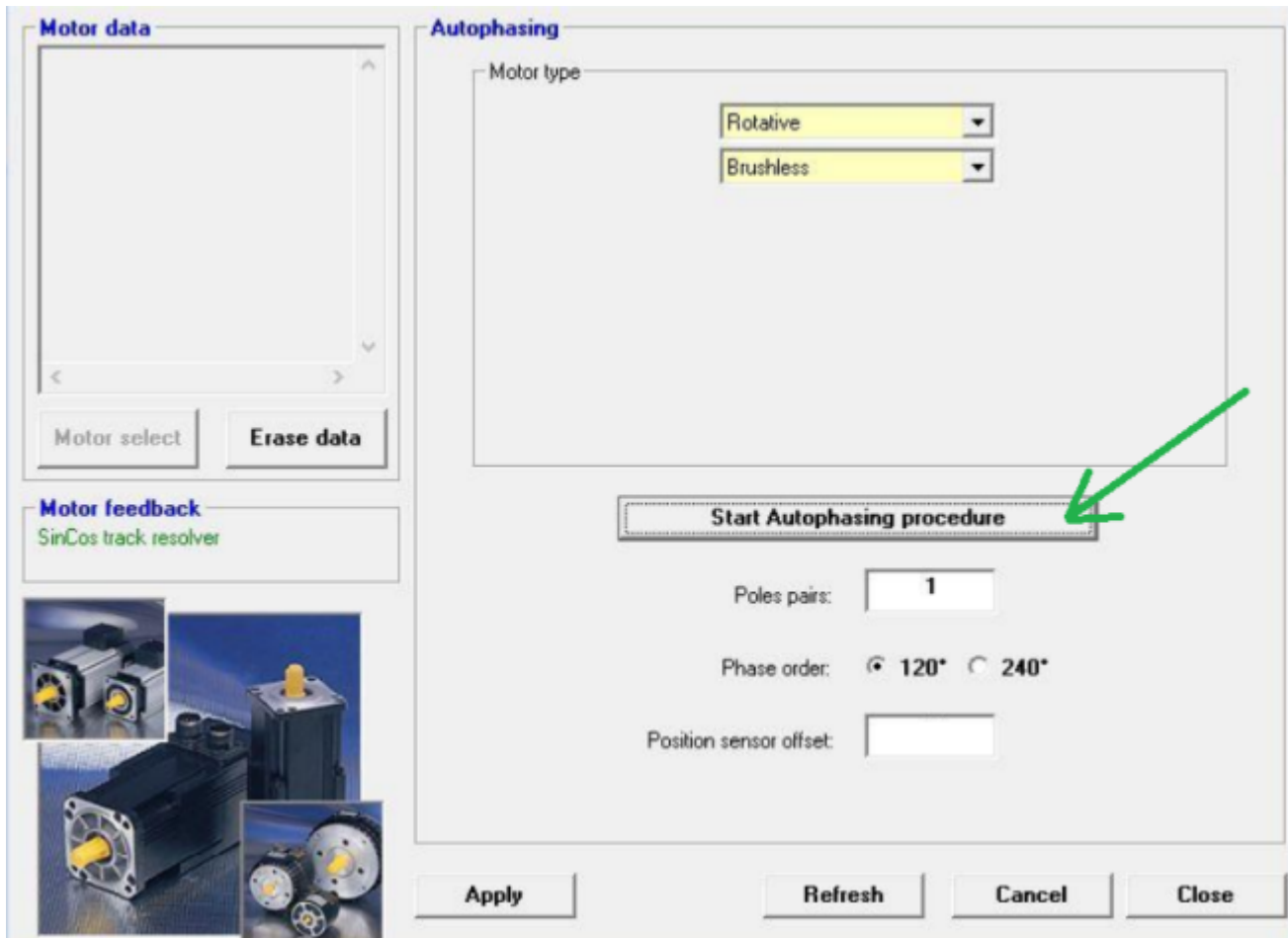
Motor displacement: 1 revolution



Load displacement in mm:

Apply Refresh Cancel Close

Step 5) Motor config ⇒ Autophasing



Step 6) Specify the motion profile requirements

Use Profile modes to specified using **Position profile mode** the speed and acceleration requirements for your application.

Step 7) Perform an Autotune

Use Controller ⇒ Autotuning to tune the motor following the position profile mode specifications.

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