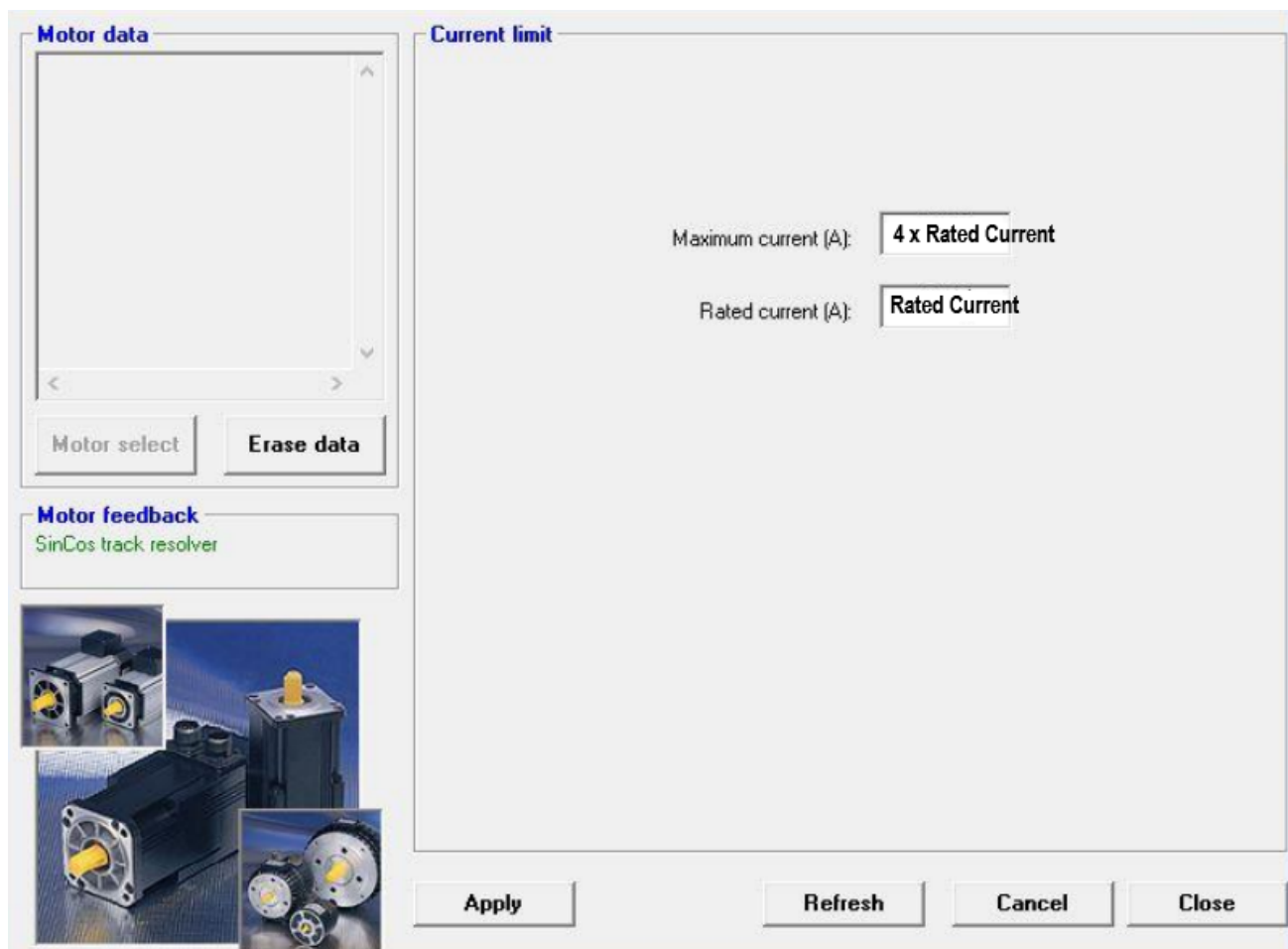


Xtrapulspack Servo drive TTL Incremental Encoder

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:

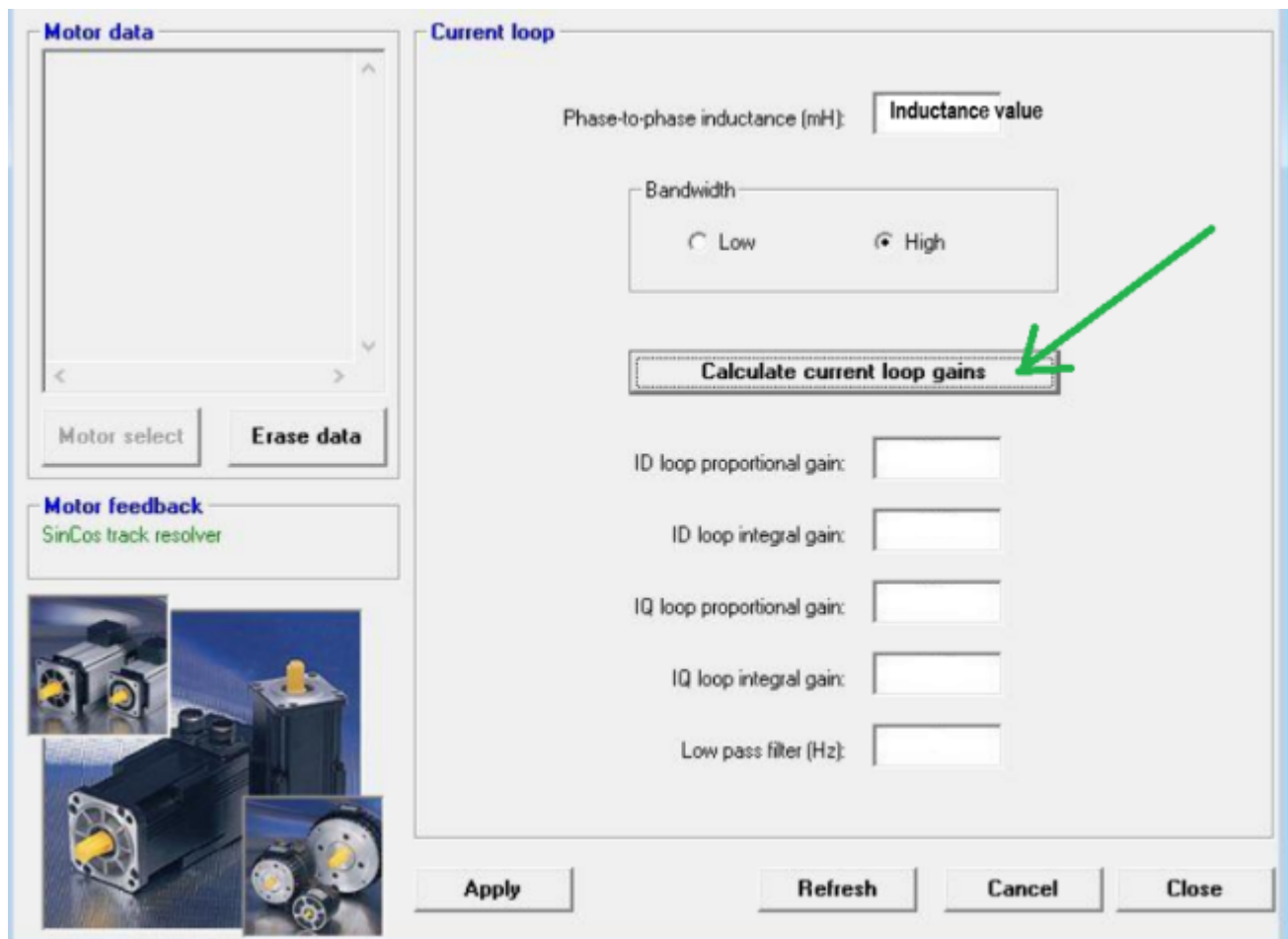
- A large empty text area for motor data.
- Buttons: 'Motor select' and 'Erase data'.
- Motor feedback:** SinCos track resolver.
- A collage of images showing various servo motors and encoders.

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'.

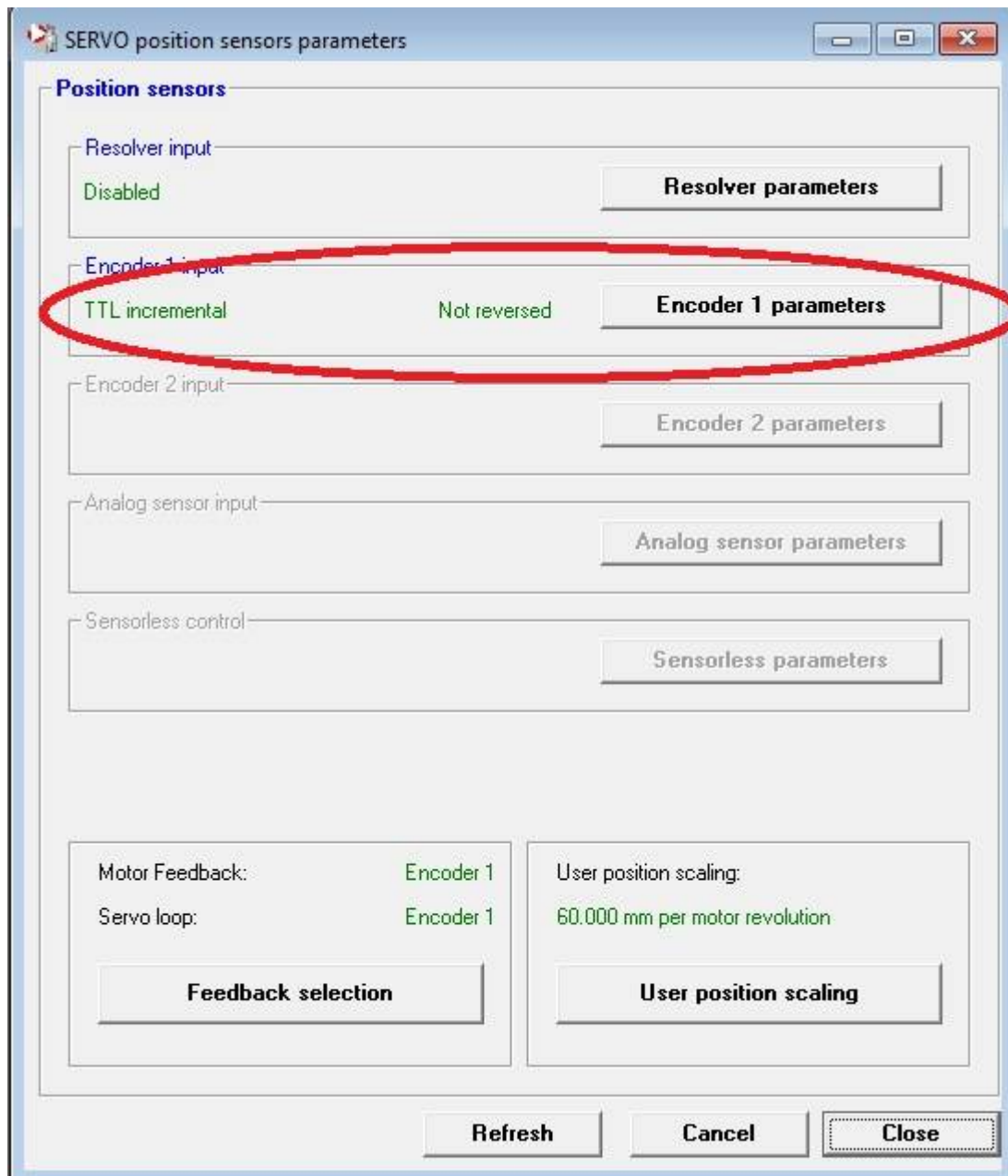
Step 2) => Motor config => Current Loop



The screenshot displays a software interface for motor control configuration. It is divided into two main sections: 'Motor data' on the left and 'Current loop' on the right. The 'Motor data' section includes a large empty text area, a 'Motor select' button, and an 'Erase data' button. Below this, the 'Motor feedback' section shows 'SinCos track resolver' in green text, accompanied by four small images of different motor types. The 'Current loop' section contains several input fields and a button. At the top, 'Phase-to-phase inductance (mH):' is followed by an 'Inductance value' input field. Below this is a 'Bandwidth' section with two radio buttons: 'Low' and 'High', with 'High' being selected. A green arrow points to the 'Calculate current loop gains' button, which is highlighted with a dashed border. Below this button are five input fields for: 'ID loop proportional gain:', 'ID loop integral gain:', 'IQ loop proportional gain:', 'IQ loop integral gain:', and 'Low pass filter (Hz):'. At the bottom of the interface are four buttons: 'Apply', 'Refresh', 'Cancel', and '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 software window titled "SERVO position sensors parameters". Inside, the "Encoder 1 parameters" section is active. It contains the following elements:

- Enable encoder 1 input:** A checked checkbox.
- Encoder type:** A dropdown menu set to "TTL incremental encoder".
- Resolution (inc per motor revolution):** A text box containing "8192", with a note "(1 signal period = 4 inc)" below it.
- Zero mark pitch (inc):** A text box containing "0", with a note "(1 signal period = 4 inc)" below it.
- Encoder 1 parameters:** A sub-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 sub-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

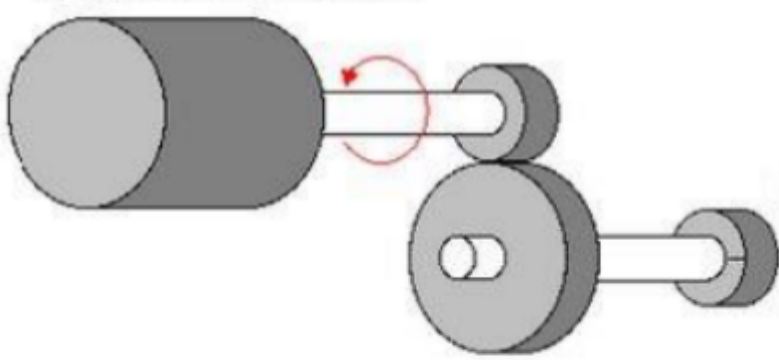
☐ 1

☐ 0.1

☒ 0.01

☐ 0.001

Motor displacement: 1 revolution



Load displacement in mm:

Apply Refresh Cancel Close

Step 5) Motor config ⇒ Autophasing

Motor data

Motor select Erase data

Motor feedback
SinCos track resolver

Autophasing

Motor type

Rotative
Brushless

Start Autophasing procedure

Poles pairs: 1

Phase order: ☒ 120° ☐ 240°

Position sensor offset:

Apply Refresh Cancel Close

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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