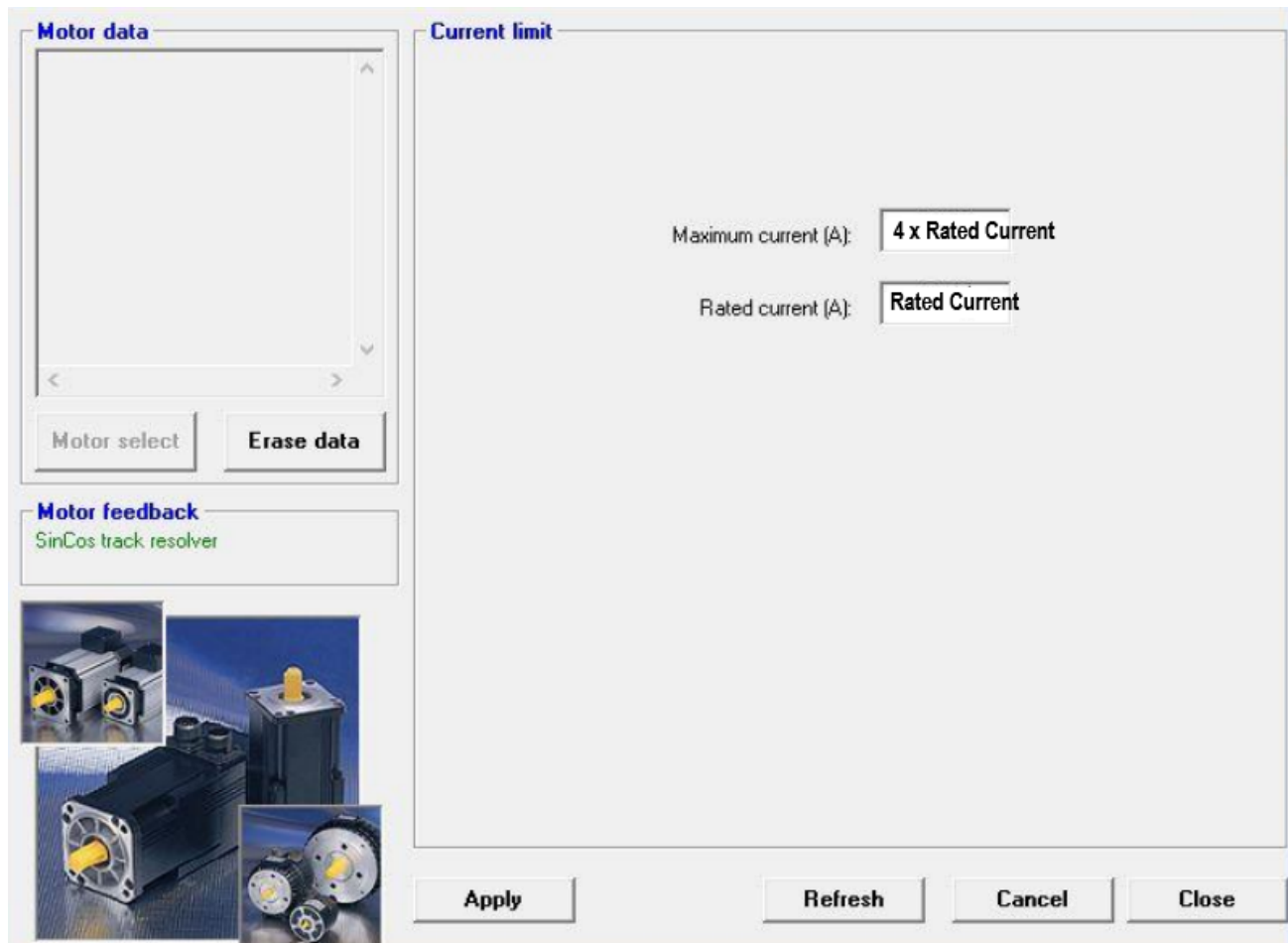


# Xtrapulspack Servo drive SIN/COS 1Vpp

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 Gem Drive Studio software. The window is divided into two main sections: 'Motor data' and 'Current limit'.

**Motor data:** This section contains a large empty text area for motor information. Below it are two buttons: 'Motor select' and 'Erase data'.

**Motor feedback:** This section shows 'SinCos track resolver' as the selected feedback type.

**Current limit:** This section contains two input fields for current settings:

- 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 shows a software interface for motor control configuration. It is divided into two main sections: 'Motor data' and 'Current loop'.  
The 'Motor data' section on the left contains a large empty text area, a 'Motor select' button, and an 'Erase data' button. Below this, the 'Motor feedback' section is set to 'SinCos track resolver'. At the bottom left of this section are several images of different motor models.  
The 'Current loop' section on the right contains the following controls:  
- 'Phase-to-phase inductance (mH):' with a text input field containing 'Inductance value'.  
- 'Bandwidth:' with two radio buttons: 'Low' (unselected) and 'High' (selected).  
- A button labeled 'Calculate current loop gains' which is highlighted with a green arrow.  
- Five text 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 'Current loop' section are four buttons: 'Apply', 'Refresh', 'Cancel', and 'Close'.

### Step 3) Position sensors

**Position sensors**

Resolver input  
SinCos tracks      Not reversed      **Resolver parameters**

Encoder 1 input  
Disabled      **Encoder 1 parameters**

Encoder 2 input  
**Encoder 2 parameters**

Analog sensor input  
**Analog sensor parameters**

Sensorless control  
**Sensorless parameters**

Motor Feedback:      Resolver  
Servo loop:      Resolver

User position scaling:  
60.00 mm per motor revolution

**Feedback selection**      **User position scaling**

**Refresh**      **Cancel**      **Close**

**Note that if you use NL80Q or NL080X you need to use scaling set to 30mm and if you use NL040Q or NL040X you need to set the scaling to 18mm.**

Step 4) Position sensors ⇒ User position scaling

### User position scaling

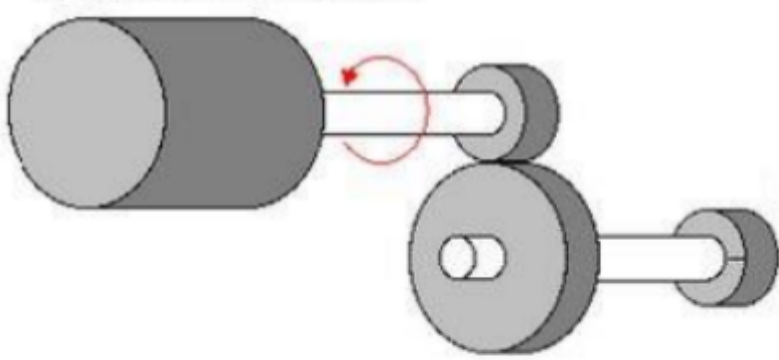
Position unit

- Revolution
- Increment
- Millimeter
- Meter
- Degree
- Other unit:

Display factor

- 1
- 0.1
- 0.01
- 0.001

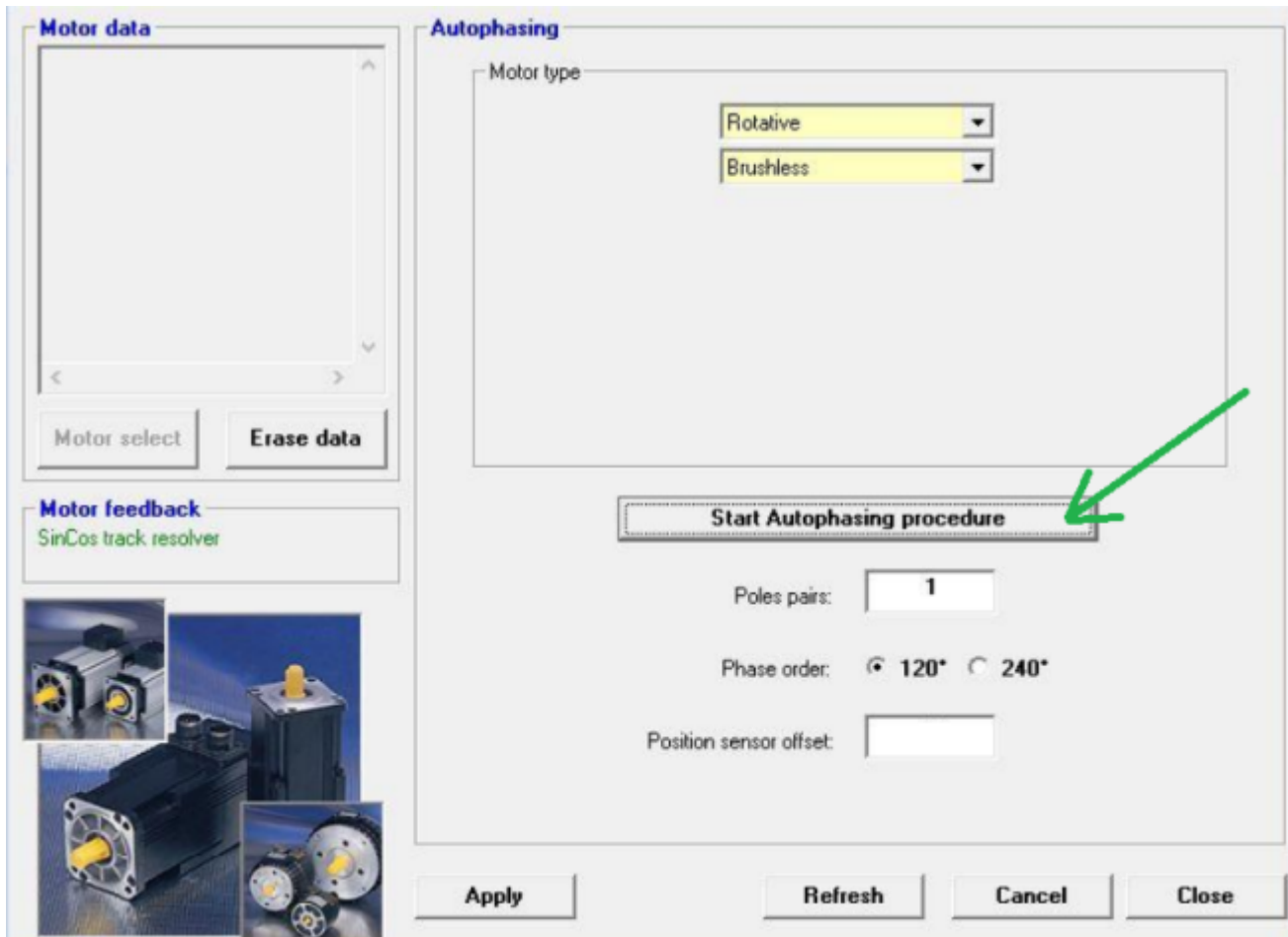
Motor displacement: 1 revolution



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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