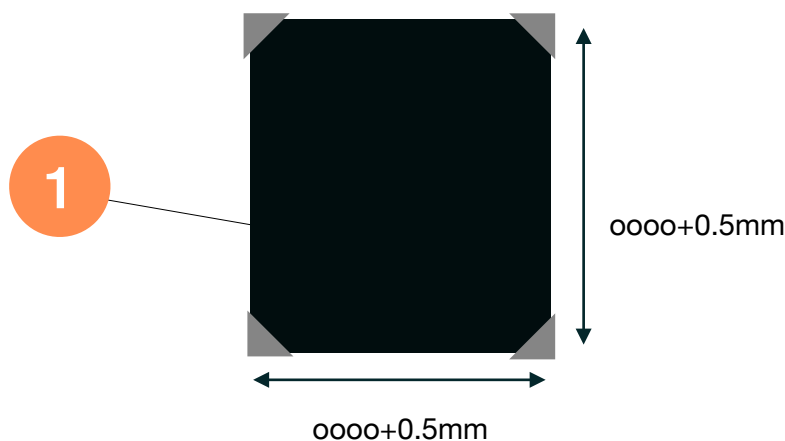‹ cubiio X

How to Solve Motor Misstep Issue

The excessive tension of the belts can lead to a loss of steps during the working process. There are various reasons for the excessive tension of the belts, mainly related to the measurement of the worktable size, the right angles of the four corners, and parameter adjustments. When motor steps are lost, the machine may experience a significant jerking motion, and 1 to 2 belts may completely lose tension. Motor stepping is not allowed to occur, as it results in incorrect machine coordinates.

1. Increase the input values for the length and width of the worktable (increase by 0.5mm~1mm).

2. Adjust the parameter "Tensioning" or "Correction" in the figure below, and it is recommended to decrease it by 0.3~0.5 (For example, if the original tension is 2, you can adjust it to 1.5).

3. You can manually input coordinates or use rectangular G-code to execute the processing range you may use. Ensure that the parameter adjustments are appropriate. In general, with the motor not losing steps, the larger the belt tension, the better the precision.

1

oooo+0.5mm

oooo+0.5mm

29

Adv.Settings

01 Homing Sensitive (90~150)
02 Tensioning (0~3.0)
03 Correction (0~0.5)
04 Motor Current (1000~1500)

Advanced Parameters Setting

01 Homing sensitive

The zero return sensitivity of Cubiio X is related to the fit of the machine's parts and may change over extended periods of use. A smaller value indicates that it stops when encountering greater resistance during the homing process, while a higher value is better as it allows stable homing. It is typically set to 100-110 at the factory, and in general, need to adjust this value.

2

02 Tensioning

Because there can be some variation in measuring the table length and installing the anchor points, we have designed this parameter for users to fine-tune the tension of the belt based on their specific circumstances. A higher numerical value means the belt is tighter, which can improve the precision of the processed dimensions. However, if it's too tight, it may exceed the motor's output limit. In general, adjusting it to 1.5-3.0 can achieve good results. If you need to set it higher than 3.0 to tighten the belt, or if the machine frequently loses steps, we recommend rechecking the table length, table angles, and anchor point installations for accuracy.

3

03 Correction

The timing belt has elasticity, the machining coordinates may be affected when the machine encounters resistance during movement. We have designed this parameter for users to adjust the machining results according to their specific circumstances. In a well-constructed environment, this value should be adjusted to 0.1-0.3.

≺ cubiio 𝒳

如何解決馬達失步問題

皮帶張力太大使工作過程失步，造成皮帶張力過大原因有很多，主要與**工作檯面尺寸**量測, **四個角的直角度**及**參數調整**有關。馬達失步發生時，機器會有一下較大力的跳動，並且其中1~2條皮帶會完全失去張力。馬達失步是不允許發生，一旦失步機器座標就會錯誤。

1. 加大工作檯面長寬輸入的值 (加大0.5mm~1mm)
2. 調整下圖中參數"緊繃度"即"校正度"，建議各可以減小0.3~0.5
(例如原來緊繃度是2可以調整至1.5。)
3. 可以手動輸入座標或使用矩形的G-code，執行您可能使用到的加工範圍，確定參數調整是否恰當，原則上是在馬達不失步的狀況下，皮帶張力越大精準度會越好。

1

oooo+0.5mm

oooo+0.5mm
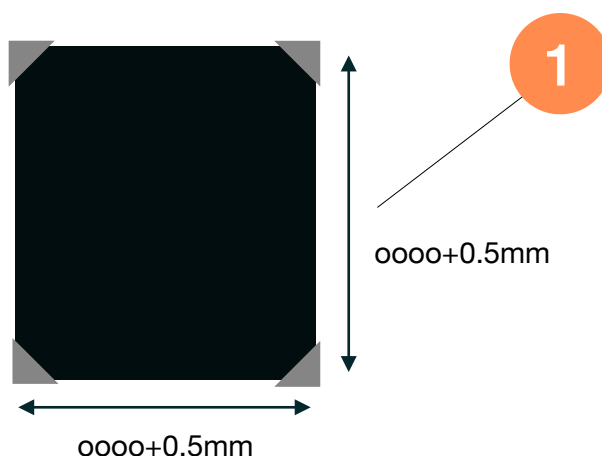
進階參數設定 ▲ 請務必小心調整參數，任一皆影響機器加工精準度

29

進階設定
01 歸零靈敏度 (90~150)
02 繃緊度 (0~3.0)
03 校正度 (0~0.5)
04 驅動電流 (1000~1500)

01 歸零靈敏度 Homing sensitive

Cubiio X歸零靈敏度跟機器零件的配合狀態有關，長期使用後可能會有所變化，該數值越小代表收線時阻力越大才停止，在可穩定收線的前提下該值越高越好，出廠時會調整至100~110，一般不需更動此值。

2

02 繃緊度 Tensioning

因為量測桌長及安裝錨點時多少會有誤差，所以我們設計了這個參數供使用者依實際情況微調皮帶的鬆緊度，數字越大代表拉得越緊， 加工出來的尺寸精準度會越好，但太緊則容易超出馬達出力極限，一般調整至1.5~3.0可達到不錯的成果，如果需調整至超過3.0皮帶才會拉緊，或機器常常失步，則建議再次檢查桌長、桌角是否是直角，錨點安裝是否正確。

03 校正度 Correction

因為時規皮帶有彈性，所以機器移動中受阻力時加工座標多少會受到影響，我們設計了這個參數供使用者依實際情況修正加工結果，良好建置的環境下此值應調整至0.1~0.3。

3