

STO

安全機能

3.2kHz

速度響應

Tuneless

免調適功能

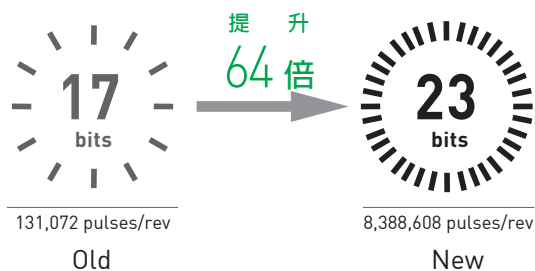


HIWIN Solution

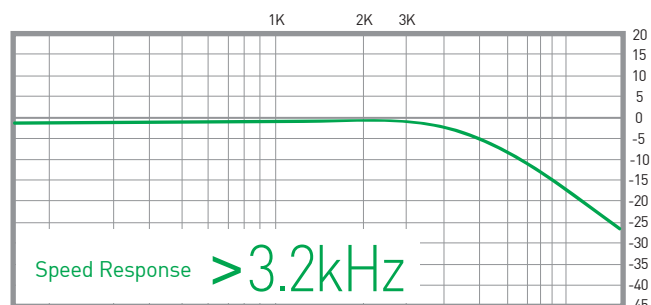
產品系統架構圖



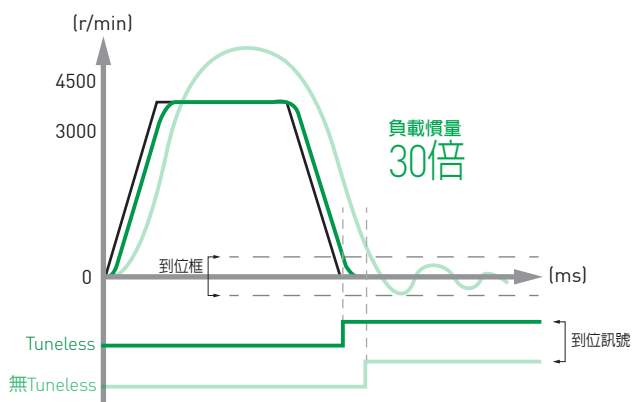
1 提升加工精度



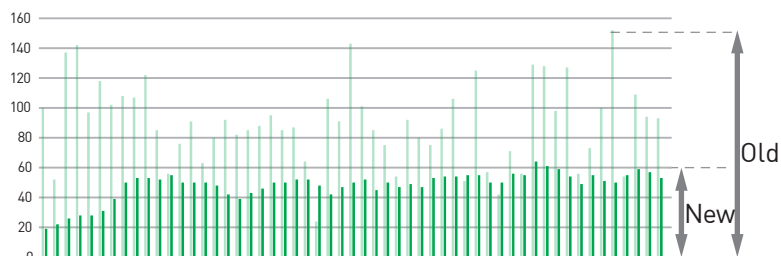
2 提高生產效率·適合高速應用



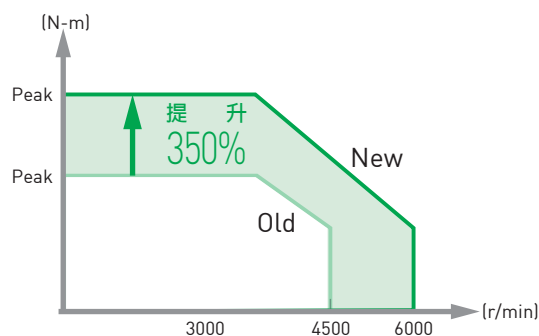
3 減少調適時間·降低工作週期



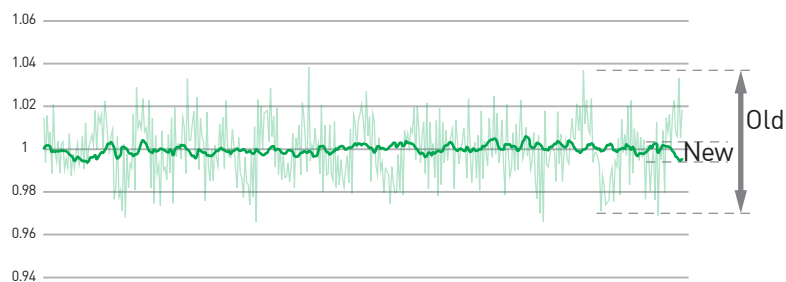
4 伺服靜態穩定性高



5 同行程下產能大幅提升



6 低速度鏈波·提升加工精度



HIWIN®

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HIWIN KOREA
SUWON · MASAN, KOREA

中國 蘇州

HIWIN CHINA
SUZHOU, CHINA

以色列 海法

Mega-Fabs Motion Systems, Ltd.
HAIFA, ISRAEL

STO

Safety Function

3.2kHz

Speed Response

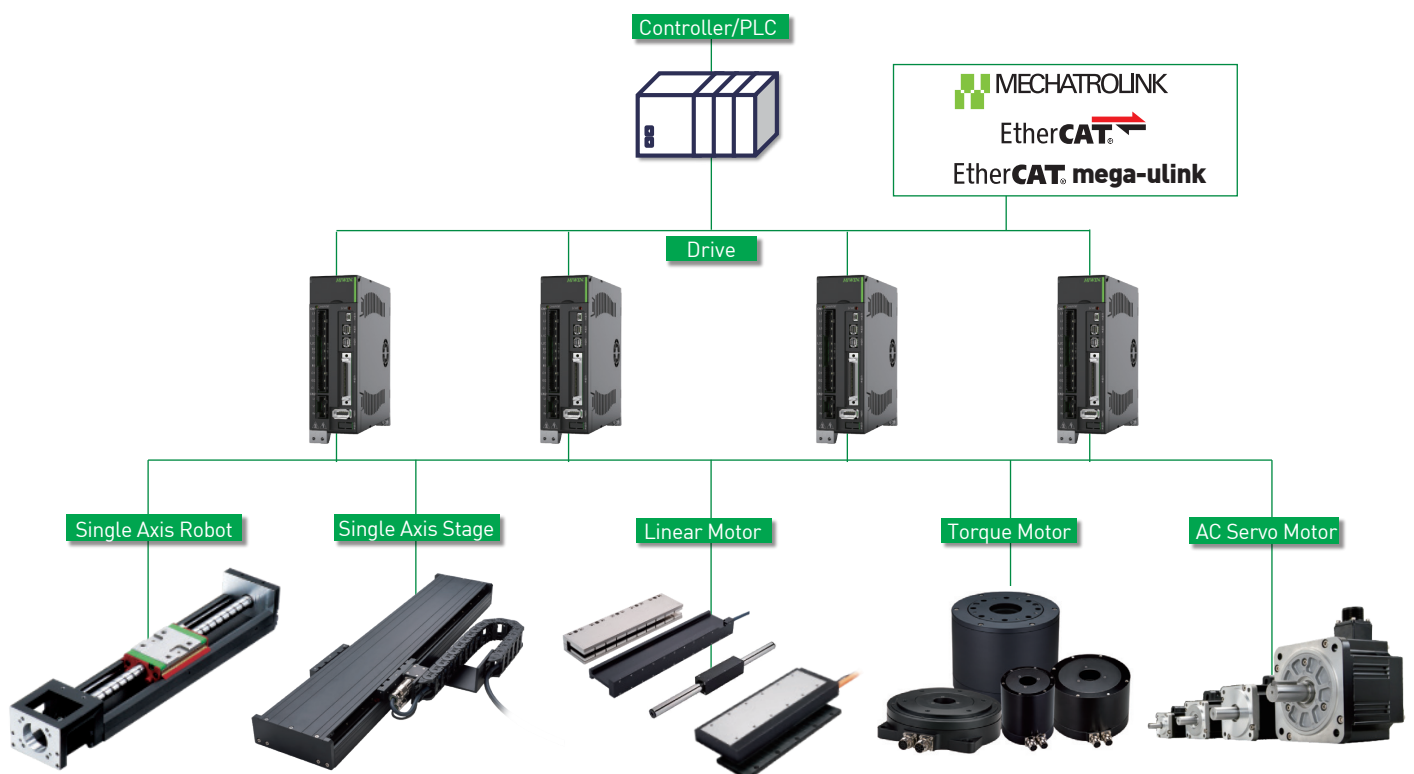
Tuneless

Tuneless Function



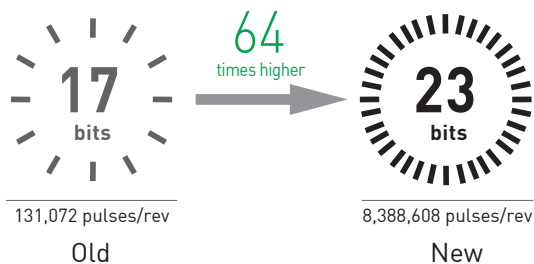
HIWIN Solution

System Architecture

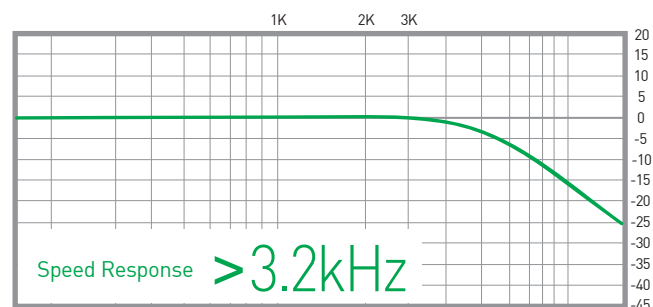


E1 Series Highlights

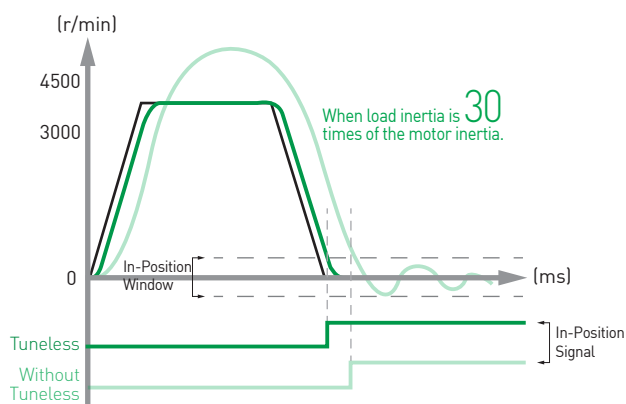
1 Improved Processing Accuracy



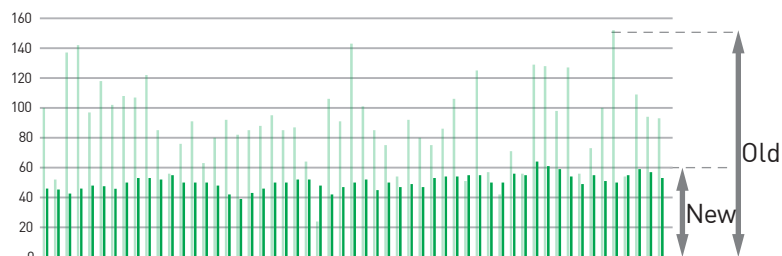
2 High Efficiency, Reduced Positioning Time



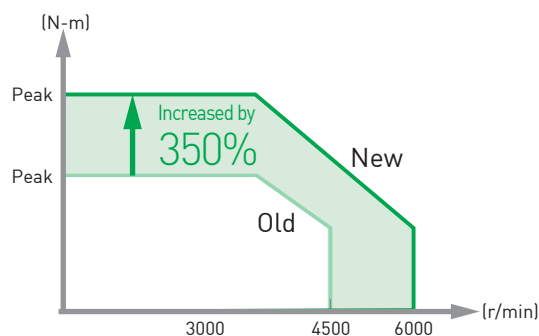
3 Reduced Tuning Time And Duty Cycle



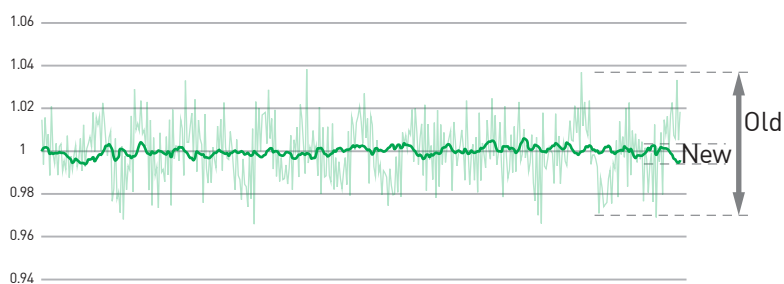
4 Excellent Static Stability



5 High Productivity



6 Minimal Velocity Ripple, Improved Processing Accuracy



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BRUGHERIO, ITALY

HIMC

多軸運動控制器

具備多樣化程式功能，滿足工業應用專業需求



- 控制 16 軸同步運動
- 250 μ s 控制週期
- 10/100/1000 Mbps TCP/IP 主從通訊
- HMPL 多工控制，提供 64 個 user task
- 支援 C、C++ 及 C#開發環境
- 連接 mega-ulink over EtherCAT (MoE) 驅動器及 I/O 模組
- CE/UL 認證合格

HIWIN 運動控制器 (HIMC) 是即時多軸運動控制器，可符合工業自動化需求。透過 HIWIN 通訊架構 mega-ulink over EtherCAT (MoE)，HIMC 可控制最多 16 個支援 MoE 通訊的驅動器及 I/O 模組，利用 HIMC 運動程式語言 HMPL，編寫 user task 進行運動控制。HIMC 提供 API 程式庫，可支援 C、C++ 及 C#開發環境。

HIWIN mega-ulink over EtherCAT 通訊架構採用分散式時脈，驅動器及 I/O 模組的命令更新週期可達 250 μ s，適用於有高響應及高效能需求之應用。

HIMC 提供單軸及多軸同步運動路徑規劃，包含點對點運動、寸動和 2D/3D 線性與圓弧補間，實現高精度運動控制。內建動態幾何補償演算法，大幅提升設備定位精度。

iA Studio 是和 HIMC 搭配使用的軟體套件，內含多種運動控制工具，如 Motion Manager、HMPL Editor 及虛擬控制器等，在設備配置及設定上更為直覺及順暢。

HIMC

Multi-Axis Motion Controller

Multi-axis motion control master with versatile programming capabilities for demanding industrial applications



- Up to **16** fully synchronized slaves
- Controller cycle time from **250** μ s to 1000 μ s
- **10/100/1000** Mbps TCP/IP host communication
- Multi-task HMPL programming with maximum **11 user tasks**
- Software library supported for **C/C++/C#** host programming
- Support all **mega-ulink over EtherCAT (MoE)** compatible drives and I/O modules
- **CE/UL** approvals

HIMC, HIWIN motion controller, is the real-time **multi-axis** motion controller to meet your specific requirements in industry automation. It is able to synchronize all **MoE** compatible motor drives and I/O modules, and perform various tasks through highly-customizable scripting language, **HMPL**, and high-level host programming via **C/C++/C# API libraries**.

The HIWIN **mega-ulink over EtherCAT** protocol featuring distributed clocks enables the high network synchronization cycle time of 250 μ s for all motor axes and I/O modules. The real-time digital control architecture renders your machine fast and responsive enough for a variety of demanding applications.

For sophisticated motion requirements, synchronized single and multi-axis trajectories, including **point-to-point**, **jogging** and **2D/3D linear and circular interpolation** are readily available. Furthermore, the built-in **dynamic geometric compensation** algorithms help enhances the positioning accuracy of your machine.

The HIMC is complemented by the **iA Studio**, a software package comes with various tools including **Motion Manager**, **HMPL IDE** and built-in **simulator**, providing a smooth and interactive experience in configuring and deploying your own industrial applications.

*The key to HIWIN motion control **total solution***

Specifications

Number of slaves

- Up to 16 slaves. (including motor drives and I/O modules)

Motion types

- Single axis motion: point-to-point, jog
- Group interpolation: multi-axis linear and circular interpolation
- Trapezoidal motion profile with smooth factor from 0 to 500 milli-second

Dynamic error compensation

- One-dimensional geometric compensation for increasing positioning accuracy

Programming

- HMPL (HIWIN Motion Programming Language) High-level multi-tasking environment
- Up to 11 simultaneously running user tasks
- Up to 512,000 double precision user defined variables
- User program size: 10 MB of source code

Software Library

- library for C/C++/C#... etc.

Communication

- Ethernet port :10/100/1000 Base-T Ethernet with TCP/IP x2
- USB: USB 3.0 x1
- Cycle time: 250 µs for up to 16 slaves

Supported slave modules

- All HIWIN mega-ulink over EtherCAT compatible motor drives (D1, D2T, D1-N) and HIOM I/O modules

Computational capability

- Processor: Intel® Celeron® Bay Trail J1900
- Memory: 2GB DDR3L 1333 MHz SDRAM
- Storage: mSATA SSD 32G

Built-in I/O

- General Purpose Input: 8 Opto-isolated 24V, delay time within 1ms. (sinking input, PNP)
- General Purpose Output: 8x Opto-isolated 24V, delay time within 1ms.
- GPIO current: 100 mA. (max. 0.8 A per bank of 8).

Power

- Main power Input: DC 24V/0.6A
- Power consumption: max. 14.4W
- LED status indicator

Mechanical characteristics

- Size (Width x Height x Depth): 57 x 180 x 140 mm³
- Weight: approx.1200g
- Mounting: DIN rail

Chassis construction

- Extruded aluminum alloy for fan-less support

Environment

- Protection class: IP30
- Operating temperature: 0°C to 50°C
- Storage temperature: -20°C to 85°C
- Operating altitude: up to 2000 m.
- Ventilation: fan-less convection cooling
- Humidity: 5% - 95%, non-condensing
- Vibration: Random: 5-500Hz, 2G. Sine: 10-500Hz, 5G Shock: duration: 11ms

Certifications

- EMC: EN61000-6-2, EN61000-6-4
- Safety: UL61010-1, UL61010-2-201, EN61010-1, EN61010-2-201, ISO 14971

Ordering Information

Model: MC - 16 - 01 - 00 - 00
 1. 2. 3. 4.

Options:

1. Maximum number of axes

16: Up to 16 synchronized slaves

2. Hardware options

01: Intel® Celeron® Bay Trail J1900

3/4. Additional features

00-00: General Functions

Others: (when available)

1 Jan. 2018