



Dynamic Motor Motion
Technology Corporation



DYN4 SERIES

AC SERVO SYSTEM



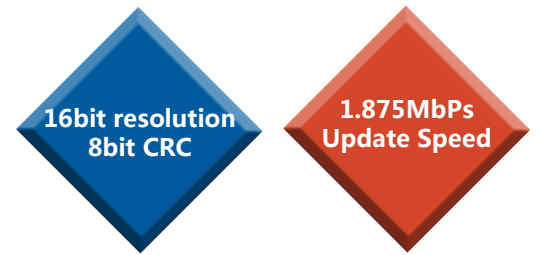
The performance of a servo system only has meaning when the system is accessible, usable and reliable. The DYN4 servo system redefines high performance servo for universal applications. It's easy to use, extremely robust and low cost. The DYN4 system was built to run on *your* machine.



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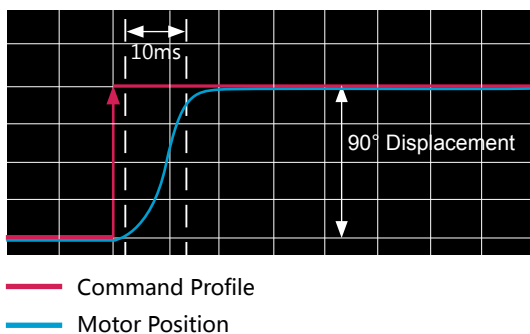
■ 16-bit Absolute Encoder Feedback

A new 16-bit absolute encoder with 65,536 pulses per revolution is standard on all servo motors. High resolution with absolute position feedback means even more smooth motion profile and better dynamic performance under all speed/load characteristics. High speed 4-wire serial bus transmission with data redundancy check allows fast, accurate and reliable position feedback.

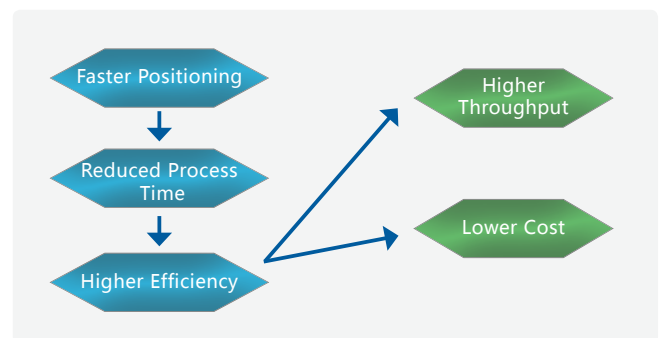


■ Fast Positioning Response

High frequency response is key to achieving accurate and fast positioning. The new DYN4 servo drive was tested under instantaneous acceleration/deceleration profiles with 90-degree motor amplitude displacement. The servo drive achieved outstanding 10ms position response even at peak inertia loads. This fast and dynamic point-to-point servo positioning allows the DYN4 servo drive to perform even in the most demanding applications.



Typical response of 750W servo motor given 90° (16,384p) instantaneous displacement command.



■ Built-In holding brake control

A dedicated brake control output from the servo drive to improve timing control over holding brake operation and overall system reliability under all situations.

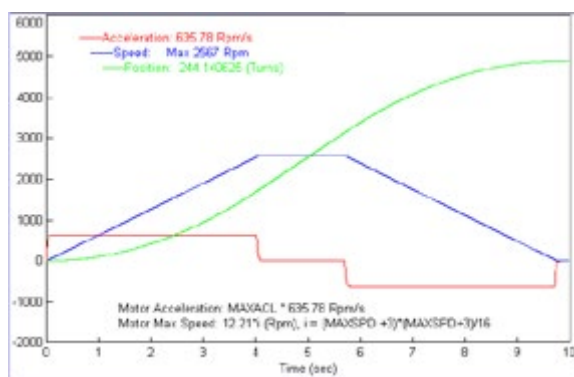
■ DIPM Power module integrated

Each DYN4 ac servo drive incorporates a DMM DIPM power module to maintain reliable high power switching and safety. Servo drive and power module pair is designed with high power capacity overhead. Over-current and short circuit detection speed significantly improved.

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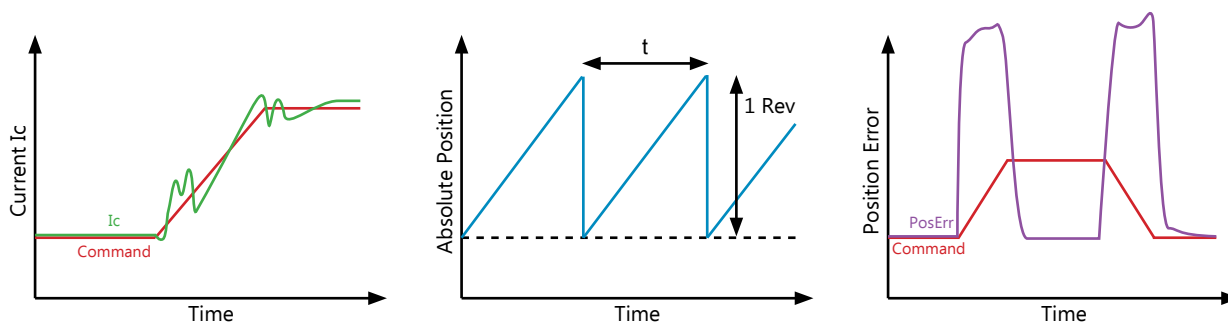
■ PWM Smoothing

Patented DYN servo control principle achieve perfectly smooth torque delivery. Acceleration, deceleration and position-follow calculations maintain highest motor position accuracy and low vibration and noise.



■ 3-Channel Real-Time Monitor Outputs

3 all new real-time analog monitor outputs are standard on all servo drive models. Monitor includes servo drive current, absolute position, servo motor speed and absolute position error. User can use monitor function to adjust machine performance, or provide feedback to host controller for processing. This allows DYN4 servo drive to be much more integrated with the machine.



■ Industry standard pulse/analog inputs with encoder output

The DYN4 servo drive accepts industry standard pulse/analog commands. Pulse format include PULSE+DIR, CW+CCW, A+B Phase Quadrature. Servo control modes including Position, Speed and Torque. Standard line drive encoder output provide position feedback to host controller.

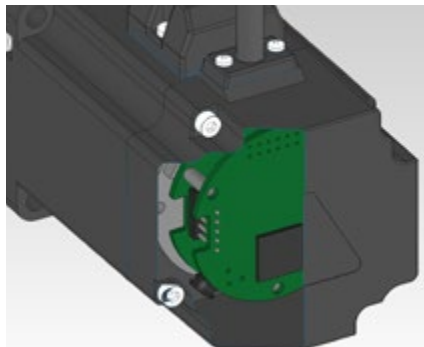
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■ Single Phase / Three Phase Input

The DYN4 servo drive accepts both single and three phase inputs for all drive models. This simplifies application and installation requirements. Input voltage is also universal 110~230VAC 50/60Hz. Compatible into any system with specific power, space or cost requirements.

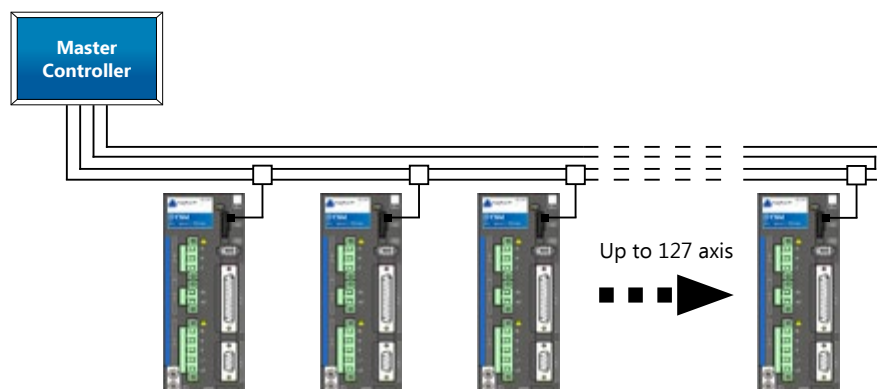
■ Robust Magnetic Encoder

Each servo motor is custom tuned with a new ABS-16-00 absolute encoder. DMM's patented magnetic sensor technology provides contactless rotor-sensor coupling virtually eliminating problems caused by mounting, vibration or shock. Each ABS-16-00 encoder is tuned and calibrated after mounting to accommodate perfect harmony with host servo motor. This ensures consistent resolution and accuracy.



■ RS232/485 Command With Built-In Motion Profiles and Networking Option

The DYN4 servo drive can also realize motion using RS232 input using built in functions including Absolute Positioning, S-Curve, Sine/Square/Speed profiles, Linear Interpolated and Circular Interpolated. Absolute encoder position and status can also be read. Up to 127 drives can be networked via RS485/232 net with individual drive ID settings for independent axis control using just 1 master controller.



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■ Low Cost

The DYN4 system offers high performance at minimal cost. Relative to any other system with similar performance specifications, the DYN4 servo system will offer better pricing structure. This allows more versatile applications, lowering the cost of existing ac servo integration and also allowing new applications where ac servo has not been considered before.

■ Simple PC setup, tuning and adjustments

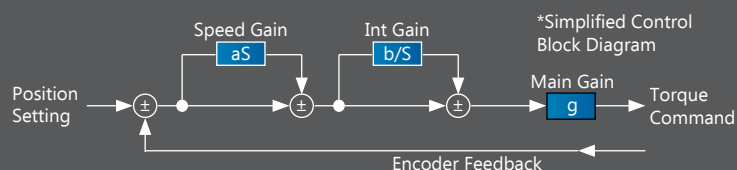
The DMMDRV4 program simplifies servo drive communication, provides parameter setting and tools for test movements. Servo tuning is simplified into 3 parameters giving the user full control over system behaviour while maintaining ease of use.



PC Interface

Servo Tuning Flexibility

DYN4 servo drive uses 3 parameters to adjust servo gain. User has full control over servo characteristic.



■ Standard motor capacity and frame sizes

Frame Size	Servo Motor Capacity	Rated / Peak Torque	Rated / Peak Speed
40mm	50W	40mm	3,000 / 5,000rpm
	100W	40mm	
60mm	200W	40mm	3,000 / 5,000rpm
	400W	40mm	
80mm	750W	2.4 / 7.2Nm	1,500 / 3,000rpm
86mm			3,000 / 5,000rpm
130mm	1.0kW	40mm	1,500 / 3,000rpm
	1.3kW	40mm	
	1.8kW	40mm	

■ Disclaimer ■

The information in this document is subject to change according to product updates, improvements or corrections. Refer to DYN4 servo drive instruction manual for technology specification. Carefully review the instruction manual before product installation and operation. This document is meant to provide technology and features introduction to the DYN4 AC Servo System. Do not use this manual in reference when operating the product.

DMM Technology Corp.
DYN4 AC Servo System Catalog 2014 V.01

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DYN4 Related Instruction Manual:
DYN4MS-05T-1214A1

DYN4 AC SERVO SYSTEM Warranty Terms

Products from DMM Technology Corp. are supported by the following warranty: 1-year from the date of product received by customer or 14 months from the month of original invoice. Within the warranty period, DMM Technology Corp. will replace or repair any defective product given that DMM Technology Corp. is responsible for the cause of the defect. Refer to product instruction manual for exclusion details.

LIABILITY

Use, operation, handling and storage of the DYN4 AC Servo System is solely responsible by the customer. Any direct or indirect commercial loss, commercial profit, physical damage or mechanical damage caused by the DYN4 AC Servo System is not responsible by DMM Technology Corp. The features and functionality of the product should be used with full discretion by the customer.



Dynamic Motor Motion
Technology Corporation

DMM Technology Corp.
3125-21331 Gordon Way
Richmond BC, V6W1J9 Canada

Tel: 604-370-4169
Web: www.dmm-tech.com
Sales: sales@dmm-tech.com

