MITSUBISHI ELECTRIC
Changes for the Better

MR-J4-TM MULTI-NETWORK SERVO WITH EtherCAT®

Product Overview

The MR-J4-TM multi-network servo drive with EtherCAT and compatible motors is not your average servo solution. The MR-J4-TM leverages the high fidelity response of the flagship MR-J4 product line with ease of use, and solution integration of EtherCAT. The MR-J4-TM is packed with advanced features to reduce maintenance requirements, improve machine speed and performance, and increase product quality.

KEY BENEFITS:

- **CAN application protocol over EtherCAT (COE)** – Standard IEC61158 Type12 CAN application protocol over EtherCAT (CoE) and IEC61800-7 CiA402 drive profile provides excellent compatibility with common controllers and easy system integration.
- **One-Touch Tuning™** – Fast, trouble free servo tuning that really works. Get optimum performance with no tuning experience necessary.
- **High speed update rates** – Communication cycles as fast as 250 μs
- **Short settling times** – Industry-leading performance with 2.5 kHz speed frequency response
- **High resolution encoders** – High speed and accuracy with absolute 4,194,304 pulse/rev encoders
- **Advanced Vibration Suppression Control II™** – Suppress vibration both on the load and the machine base
- **Clean installation** – No additional motion controllers or protocol converters are required
- **Machine diagnosis function** – Avoid unnecessary downtime due to mechanical component wear and tear
- **FoE (File Access Over EtherCAT)** – Easy update drive firmware through EtherCAT without power cycle
- **Gear Ratio Setting in CSP mode** – Gear ratio can be set when system is running in CSP (Cyclic Synchronous Position mode)

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OUTSTANDING PERFORMANCE

Reduce downtime – Vibration Tough Drive™ feature automatically readjusts when a change in machine resonance frequency is detected, reducing wear and tear on mechanical components and maintaining optimal performance. As mechanical components wear, the machine diagnosis function will detect changes in machine parts (ball screw, guide, bearing, belts) and changes in the vibration of the system. The MR Configurator2 software analyzes the data to aid in scheduling preventative maintenance.

Improve machine efficiency – The MR-J4 servo drives feature advanced One-Touch Tuning that sets gains and filters in real-time. Over the life cycle of the machine, continuous tuning optimizes gains to minimize setting time and eliminate overshoot.

IMPROVES SYSTEM PERFORMANCE AND EFFICIENCY

The MR-J4-TM brings the benefits of its high performance, ease of use, and quality you expect from Mitsubishi Electric. It improves system integration and flexibility with the open industrial real-time and deterministic EtherCAT (CoE) network.

SUPPORTED MODES AND FUNCTIONS INCLUDE:

- CSP– Cyclic Synchronous Position mode
- CSV – Cyclic Synchronous Velocity mode
- CST – Cyclic Synchronous Torque mode
- PP – Profile Position mode
- PV – Profile Velocity mode
- TQ – Profile Torque mode
- HM – Homing mode
- Synchronous Communication mode
- Free-run mode
- PDO Mapping
- Touch Probe

EtherCAT communications to MR-J4-TM Servo

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.