

台灣橫河股份有限公司

Leading Edge Controller (with MECHATROLINK-III Interface)

Features

FA-M3V is the result of a quest for high performance and advances functionality. FA-M3R features minimum scan time of 100µs and is faster than microcomputer boards.

F3NC97-0N Positioning Module supports MECHATROLINK-III, an open field network standard designed for high-speed motion control, and is the No.1 choice for configuring a system involving many controlled axes.

- The module implements position control for up to 15 axes from a single slot. It can be networked with servo drives, servomotors and other external equipment using fewer cables terminated with easy-toattach connectors, contributing to lower wiring cost.
- High transmission rate of 100 Mbps and short cycle time of 0.25, 0.5, or 1 ms for 4-, 8-, or 15-axis control respectively enable shorter control cycle, faster startup, better control performance, shorter tact time, and higher productivity.
- Statuses (target position, current position, speed, torque and other statuses) for up to 8 axes can be read concurrently for better monitoring of external equipment operation.
- Control by transmitted commands enables full exploitation of motor performance (high speed and high resolution) to achieve fast and accurate position control.



Positioning Module F3NC97-0N
(with MECHATROLINK-III Interface)

Specifications

| Item | | Specifications |
|--------------------------------|--------------------|---|
| Interface | | MECHATROLINK-III compliant |
| Physical layer | | Ethernet |
| Transmission rate | | 100Mbps |
| Cycle time/ no. of stations | | 0.25 ms for 4 axes, 0.5 ms for 8 axes or 1.0 ms for 15 axes |
| Transmission byte | | 16, 32, 48, or 64 bytes (mixed usage allowed) |
| Communication method | | Cyclic communication |
| Network Topology | | Cascade or star |
| Transmission media | | Ethernet STP Cat5e (dedicated cable) |
| Max. transmission distance | | 100 m (between stations) |
| Min. distance between stations | | 0.2m |
| Supported profiles | | <ul style="list-style-type: none"> • Standard servo profile • Standard I/O profile |
| Positioning functions | Position reference | - 2,147,483,648 to 2,147,483,647 (reference unit) |
| | Functions | <ul style="list-style-type: none"> • Independent axis movement using standard servo profile commands (availability dependent on connected external equipment and supported standard servo profile commands) • Linear interpolation movement (starting and stopping multiple axes simultaneously) and speed/target position change during movement |
| | Others | <ul style="list-style-type: none"> • Status monitoring of external equipment (target position, current position, speed, and torque) • Reading and writing of parameters of external equipment • Input from and output to external equipment using standard I/O profile commands |

MECHATROLINK specifications

| | | M-III | | | |
|--------------------|---------------------------------|--------------------------|---------|---------|---------|
| | | 16-byte | 32-byte | 48-byte | 64-byte |
| Profile | Standard servo | - | × | × | - |
| | Standard I/O | × | × | × | × |
| | Standard Stepping Motor Drivers | - | × | × | - |
| | Standard Inverter | - | × | - | × |
| Transmission cycle | | 250 µs, 500 µs, 1ms, 2ms | | | |

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