

Yokogawa Electric Corporation

Leading Edge Controller (with MECHATROLINK-III Interface)

Category
Category3 (★★★)

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			

Contact Information

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