



Positioning Module (with MECHATROLINK-III Interface)

F3NC97-0N



Positioning module
(with MECHATROLINK-III interface)
F3NC97-0N

▶ Latest open motion field network

- ▶ Standard published by the MECHATROLINK Members Association
- ▶ Latest, Ethernet-based, high-performance, advanced network

▶ Reduced wiring, simpler configuration, lower cost

- ▶ Good cost performance: one module controls up to 15 axes
- ▶ Easy connection using connectors

▶ Fast, accurate position control through high-speed, high-throughput communication

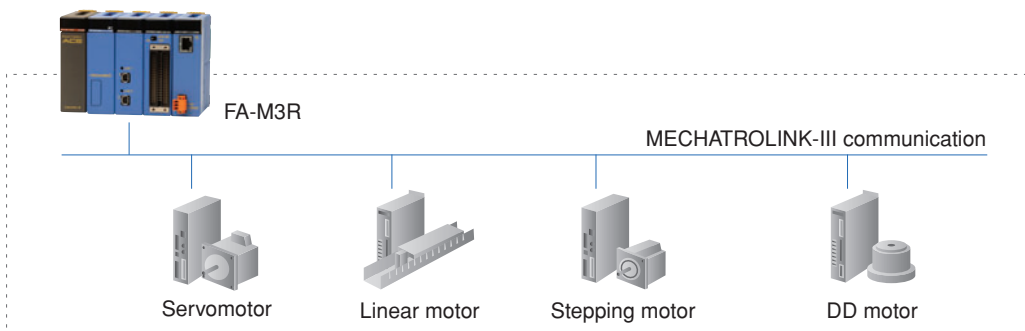
- ▶ Transmission rate: 100Mbps, cycle time: 0.25, 0.5 or 1 ms for 4-, 8- or 15-axis control
- ▶ Shorter control cycle and faster startup enable improved control performance, tact time and productivity
- ▶ Up to 8 monitor data per axis can be read simultaneously for better external device operation monitoring.
- ▶ Control by transmitted commands enables full exploitation of motor performance (high speed and high resolution).
- ▶ Versatile position control includes linear interpolated motion of up to 15 axes, simultaneous linear interpolated motion of any combination of axes, and change of speed or target position during motion.

▶ Flexible system configuration

- ▶ Supports star and cascade network topologies
- ▶ Inter-station distance up to 100 m enables flexible system configuration.

▶ More MECHATROLINK-III compliant devices upcoming

- ▶ Stepping motors, I/O equipment and inverters from more manufacturers supported in future.



Bulletin 34M06H60-03E

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Specifications

Item	Specifications	
Interface	MECHATROLINK-III compliant	
Physical layer	Ethernet	
Transmission rate	100 Mbps	
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 bytes	16, 32, 48, or 64 bytes (intermixing allowed)	
Communications 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	0.2 m	
Supported profiles	- Standard servo profile - Standard I/O profile	
Positioning functions	Position reference	-2,147,483,648 to 2,147,483,647 (reference unit)
	Functions	- Independent axis motion using standard servo profile commands (availability depends on connected external device and supported standard servo profile commands) - Linear interpolation motion (starting and stopping multiple axes simultaneously) and speed/target position change during motion
	Others	- Status monitoring of external devices (target position, current position, speed, and torque) - Reading and writing parameters of external devices - External device I/O using standard I/O profile commands
Number of installed modules	8 modules max. (controlling 120 axes max.)	
Current consumption	530 mA (at 5 V DC)	
External connection	Two MECHATROLINK-III connectors (industrial mini-connector)	
External dimensions	28.9 (W) x 100 (H) x 83.2 (D) mm	
Weight	130 g	

Product Summary

Item Name	Model	Suffix Code	Description
Positioning Module (with MECHATROLINK-III Interface)	F3NC97	-0N	Controls up to 15 axes with MECHATROLINK-III interface

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- MECHATROLINK-III is a registered trademark of the MECHATROLINK Members Association.
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Caution

- For proper and safe use of this product, read the instruction manual thoroughly.
- If faults of this product are expected to result in accidents or losses, install additional external protection and/or safety circuits.
- If the product is to be used in applications which may directly affect or threaten human lives and safety, such as nuclear and radiation equipment, railway facilities, aviation and space navigation, medical equipment or transport equipment, please contact Yokogawa's sales office.

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