IANG1

Integrated Stepper Controller + Drive

AMCI by IDEC CORPORATION

SPECIFICATIONS

Electrical Specifications

Part Numbers	IANG1E (1-axis stepper indexer + driver master module with Modbus TCP)
	IANG1 (1-axis stepper indexer + driver expansion module with Modbus TCP)
Network	Modbus TCP/IP
Amplifier Type	Bipolar with two MOSFET H-bridges; RMS current control, 20kHz PWM
Supply voltage	24 to 48V DC, surge to 60V DC
Auxilary Input specs.	Differential. DC Inputs accept 3.5 to 27V DC without the need for an external current limiting resistor. 1500V AC/DC opto-isolated. Can be wired as single ended inputs.
	Encoder Inputs are designed for 5V DC differential and require external current limiting resistor for 12 to 24V DC operation
	The three differential inputs can be configured to be used as Home, Emergency Stop, Over Travel Limit Switches, Start Index Move, Stop Jog or Registration input, Capture Encoder Position, or as a General Purpose Input.
Fault output	Open collector/emitter 30V DC max & 20mA max
	One output is configurable as a Fault Output or as a General Purpose Output

Operational Specifications

Current rating	4.0 Arms (average current)/5.7A peak
	NOTE: There are 2 ways to express the magnitude of current in microstepping stepper motor drivers, RMS and Peak.
	1 amp RMS = 1.414 amp Peak.
	IANG1 stepper motor controller + drive is rated for 4.0 amp RMS or 5.7 amp Peak.
Available commands	Absolute Move, Relative Move, Hold Move, Resume Move, Immediate Stop, Homing, Jogging, Registration Move, Indexed Move, Blend Moves, Reset Errors, Preset Position, reset Encoder Position, Electronic Gearing (only when IANG1 is configured to use quadrature encoder)
Motor Step per Revolution Resolution	Programmable to any value between 200 and 32,767 steps per revolution. The IANG1 uses variable step size motion for extreme smoothness regardless of programmed resolution.
Max. velocity	Motor/load dependent
Output current	0.1A - 4.0A rms selectable in 0.1 amp increments, programmable over Modbus TCP
Max. operating temp.	(-20° to 50°C) ambient temperature
Idle current	Programmable from 0% to 100% programmed motor current in 1% increments. Motor current is reduced to selected level if there is no motion for 1.5 seconds. Current is restored to full value when motion is started.
Motor connections	Eight lead series or parallel, six lead series or center tapped, or four lead motors using a four pin motor connector.
Included connectors	MS-2x11 - I/O connector
	MS-4M - motor connector
Mounting	EN 05 022 - 35 x 7.5 (35 x 7.5 mm)
	If you are only installing one IANG1E module instead of an interconnected stack, then you can also use the following DIN rail.
	EN 05 022 - 35 x 15 (35 x 15mm)

HARDWARE PROTECTIONS

Hardware protection	Short circuit protection - phase to phase and phase to ground.
	Overtemperature circuitry.

PRODUCT DESCRIPTION

The IANG1 Integrated Stepper Controller + Drive product is a ground-breaking approach to PLC-based motion control systems.

Traditional motion controllers are difficult to integrate with PLC-based automation systems. There are so many manufacturers, so many different choices, and each solution contains proprietary features that complicate installation, programming and compatibility. You're also faced with mechanical challenges because these motion controllers often use non-standard mounting hardware. And their configuration involves learning another software program and/or language foreign to your controls environment. IANG1 eliminates these headaches with a revolutionary design that leverages modern networks to deliver unmatched value to automation users.

The IANG1 integrates a stepper controller and driver into one, compact package that communicates with the MicroSmart FC6A over Modbus TCP network. All programming is performed through the user-defined macro instructions in WindLDR software.

KEY FEATURES

- Integrated Stepper controller AND driver
- Built-in Modbus TCP network interface
- 1 to 6 axis of motion control - buy what you need, expand later!
- Hybrid control: Servo performance using Stepper hardware
- Encoder feedback - operation Open or Closed Loop
- Programming is easy, no additional software required
- DIN rail mounting for simple, standard installation

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