



RELIABLE AUTOMATION SOLUTION

# EIA SERIES

Heavy Duty Inverter

Close Loop Vector Control Inverter



# EURO EIA Product Profile

The EURO EIA series close loop vector control inverter is a more accurate and powerful closed-loop vector frequency inverter.



## • Characteristic and Applications

- High performance closed-loop vector control
- High accuracy position control
- Applicable for CNC machine, woodworking machine and non-woven fabrics machine etc
- Applicable for other industrial applications required for high performance closed-loop vector control

## • Product Features

### Compatible with Multiple Motors

(1) It can drive variety of motors : high-speed motor, electric spindle, variable frequency motor, AC servo motor, various synchronous motor and ordinary asynchronous motor



Electric Spindle



Synchronous Motor



Asynchronous Motor

### More Accurate Motor Autotuning

Correct rotating and static motor autotuning.  
Convenient debugging, easy operation.

Rotating Autotuning	Static Autotuning
De-couple from the load Applied to the situation with high control accuracy	No need to de-couple from the load Applied when rotating autotuning is not available

### Closed-loop Vector Control

More accurate and powerful torque control, speed control and position control

(1) Position control applicable for machine positioning

Characteristics	EURO EIA
Position control precision	$\pm 1$ pulse

(2) Torque and speed control performance ensure the motor runs stably and responds rapidly with small torque fluctuation

Features	EURO EIA
Speed Ratio	1 : 1000
Speed Accuracy	± 0.02%
Torque Response	< 10ms
Torque Control Accuracy	5%
Starting Frequency Starting Torque	0Hz / 200%

(3) Excellent weak magnetic control capacity to meet the requirements on rapid acceleration and deceleration

## Special function for machine tools

Functions	Description
Frequency Setting	Analog : 0~10V / 0~20mA, -10V~+10V, differential pulse, communication and multi-step speed
Exact Stopping of Spindle	Built-in 7 scale divisions and 4 zero positions
Position Reference Point	Support externally-connected zero-position detection switch positioning Support Z-phase positioning of the encoder
Servo Control	Pulse string positioning : Position control at any position
Frequency Division Output	Encoder pulse frequency division output
Speed / Position Mode	Support terminal switching
Encoder	Support 5V, 12V and 24V increment ABZ encoder Maximum frequency <300kHz

## Friendly Human Machine Interface

### (1) High Performance Keypad

The standard LED keypad supports parameters loading and unloading with max. length of 200m and digital potentiometer.

The optional external LCD keypad supports parameters loading and unloading with displaying 10 lines and 10 rows of Chinese characters and several languages

### (2) PC Software

The software carries out tracking and fault location with the function of oscilloscope, making more convenient debugging and programming and facilitation the current monitoring, back analysis and engineering management.



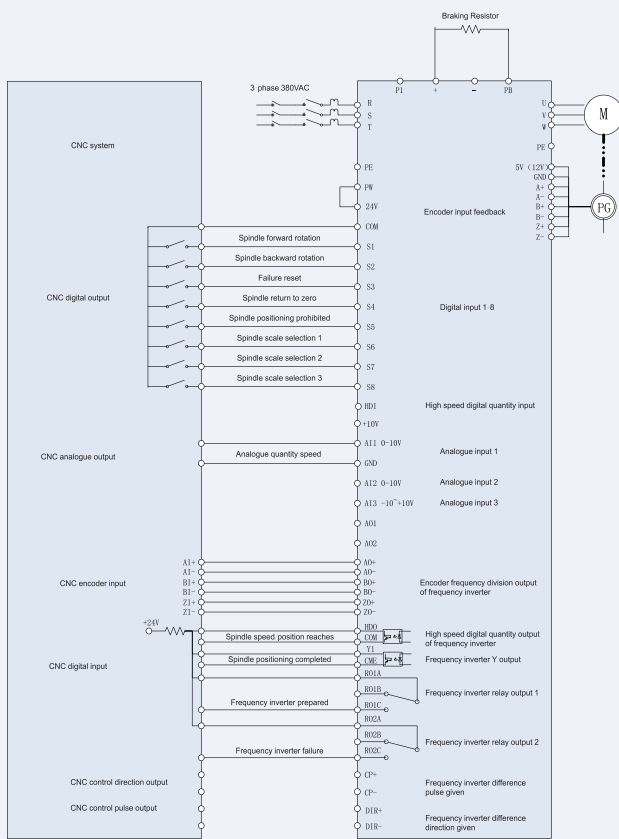
# Connection Diagrams

## Analog speed control and positioning control connection diagram

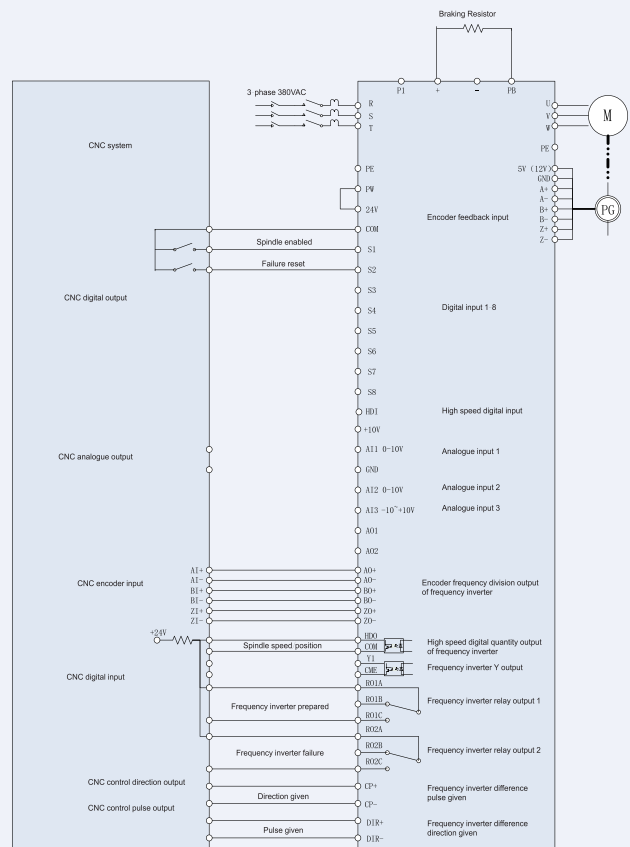
- Speed control: The speed of the spindle servo motor can be adjusted smoothly, stably and accurately via the host or analog voltage command given by the user (-10V~+10V or 0~10V)
- Positioning function: Select the positioning point through the combination of positioning terminals and start the positioning process via "spindle positioning / return to zero"

## Pulse string positioning connection diagram

The position and speed of the spindle can be controlled accurately by pulse and direction command or 2-phase orthogonal pulse command which send by CNC system. It has identical function with the general servo driver.



**Note:** Pulse given and encoder frequency division output are not available for A1/B1 but available for H1.



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# Selection Guide and Optional Parts

## Name Plate

**EIA – 3 055 – 2 \*\***

A            B            C            D            E

Sign	Description of the sign	Specific Contents
A	Series number	
B	Input voltage	3 phase 380 V - 440 V
C	055 : 5.5 KW	
D	Protection class	(standard product defaulted) 0-IP00; 1-IP20; 2-IP21; 3-IP31; 5-IP54; 6-IP65;
E	** : type of PG card	A1: 5V differential increment encoder B1: 12V differential increment encoder C1: 24V differential increment encoder D1: Resolver H1: 5V/12V differential increment encoder, with pulse/position differential input

## Power Ratings

Model No.	Output Power (kW)	Input Current (A)	Output Current (A)	Carrier Frequency (kHz)
EIA-3015G	1.5	5.0	3.7	2~15(8)
EIA-3022G	2.2	5.8	5.0	2~15(8)
EIA-3037G	4	13.5	9.5	2~15(8)
EIA-3055G	5.5	19.5	14	2~15(8)
EIA-3075G	7.5	25	18.5	2~15(8)
EIA-3110G	11	32	25	2~15(8)
EIA-3150G	15	40	32	2~8(4)
Big power 18.5 - 75	18.5~75	Determined by rated power	Determined by rated power	2~8(4)

### Notes

The type identification for big power is similar and the power range varies from 18.5kW to 75kW.

## Keypad, communication function and extension card

<b>High Performance Keypad</b>	Keyboard with LCD display
<b>Three kinds of communication interface</b>	1. Built-in modbus interface; 2. Two-in-one extension card: profilebus-DP bus plus Ethernet



Reliable Automation Solution

