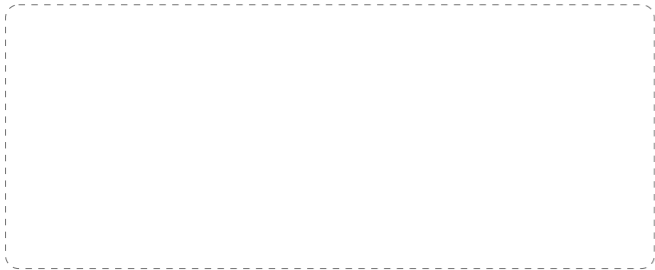


# EC90B Elevator Parallel Integrated Controller

Your Trusted Industry Automation Solution Provider



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- Industrial Automation:**
  - HMI
  - PLC
  - VFD
  - Servo System
  - Elevator Intelligent Control System
  - Rail Transit Traction System
- Electric Power:**
  - UPS
  - DCIM
  - Solar Inverter
  - New Energy Vehicle Powertrain System
  - New Energy Vehicle Charging System
  - New Energy Vehicle Motor

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## Product Introduction

EC90B represents a new generation of intelligent elevator open-loop control system that incorporates integrated drive, control, and network communication technologies. Integrating advanced variable frequency vector control technology, intelligent control algorithms, and networked communication capabilities, it seamlessly integrates elevator drive, control, and management functions, and delivers significant improvements in safety, reliability, operational convenience, cost-effectiveness, and design customization.



## Function Features

- Supports up to 15 floors (with floor expansion board), max speed 1.0 m/s (open loop), 1.5 m/s (closed loop)
- Compatible with both geared motors and PM motors
- Operates in open/closed loop modes (PG card required for closed loop)
- Supports parallel/semi-serial communication
- Multiple commissioning tools: external LCD keypad, built-in keypad, Bluetooth-enabled phone app
- Emergency rescue operation with UPS power supply
- Built-in RTC circuit supports date-based and operation-count-based elevator lockout.
- Custom protocol prevents unauthorized spare part replacement

## Model Description

**EC90B – 5R5 – 4**

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Field identifier	Identifier description	Details
①	Product series abbreviation	EC: elevator-dedicated
		90:90 series parallel elevator integrated controller
		B: B version
②	Rated power	5R5: 5.5kW
③	Voltage degree	4: AC 3PH 380~440V

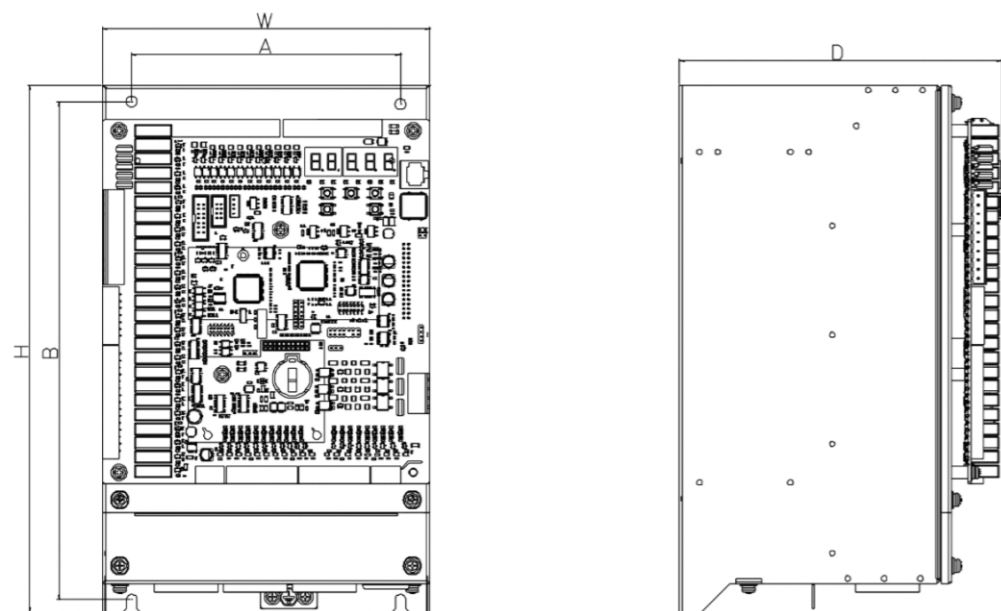
## Technical Specifications

Item	Specifications	
Input and output	Input voltage	AC 3PH 380V(-15%)~440V(10%)
	Input frequency	47~63Hz
	Output voltage (V)	0-Input voltage (V)
	Output frequency (Hz)	0-99Hz
Elevator basic features	Maximum floors	15 floors
	Maximum running speed	1 m/s
	Communication mode	Parallel communication + CANbus communication
Technical Performance	Control mode	VF(Commission mode), SVC(AM), FVC(SM)
	Overload capability	60s for 150% overcurrent; 10s for 180% overcurrent
	Starting torque response	PG vector control: 0Hz/150%
	Speed control accuracy	PG vector control: ±0.1% max speed
	Carrier frequency	2.0kHz~10.0kHz
Peripheral interface	Low-voltage digital input terminals	25 low-voltage digital input channels, DC24V / 4.5-8mA. High-level input active, maximum frequency 1kHz, internal impedance: 3.3kΩ
	Analog input	1 way (AI1) 0~10V/0~20mA input selectable, resolution: ≤20mV
	Digital input/output	20 ways of button input/output: L1~L20
	High voltage detection input	3 ways 110V input: DC1~DC3, COM: DC-60~120VAC
	Relay output	25 ways digital output: Y0~Y24, DC30V/5A, AC250V/5A Among them, Y0 can be used as an emergency operation output, and Y2 can be used as a brake output.
	CAN communication ports	1 way CAN communication ports
	Encoder interfaces	Built-in encoder interfaces supporting sine-cosine, open-collector NPN output, and push-pull output. Expandable support for Sin/Cos, incremental, EnDat encoders
	Features	Operation mode
Stopping method		Multi-step speed crawling stopping
Starting torque compensation		Two independent regulation methods using the speed loop and position loop, enabling smooth start without a load weighing device.
Motor auto-tuning		Synchronous and asynchronous motors use static auto-tuning
Automatic voltage regulation		Maintains constant output voltage automatically when grid voltage fluctuates
Low voltage slow down		In installation mode, when the system detects a low input voltage level, it automatically reduces the operating speed.
Operating and monitoring		Integrated controller keypad
	Handheld operator	Supports parameter setting, parameter upload and download, soft fault inquiry, and manual call operations

## Configuration

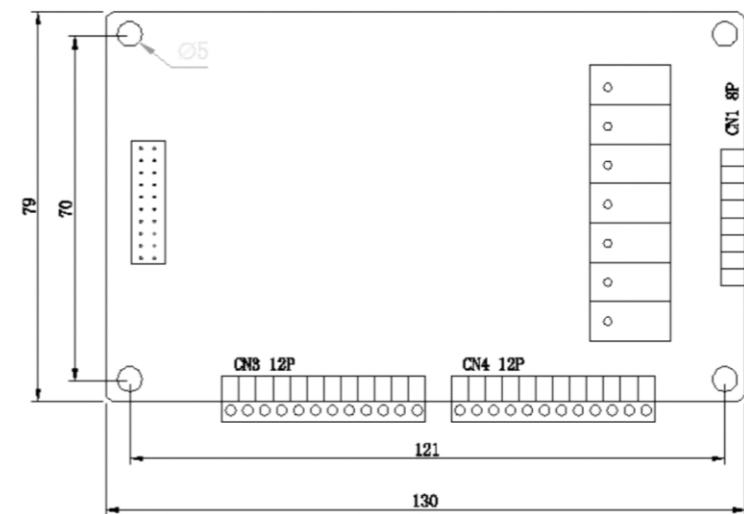
Model	Input voltage	Rated power (kW)	Input current (A)	Output current (A)	Braking unit	Braking resistor
EC90B-004-4	3PH	4.0	13.5	9.5	Built-in	75Ω/1200W
EC90B-5R5-4	AC380V±15%	5.5	19.5	14.0	Built-in	55Ω/1500W

## Appearance and Installation Dimensions



Model	Material code	W (mm)	H(mm)	D(mm)	A(mm)	B(mm)	Diameter of mounting hole (mm)	Mounting bolt
EC90B-004-4	411050-00109	180	290	180	148	274	Φ6	M5
EC90B-5R5-4	411050-00108							

## Floor Expansion Card



Note: optional for floor expansion up to 15 floors

Model	Material code	Appearance dimensions		Appearance dimensions		
		L (mm)	W (mm)	L (mm)	W (mm)	Diameter of mounting hole(mm)
EC-EBA	11023-00178	130	79	121	70	Φ5

## Expansion Card

Model	Material code	Picture	Category	Description	
EC-PG101-05	11023-00014		PG card for asynchronous motor	5V Incremental PG card	Special for incremental encoder, power supply output : -05(4.75~7V), -12(11.75~16V), -24(24V±5%)
EC-PG101-12	11023-00003			12-15V Incremental PG card	
EC-PG101-24	11023-00004			24V Incremental PG card	
EC-PG102-05-T	11023-00092		PG card for synchronous motor	Sin/Cos PG card	Special for SIN/COS encoder like ERN1387, power supply output 5V±5%, 300mA
EC-PG106-05-T EC-PG106-05-S	11023-00093 11023-00152			Absolute encoder PG card	Special for ENDAT/SSI encoder like ECN1313, power supply output 5V±5%, 300mA -T: ENDAT -S: SSI

## Simple Instructions for Control Panel



### Indicator Instructions

Indicator Light	Name	Description
RUN/TUNE	Status Indicator	ON: The machine is running OFF: The machine is stopped
LOCAL/REMOT	Communication Indicator	Local/remote communication connection indicator
FWD/REV	Elevator Direction Indicator	ON: Elevator moving downward OFF: Elevator moving upward
TRIP	Fault Indicator	ON: The machine is in a fault condition OFF: The machine is operating normally
	Unit Indicator: Solid means indicator ON, hollow means indicator OFF Hz    A    V ●-RPM ○-% ○-Hz: Frequency unit    H z    A    V ○-RPM ●-% ○-A: Current unit    H z    A    V ○-RPM ○-% ●-V: Voltage unit	Hz    A    V ●-RPM ○-% ○-RPM: Speed unit H z    A    V ○-RPM ●-% ●-% : Percentage

### Button Instructions

Button	Name	Function
	PRG Key	Enter or exit the first-level menu
	ENTER Key	Enter the next-level menu or confirm parameter settings
	UP Key	Increase data values or function code numbers
	DOWN Key	Decrease data values or function code numbers
	SHIFT Key	In the stop display screen or running status, scroll cyclically through display parameters During parameter editing, select the digit to be modified
	RUN Key	Start operation from the keypad in keypad control mode
	STOP/RESET Key	Stop operation from the keypad in keypad control mode
	Quick Multi-function Key	P1: Hall call interface (maximum value equals the total number of floors) P2: Fault history inquiry

Press the SHIFT key during operation to switch between monitoring items

Item	Monitoring Content
Running Speed	"HZ" + "V" indicators ON
Reference Speed	"HZ" + "V" indicators flashing
DC Bus Voltage	"V" indicator ON
Output Voltage	"V" indicator ON
Output Current	"A" indicator ON
Reference Frequency	"HZ" indicator ON
Running Frequency	"HZ" indicator ON
Running Speed	"HZ" + "A" + "V" indicators ON
Main Board Input Status	Displays main board inputs X1-X16, same as in stop status monitoring
Main Board Output Status	Displays main board outputs Y1-Y7, same as in stop status monitoring
Manufacturer ID	