

E210/E410 Series



Efficient general purpose frequency inverter

0.4kW ~ 5.5kW / 1 phase 220V
0.4kW ~ 7.5kW / 3 phase 380V
IP20



Efficient frequency inverters

Compact and low cost frequency inverters designed for general purposes
Easy to use
High performance frequency inverters with wide range of functions

Improved control performance

- Starting torque: 150%/1Hz
- Overload protection:
150%/1 min for constant torque
120%/1min for the kinds of fan
- Auto Energy Saving
- Auto Voltage Regulation (AVR) can automatically stabilize the output voltage within the rated voltage range of the motor under the condition of unstable output power supply
- Selectable 4-speed steps ramp-up and down time (0.1-6500s)
- External control 8-speed
- Restarted by frequency track after instantaneous stop
- Drawing control (this is a special function for the constant speed of unwinding and rewinding)

Built-in RS-485 interface (with Modbus protocol)

Basic configuration includes RS-485 interface with Modbus RTU protocol.

Built-in brake unit for frequency inverters $\geq 4\text{kW}$

Basic configuration for frequency inverters 4-5.5kW / 1 phase 220V and 4 - 7.5kW / 3 phase 380V includes built-in brake unit.

Built-in PID controller

PID controller makes comparison of setting signal (setting, desired value) with the feedback signal from sensors. By this means it detects mismatch - difference between setting status and actual status. Frequency inverters with PID controller allows to adjust temperature, pressure or flow rate without using additional controllers or other external units.

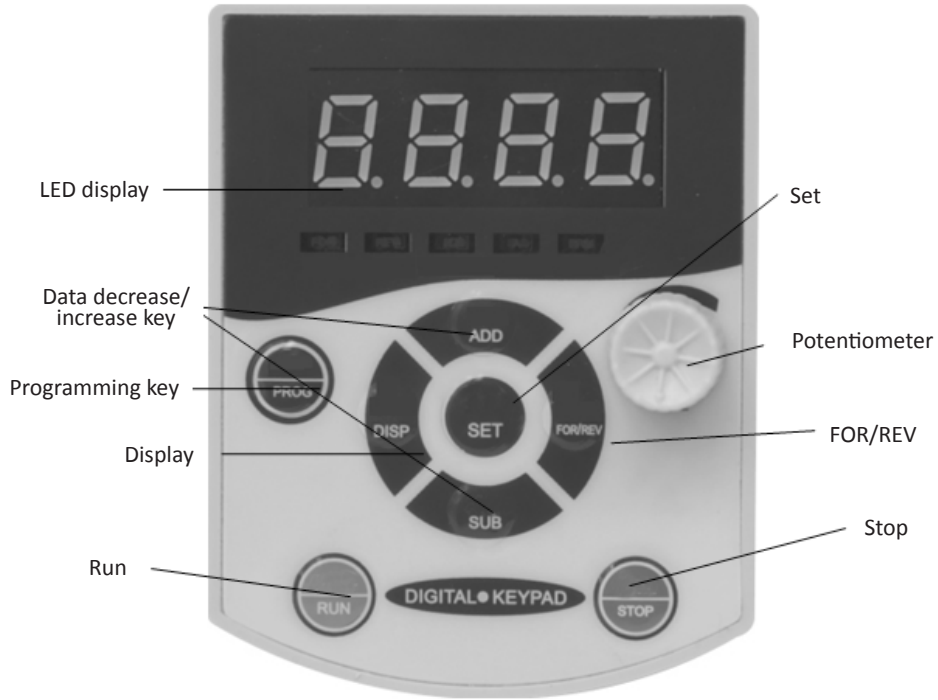
Built-in PLC

Built-in PLC (programmable logic controller) allows to customize frequency inverter for wide range of automation tasks without using additional external equipment.

LED Display

Frequency inverters have keypad with LED display for adjusting and indication of inverter parameters and its condition monitoring.

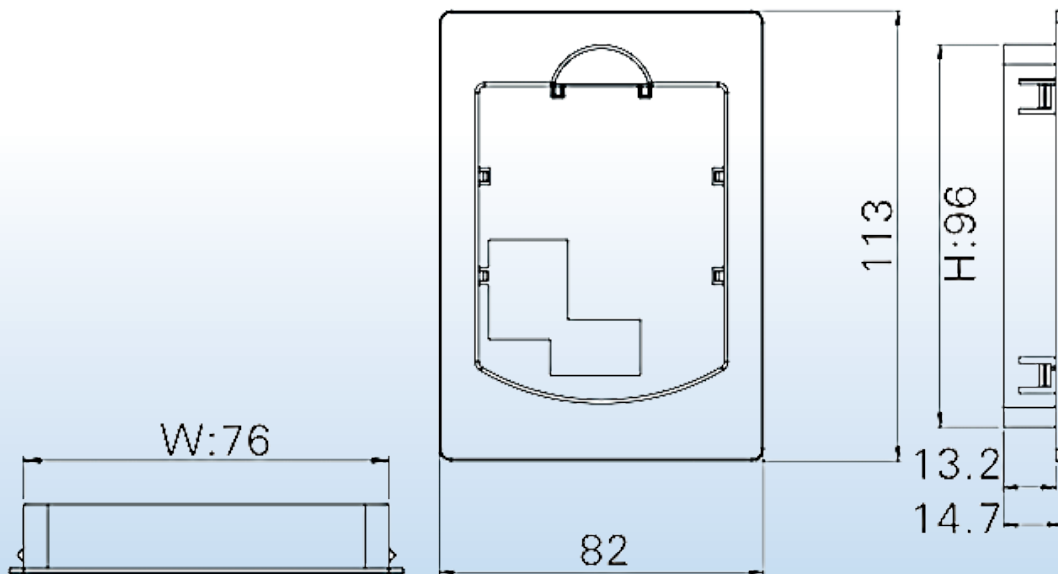
- Keypad



- Keypad mounting dimensions

Series	W	H
E210/E410	77	97

Unit: mm



Specification

	Items	E210/E410 series
	Power range	E210: 0.4kW~5.5kW E410: 0.4kW~7.5kW
Power supply	Rated voltage, frequency	E210: 220V ± 15% (1 phase) 50/60Hz E410: 380V ± 15% (3 phase) 50/60Hz
Control mode		Синусоидальная ШИМ (SPWM)
4-Digits Display & Status Indicator Lamp		Displaying frequency, current, revolution, voltage, counter, temperature, forward or reverse running, and fault, etc.
Performance and motor control	Output frequency range	0.10~600.00Hz
	Accuracy	Digital: 0.01% (-10...+40 °C); Analog: 0.1% (25±10 °C)
	Setting resolution	Digital: 0.01 Гц, Analog: max. operating frequency x 0.1%
	Output resolution	0.01Hz
	Analog seting method	0-5V, 0-10V, 4-20mA, 0-20mA
	Other functions	Frequency lower limit, starting frequency, stopping frequency, three skip frequencies can be respectively set
	Ramp control	Selectable 4-speed steps ramp-up and down time (0.1-6500s)
	V/f curve	Set V/F curve at will
	Torque control	Torque increase is settable by max. 10.0% The starting torque can reach 150% at 1.0Hz
	Multi-inputs	6 multi-function input terminals for 8-speed steps control, program operation, switching of 4-speed Ramp, UP/DOWN function, counter, external emergency stop and other functions
	Multi-outputs	1 multi-function output terminals for displaying of running, zero speed, counter, external abnormality, program operation and other information and warnings
	Interface RS-485	Standard RS-485 communication function
	Other functions	AVR (auto voltage regulation), deceleration stop or free-stop, DC brake, auto reset and restart, frequency track, PLC control, traverse function, drawing control, auto energy-savings, carrier adjustable by max. 16kHz, etc.
	Protection	Overload protection
Fuse protection		Fuse broken, motor stops
Over-voltage		DC Voltage > 400V for 220V class DC Voltage > 800V for 380V class
Low voltage		DC Voltage < 130V for 220V class DC Voltage < 300V for 380V class
Instant stop and restart		Restarted by frequency track after instantaneous stop
Stall prevention		Anti-stall during Acc/Dec run
Output End Shorts		Electronic circuit protecting

Specification (continuation)

Protection	Other functions	Fan over-heat protection, restriction of reverse running, direct start after power on, fault reset, parameter lock PID, one-drive-more, etc.
Environment	Ambient temperature	-10 °C ... +40 °C
	Ambient humidity	Max. 95 % (non-condensing)
	Altitude	Lower than 1000m
	Vibration	< 0.5G

Model range

Model	Power supply	Output voltage	Rated power (kW)	Output current (A)	Applicable motor (kW)	Frame size		
ADV 0.40 E210-M	1 phase 220V 50Hz	220V 3 phase	0.4	2.5	0.4	Size 1		
ADV 0.75 E210-M			0.75	5.0	0.75			
ADV 1.50 E210-M			1.5	7.0	1.5			
ADV 2.20 E210-M					2.20	11	2.20	Size 2
ADV 4.00 E210-M			4.00	17	4.00			
ADV 5.50 E210-M			5.50	25	5.50			
ADV 0.40 E410-M	3 phase 380V 50Hz	380V 3 phase	0.40	1.2	0.40	Size 1		
ADV 0.75 E410-M			0.75	2.5	0.75			
ADV 1.50 E410-M			1.50	4.0	1.50			
ADV 2.20 E410-M			2.20	5.0	2.20			
ADV 4.00 E410-M			4.00	8.0	4.00	Size 2		
ADV 5.50 E410-M			5.50	12	5.50			
ADV 7.50 E410-M			7.50	17	7.50			

Designation rules

ADV 5.50 E 4 10 - M

Manufacturer: Machtric

Series Code:
(*) 1~0 or A~Z

Voltage / Phase:
2: 220V (1 phase) 4: 380V (3 phase)

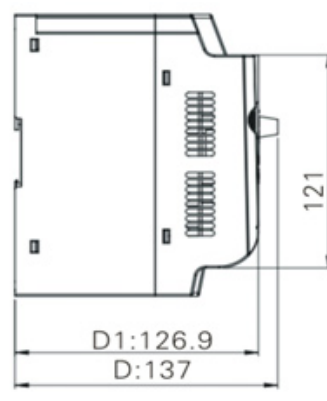
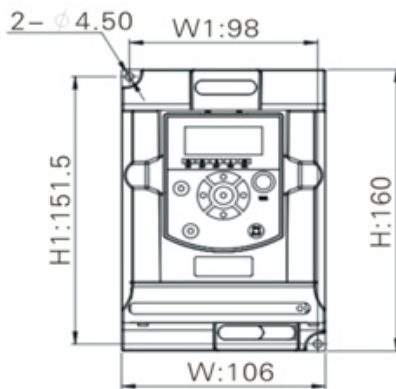
Application and Class:
B: General Purpose Basic
C: General Purpose Compact
E: General Purpose Efficient
M: General Purpose Advanced
P: Pumps and Fans
S: Special Purpose

Capacity (kW):
0.00: Capacity < 10kW
00.0: Capacity > 10kW, < 100kW
000: Capacity > 100kW

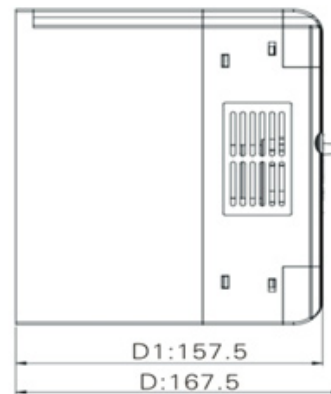
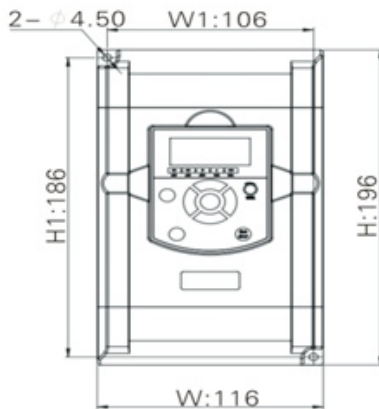
Brand Name: Advanced Control

Dimensions

- Size 1



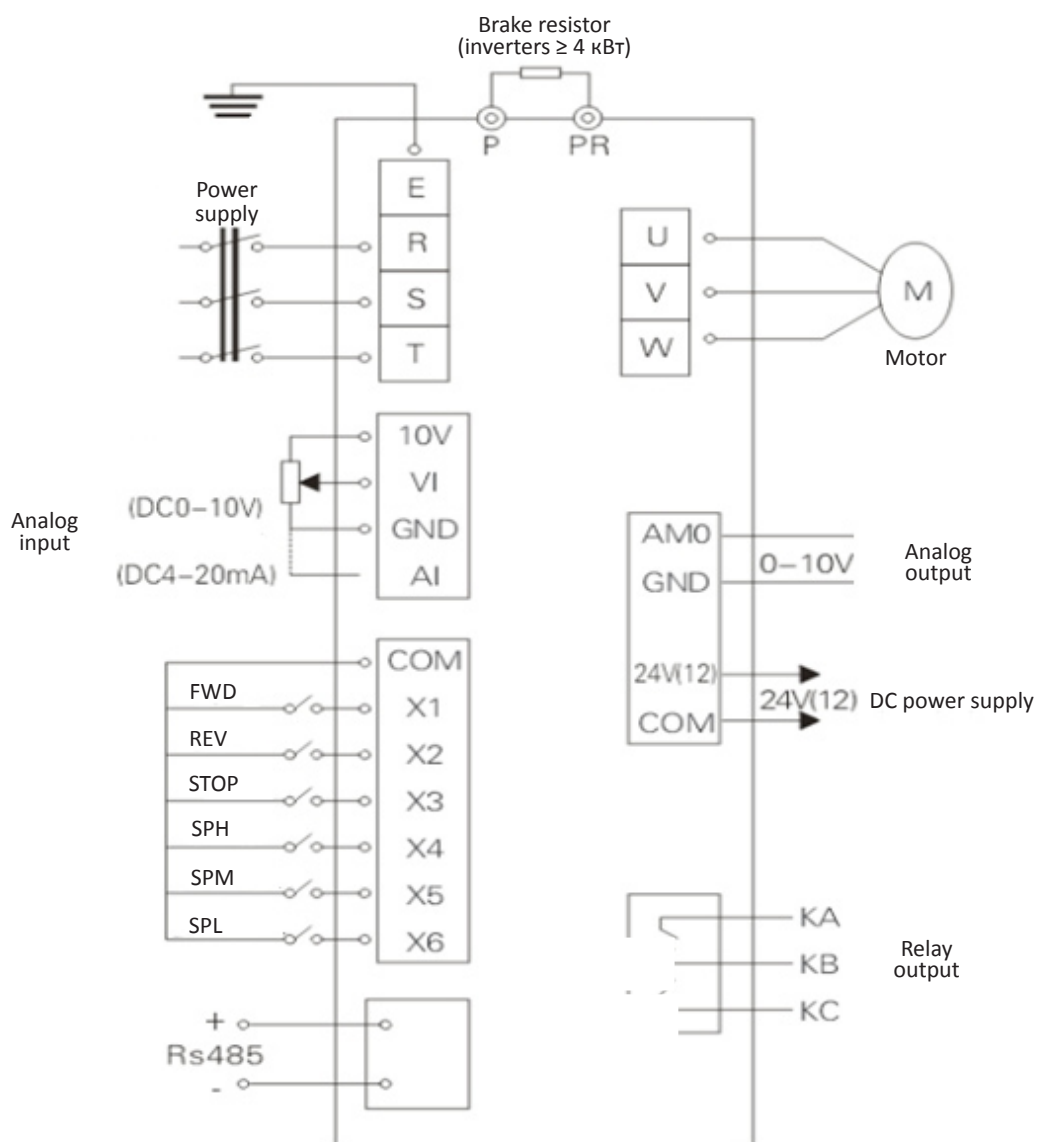
- Size 2



Unit: mm

Frame size	Rated power (kW)	Dimensions			Mounting dimensions			
		H	W	D	D1	H1	W1	d
Size 1	0.4-2.2	160	106	137	126.9	151.5	98	4.5
Size 2	4.0-7.5	196	116	167.5	157.5	186	106	4.5

Wiring diagram





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