A510 & A510s Series

Advanced Current Vector Control Drive

A510Super

Super represents

***Super** technology*

***Super** excellence*

***Super** evolution*

Features

Many control modes integrated in one drive include V/F, V/F+PG, SLV, SV, PMSV **PMSLV and SLV2**.

Dual core processor with 32bit MCU and ASIC enhances performance and reliability.

Dual rating design for normal and heavy duty applications.

Four quadrant control with speed, torque and position control modes.

Advanced current vector control technology provides impressive torque performance.

Unique static and rotating auto-tuning methods provide faster commissioning time.

Intelligent over voltage suppression function for some regenerative loads without braking resistor.

Built-in standard Modbus RTU via RJ45 port for one to one and one to many control.

Integrated PLC function and PID function for many applications.

Conformity to CE, UL standards and RoHS directive.

SPS low voltage activated function (EPS)

Complete PG card solution, suitable for Line Driver, Open Collector, SinCos and Endat encoder.

Ultra low motor noise from noise detection technology.

Power Rating	kW HP	0.75 1	1.5 2	2.2 3	3.7 5	5.5 7.5	7.5 10	11 15	15 20	18.5 25	22 30	30 40	37 50	45 60	55 75	75 100	90 125	110 150	132 175	160 215	185 270	220 300	280 375	425 315
A510/ A510s	200V 3 phase																							
	400V 3 phase																							

*** Red words represent new function for A510s**

Drive

High Efficiency PM Motor Driving

- Simple parameter settings for easy switching between induction and permanent magnet motors.
- High performance current vector control for induction and permanent magnet motors.

Induction Motor (IM)

-Cost Effective
-Mechanical Robustness

Surface Permanent Magnet Motor (SPM)

-Highly Efficient
-Compact Size
-Low Cogging Torque

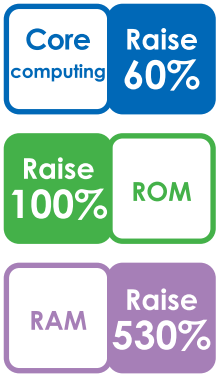
Interior Permanent Magnet Motor (IPM)

-Highly Efficient
-Compact Size
-With Reluctance Torque

More powerful in core computing

NEW

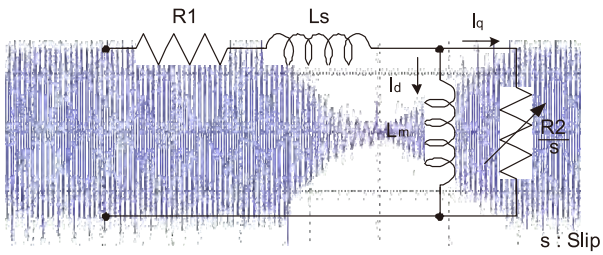
- New core processors and better computing ability.



*Compare with A510

Advanced Motor Auto-tune Function

Integrated Multiple Auto-tune Modes	
Rotational auto-tune mode	Rotary-type auto-tune for higher performance for precise control.
Static auto-tune mode	The motor shaft will be locked in static auto-tune mode.
Stator resistance measurement	Auto measure the resistor within cable and compensate accordingly.



Motor Equivalent Circuit

FAN CONTROL AND QUICK RELEASE

NEW

- Lower noise and extend the life of fan.
- Quick replaceable fan makes customers be easy to change it.

Applications

Gravitational Handling Equipment
- Crane, Elevator

Plastics/Rubber Processing Machine
- Extruder, Injection Molding Machine

Textile Machine
- Dyeing and Finishing Machine

Metal Processing Machine
- Press, Lathes

Tension Control Equipment
- Printing Machine, Reeling Machine

Wire/Cable Making Machine
- Wire Drawing Machine

E510 Series

General Vector Control Drive

TAIWAN EXCELLENCE 2012

Features

32bit RISC processor and latest generation of sensorless vector control technology provide outstanding torque response at low speed.

Internal EMC filter in compliance with IEC/EN 61800-3 and IEC/EN 61800-5-1 standard.

Built-in braking transistor for whole series.

Support Soft-PWM modulation method to create an even more quiet industrial environment.

Keypad support remote control with potentiometer.

Integrated Safety Stop and Fire Mode functions.

Built-in Modbus RTU/ASCII communication with standard RJ45 connector for one-to-one or one-to-many control.

Optional fieldbus gateways support Profibus-DP, DeviceNet, Ethernet (TCP/IP) and CANopen.

Built-in PID function and sleeping mode for fan or pump applications.

Support parameter lock function prevents unauthorized access.

Built-in PLC function for simple sequence or process control applications.

Auto carrier frequency switching to protect inverter being over temperature.

Providing different protection level types include IP20 and IP66. Waterproof type (IP66/NEMA4X) can withstand harsh environments.

Power Rating	0.4kW 0.5HP	0.75kW 1HP	1.5kW 2HP	2.2kW 3HP	3.7kW 5HP	5.5kW 7.5HP	7.5kW 10HP	11kW 15HP	15kW 20HP	18.5kW 25HP
E510	200V 1/3 phase									
	200V 1 phase									
			200V*		200V 3 phase					
		400V 3 phase								

Drive

Heat sink structure

External design of Heat sink enhance the reliability of product. By this, efficiently preventing inverter from dust get into it, which will cause short circuit.

Soft PWM

Efficiently reducing the noise when motor is in the low carrier frequency.

Smart fan control

Providing four kinds of fan control mode by temperature detection. Automatic fan control can depend on operation temperature of inverter.

Various communication module

Provide customer with convenient way for communication.

Ethernet (TCP/IP) | DeviceNet | Profibus | CANopen

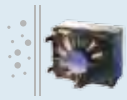
Auto-derating function

Built-in temperature sensor let inverter automatically adjust frequency to prevent inverter from stop running for over temperature,

Ensuring type of high protection level IP66/NEMA 4X

NEW

E510 can be chosen for IP66 model, which provide the customer with best energy saving solution for high pollution and high humidity environment.

First number: 6		absolutely resist from dust
Second number: 6		can sustain water gun, let limited water get in

Applications

- **Textiles**
- **Woodworking**
- **Small Handling Machine**
- **Simple Metal Processing**
- **Machine Tools**
- **Packaging & Labeling**
- **Food processing**
- **Fans & Pumps**
- **HVAC**

L510 & L510s series

Compact V/F & SLV Control Drive

TAIWAN EXCELLENCE 2011

Features

- Output frequency up to 599Hz
- Built-in Modbus RS485 communication for one to one and one to many control.
- Built-in digital display and keypad including speed adjustment potentiometer.
- RJ45 interface for PC and copy module.
- Compact space saving design for side by side installation. Plus optional Din rail mounting kit.
- Built-in PID feedback control.
- Rapid stop function built-in complying with global standard.
- Earthing terminals built-in into heat sink to effectively provide grounding protection.
- Flip form communication interface for easy link and dust-proof feature, with operational and protective functions
- Auto Carrier frequency change to limit inverter over temperature.
- Higher reliability and environment immunity with coated PCB.
- 32 bit 50M / **100M** Hz CPU design provides high performance, faster A/D conversion and torque compensation Control mode include V/F and **SLV.**
- Built-in EMI filter. For interference suppression in compliance with (IEC) EN61800-3 and (IEC)EN 61800-5-1 standard. **L510s with grounding kit (option) can reach C1 EMC level.**
- Communication interface modules for Profibus/ DeviceNet/ Ethernet(TCP/IP)/ CANopen. **Built-in BACnet.**
- Frame1 with Fanless design can effectively objects entry to extends product life. **Frame3/4 with fan design to enhance the cooling ability.**
- **Motor over-temperature protective function to protect motor (fulfilled by PTC).**

*** Red words represent new function for L510s.**

Drive

Adjacent Installation

Highly efficient heat dissipation for space-efficient feature

Strong Communication Ability

▲ Ethernet (TCP/IP) ▲ DeviceNet ▲ Profibus ▲ CANopen

Applications

▲ Computerized Flat Knitting Machine

▲ Packaging Machine

▲ Conveyor

▲ Reflow

▲ Filling Machine

▲ Recoiler

Power Rating	0.2kW 0.25HP	0.4kW 0.5HP	0.75kW 1HP	1.5kW 2HP	2.2kW 3HP	3.7kW 5HP	5.5kW 8HP	7.5kW 10HP	11kW 15HP
L510 & L510s	100V 1/3 phase								
	200V 1 phase								
	200V 3 phase								
			400V 3 phase						

*** Red color represent new range in power rating for L510s.**

F510 series

Fan & Pump Drive

TAIWAN EXCELLENCE 2013

Features

- Dual core processor with 32 bits MCU & CPLD improved kernel algorithm computing and protection function.
- IP55 enclosure is available for harsh environment, IP21 is also available.
- Advanced sensorless current vector control technology provides brilliant performance.
- Unique auto-tuning method has build up exact motor equivalent model.
- Built-in Modbus, BACnet, Metasys N2 communication protocol.
- Intelligent over-voltage prevention function for some regenerative loads without braking resistor.
- Dedicated parameter supported Water Supply Pump, Exhaust fan, HVAC application.
- Integrated PLC and RTC function for simple sequence control.
- Built-in 2 sets PID function with sleeping mode for fan or pump applications.
- LCD Operator displayed engineering unit and supported copy unit.
- Supports Fire mode to reduce smoke damage to human as possible.
- Integrated EMC Filter, and compliant with IEC/EN 61800-3 standard.

Power Rating	kW HP	3.7 5	5.5 7.5	7.5 10	11 15	15 20	18.5 25	22 30	30 40	37 50	45 60	55 75	75 100	90 125	110 150	132 175	160 215	185 270	220 300	280 375	315 425	400 535	500 670	600 800
F510 IP20 IP21	200V 3 phase																							
	400V 3 phase																							
F510 IP55	400V 3 phase																							

Drive

Built-in HVAC Communication

Advanced network functions for building automation inclusive of BACnet, Metasys N2 and Modbus. F510 can reduce the cost of installing automatic central air conditioning system.

BACnet

Modbus

METASYS

DUAL CORE PROCESSORS

ASIC *Above frame2 models

Prevents inrush current damage to IGBT module. Enhances the reliability and life expectancy of motor drive.

32Bit MCU

Mass computing capability for advanced current vector control technology. Minimizes the internal loop time for higher control response.

Enhanced Performance & Reliability!

Excellent Pump Control

Built-in multi-pump control mode. According to the load of system, use intelligent control to coordinate pumps. It distributes running hours evenly across master and slave pumps to increase system efficiency and extend the life of drive.

IP55 for Harsh Environment

F510 provide IP55-protection enclosure for harsh environment to against the water and dust.

IP21 is also available now

Modular Design