

L510

Advanced Microdrive



1/4-1 hp (115V) • 1/4-3 hp (230V) • 1-3 hp (460V)

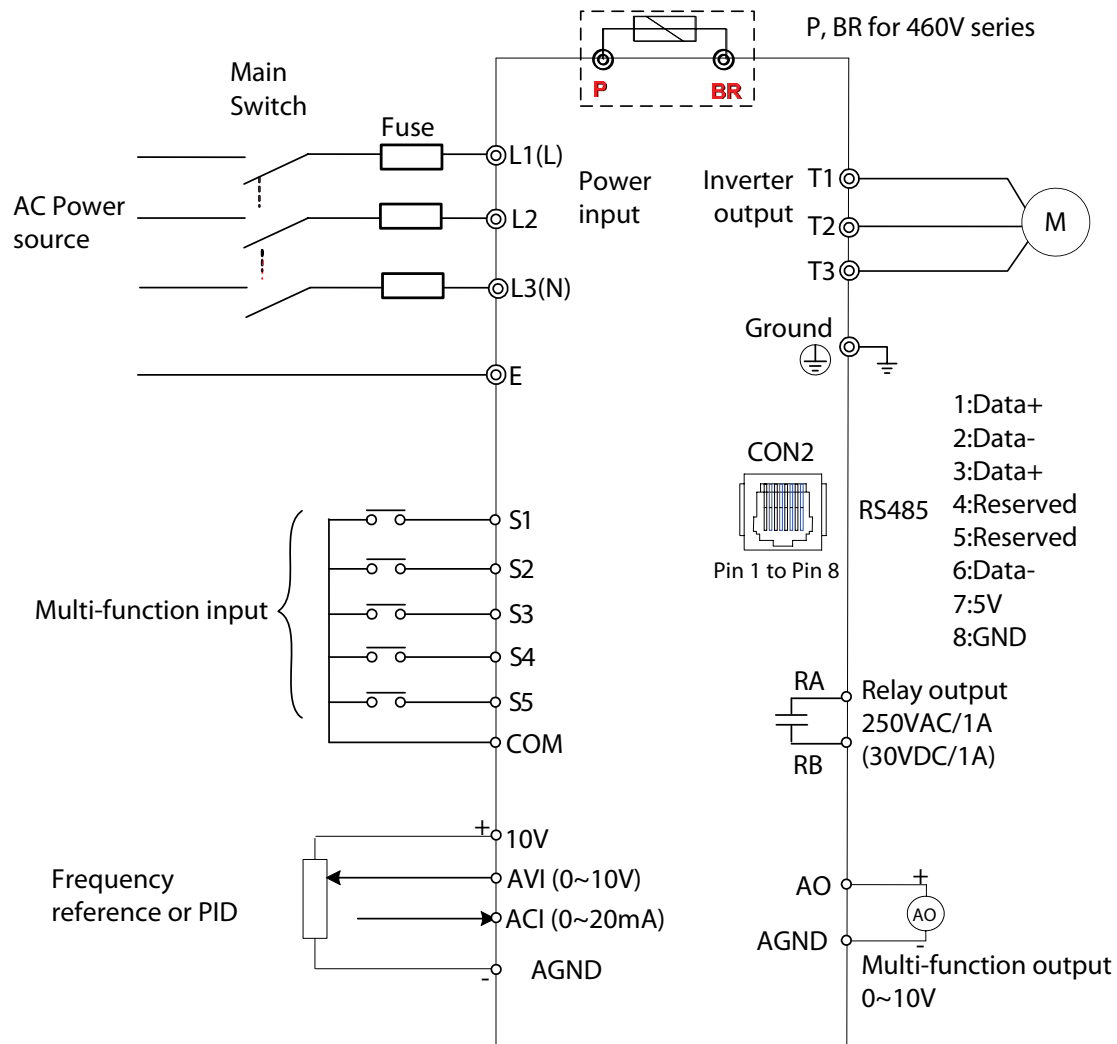
Features & Highlights

- Compact Design: the L510 has a small footprint and accomodates DIN rail mounting as an option
- Simple to program with parameters grouped by function type and purpose
- 150% overload
- 0-650 Hz
- Speed pot standard for all ratings
- High speed response utilizing a 32 bit CPU design
- V/F control, auto torque boost or sensorless vector
- Leakage current prevention via capacitor switch
- Digital Operator: 5 digit bright LED readout
- Diagnostics and parameter configurations
- Power loss ride-through
- TECO-Link configuration software for on-line monitoring, programming, and operation via built-in RS485
- UL, cUL Listed, CE Marked

Machine & Industry Applications

- Conveyors
- Pumps
- Exhaust Fans
- Mixers
- Treadmills
- Packaging
- HVAC
- Food and Beverage
- Machining/ Tooling
- Converting fixed speed motors to variable speed

Wiring Diagram



Terminal Symbols	TM1 Function Description
L1(L)	Main power input, L1(L)/L2/L3(N)
L2	
L3(N)	
P*	Externally connected braking resistor
BR*	
T1	Inverter output, connect to U, V, W terminals of motor
T2	
T3	
⊕	Ground Terminal
RA	Relay output terminal, Specification: 250VAC/1A(30VDC/1A)
RB	
COM	S1-S5 (COMMON)
S1	Multi-function input terminals
S2	
S3	
S4	
S5	
10V	Built-in power for external speed potentiometer
AVI	Analog voltage input, Specification: 0-10VDC/ 2-10V
ACI	Analog current input, Specification: 0/4-20mA
AO	Multi-function analog output terminal. Maximum output 10VDC/1mA
AGND	Analog ground terminal

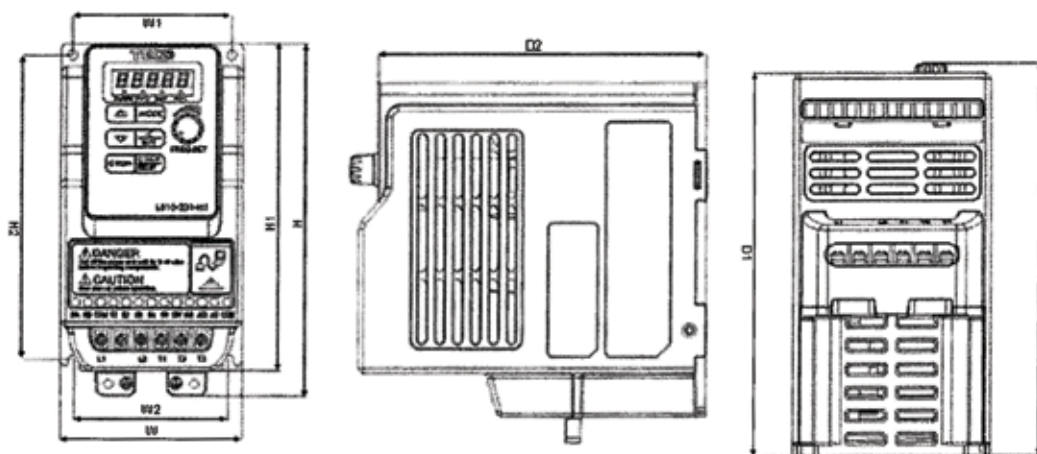
*P, BR for 460V series

Operating Features and Characteristics

Control Mode		V/F control + auto-torque compensation function, sensorless vector
Frequency	Range	0.01 - 650.00Hz
	Setting resolution	Digital input: 0.01Hz
		Analog input: 0.06Hz/ 60Hz.
	Setting	Keypad: Set directly with ▲▼ keys or the VR (Potentiometer) on the keypad
		External input terminals: AVI (0/2-10V), ACI (0/4-20mA) input Multi-function input up/ down function parameter (Group 3)
		Setting frequency by communication method
Run	Operation Set	Lower and upper frequency limits 3-skip frequency settings
		Keypad run, stop button External terminals Multi-operation-mode: 2/3 wire selection Jog operation Run signal by communication method
Common Control	V/ F curve setting	6 fixed curve and one customized curve
	Carrier frequency	1-16KHz (default 5KHz)
	Acceleration & deceleration control	2 sets of Acc/ Dec time parameters 4 sets of S curve parameters.
	Multi-function input	19 functions
	Multi-function output	14 functions
	Multi-function analog output	5 functions
	Main Features	Overload detection, 8 preset speeds, Auto-run, Acc/ Dec Switch, Main/ Alt Run Command Select, Main/ Alt Frequency Command Select, PID control, Torque Boost, V/F Start Frequency, Fault Reset

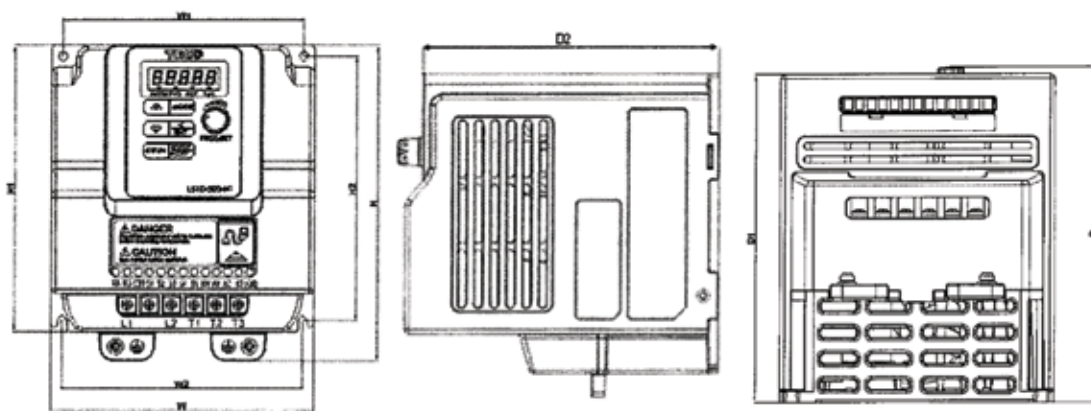
Protection	
Protection Class	IP20
Suitable environment	
Operating Temperature	-10–40°C (-10–50°C with fan) If several inverters are installed in the same control panel, ensure adequate spacing and provide the necessary cooling and ventilation for successful operation
Storage Temperature	-20–60°C
Relative Humidity	Max 95°C (without condensation)
Shock	1G (9.8m/s ²) for <20Hz. 0.6G (5.88m/s ²) 20Hz–50Hz

Dimensional Diagrams



Units: inches (mm)

Model	W	W1	W2	H	H1	H2	D	D1	Weight
L510-1P2-H1-N	2.83 (72)	2.48 (63)	2.40 (61)	5.55 (141)	5.16 (131)	4.80 (122)	5.48 (139.2)	5.35 (136)	2.0lbs (0.9kg)
L510-1P5-H1-N									
L510-2P2-H1-N									
L510-2P5-H1-N									
L510-201-H1-N									
L510-2P5-H3-N									
L510-201-H3-N									



Units: inches (mm)

Model	W	W1	W2	H	H1	H2	D	D1	Weight
L510-101-H1-N	4.65 (118)	4.25 (108)	4.25 (108)	5.67 (144)	5.16 (131)	4.76 (121)	5.80 (147.3)	5.68 (144.2)	3.52lbs (1.6kg)
L510-202-H1-N									
L510-203-H1-N									
L510-202-H3-N									
L510-203-H3-N									
L510-401-H3-N									
L510-402-H3-N									
L510-403-H3-N									

Keypad



Models & Product Specifications

115V Class; Single Phase Input

Model L510-XXX-H1-N	1P2	1P5	101
Horse Power (hp)	0.25	0.5	1
Motor Capacity (kW)	0.2	0.4	0.75
Rated Output Current (A)	1.8	2.6	4.3
Rated Capacity (KVA)	0.68	1.00	1.65
Input Voltage Range (V)	Single Phase 100-120V, 50/ 60Hz		
Allowable Voltage fluctuation	+10% - 15%		
Output Voltage Range (V)	Three Phase 0-240V		
Input Current (A)	9.5	13	19
Allowable Momentary Power Loss Time (S)	1.0	1.0	1.0
Enclosure	IP20		

Models & Product Specifications - Cont.

230V Class; Single Phase Input

Model L510-XXX-H1-N	2P2	2P5	201	202	203
Horse Power (hp)	0.25	0.5	1	2	3
Motor Capacity (kW)	0.2	0.4	0.75	1.5	2.2
Rated Output Current (A)	1.8	2.6	4.3	7.5	10.5
Rated Capacity (KVA)	0.68	1.00	1.65	2.90	4.00
Input Voltage Range (V)	Single Phase 200-240V, 50/ 60Hz				
Allowable Voltage fluctuation	+10% - 15%				
Output Voltage Range (V)	Three Phase 0-240V				
Input Current (A)	4.9	7.2	11	15.5	21
Allowable Momentary Power Loss Time (S)	1.0	1.0	1.0	2.0	2.0
Enclosure	IP20				

230V Class; Three Phase Input

Model L510-XXX-H3-N	2P5	201	202	203
Horse Power (hp)	0.5	1	2	3
Motor Capacity (kW)	0.4	0.75	1.5	2.2
Rated Output Current (A)	2.6	4.3	7.5	10.5
Rated Capacity (KVA)	1.00	1.65	2.90	4.00
Input Voltage Range (V)	Three Phase 200-240V, 50/ 60Hz			
Allowable Voltage fluctuation	+10% - 15%			
Output Voltage Range (V)	Three Phase 0-240V			
Input Current (A)	4.0	6.4	9.4	12.2
Allowable Momentary Power Loss Time (S)	1.0	1.0	2.0	2.0
Enclosure	IP20			

460V Class; Three Phase Input

Model L510-XXX-H3-N	401	402	403
Horse Power (hp)	1	2	3
Motor Capacity (kW)	0.75	1.5	2.2
Rated Output Current (A)	2.3	3.8	5.2
Rated Capacity (KVA)	1.7	2.9	4.0
Input Voltage Range (V)	Three Phase 380-480V, 50/ 60Hz		
Allowable Voltage fluctuation	+10% - 15%		
Output Voltage Range (V)	Three Phase 0-480V		
Input Current (A)	4.2	5.6	7.3
Allowable Momentary Power Loss Time (S)	2.0	2.0	2.0
Enclosure	IP20		

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