



## **Features & Highlights**

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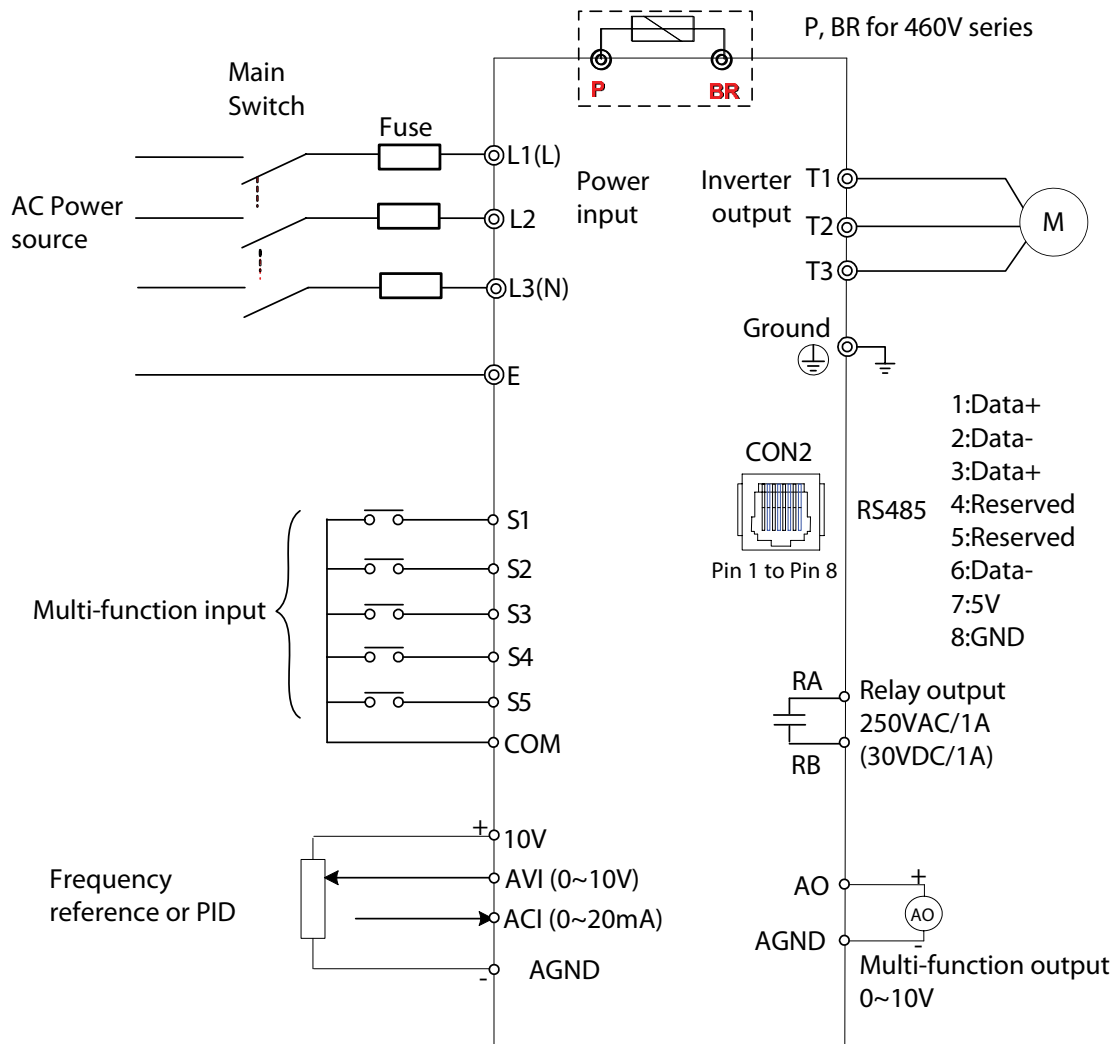
- Compact Design: the L510 has a small footprint and accomodates DIN rail mounting as an option
- Simple to program with parameters grouped by function type and purpose
- 150% overload
- 0-650 Hz
- Speed pot standard for all ratings
- High speed response utilizing a 32-bit CPU design
- V/F control, auto-torque 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**

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- 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

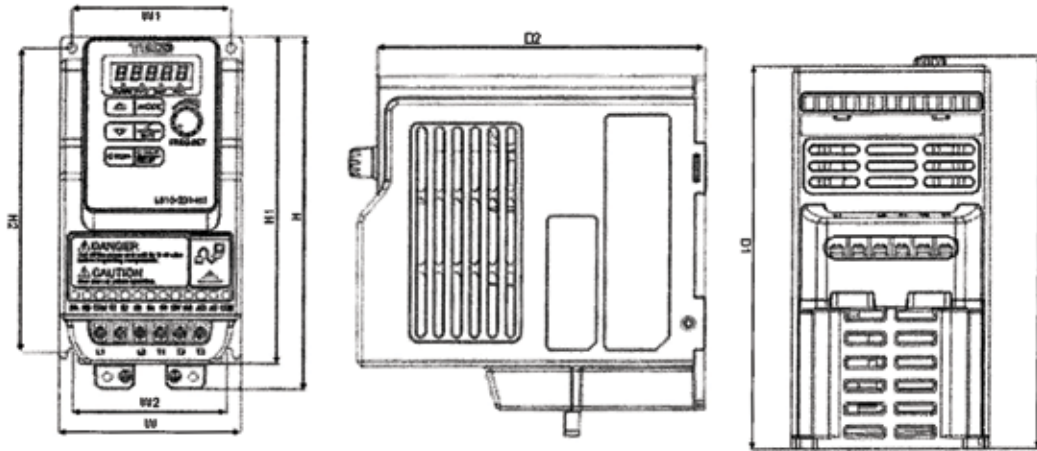
\*P, BR for 460V series

# 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		
Frequency limit	Lower and upper frequency limits 3-skip frequency settings	
Run	Operation Set	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

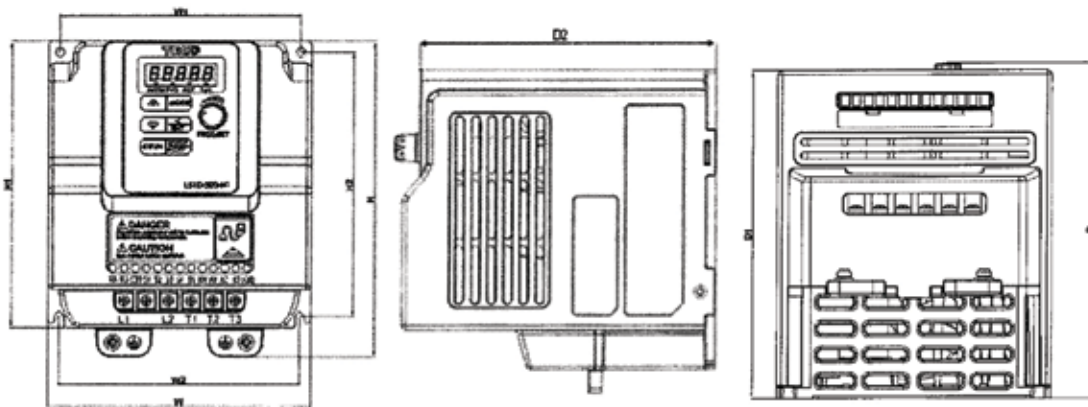
Protection	
Protection Class	IP20
Suitable environment	
Operating Temperature	-10–40°C (-10–50°C with fan) If several inverters are installed in the same control panel, ensure adequate spacing and provide the necessary cooling and ventilation for successful operation
Storage Temperature	-20–60°C
Relative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