Variable Frequency Drive

VFD-L



Features :

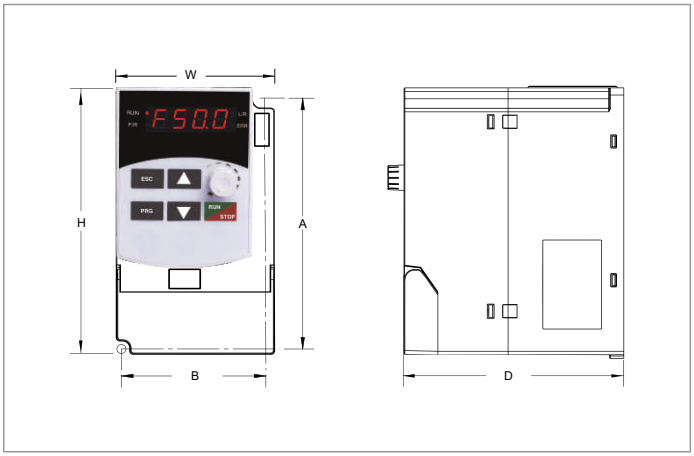
- V/f Control
- Automatic voltage regulation
- 150% Overload capacity for 1 min
- PI Control
- Protection against Over voltage, Under voltage, Over temperature, Over load, Under current, Over current and Short circuit
- RS485 MODBUS Communication

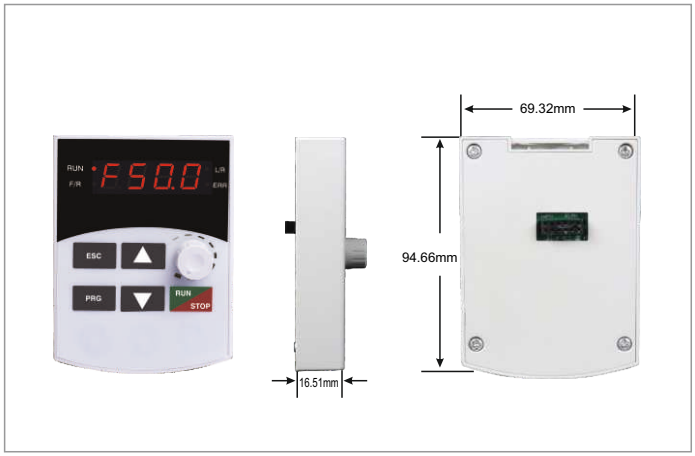
Technical specifications

Single Phase			
Model VFD-L-1	002	005	010
Applicable motor output (kW)	0.2	0.4	0.75
Applicable motor output (HP)	0.2	0.5	1
Input rating			
Rated voltage / Frequency	Single phase 230V AC 50/60 Hz		
Maximum input current	1.5A	5A	10A
Voltage tolerance	±15% (195 ~ 265V)		
Frequency tolerance	±5% (47 ~ 63 Hz)		
Output rating			
Rated output current	1A	2.5A	5A
Maximum output voltage (V)	Proportional to input voltage		
Output frequency	0.1 ~ 400 Hz		
Carrier frequency	2 ~ 10 kHz		
Control characteristics			
Control system	Space vector PWM based scalar control		
Frequency setting resolution (Hz)	0.1 Hz to Upper limiting frequency		
Overload endurance	150 % for 1 min, 180 % for 10 sec., 200 % for 1 sec.		
Skip frequency	2 Bands available		
DC Injection braking	Up to 150% of rated current for 0 to 50.0 sec. during starting and stopping cycles		
Accel. / Decel. time	0.1 ~ 999.9 sec. Four acceleration / deceleration time settings available		
Braking torque	Maximum 150%		
V/f Mode	4 Pre-set V/f mode and 1 User defined V/f program		
Operating characteristics			
Frequency setting	Keypad	Set by Up & Down keys Set by panel potentiometer	
	External signal	Potentiometer – 10 kΩ, 0 to 10V DC Analog input – 0 to 20 mA / 4 to 20 mA / 0 to 10V DC Communication – Modbus RS485 Multifunction terminal – 1 to 4 (8 Steps, JOG, UP & DOWN)	
Operation setting	Keypad	By RUN & STOP Keys	
	External signal	Multifunction terminal 1 to 4 (RUN, STOP, Fwd / Rev, Jog) Communication – Modbus RS485	

Control Inputs / Outputs		
Digital input	Programmable digital inputs	4
	Logic	PNP or NPN
	Voltage level	0 - 24V DC
	Input resistance	6 kΩ
Analog input	Analog input	2
	Modes	Voltage or Current
	Voltage level	0 to 10 V
	Current level	0/4 to 20 mA
Relay output	Relay output	1
	Max. terminal load (AC)	250 V, 5 A
Operation function		
AVR (Automatic voltage regulation), Fault records, Adjustable carrier frequency, DC Braking, Frequency limit, Parameter Lock / Reset, Counter, PI Control, PLC Program, Modbus commmunication		
Protection function		
Over voltage, Under voltage, Over current, Over temperature, Over load, Under current, and Short circuit		
Display / Keypad		
Inbuilt HMI with 5 keys (PRG, ESC, UP, DOWN, START / STOP), Potentiometer, 4 Digit, 7 Segment LED display and 4 status, Set Frequency, Output frequency, Custom units, Parameter values for setup, Review and faults		
Enviromental conditions		
Protection level	IP20	
Pollution degree	2	
Installation location	Indoor, <1000 m altitude above sea level	
Ambient working temperature	-10 °C ~ +60 °C	
Storage / Transportation temperature	-20 °C ~ +65 °C	
Ambient humidity	<90 % No condensation	
Vibration	<5.9 m/s^2 (0.6 g)	

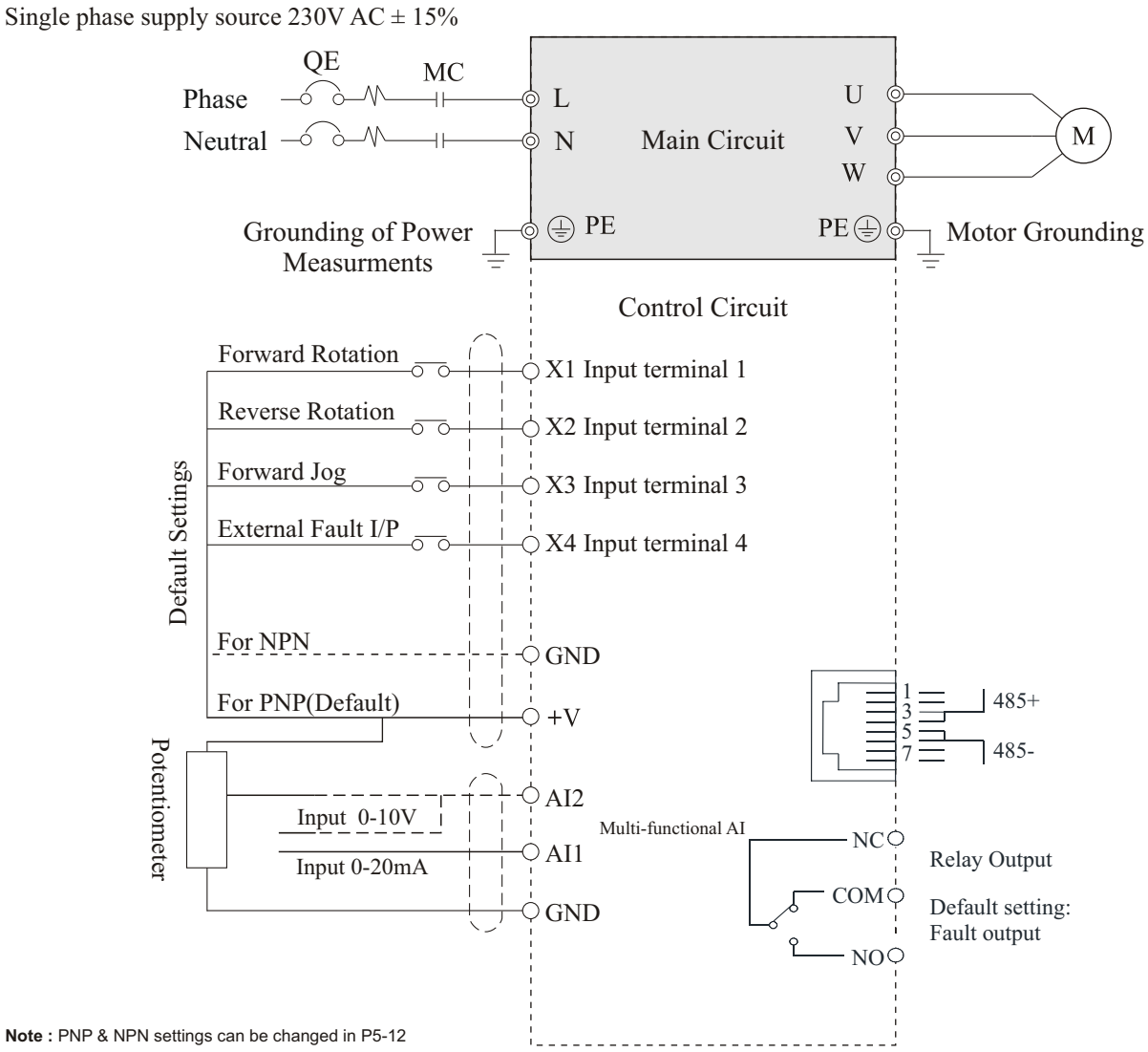
Dimensions





Product code	Mounting dimension		Dimension			Pore diameter	Weight
	A (mm)	B (mm)	H (mm)	W (mm)	D (mm)	(mm)	(kg)
VFD-L-1-002-230V	141	80.5	150	89	123	ϕ4.6	0.85
VFD-L-1-005-230V							
VFD-L-1-010-230V							

Connection diagram



Note : PNP & NPN settings can be changed in P5-12

Model description

MODEL: VFD – L – 1 – 010 – 230V

- 230V: Supply voltage: 230V AC
- 010: Motor configuration: 002-0.25HP; 005-0.5HP 010-1HP
- 1: Input voltage phase: 1 - Single phase
- L: Product series: L Series
- VFD: Model VFD

Ordering information

Product code	Description	Output current
VFD-L-1-002-230V	1 Phase 230V, 0.25HP / 0.2kW	1.5A
VFD-L-1-005-230V	1 Phase 230V, 0.5HP / 0.4kW	2.5A
VFD-L-1-010-230V	1 Phase 230V, 1HP / 0.7kW	5A