



Features :

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

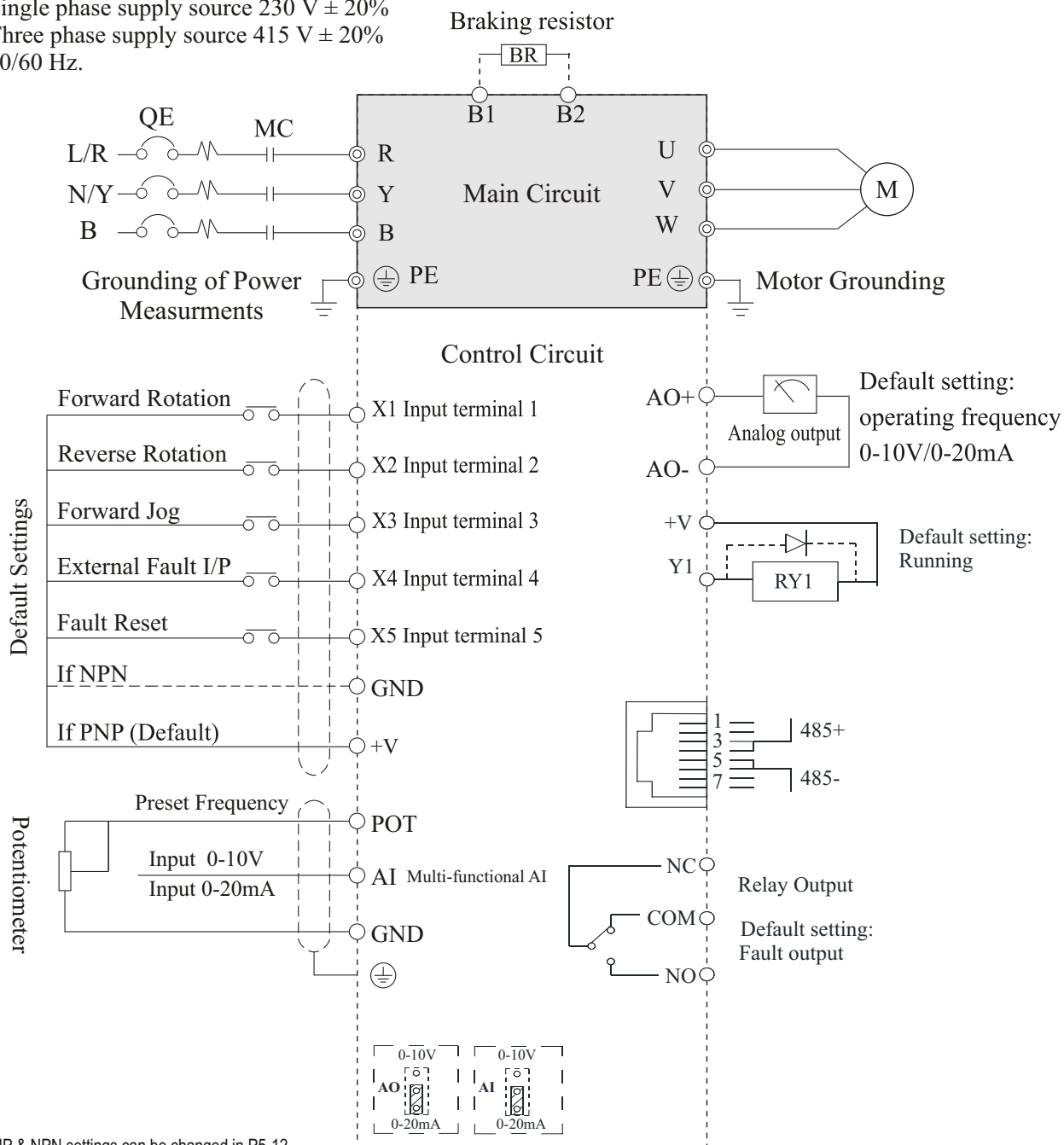
Technical specifications

Single phase			
Model VFD-S-1	005	010	020
Applicable motor output (kW)	0.4	0.75	1.5
Applicable motor output (HP)	0.5	1	2
Input rating			
Rated voltage / Frequency	Single phase 230V AC, 50/60 Hz		
Maximum input current	5 A	10 A	20 A
Voltage tolerance	±20% (184 ~ 276 V)		
Frequency tolerance	±5% (47 ~ 63 Hz)		
Output rating			
Rated output capacity (kVA)	1	1.9	2.7
Rated output current	2.5 A	5 A	7 A
Maximum output voltage (V)	Proportional to input voltage		
Output frequency	0.1 ~ 400 Hz		
Carrier frequency	2 ~ 10 kHz		
Three phase			
Model VFD-S- 3	010	020	030
Applicable motor output (kW)	0.75	1.5	2.2
Applicable motor output (HP)	1	2	3
Input rating			
Rated voltage / Frequency	Three phase 415V AC, 50/60 Hz		
Maximum input current	3.5 A	7 A	10 A
Voltage tolerance	±20% (332 ~ 498 V)		
Frequency tolerance	±5% (47 ~ 63 Hz)		
Output rating			
Rated output capacity (kVA)	2.1	3.5	5
Rated output current	2.5 A	3.7 A	5.1 A
Maximum output voltage (V)	Proportional to input voltage		
Output frequency	0.1 ~ 400 Hz		
Carrier frequency	2 ~ 10 kHz		

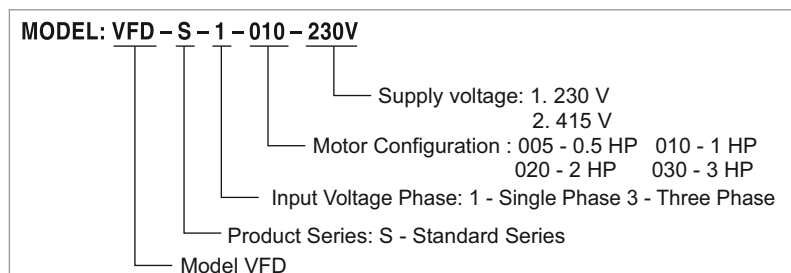
Control characteristics			
Control mode	Space vector PWM (SVPWM) based scalar control		
Frequency setting resolution (Hz)	0.1 ~ Upper limit of frequency		
Starting torque	Maximum 150% for 60 sec once in 10 minutes		
Overload endurance	150% for 1 min, 180% for 10 sec., 200% for 1 sec.		
Skip frequency	Two zones, Setting range 0.1 to 400 Hz		
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 ~ 3600 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 encoder	
	External signal	Potentiometer – 10 kΩ, 0 to 10V DC Analog input – 0 to 20 mA / 4 to 20 mA / 0 to 10 V Communication – Modbus RTU over RS485 Multifunction terminal – 1 to 5 (8 Steps, JOG, UP & DOWN)	
Operation setting	Keypad	By RUN & STOP Keys	
	External signal	Multifunction terminal 1 to 5 (RUN, STOP, Fwd / Rev, JOG) External communication – Modbus RTU over RS485	
Control Input / Output			
Digital input	Programmable digital inputs	5	Terminal X1 to X5
	Logic	PNP or NPN	
	Voltage level	0 - 24V DC	
	Input resistance	Approx. 6 kΩ	
Analog input	Analog input	1	AI
	Modes	Voltage or current	
	Voltage level	0 to +10 V	
	Current level	0/4 to +20 mA	
Analog output	Analog output	1	AO
	Voltage level	0 to +10 V	
	Current level	0/4 to 20 mA	
Multifunction output	Open collector O/P	1	Y1
	Voltage level at digital output	24 V	
	Output current (sink)	50 mA	
	Relay output	1	NO, COM, NC
	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 communication, Reduced power mode, Energy efficient running, Hand function			
Protection function			
Over voltage, Under voltage, Over current, Over temperature, Over load, Under current, Output short circuit			
Display / Keypad			
Removable HMI with 8 keys (RUN STOP / RESET, PRG, ESC, JOG / REV, UP, DOWN, HAND), 1 Switch enabled encoder, 5 Digit-7 Segment LED display and 7 Status LEDs, 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 ~ +55°C		
Storage / Transportation temperature	-20°C ~ +60°C		
Ambient humidity	< 90 %, No condensation		
Vibration	<5.9 m/s ² (0.6 g)		

Connection diagram

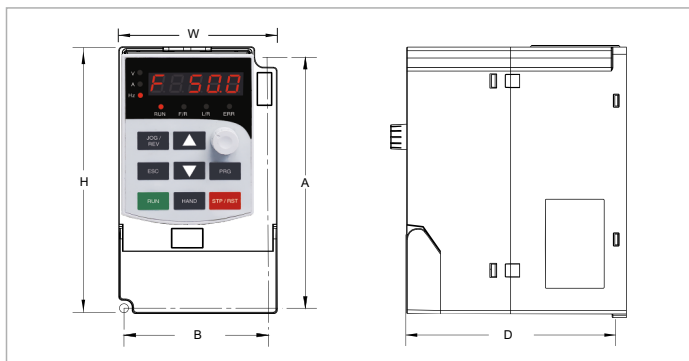
Single phase supply source $230\text{ V} \pm 20\%$
 Three phase supply source $415\text{ V} \pm 20\%$
 50/60 Hz.



Model description



Dimensions



Product Code	Mounting dimension		Dimension			Pore diameter	Weight
	A (mm)	B (mm)	H (mm)	W (mm)	D (mm)	(mm)	(kg)
VFD-S-1-005-230V	141	80.5	150	89	123	f4.6	0.85
VFD-S-1-010-230V							
VFD-S-1-020-230V							
VFD-S-3-010-415V							
VFD-S-3-020-415V							
VFD-S-3-030-415V							

Ordering information

Product code	Description	Braking unit	Recommended resistance value	Output current
VFD-S-1-005-230V	1 Phase 230V, 0.5 HP / 0.4 KW	Built In	100W 700 Ω	2.5 A
VFD-S-1-010-230V	1 Phase 230V, 1 HP / 0.75 KW	Built In	150W 360 Ω	5 A
VFD-S-1-020-230V	1 Phase 230V, 2 HP / 1.5 KW	Built In	200W 200 Ω	7 A
VFD-S-3-010-415V	3 Phase 415V, 1 HP / 0.75 KW	Built In	200W 850 Ω	2.5 A
VFD-S-3-020-415V	3 Phase 415V, 2 HP / 1.5 KW	Built In	350W 500 Ω	3.7 A
VFD-S-3-030-415V	3 Phase 415V, 3 HP / 2.2 KW	Built In	550W 450 Ω	5.1 A

Applications :

Suitable for Fans, Pumps, Conveyor, Food & drink packaging, Machinery, Industrial washing machine, Textile applications and Most general purpose industries, Etc.