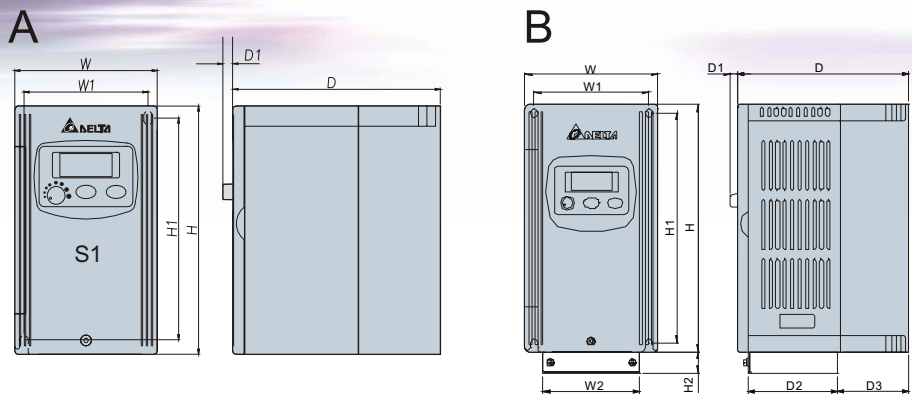


External Dimensions



Dimensions

Model	W	W1	W2	H	H1	H2	D	D1	D2	D3	Fan	Fig
VFD002S11A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	88(3.47)	5.8(0.23)	-	-	No	A
VFD002S21A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	88(3.47)	5.8(0.23)	-	-	No	A
VFD002S21E	85(3.5)	74(2.92)	-	148(5.83)	133.7(5.27)	-	127(5.00)	5.8(0.23)	-	-	No	A
VFD002S23A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	88(3.47)	5.8(0.23)	-	-	No	A
VFD004S11A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	102(4.02)	5.8(0.23)	-	-	No	A
VFD004S21A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	102(4.02)	5.8(0.23)	-	-	No	A
VFD004S21E	85(3.5)	74(2.92)	-	148(5.83)	133.7(5.27)	-	127(5.00)	5.8(0.23)	-	-	Yes	A
VFD004S23A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	102(4.02)	5.8(0.23)	-	-	No	A
VFD004S43A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	126(4.96)	5.8(0.23)	-	-	No	A
VFD004S43E	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	126(4.96)	5.8(0.23)	-	-	No	A
VFD007S11A	100(3.94)	86.5(3.41)	-	186(7.33)	173(6.81)	-	129(5.09)	5.4(0.21)	-	-	No	A
VFD007S21A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	124(4.89)	5.8(0.23)	-	-	No	A
VFD007S21E	85(3.5)	74(2.92)	-	148(5.83)	133.7(5.27)	-	127(5.00)	5.8(0.23)	-	-	Yes	A
VFD007S23A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	124(4.89)	5.8(0.23)	-	-	No	A
VFD007S43A	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	126(4.96)	5.8(0.23)	-	-	No	A
VFD007S43E	85(3.5)	74(2.92)	-	148(5.83)	132.2(5.21)	-	126(4.96)	5.8(0.23)	-	-	No	A
VFD015S21D/E	100(3.94)	86.5(3.41)	-	186(7.33)	173(6.82)	-	129.3(5.09)	5.4(0.21)	-	-	Yes	A
VFD015S23D	85(3.5)	74(2.92)	-	148(5.83)	133.7(5.27)	-	127(5.00)	5.8(0.23)	-	-	Yes	A
VFD015S43D/E	100(3.94)	86.5(3.41)	-	186(7.33)	173(6.81)	-	129.3(5.09)	5.4(0.21)	-	-	Yes	A
VFD022S21D/E	100(3.94)	86.5(3.41)	-	186(7.33)	173(6.81)	-	129.3(5.09)	5.4(0.21)	-	-	Yes	A
VFD022S23D	100(3.94)	86.5(3.41)	-	186(7.33)	173(6.81)	-	129.3(5.09)	5.4(0.21)	-	-	Yes	A
VFD022S43D/E	100(3.94)	86.5(3.41)	-	186(7.33)	173(6.81)	-	129.3(5.09)	5.4(0.21)	-	-	Yes	A
VFD002S11B	85(3.5)	74(2.92)	73	148(5.83)	132.2(5.21)	16	88(3.47)	5.8(0.23)	67.8	13.0	No	B
VFD002S21B	85(3.5)	74(2.92)	73	148(5.83)	132.2(5.21)	16	88(3.47)	5.8(0.23)	67.8	13.0	No	B
VFD002S23B	85(3.5)	74(2.92)	(2.88)	148(5.83)	132.2(5.21)	(0.63)	88(3.47)	5.8(0.23)	(2.67)	(0.51)	No	B
VFD004S11B	85(3.5)	74(2.92)	73	148(5.83)	132.2(5.21)	16	102(4.02)	5.8(0.23)	67.8	27.0(1.06)	No	B
VFD004S21B	85(3.5)	74(2.92)	(2.88)	148(5.83)	132.2(5.21)	(0.63)	102(4.02)	5.8(0.23)	(2.67)	27.0(1.06)	No	B
VFD004S23B	85(3.5)	74(2.92)	(2.88)	148(5.83)	132.2(5.21)	(0.63)	102(4.02)	5.8(0.23)	(2.67)	27.0(1.06)	No	B
VFD004S43B	85(3.5)	74(2.92)	(2.88)	148(5.83)	132.2(5.21)	(0.63)	126(4.96)	5.8(0.23)	(2.67)	51.0(2.01)	No	B
VFD007S11B	100(3.94)	86.5(3.41)	73	186(7.33)	173(6.81)	16	129(5.09)	5.4(0.21)	67.8	53.9(2.12)	No	B
VFD007S21B	85(3.35)	74(2.92)	(2.88)	148(5.83)	132.2(5.21)	(0.63)	124(4.89)	5.8(0.23)	(2.67)	50.0(1.97)	No	B
VFD007S43B	85(3.35)	74(2.92)	(2.88)	148(5.83)	132.2(5.21)	(0.63)	126(4.96)	5.8(0.23)	(2.67)	51.0(2.01)	No	B
VFD015S21U	100(3.94)	86.5(3.41)	73	186(7.33)	173(6.82)	16	129.3(5.09)	5.4(0.21)	67.8	53.9(2.12)	Yes	B
VFD015S43U	100(3.94)	86.5(3.41)	(2.88)	186(7.33)	173(6.82)	(0.63)	129.3(5.09)	5.4(0.21)	(2.67)	53.9(2.12)	Yes	B
VFD022S21U	100(3.94)	86.5(3.41)	(2.88)	186(7.33)	173(6.82)	(0.63)	129.3(5.09)	5.4(0.21)	(2.67)	53.9(2.12)	Yes	B
VFD022S43U	100(3.94)	86.5(3.41)	(2.88)	186(7.33)	173(6.82)	(0.63)	129.3(5.09)	5.4(0.21)	(2.67)	53.9(2.12)	Yes	B

\*We reserve the right of this catalogue contained information change without prior notice.



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VFD

Delta VFD-S Series  
Variable Speed AC Motor Drives

Features:

- ▶ 16-bit microprocessor controlled PWM output
- ▶ Automatic torque boost & slip compensation
- ▶ Output frequency 1.0~400Hz
- ▶ 8-step speed control & 8-step process control
- ▶ Low-noise carrier frequency up to 10kHz
- ▶ 2 accel./decel. times & 2 S-curve settings
- ▶ Process follower 0~10VDC, 4~20mA
- ▶ MODBUS communication RS-485 (Baud rate 38400)
- ▶ Coast or ramp to stop
- ▶ Momentary power failure restart & fault restart
- ▶ Adjustable V/F curve & automatic voltage regulation
- ▶ Automatic adjustment of accel./decel. Times
- ▶ PID feed back control
- ▶ Sleep / Revival function

Voltage Range:

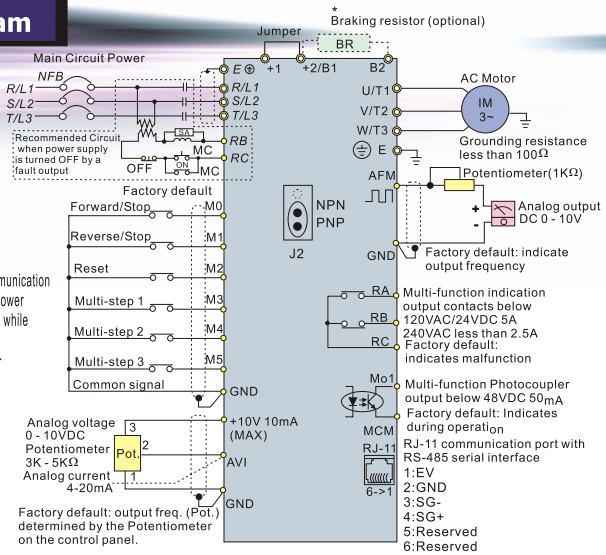
- 1 Phase 115V Series : 0.2~0.75KW (0.25~1HP)
- 1 Phase 230V Series : 0.2~2.2KW (0.25~3HP)
- 3 Phase 230V Series : 0.2~2.2KW (0.25~3HP)
- 3 Phase 460V Series : 0.4~2.2KW (0.5~3HP)



VFD-S series have been approved by CE and UL

www.delta.com.tw/industrialautomation

Standard wiring diagram



NOTE: Do not plug in a Modem or telephone line to the RS-485 communication port, permanent damage may result. Terminal 1 & 2 are the power sources for the optional copy keypad and should not be used while using RS-485 communication.

\* If it is single phase model, please select any of the two input power terminals in main circuit power.

● Main circuit (power) terminals ● Control circuit terminals ⚡ Shielded leads

NOTE: \* is optional

Standard specifications

115V Series 1-Phase

Model Number VFD□□□S□□□S		002	004	007
Max. Applicable Motor Output (kW)		0.2	0.4	0.75
Max. Applicable Motor Output (HP)		0.25	0.5	1.0
Output Rating	Rated Output Capacity (kVA)	0.6	1.0	1.6
	Rated Output Current (A)	1.6	2.5	4.2
	Maximum Output Voltage (V)	3-Phase proportional to twice the Input Voltage		
	Output Frequency (Hz)	0.1~400Hz		
Carrier Frequency (kHz)		3-10		
Input Rating	Rated Input Current (A)	Single Phase		
		6	9	16
	Rated Voltage , Frequency	Single phase 100-120V , 50/60Hz		
	Voltage Tolerance	± 10%(90~132V)		
	Frequency Tolerance	± 5%(47~63Hz)		
Cooling Method		Natural		
Weight(Kg)		1.3	1.5	2.0

230V Series 1-Phase/3-Phase

Model Number VFD□□□S□□□S□□□S		002	004	007	015	022
Max. Applicable Motor Output (kW)		0.2	0.4	0.75	1.5	2.2
Max. Applicable Motor Output (HP)		0.25	0.5	1.0	2.0	3.0
Output Rating	Rated Output Capacity (kVA)	0.6	1.0	1.6	2.9	4.4/4.2
	Rated Output Current (A)	1.6	2.5	4.2	7.5	11.0
	Maximum Output Voltage (V)	3-Phase Proportional to input voltage				
	Output Frequency (Hz)	0.1~400Hz				
Carrier Frequency (kHz)		3-10				
Input Rating	Rated Input Current (A)	Single / 3-Phase				
		4.9 / 1.9	6.5 / 2.7	9.7 / 5.1	15.7 / 9.0	24 / 15
	Single (3-phase Input Current)	1.6	3.0	5.1	8.4	
	Rated Voltage , Frequency	Single / 3-Phase 200-240V , 50 / 60Hz				
	Voltage Tolerance	± 10%(180~264V)				
Frequency Tolerance		± 5%(47~63Hz)				
Cooling Method		Natural			Fan Cooled	
Weight (Kg)		1.3	1.5	1.5	2.2	3.2

Standard specifications

460V Series 3-Phase

Model Number VFD□□□S		004	007	015	022
Max. Applicable Motor Output (kW)		0.4	0.75	1.5	2.2
Max. Applicable Motor Output (HP)		0.5	1.0	2.0	3.0
Output Rating	Rated Output Capacity (kVA)	1.2	2.0	3.3	4.4
	Rated Output Current (A)	1.5	2.5	4.2	5.5
	Maximum Output Voltage (V)	3-Phase Proportional to input voltage			
	Output Frequency (Hz)	0.1~400Hz			
Carrier Frequency (kHz)		3-10			
Input Rating	Rated Input Current (A)	3-Phase			
		1.7	2.9	5.1	6.9
	Rated Voltage, Frequency	3-Phase 380-480V , 50 / 60Hz			
	Voltage Tolerance	± 10%(342~528V)			
	Frequency Tolerance	± 5%(47~63Hz)			
Cooling Method		Natural		Fan Cooled	
Weight (Kg)		1.5	1.5	2.0	2.2

Control Characteristics	Control System	SPWM (Sinusoidal Pulse Width Modulation) control (V/F control)	
	Freq. Setting Resolution	0.1Hz	
	Output Frequency Resolution	0.1Hz	
	Torque Characteristics	Including the auto-torque, auto-slip compensation; starting torque can be 150% at 5.0Hz	
	Overload Endurance	150% of rated current for 1 minute	
	Skip Frequency	Three zones, settings range 0.1-400Hz	
	Accel/Decel Time	0.1 to 600 seconds (2 independent settings for Accel/Decel Time)	
	Stall Prevention Level	20%-150%, Setting of Rated Current	
	DC Injection Braking	Operation frequency 0-400Hz, output 0-30% rated current Start time 0-60 seconds, stop time 0-60 seconds	
	Braking Torque	Approx. 20% (up to 125% possible with option braking resistor or braking unit externally mounted)	
Operating Characteristics	V/F Pattern	Adjustable V/F pattern Set by ▲▼	
	Frequency Setting	Keypad	Set by ▲▼
		External Signal	Potentiometer-5kΩ/0.5W, 0 to +10VDC; 4 to 20mA, RS-485 interface; Multi-Function Inputs 0 to 5 (7 steps, Jog, up/down)
	Operation Setting	Keypad	Set by RUN, STOP
		External Signal	2 wires / 3 wires (Run, Stop, Fwd / Rev, ), JOG operation, RS-485 serial interface (MODBUS)
	Multi-Function Input Signal	Multi-step selection 0 to 7, Jog, accel / decel inhibit, first to forth accel / decel switches, counter, PLC operation, external Base Block (NC, NO), auxiliary motor control is invalid, selections, drive reset, UP/DOWN key settings, sink / source selection	
	Multi-Function Output Indication	AC Drive Operating, Frequency Attained, Non-zero, Base Block, Fault Indication, Local / Remote indication, PLC Operation indication, Auxiliary Motor Output, Driver is Ready, Overheat, Alarm, Emergency Stop	
	Analog Output Signal	Analog frequency / current signal output. 1 Form C contact or open collector output.	
	Alarm Output Contact	AVR, S-Curve, Over-Voltage, Over-Current Stall Prevention, Fault Records, Adjustable Carrier Frequency, DC Braking, Momentary Power Loss restart, Frequency Limits, Parameter Lock / Reset, Counter, PID Control, PLC, MODBUS Communication, Reverse Inhibition, abnormal reset, abnormal re-start, digital frequency output, sleep / revival function,	
	Operation Functions	AVR, S-Curve, Over-Voltage, Over-Current Stall Prevention, Fault Records, Adjustable Carrier Frequency, DC Braking, Momentary Power Loss restart, Frequency Limits, Parameter Lock / Reset, Counter, PID Control, PLC, MODBUS Communication, Reverse Inhibition, abnormal reset, abnormal re-start, digital frequency output, sleep / revival function,	
Built-In EMI Filter	VFD002S21E , VFD004S21E , VFD004S43E , VFD007S21E , VFD007S43E , VFD015S21E , VFD015S43E , VFD022S21E , VFD022S43E		
Protective Functions	Self-testing, Over Voltage, Over Current, Under Voltage, Overload, Overheating, External Fault, Electronic thermal, Ground Fault.		
Display Keypads	6-key, 4-digit, 7-segment LED, 4 status LEDs, master frequency, output frequency, Output current, custom units, parameter values for setup, review and faults, RUN, STOP, RESET, FWD/REV		
Environmental Conditions	Protection Level	IP20	
	Pollution Degree	2	
	Installation Location	Altitude 1,000m or less, keep from corrosive gas, liquid and dust	
	Ambient Temperature	-10°C to 40°C Non-Condensing and not frozen	
	Storage / Transportation Temperature	-20°C to 60°C	
	Ambient Humidity	Below 90% RH (non-condensing )	
Vibration	9.80665m/s <sup>2</sup> (1G) less than 20Hz, 5.88m/s <sup>2</sup> (0.6G) at 20 to 50Hz		
Approvals	CE, UL, IEC		