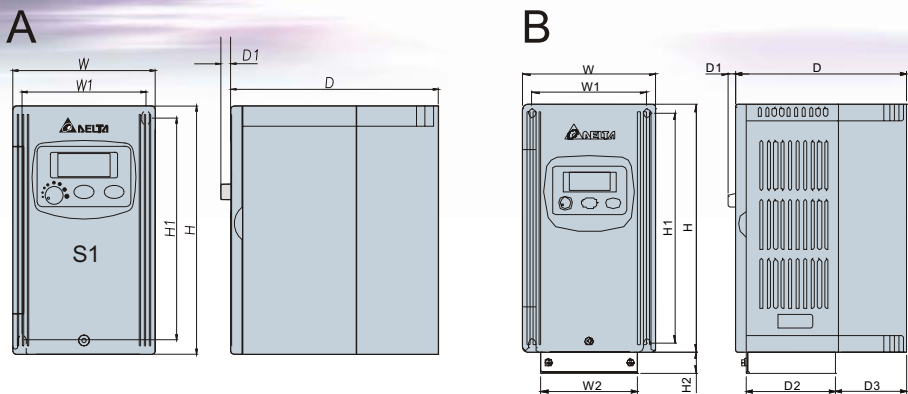


VFD-S

External Dimensions



■ Dimensions

unit: mm (inch)

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(5.08)	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)	(2.88)	148(5.83)	132.2(5.21)	(0.63)	88(3.47)	5.8(0.23)	(2.67)	(0.51)	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(5.08)	5.4(0.21)	67.8	53.5(2.11)	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.



ASIA
DELTA ELECTRONICS, INC.
Taoyuan Plant/
31-1, SHIEN PAN ROAD, KUEI SAN
INDUSTRIAL ZONE, TAOYUAN SHIEN,
TAIWAN, R.O.C.
TEL: 886-3-362-6301
FAX: 886-3-362-7267
www.delta.com.tw/industrialautomation

NORTH/SOUTH AMERICA
DELTA PRODUCTS CORPORATION
Sales Office/
P.O. BOX 12173
5101 DAVIS DRIVE
RESEARCH TRIANGLE PARK,
NC 27709, U.S.A.
TEL: 1-919-767-3813
FAX: 1-919-767-3969

EUROPE
DELTRONICS (NETHERLANDS) B.V.
DE WITBOGT 15
NL-5652 AG EINDHOVEN
THE NETHERLANDS
TEL: 31-40 259-2850
FAX: 31-40 259-2851

DELTA ELECTRONICS (JAPAN) INC.
DELTA SHIBADAIMON BLDG.
2-1-14 SHIBADAIMON, MINATO-KU,
TOKYO, 105-0012, JAPAN
TEL: 81-3-5733-1111
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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)



ISO-9001
REGISTERED

VFD-S series have been approved by CE and UL

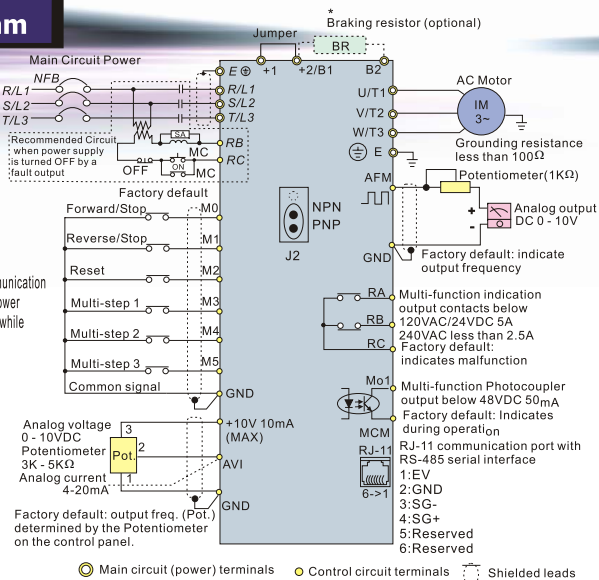
www.delta.com.tw/industrialautomation

VFD-S

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

	Mode Number VFD□□□S	002	004	007
		0.2	0.4	0.75
Output Rating	Max. Applicable Motor Output (kW)	0.25	0.5	1.0
	Rated Output Capacity (kVA)	0.6	1.0	1.6
Input Rating	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		
	Rated Input Current (A)	Single Phase		
	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□□□S21/23	002	004	007	015	022
		0.2	0.4	0.75	1.5	2.2
Output Rating	Max. Applicable Motor Output (kW)	0.25	0.5	1.0	2.0	3.0
	Rated Output Capacity (kVA)	0.6	1.0	1.6	2.9	4.4/4.2
Input Rating	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				
	Rated Input Current (A)	Single / 3-Phase				
	Single (3-phase Input Current)	4.9 / 1.9	6.5 / 2.7	9.7 / 5.1	15.7 / 9.0	24 / 15
	Rated Voltage , Frequency	Single / 3-Phase 200-240V , 50 / 60Hz				
	Voltage Tolerance	± 10%(180~264V)				
	Frequency Tolerance	± 5%(47~63Hz)				
	Cooling Method	Natural				
	Weight (Kg)	1.3	1.5	1.5	2.2	3.2

VFD-S

Standard specifications

460V Series 3-Phase

	Model Number VF□□□□S	004	007	015	022
		0.4	0.75	1.5	2.2
Output Rating	Max. Applicable Motor Output (kW)	0.5	1.0	2.0	3.0
	Rated Output Capacity (kVA)	1.2	2.0	3.3	4.4
Input Rating	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			
	Rated Input Current (A)	3-Phase			
	Rated Voltage, Frequency	1.7	2.9	5.1	6.9
	Voltage Tolerance	3-Phase 380-480V , 50 / 60Hz			
	Frequency Tolerance	± 10%(342~528V)			
	Cooling Method	± 5%(47~63Hz)			
	Weight (Kg)	Natural	Fan Cooled		
		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
	Braking Torque		Start time 0-60 seconds, stop time 0-60 seconds
	V/F Pattern		Approx. 20% (up to 125% possible with option braking resistor or braking unit externally mounted)
	V/F Pattern		Adjustable V/F pattern
Operating Characteristics	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 serialinterface (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.
	Alarm Output Contact		1 Form C contact or open collector output.
	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 ² (1G) less than 20Hz, 5.88m/s ² (0.6G) at 20 to 50Hz
	Approvals		CE, UL, C