

EL-W V2.00

Product	AMD	Models	EL-W (V2.00)	Security Classification	<input checked="" type="checkbox"/> General <input type="checkbox"/> Confidential <input type="checkbox"/> Top-secret
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Introduction

Delta's VFD-EL-W series is the new generation compact vector control drive. Simple, delicate and durable design inherits Delta's superior drive technology.

Various essential functions are built-in as standard, including: Speed Search; DC Brake before Running; Energy-saving; Sleep Mode; Multi-step Operation; Switching Acceleration and Deceleration Time; Automatic Voltage Regulation; Torque Compensation; Slip Compensation; Abnormal reset and momentary power loss operation; Skip Frequency Setting; PID Control; Multi-Pump Control; Water Supply at Constant Pressure; Leakage Detection function.

It also with complete built-in protection mechanism, such as: Over-current; Over-voltage; Low-voltage; Over-heat; Over-load; Over-torque; Phase Loss Protection; Over-current and Over-voltage Stall Prevention; Motor PTC Overheat Warning; Maximum and Minimum Frequency Limitation; Time-Out Detection function.

VFD-EL-W not only saves the extra cost but also increase the market competitiveness with the best technics.

Features

- Compact, simple and durable design.
- Multi-speed operation and control mode: digital panel, external terminal and Modbus communication.
- Multi-pump control; PID Control.
- Support one drive with two motors in parallel and Time Out Detection function.
- High overload capacity, 150% rated current for 1 min.
- Certification: CE, RoHS, GB12668.3

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Wide Range of Applications



Edge banding machine



Logistic conveyor



Material handling



Constant pressure pump

Specifications

230V Models

230V Models				
Frame		A1	B	
VFD□□□EL21W (-1)		007	015	022
Max. Applicable Motor Output (kW)		0.75	1.5	2.2
Max. Applicable Motor Output (Hp)		1.0	2.0	3.0
Output Rating	Rated Output Capacity (kVA)	1.6	2.9	4.2
	Rated Output Current (A)	4.2	7.5	11.0
	Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage		
	Output Frequency (Hz)	0.1Hz ~ 400Hz		
	Carrier Frequency (kHz)	2kHz ~ 12kHz (Defaulted 8kHz)		
Input Rating	Rated Input Current (A)	9.3	15.7	24.0
	Rated Voltage / Frequency	Single Phase, 200V ~ 240V,50 / 60Hz		
	Voltage Tolerance	±10% (180V~264V)		
	Frequency Tolerance	±5% (47Hz ~ 63Hz)		
Weight (kg)		1.0	1.4	1.4
Cooling Method		Natural Cooling	Fan Cooling	
Brake Unit		N / A		
DC Choke		N / A		
EMI Filter		N / A		

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460V Models					
Frame		A1	A2	B	
VFD□□□EL43W (-1)		007	015	022	040
Max. Applicable Motor Output (kW)		0.75	1.5	2.2	4.0
Max. Applicable Motor Output (Hp)		1.0	2.0	3.0	5.5
Output Rating	Rated Output Capacity (kVA)	2.0	3.3	4.4	7.4
	Rated Output Current (A)	2.5	4.2	5.5	9.0
	Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage			
	Output Frequency (Hz)	0.1Hz ~ 400Hz			
	Carrier Frequency (kHz)	2kHz ~ 12kHz (Defaulted 8kHz)			
Input Rating	Rated Input Current (A)	3.2	4.3	7.1	10.0
	Rated Voltage / Frequency	3-Phase, AC 380V ~ 480V,50 / 60Hz			
	Voltage Tolerance	±10% (342V ~ 528V)			
	Frequency Tolerance	±5% (47Hz ~ 63Hz)			
Weight (kg)		1.0	1.0	1.4	1.4
Cooling Method		Natural Cooling	Fan Cooling		
Brake Unit		N / A			
DC Choke		N / A			
EMI Filter		N / A			

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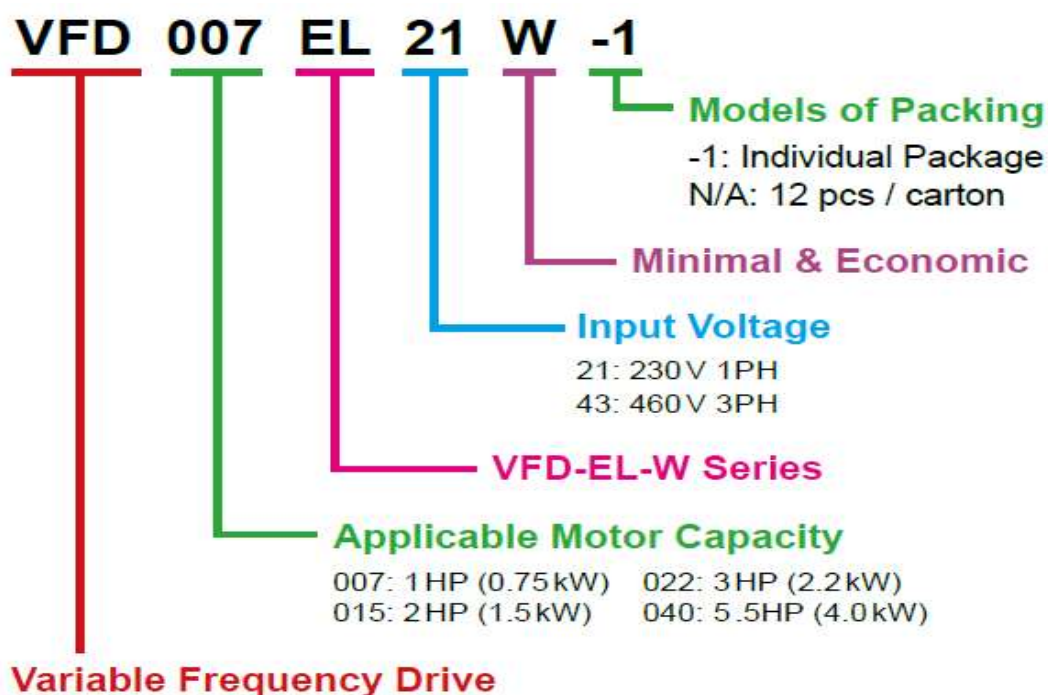
General Specifications

Control Characteristics	Control System		SPWM (Sinusoidal Pulse Width Modulation) control (V/F control)
	Frequency Setting Resolution		0.01Hz
	Output Frequency Resolution		0.01Hz
	Torque Characteristics		Including the auto-torque, auto-slip compensation; starting torque can be 150% at 5 Hz
	Overload Endurance		150% of rated current for 1 minute
	Skip Frequency		Three zones, setting range 0.1 ~ 400 Hz
	Accel./Decel. Time		0.1 to 600 seconds (2 independent setting for accel./decel. time)
	Stall Prevention Level		Setting 20 to 250% of rated current
	DC Brake		Operation frequency 0.1~400 Hz, Output 0 ~ 100% rated current Start time 0~60 seconds, stop time 0~60 second
	V/F Pattern		Adjustable V/F pattern
Operating Characteristics	Frequency Setting	Keypad	Setting by ▲ ▼
		External Signal	Potentiometer: 5kΩ/0.5W, 0 to +10VDC, 4 to 20 mA Multi-function input MI2 ~ MI4 (8 steps: Including the main speed, jog, up/down); RS-485 serial interface
	Operating Setting Signal	Keypad	Setting by RUN and STOP
		External Signal	RUN / STOP by MI1 (default) or 2 wires / 3 wires control (MI1,MI2,MI3) , jog operation, RS485 serial interface (Modbus)
	Multi-function Input Signal		Multi-step selection 0 to 8 (including the main speed), jog, 2 accel./decel. switches, accel./decel. inhibit, counter, external base block, AVI/ACI selections, driver reset, UP/DOWN key settings, NPN/PNP input selection
	Multi-function Output Signal		AC drive operating, frequency attained, zero speed, base block, fault indication, overheat alarm, emergency stop and status selections of input terminal
Protection Functions			Over voltage, over current, under voltage, external fault, overload, overheating, electronic thermal, IGBT short circuit, multiple motor, PTC
Operation Functions			Accel./decel. S-Curve, over-voltage/over-current stall prevention, 5 fault records, reverse inhibition, momentary power loss restart, DC brake, auto torque/slip compensation, auto tuning, adjustable carrier frequency, output frequency limits, parameter lock/reset, PID control, external counter, Modbus communication, abnormal reset, power-saving, fan control (1.5~4.0 kW), sleep/wake frequency, 1 st /2 nd frequency source selections, 1 st /2 nd frequency source combination, NPN/PNP selection
Display Keypad (optional)			6-key, 7-segment LED with 4-digit, 4 status LEDs, master frequency, output frequency, output current, custom units, parameter values for setup and lock, faults, RUN, STOP, RESET
Environmental Conditions	Enclosure Rating		IP20
	Pollution Degree		2
	Installation Location		Altitude 1,000 m or lower, keeping from corrosive gas, liquid and dust
	Operating Temperature		-10°C to 50°C (except VFD007EL21W) -10°C to 40°C (VFD007EL21W)
	Storage/Transportation Temperature		-20°C to 60°C
	Ambient Humidity		Below 90% RH (non-condensing)
	Vibration		1.0 mm, peak to peak 2~13.2 Hz; 0.7~1.0 G, 13.2~55 Hz; 1.0 G, 55~512 Hz; compliance with IEC 60068-2-6
Certification			CE, RoHS, GB 12668.3

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Ordering Information

Model Eexplanation



NOTE Different ways of packing may with different price, please contact with Delta regional office for more information.

Frame size	Cooling Method	Operating Temp.	Power Range	Model Name
Frame A1	Natural Cooling	-10°C~40°C	230V: 0.75kW	VFD007EL21W(-1)
			460V: 0.75kW	VFD007EL43W(-1)
Frame A2	Fan Cooling	-10°C~50°C	460V: 1.5kW	VFD015EL43W(-1)
Frame B			230V: 1.5 ~ 2.2kW 460V: 2.2 ~ 4.0kW	VFD015EL21W(-1) VFD022EL21W(-1) VFD022EL43W(-1) VFD040EL43W(-1)

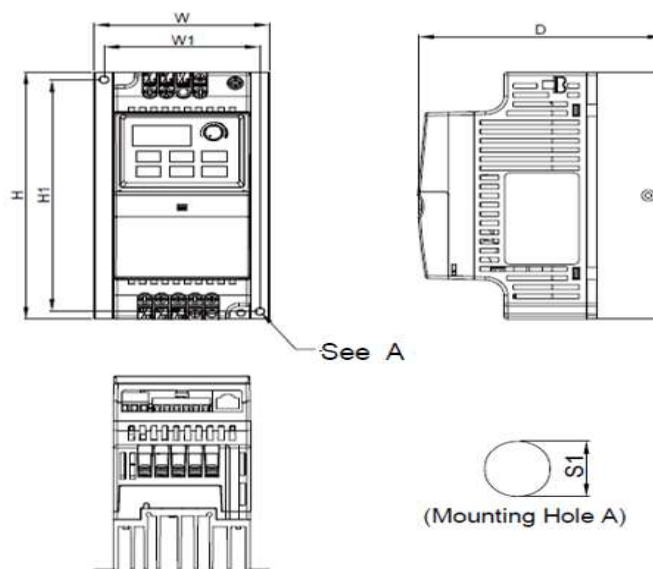
NOTE VFDxxxELxxW-1 and VFDxxxELxxW electrical specifications are exactly the same, only the way of packaging is different

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Dimensions

Frame A1

Suitable Models
 VFD007EL21W (-1)
 VFD007EL43W (-1)

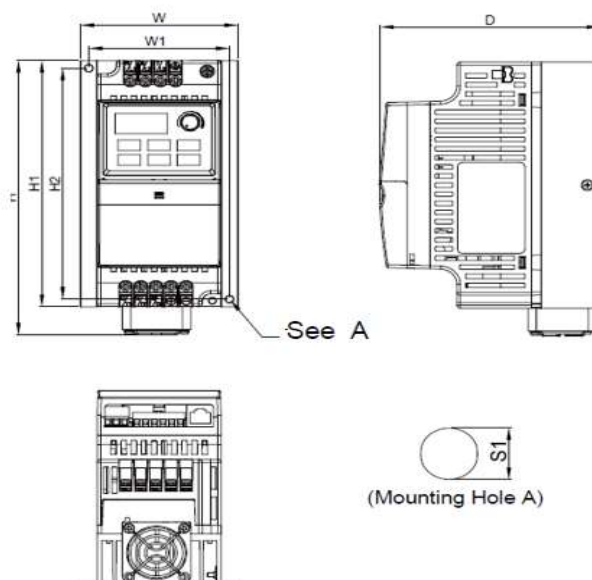


unit : mm[inch]

Frame		W	W1	H	H1	D	S1
A1	mm	92.0	82.0	162.0	152	128.7	5.4
	inch	3.62	3.23	6.38	5.98	5.07	0.21

Frame A2

Suitable Models:
 VFD015EL43W (-1)



unit : mm[inch]

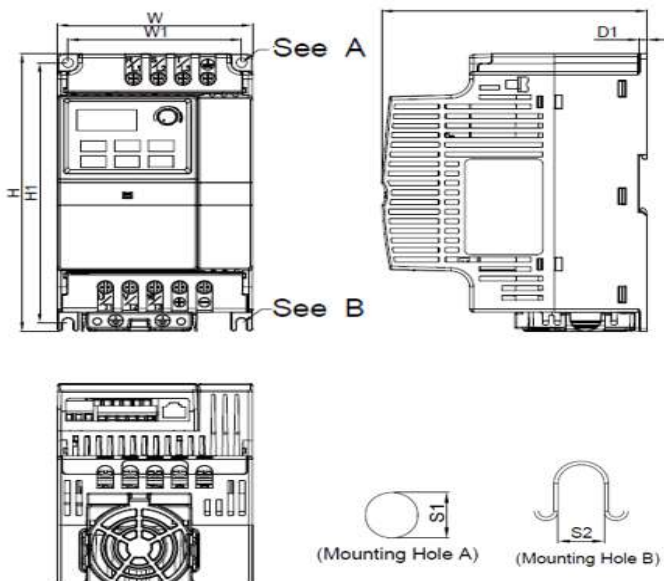
Frame		W	W1	H	H1	H2	D	S1
A2	mm	92.0	82.0	180.5	162.0	152	128.7	5.4
	inch	3.62	3.23	7.11	6.38	5.98	5.07	0.21

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Frame B

Suitable Models:

VFD015EL21W (-1)
VFD022EL21W (-1)
VFD022EL43W (-1)
VFD040EL43W (-1)



Frame		W	W1	H	H1	D	D1	S1	S2
B	mm	100.0	89.0	174.0	162.9	136.0	4.0	5.9	5.4
	inch	3.94	3.50	6.85	6.42	5.35	0.16	0.23	0.21

unit : mm[inch]

Launch Date

Region	Model	Packing	V2.00 Launch Date
DAR, DGB, DMX, DEN, DIN, DESG.	VFD007EL21W VFD015EL21W VFD022EL21W VFD007EL43W VFD015EL43W VFD022EL43W VFD040EL43W	12pcs/ carton	2019.12.01
	VFD007EL21W-1 VFD015EL21W-1 VFD022EL21W-1 VFD007EL43W-1 VFD015EL43W-1 VFD022EL43W-1 VFD040EL43W-1	1pcs/ carton	2020/Q1

Note: To place the order with VFDxxxELxxW, the quantities should be multiples of 12.

Such as 12pcs, 24pcs, 36pcs, 48pcs, 60pcs....