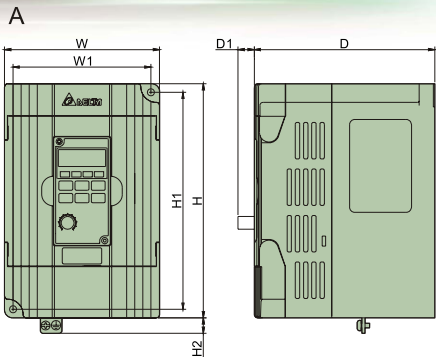
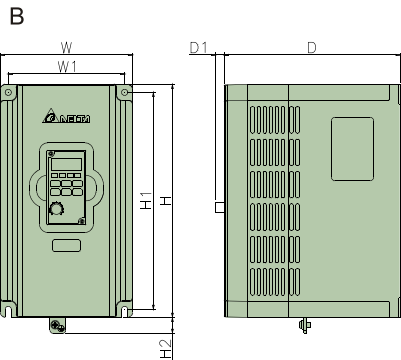


# VFD-M

External Dimensions



unit:mm



# VFD-M

External Dimensions

## ■ Dimensions

Model	W	W1	H	H1	D	D1	Fan	Fig
VFD00M11A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD00M11A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD00M21A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	A
VFD00M21B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD00M23A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	A
VFD00M11A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD00M21A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	A
VFD00M21B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD00M23A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	A
VFD00M33B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD00M53A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD015M21A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	A
VFD015M21B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD015M23A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	A
VFD015M33B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD015M53A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD022M21A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD022M23B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD022M33B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD022M53A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD037M23A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD037M33A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD055M23A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD055M3A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD069M3A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD075M3A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B

unit:mm (inch)

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



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# VFD

## Delta VFD-M Series Variable Speed AC Motor Drives

### Features:

- ▶ 16-bit microprocessor controlled PWM output
- ▶ Automatic torque boost & slip compensation
- ▶ Output frequency 0.1~400Hz
- ▶ 8-step speed control & 7-step process control
- ▶ Low-noise carrier frequency up to 15kHz
- ▶ 2 accel./decel. times & S-curve
- ▶ Process follower 0~10VDC, 4~20mA
- ▶ Communication interface RS-485 (Baud rate 38400)
- ▶ Energy saving & automatic voltage regulation
- ▶ Adjustable V/F curve & Simple vector control
- ▶ Automatic adjustment of accel./decel. times
- ▶ PID feedback control
- ▶ Simple position function
- ▶ 0 Speed Holding function
- ▶ Sleep / Revival function build-in



### Voltage Range:

- 1 Phase 115V Series : 0.2~0.75KW (0.25~1HP)
- 1 Phase 230V Series : 0.4~2.5KW (0.5~3HP)
- 3 Phase 230V Series : 0.4~5.5KW (0.5~7.5HP)
- 3 Phase 460V Series : 0.75~7.5KW (1~10HP)
- 3 Phase 575V Series : 0.75~7.5KW (1~10HP)



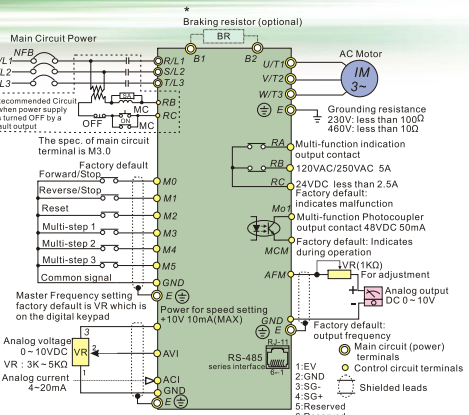
VFD-M series have been approved by CE and UL

www.delta.com.tw/industrialautomation



# VFD-M

## Standard wiring diagram



NOTE: Do not plug 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.  
\* Single phase model can be input 3-phase power.

# VFD-M

## Standard specifications

### 230V Series 1-Phase/3-Phase

	004	007	015	022	037	055
Model Number	VFD-11M					
Max. Applicable Motor Output (kW)	0.4	0.75	1.5	2.2	3.7	5.5
Max. Applicable Motor Output (HP)	0.5	1.0	2.0	3.0	5.0	7.5
Rated Output Capacity (kVA)	1.0	1.9	2.7	3.8	6.5	9.5
Rated Output Current (A)	2.5	5.0	7.0	10	17	25
Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage					
Output Frequency (Hz)	0.1~400Hz					
Carrier Frequency (kHz)	1-15					
Rated Input Current (A)	Single / 3-Phase		3-Phase			
	6.3 / 2.9	11.5 / 7.6	15.7 / 8.8	27 / 12.5	19.6	28
Single (3-phase Input Current)	3.2		6.3		9.0	
Rated Voltage - Frequency	Single / 3-Phase		3-Phase			
	200-240V, 50 / 60Hz		200-240V, 50 / 60Hz			
Voltage Tolerance	± 10% (180~264V)					
Frequency Tolerance	± 5% (47~63Hz)					
Cooling Method	Fan Cooled					
Weight (Kg)	2.2 / 1.5	2.2 / 1.5	2.2 / 1.5	2.2	3.2	3.2

### 460V Series 3-Phase

	007	015	022	037	055	075
Model Number	VFD-11M					
Max. Applicable Motor Output (kW)	0.75	1.5	2.2	3.7	5.5	7.5
Max. Applicable Motor Output (HP)	1.0	2.0	3.0	5.0	7.5	10
Rated Output Capacity (kVA)	2.3	3.1	3.8	6.2	9.9	13.7
Rated Output Current (A)	3.0	4.0	5.0	8.2	13	18
Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage					
Output Frequency (Hz)	0.1~400Hz					
Carrier Frequency (kHz)	1-15					
Rated Input Current (A)	3-Phase		3-Phase			
	4.2	5.7	6.0	8.5	14	23
Rated Voltage - Frequency	3-Phase 380 to 480V, 50 / 60Hz					
Voltage Tolerance	± 10% (342~528V)					
Frequency Tolerance	± 5% (47~63Hz)					
Cooling Method	Fan Cooled					
Weight (Kg)	1.5	1.5	2.0	3.2	3.2	3.3

### 575V Series 3-Phase

	007	015	022	037	055	075
Model Number	VFD-11M					
Max. Applicable Motor Output (kW)	0.75	1.5	2.2	3.7	5.5	7.5
Max. Applicable Motor Output (HP)	1.0	2.0	3.0	5.0	7.5	10
Rated Output Capacity (kVA)	1.7	3.0	4.2	6.6	9.9	12.2
Rated Output Current (A)	1.7	3.0	4.2	6.6	9.9	12.2
Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage					
Output Frequency (Hz)	0.1~400Hz					
Carrier Frequency (kHz)	1-10					
Rated Input Current (A)	3-Phase		3-Phase			
	2.4	4.2	5.9	7.0	10.5	12.9
Rated Voltage - Frequency	3-Phase 500 to 600V, 50 / 60Hz					
Voltage Tolerance	-15% , +10% (425~660V)					
Frequency Tolerance	± 5% (47~63Hz)					
Cooling Method	Fan Cooled					
Weight (Kg)	1.5	1.5	2.0	3.2	3.2	3.3

## Standard specifications

### 115V Series 1-Phase

	002	004	007
Model Number	VFD-11M		
Max. Applicable Motor Output (kW)	0.2	0.4	0.75
Max. Applicable Motor Output (HP)	0.25	0.5	1.0
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)	1-15		
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	Fan Cooled		
Weight (Kg)	1.5	1.5	1.5

## Standard specifications

		Control System	SPWM (Sinusoidal Pulse Width Modulation)/control (V/F or sensorless vector control)
Control Characteristics	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)	
Operating Characteristics	Stall Prevention Level	20%~200%, Setting of Rated Current	
	Frequency Setting	Operation frequency 0-60Hz, output 0-100% rated current Start time 0-5 seconds, stop time 0-25 seconds	
	DC Injection Braking	Approx. 20% (up to 125% possible with option braking resistor or braking unit externally mounted)	
	Braking Torque	Adjustable V/F pattern	
	V/F Pattern	Set by <b>[▲]</b> <b>[▼]</b>	
	Keypad	Potentiometer-5KΩ/0.5W, 0 to +10VDC; 4 to 20mA, RS-485 interface; Multi-Function Inputs 0 to 5 (7 steps, Jog, up/down)	
Operating Characteristics	External Signal	Set by RUN, STOP	
	Operation Setting Signal	2 wires / 3 wires (Run, Stop, Forward / Rev. ), JOG operation, RS-485 serial interface (MODBUS)	
	Multi-Function Input Signal	Multi-step selection 0 to 7. Jog, accel/decel inhibit, first to fourth accel/decel switches, counter, PLC operation, external Base Block (NC, NO), auxiliary motor control is invalid, ACU/AVI selections, drive reset, digital frequency output, sleep/revival function, 1st/2nd frequency source selections	
	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	Alarm Output Contact	AVR, S-Curve, Over-Voltage, Over-Current Stall Prevention, Fault Records, Adjustable Carrier Frequency, DC Braking, Momentary Power Loss restart, Auto Tuning, Frequency Limits, Parameter Lock/Reset, Vector Control, Counter, PID Control, PLC, MODBUS Communication, Reverse Inhibition, abnormal reset, abnormal re-start, digital frequency output, sleep/revival function, 1st/2nd frequency source selections	
	Protective Functions	Self-testing, Over Voltage, Over Current, Under Voltage, Overload, Overheating, External Fault, Electronic thermal, Ground Fault.	
Display Keypads	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	
	Protection Level	IP20	
Environmental Conditions	Pollution Degree	2	
	Installation Location	Altitude 1,000m or less, keep from corrosive gas, liquid and dust	
	Ambient Temperature	-10°C to 40°C (-10°C to 50°C without blind plate) 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			