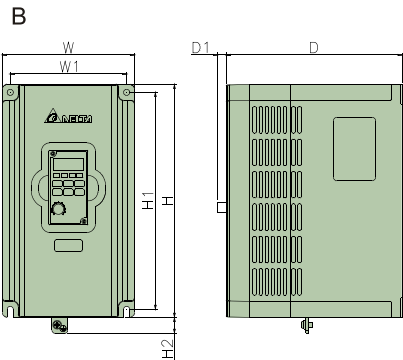
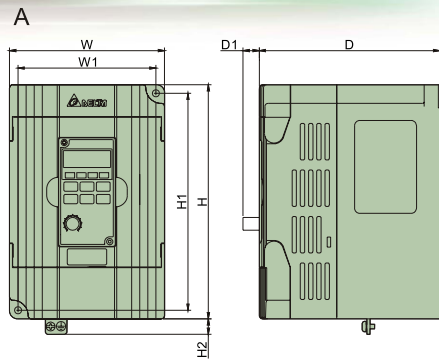


# VFD-M

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
VFD00M33A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	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
VFD00M33C	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD00M33A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD01S21A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	B
VFD01S21B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	B
VFD01S23A	85(3.35)	74(2.91)	141.5(5.57)	130.5(5.14)	113.0(4.45)	10.0(0.39)	Yes	B
VFD01S33A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	B
VFD02M21A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD02M23B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD02M33B	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD02M33A	100(3.94)	89(3.50)	151(5.94)	140(5.51)	116.5(4.59)	10.5(0.41)	Yes	A
VFD03M23A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD03M33A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD05S23A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD05S33A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD07M33A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B
VFD07S33A	125(4.92)	110(4.33)	220(8.66)	205(8.07)	166.3(6.55)	8.2(0.32)	Yes	B

\*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 : 0.4~2.2KW (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)

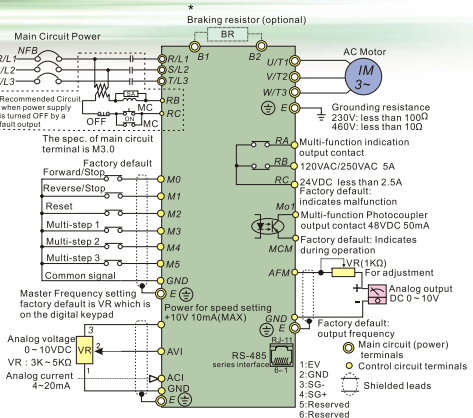


VFD-M series have been approved by CE and UL

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					
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

# VFD-M

## Standard specifications

Control System	SPWM (Sinusoidal Pulse Width Modulation) control (V/F or sensorless vector 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%~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>	
Frequency Setting	Keypad	Potentiometer-5KΩ/0.5W, 0 to +10VDC; 4 to 20mA, RS-485 interface;
	External Signal	Multi-Function Inputs 0 to 5 (7 steps, Jog, up/down)
Operation Setting Signal	Keypad	Set by RUN, STOP
	External 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, 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, 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	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	
	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		