DELTA

DELTA ELECTRONICS, INC.

GOT
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VFD

Delta VFD-G Series

Specific AC Motor Drives for Plastic Molding and Air Compressors Machinery

Features:

► Great overload protection, 150% for 60 seconds
► High reliability and lower energy loss (the newest IGBT technology)
► Output frequency from 0.1-120Hz and auto voltage regulation
► 16-step preset speeds and 15-step speeds control
► Built-in PID feedback control
► Built-in DC reactor from 18.5kW-75kW
► Built-in 2 insulating and independent big current (1A) with programmable analog input
► Built-in serial communication interface (baud rate up to 38400)
► All I/O terminals are insulated with better interference suppression capability
► Adjustable V/F curve and cube power V/F curve
► Dual grounding terminals and complete protection
► Electric bill calculation function

Voltage Range:
3 Phase 460V Series : 5.5~30KW (7.5~40HP)
3 Phase 460V Series : 37~75KW (50~100HP) under development

ISO-9001
REGISTERED

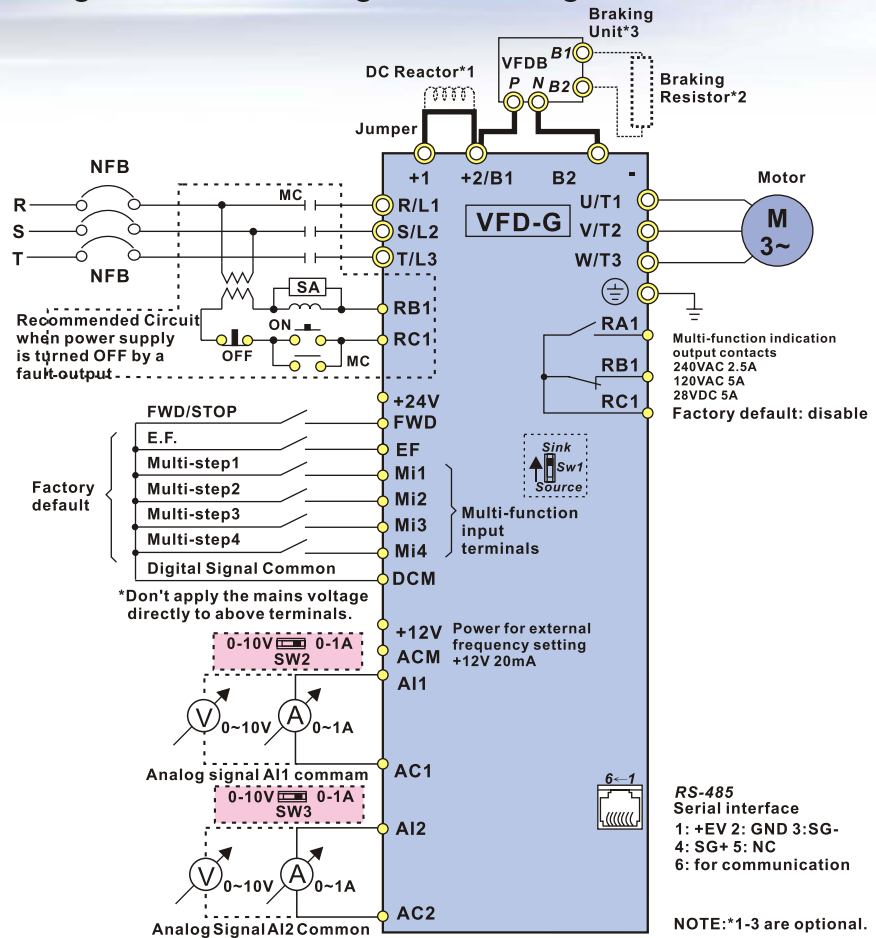www.delta.com.tw/industrialautomation

VFD-G

There is the main circuit and control circuit for AC drives.
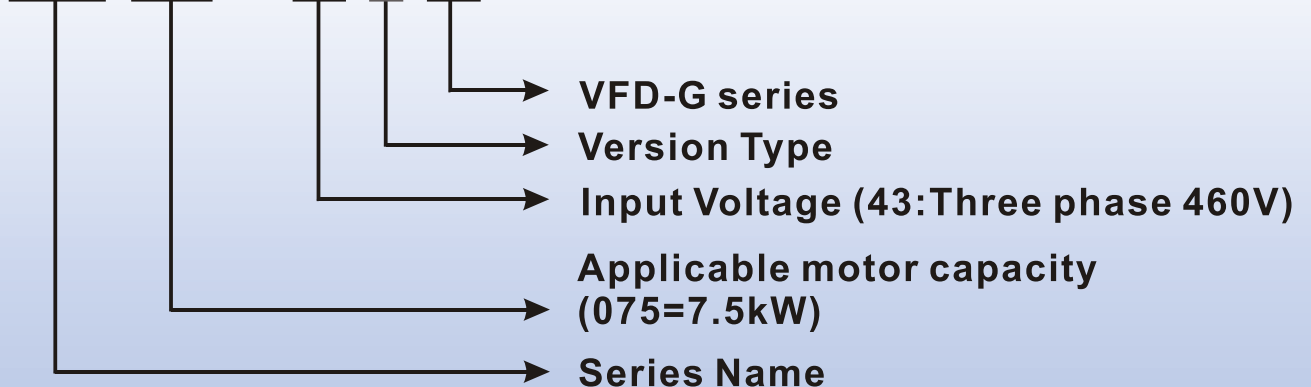User must wire according to the following circuit diagram shown below.

Braking Unit*3

DC Reactor*1

VFDB B1
P N B2

Braking Resistor*2

Jumper

+1   +2/B1   B2   -

Motor

NFB

MC

R/L1
S/L2
T/L3

VFD-G

U/T1
V/T2
W/T3

M
3~

R
S
T

NFB

SA

RB1
RC1

RA1

Multi-function indication output contacts
240VAC 2.5A
120VAC 5A
28VDC 5A
Factory default: disable

Recommended Circuit when power supply is turned OFF by a fault output

ON

OFF

MC

RB1
RC1

FWD/STOP
E.F.
Multi-step1
Multi-step2
Multi-step3
Multi-step4
Digital Signal Common

+24V
FWD
EF
Mi1
Mi2
Mi3
Mi4
DCM

Sink
Sw1
Source

Multi-function input terminals

Factory default

*Don't apply the mains voltage directly to above terminals.

0-10V 0-1A
SW2

+12V
ACM
AI1

Power for external frequency setting
+12V 20mA

V 0~10V   A 0~1A

AC1

Analog signal AI1 commam

0-10V 0-1A
SW3

AI2

6←1

RS-485
Serial interface
1: +EV 2: GND 3:SG-
4: SG+ 5: NC
6: for communication

V 0~10V   A 0~1A

AC2

NOTE:*1-3 are optional.

Analog Signal AI2 Common

⊙ Main circuit (power) terminals   ○ Control circuit terminals

VFD 075 F 43 A -G

→ VFD-G series

→ Version Type

→ Input Voltage (43:Three phase 460V)

→ Applicable motor capacity (075=7.5kW)

→ Series Name

Standard specifications

460V Series 3-Phase

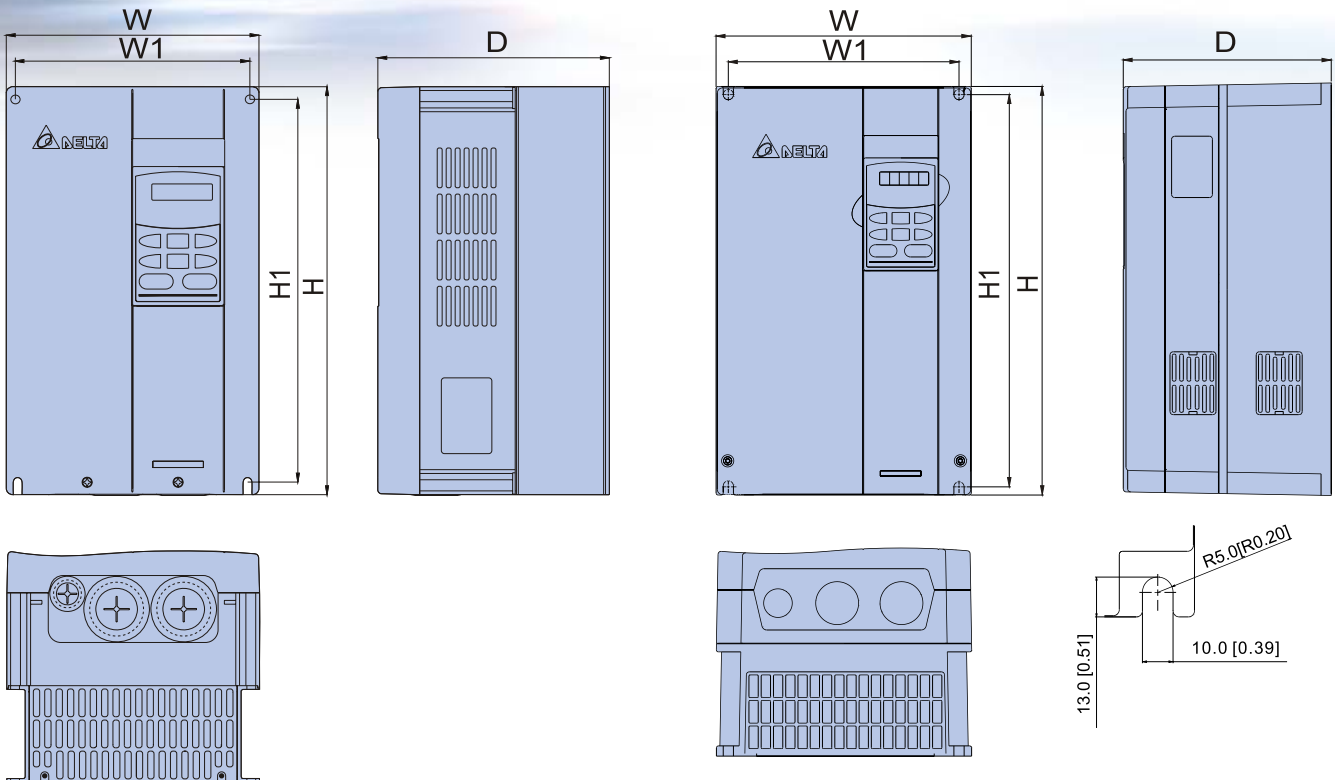| Model Number VFD-□□□G43A	055	075	110	150	185	220	300	370*	450*	550*	750*
Max. Applicable Motor Output (kW)	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Max. Applicable Motor Output (HP)	7.5	10	15	20	25	30	40	50	60	75	100
Output Rating Rated Output Capacity (KVA)	9.9	13.7	18.3	24.4	28.9	34.3	45.7	55.6	69.3	84	114
Rated Output Current (A)	13	18	24	32	38	45	60	73	91	110	150
Maximum Output Voltage (V)	Proportional to Input Voltage									
Rated Frequency (Hz)	0.10-120.00Hz									
Carrier Frequency (kHz)	4 ~ 6K			3 ~ 6K			2 ~ 6K				
Input Rating Rated Input Current (A)	14	19	25	32	39	49	60	73	91	120	160
Rated Voltage	3-phase 380 ~ 480 V									
Frequency Tolerance	47 ~ 63Hz									
Weight (Kg)	6	6	7.5	8.5	14	14	14	51	51	51	51

Control Characteristics	Control System	SPWM (Sinusoidal Pulse Width Modulation, carrier frequency 2-6kHz)
	Output Frequency Resolu	0.01Hz
	Torque Characteristics	Including the auto-torque, auto-slip compensation; starting torque can be 150% at 1.0Hz
	Overload Endurance	15Hz above: 150% and 15 Hz below: 120% of rated current for 1 minute
	Accel/Decel Time	1-36000/0.1-3600.0/0.01-360.00 seconds (3 Independent settings for Accel/Decel Time)
	V/F Pattern	Adjustable V/F pattern
	Stall Prevention Level	20 to 150%, Setting of Rated Current
Operating Characteristics	Frequency Setting — Keypad	Setting by ▲ ▼
	Frequency Setting — External Signal	2 sets of analog inputs, 15 Multi-Function Inputs, RS-485 interface (MODBUS), External terminals UP/DOWN Key
	Operation Setting Signal — Keypad	Set by RUN, STOP and JOG
	Operation Setting Signal — External Signal	Operation by FWD, REV, JOG and communication operation
	Multi-Function Input Signal	Multi-step speed selection 0 to 15, Jog, accel/decel inhibit, first to forth accel/decel switches, counter, external Base Block (NC, NO), JOG
	Multi-Function Output Indication	AC Drive Operating, Frequency Attained, Desired Frequency Attained, Zero speed, Base Block, Fault Indication and Local/Remote indication
	Other Functions	AVR, 2 types of S-Curve, Over-Voltage, Over-Current Stall Prevention, Fault Records, Reverse inhibition, DC Braking, Momentary Power Loss restart, Auto torque and slip compensation, PID Control, Parameter Lock/Reset, Frequency Limits, Adjustable Carrier Frequency
	Protection	Self-testing, Over Voltage, Over Current, Under Voltage, Overload, Overheating, External Fault, Electronic thermal, Ground Fault, Phase-loss
	Cooling Methods	Forced Fan-cooled
Environment	Installation Location	Altitude 1,000 m or lower, keep from corrosive gasses, liquid and dust
	Ambient Temperature	-10℃ to 40℃ Non-Condensing and not frozen
	Storage/ Transportation Temperature	-20℃ to 60℃
	Ambient Humidity	Below 90% RH (non-condensing)
	Vibration	$9.80665 m/s^2$ (1G) less than 20Hz, $5.88 m/s^2$ (0.6G) at 20 to 50Hz

*:Under development

VFD-G

External Dimensions

unit:mm

R5.0[R0.20]

13.0 [0.51]

10.0 [0.39]

■ Dimensions

unit: mm (inch)

Model	W	W1	H	H1	D
VFD055F43B-G	200.0	185.6	323.0	303.0	183.2
VFD075F43B-G	(7.88)	(7.31)	(12.72)	(11.93)	(7.22)
VFD110F43A-G					
VFD150F43A-G					
VFD185F43A-G	250.0	226.0	403.8	384.0	205.4
VFD220F43A-G	(9.84)	(8.90)	(15.90)	(15.12)	(8.08)
VFD300F43A-G					

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