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VFD-VE

FOC+PG Control AC Motor Drivers





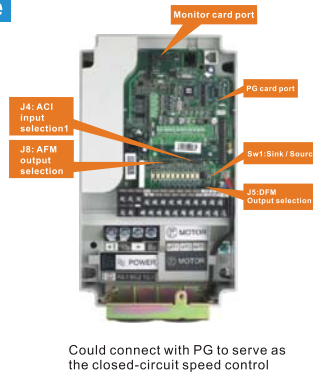
Features

- V/F, FOC+PG, SVC, Torque+PG, Position control
- PG close-loop control, speed control range 1:1000
- Built-in PID feedback control
- Motor parameter and load inertia auto-tuning
- 4 independent S-curve/accel/decel time setting
- Mechanical braking release control function
- Deceleration energy braking function
- Motor Y-▲ switch control
- 10 communication address for block transfer
- I/O serial pulse position control
- Monitor card and software
- Auto energy saving at light load
- Motor overheat protection (PTC function)
- PI gain for zero/low/high speed and bandwidth setting
- Home search, Pulse command and 16 point position control

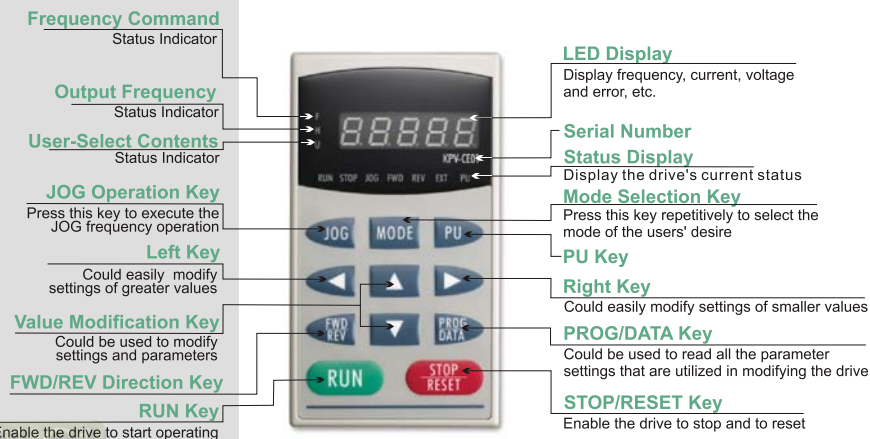
The Exterior and Characteristics of the Drive

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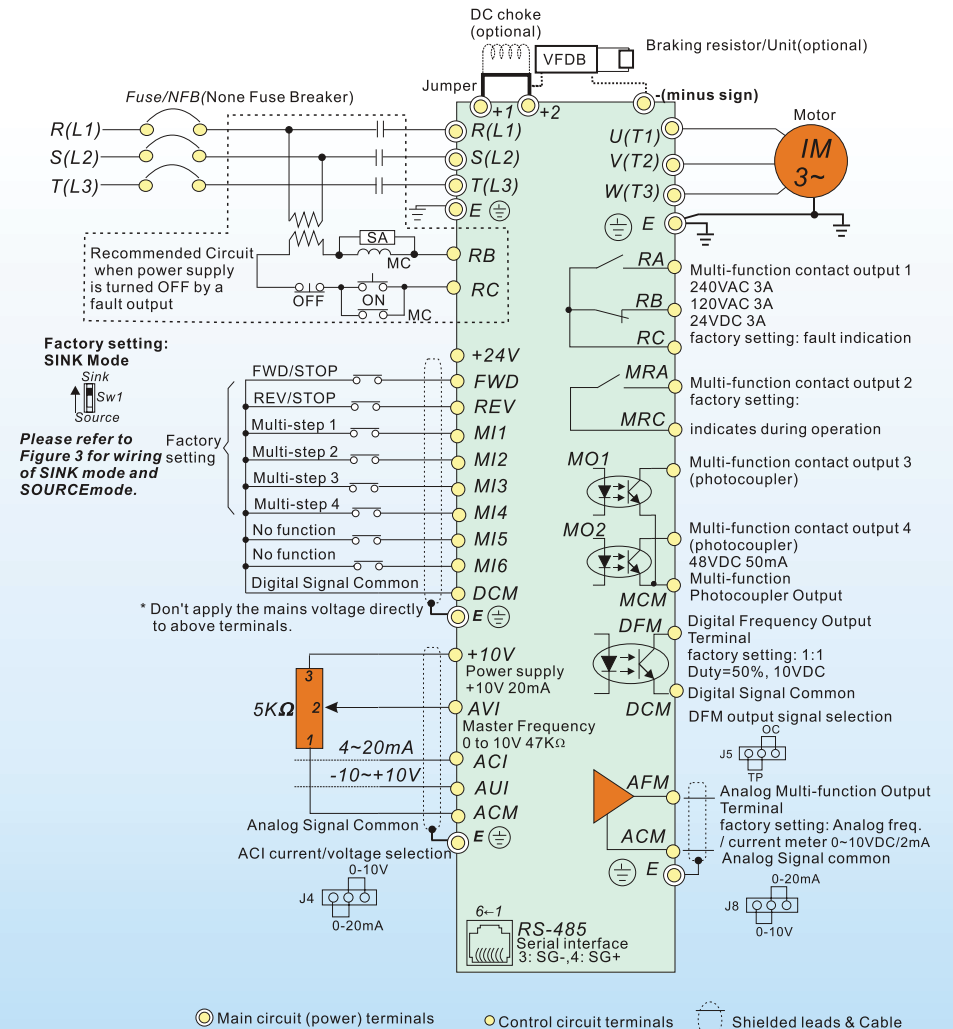
- Transmission devices
- Elevators
- Crane
- CNC machine center
- Extrusion molding
- Injection molding
- Auto storage system



KPV-CE01 Digital Keypad Description



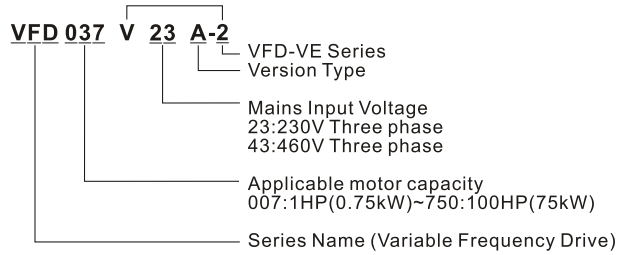
Basic Wiring Diagram



FOC+PG Control AC Motor Drivers



Model Explanation



Specifications

230V Series

Voltage Class		230V Class											
Model Number VFD-XXXV		007	015	022	037	055	075	110	185	220	220	300	370
Output Rating	Rated Output Capacity (kVA)	1.9	2.7	4.2	6.5	9.5	13	19	29	34	34	46	55
	Rated Output Current for Constant Torque (A)	5.0	7.5	11	17	25	33	49	75	90	90	120	146
	Max. Applicable Motor Output (HP)	1.0	2.0	3.0	5.0	7.5	10	15	25	30	30	40	50
	Rated Output Current for Variable Torque (A)	6.25	9.4	13	21	31	41	61	93	112	112	150	182
	Max. Applicable Motor Output (HP)	1.5	2.5	4	7.5	10	15	20	30	40	40	50	60
Maximum Output Voltage (V)		3-Phase Proportional to Input Voltage											
Output Frequency (Hz)		0.00~600.00 Hz											
Input Rating	Rated Input Current (A)	6.4	9.9	15	21	25	33	52	63	68	79	106	126
	Rated Voltage/Frequency	3-phase, 200-240V, 50/60Hz											
	Voltage Tolerance	± 10%(180~264 V)											
	Frequency Tolerance	± 5%(47~63 Hz)											
Cooling Method		Fan Cooled											
Weight (kg)		2.7	3.2	4.5	6.8	8	10	13	13	13	13	36	36

460V Series

Voltage Class		460V Class														
Model Number VFD-XXXV		007	015	022	037	055	075	110	150	185	220	300	370	450	550	750
Output Rating	Rated Output Capacity (kVA)	2.3	3.2	4.2	6.3	9.9	14	18	24	29	34	46	56	69	80	100
	Rated Output Current for Constant Torque (A)	3.0	4.2	6.0	8.5	13	18	24	32	38	45	60	73	91	110	150
	Max. Applicable Motor Output (HP)	1.0	2.0	3.0	5.0	7.5	10	15	20	25	30	40	50	60	75	100
	Rated Output Current for Variable Torque (A)	3.8	5.3	7.5	10	16	22	30	40	47	56	75	91	113	138	188
	Max. Applicable Motor Output (HP)	1.5	2.5	4	7.5	10	15	20	25	30	40	50	60	75	100	125
Maximum Output Voltage (V)		3-phase Proportional to Input Voltage														
Output Frequency (Hz)		0.00~600.00 Hz														
Input Rating	Rated Input Current (A)	3-phase 380~480V														
	Rated Voltage	3-phase, 380 to 480V														
	Voltage Tolerance	± 10%(342~528V)														
	Frequency Tolerance	± 5%(47~63 Hz)														
Cooling Method		Fan Cooled														
Weight (kg)		2.7	3.2	4.5	6.8	8	10	13	13	13	13	36	36	36	50	50

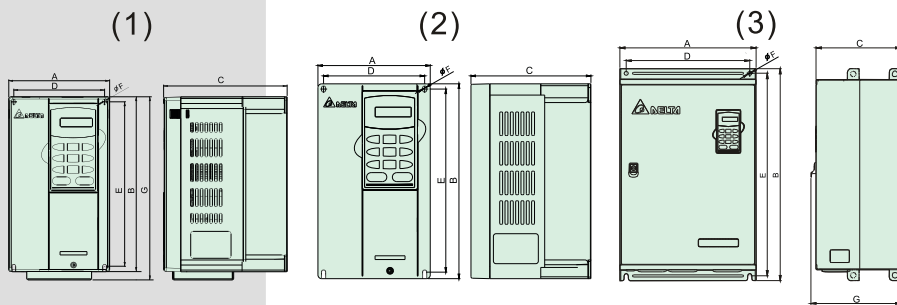
General Specifications

Control Characteristics	Control Systems	SPWM(Sinusoidal Pulse Width Modulation) 1 V/f curve; 2 V/f+PG; 3 SVC; 4 FOC+PG; 5 TQR+PG
	Torque Start-Up	Starting torque is 150% at 0.5Hz and 0 Hz (with FOC+PG Control mode)
	Speed Control Range	1:100 (could reach 1:1000 when using with PG)
	Speed Control Accuracy	± 0.5% (could reach 0.02% when using with PG)
	Speed Respond Ability	5Hz (FOC+PG control reaching 40Hz)
	Maximum Output Frequency (Hz)	0.00 to 600.00 Hz
	Output Frequency Accuracy	Digital command: ± 0.005%, analog command: ± 0.5%
	Frequency Setting Resolution	Digital command: 0.01Hz, analog command: 1/1000 (10bit) of the maximum output frequency
	Torque Limit	200% torque current as the maximum
	Torque Accuracy	± 8%
Accel/Decel Time	0.00~600.00/0.0~6000.0 second	
V/f Curve	The 4-point desired V/f curve & the square curve	
Frequency Setting Signal	+10V, ±10V, 0~20mA/4~20mA, Keypad, RS-485 interface, Multi-function Inputs (15 steps, up/down)	
Braking Torque	About 20%	
Protection Characteristics	Motor Protection	Electronic thermal relay protection
	Over-current Protection	Current control: 220% over-current protection; 300% rated current
	Ground Leakage Current Protection	50% rated current
	Overload Ability	Constant/Variable Torque: 150% for 60 seconds; 200% for 2 seconds
	Voltage Protection	Over-voltage level: Vdc>400/800 V Low-voltage level: Vdc<200/400 V
	Input Power Over-Voltage Protection	Varistor (MOV)
	Overheat Protection	Built-in temperature sensor
Environment	Momentary Power Loss Compensation	The setting could be as long as 5 seconds
	Protection Level	NEMA 1/IP20
	Operation Temperature	-10°C to 40°C for 15hp and above & -10°C to 50°C for 10hp and below
	Storage Temperature	-20°C~60°C
	Humidity	Below 90% RH (non-condensing)
	Vibration	If it is below 20Hz, it is 1.0G; if between 20~60 Hz, it is then 0.6G
	Cooling System	Forced cooling
Installation Location	If under 1,000m, be advised to stay from corrosive gases, liquid and dust	
Approvals		



Dimensions

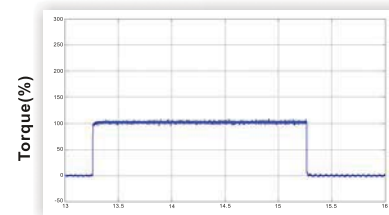
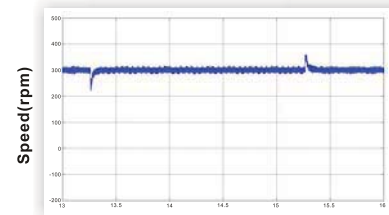
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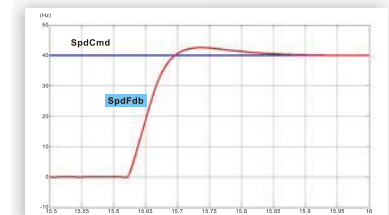
	Model Name	A	B	C	D	E	F	G
(1)	VFD037V23A/ 43A-2	150.0 [6.91]	260.0 [10.24]	183.7 [7.24]	135.0 [5.32]	244.3 [9.63]	6.5 [0.26]	272.1 [10.72]
(2)	007V23A/43A-2, 015V23A/43A-2, 022V23A/43A-2	150.0 [5.91]	260.0 [10.24]	160.2 [6.31]	135.0 [5.32]	244.3 [9.63]	6.5 [0.26]	
	055V23A/43A-2, 075V23A/43A-2, 110V43B-2	200.0 [7.88]	323.0 [12.72]	183.2 [7.22]	185.6 [7.31]	303.0 [11.93]	7.0 [0.28]	
(3)	110V23A/43A-2, 150V23A/43A-2, 185V23A/43A-2, 220V23A/43A-2	250.0 [9.84]	403.0 [15.9]	250.4 [8.08]	226.0 [8.90]	384.0 [15.12]	10.0 [0.39]	
	300V23A-2, 370V23A-2, 550V43C-2, 750V43C-2	370.0 [14.57]	595.0 [23.43]	260.0 [10.24]	335.0 [13.19]	560.0 [22.05]	13.0 [0.51]	-
	300V43A-2, 370V43A-2, 450V43A-2	370.0 [14.57]	589.0 [23.19]	260.0 [10.24]	335.0 [13.19]	560.0 [22.06]	13.0 [0.51]	-

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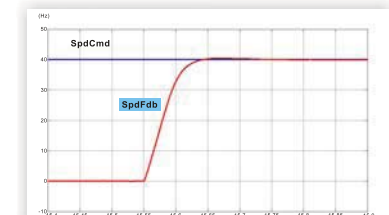
VFD-VE with 100% sudden load



PDFF Function



Without PDFF function



With PDFF function

Accessories (Optional)



VFD Series Braking Unit



EMI FILTER



BR-Series Braking resistor



EMV-PG01X CARD



EMV-PG01O CARD



EMV-PG01L CARD

Voltage	Applicable Motor Output(kW)															
	007	015	022	037	055	075	110	150	185	220	300	370	450	550	750	
3-Phase 230V 180~265Vac	B Frame		C Frame		D Frame			E1 Frame								
	Braking transistor built-in															
					DC-Reactor built-in											
3-Phase 460V 340~510Vac	B Frame		C Frame		D Frame			E Frame		E1 Frame						
	Braking transistor built-in															
					DC-Reactor built-in											