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VFD-VE

FOC+PG Control AC Motor Drivers



FOC+PG Control AC Motor Drivers

VFD-VE

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

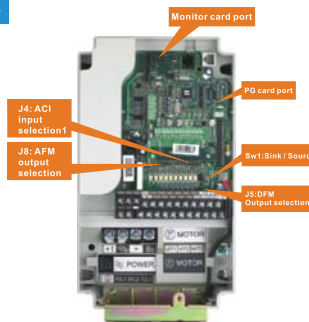
The Exterior and Characteristics of the Drive

Best with:

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

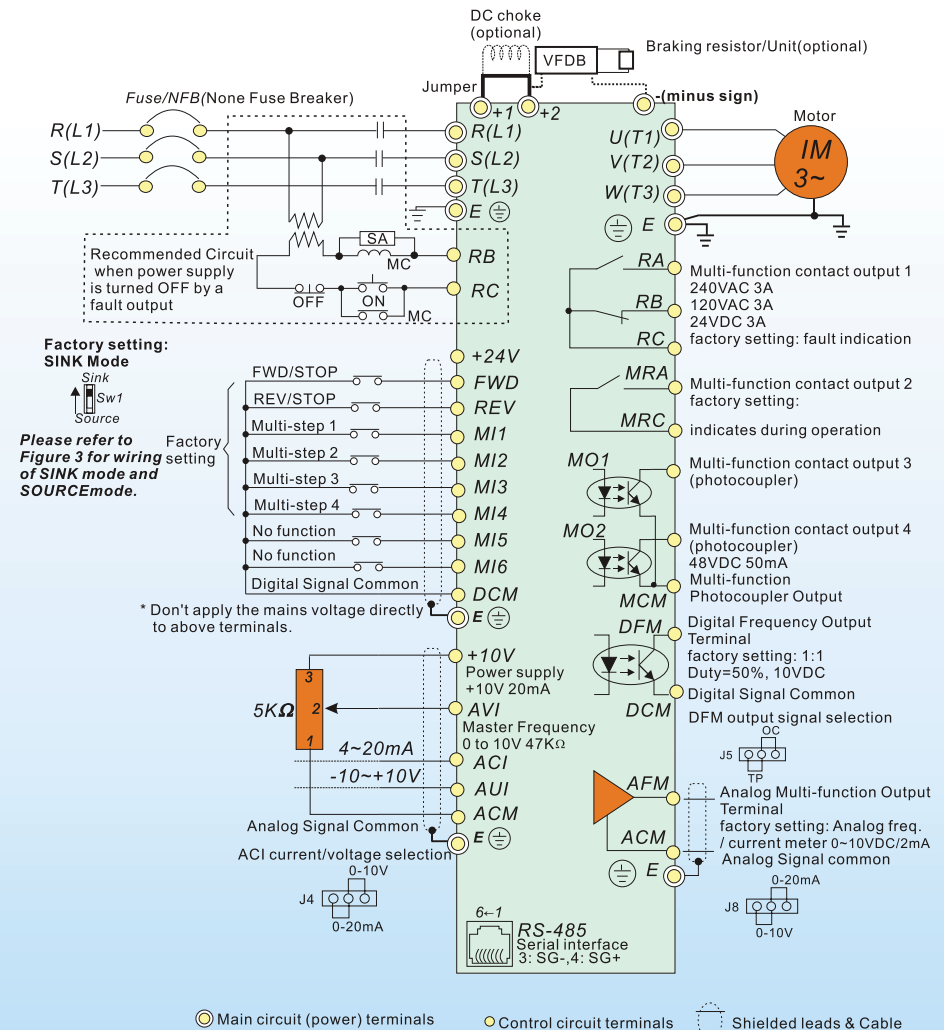


The digital operation panel could be extended for 20 meters externally

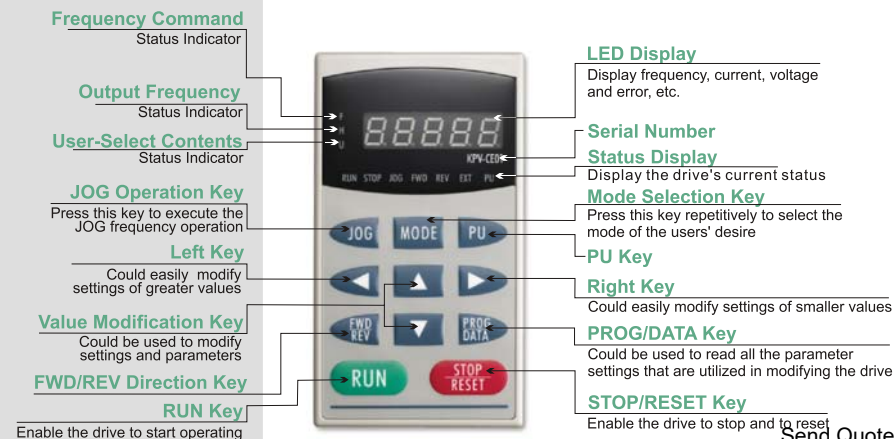


Could connect with PG to serve as the closed-circuit speed control

Basic Wiring Diagram

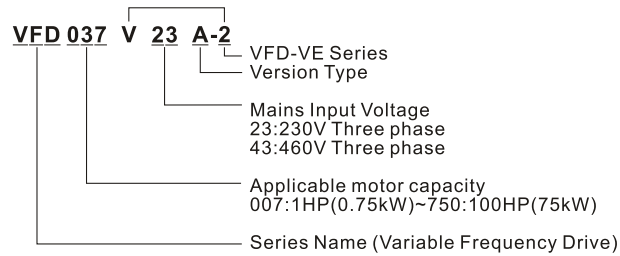


KPV-CE01 Digital Keypad Description



FOC+PG Control AC Motor Drivers

VFD-VE



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
Input Rating	Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage											
	Output Frequency (Hz)	0.00~600.00 Hz											
	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)											
Cooling Method	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
Output Rating	Rated Output Capacity (kVA)	2.3	3.2	4.2	6.3	9.9	14	18	24	29	34	46	56	69	90
	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
	Max. Applicable Motor Output (HP)	1.0	2.0	3.0	5.0	7.5	10	15	20	25	30	40	50	60	75
	Rated Output Current for Variable Torque (A)	3.8	5.3	7.5	10	16	22	30	40	47	56	75	91	113	138
	Max. Applicable Motor Output (HP)	1.5	2.5	4	7.5	10	15	20	25	30	40	50	60	75	100
Input Rating	Maximum Output Voltage (V)	3-phase Proportional to Input Voltage													
	Output Frequency (Hz)	0.00~600.00 Hz													
	Rated Input Current (A)	4.0	5.8	7.4	9.9	12	17	25	27	35	42	56	67	87	101
	Rated Voltage	3-phase, 380 to 480V													
	Voltage Tolerance	± 10%(342~528V)													
Cooling Method	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

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	± 5%
Protection Characteristics	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%
	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)
Environment	Overheat Protection	Built-in temperature sensor
	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	CE UL VDE

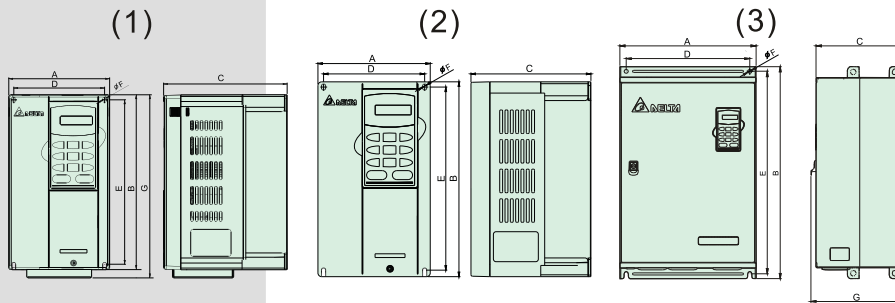
* UL is in progress

FOC+PG Control AC Motor Drivers

VFD-VE

Dimensions

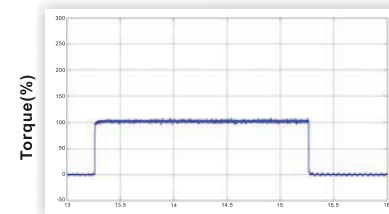
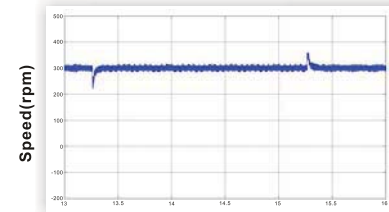
unit:mm



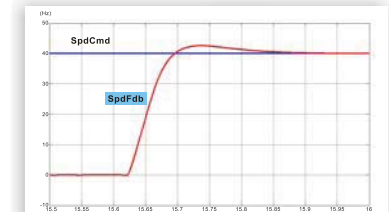
	Model Name	A	B	C	D	E	F	G
(1)	VFD037V23A/ 43A-2	150.0 [6.91]	260.0 [10.24]	183.7 [7.24]	135.0 [5.32]	244.3 [9.63]	6.5 [0.26]	272.1 [10.72]
(2)	007V23A/43A-2, 015V23A/43A-2, 022V23A/43A-2	150.0 [5.91]	260.0 [10.24]	160.2 [6.31]	135.0 [5.32]	244.3 [9.63]	6.5 [0.26]	
	055V23A/43A-2, 075V23A/43A-2, 110V43B-2	200.0 [7.88]	323.0 [12.72]	183.2 [7.22]	185.6 [7.31]	303.0 [11.93]	7.0 [0.28]	
	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]	
(3)	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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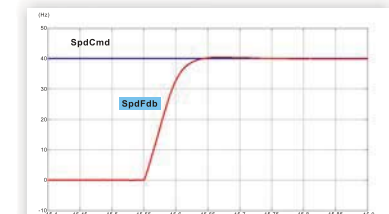
VFD-VE with 100% sudden load



PDFF Function



Without PDFF function



With PDFF function

Accessories (Optional)



VFDB Series
Braking Unit



EMI FILTER



BR-Series
Braking resistor



EMV-PG01X CARD



EMV-PG01O CARD



EMV-PG01L CARD