

ATSEL - FD9

General Purpose AC Drives

0.25 HP 0.2KW to 210HP 160KW

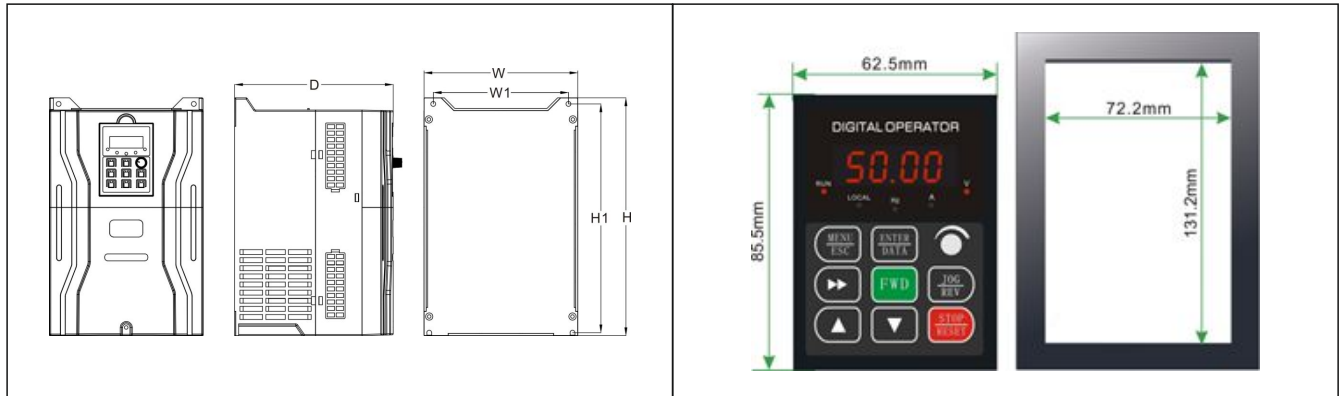
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Specifications

Power supply	Rated Voltage	Single phase 230 VAC, 50 Hz/ 60 Hz; Three phase 415 VAC, 50 Hz/ 60 Hz
	Range	Voltage: -20 % ~ +15 % voltage unbalance rate: <3 %; frequency: ± 5 %
Control Characteristic	Control mode	V/F, Sensorless vector control (SVC), Speed Sensor vector control (FVC)
	Frequency Control range	0 Hz ~ 5000 Hz
	Frequency Accuracy	Digital setting: The highest frequency $\times \pm 0.01$ %, Analog setting: The highest frequency $\times \pm 0.2$ %
	Frequency resolution	Digital setting: 0.01 Hz; Analog setting: The highest frequency $\times 0.1$ %
	Accelerated / decelerated time	0.1 ~ 6000.0 Sec.
	Multi Speed running	Max 16 multi-stage speed running via build-in PLC or control terminals
	Build-in Double PID	Easily constitute a close loop control system
	Jog running	Jog frequency range: 0.1 Hz ~ 50.00 Hz, JOG Acc./ Dec. time: 0.1 ~ 60.0 s
	DC braking	DC Braking Frequency: 000Hz ~ Max Frequency Braking Time: 0.0 s ~ 36.0 s Braking Action Current Value: 0.0 % ~ 100.0 %
	Torque control accuracy	± 5 % (FVC) & Auto torque boost, manual torque boost 0.1 % ~ 30.0 %
	Automatic Voltage Regulation	Keep a stable voltage automatically when the grid voltage transients
Running Function	Input channel	Upto 8DIs (1 High speed 100 KHz pulse input) ; 2 AIs (0-10 V and 0-10 V/ 0-20 mA)
	Output Channel	1 High speed 0~100 KHz Pulse output, 1TO, 2RO, 2AO (0~20 mA/ 0~10 V)
Operating conditions	Operating environment	Ambient Temperature -10°C ~ +50°C
	Operations Area	Indoors, free from direct sunlight, dust, corrosive gas, oil mist, steam, etc.
	Storage Temperature	-20 ~ +60°C
	Vibration	Lower than 5.9 m/s ² (0.6 g)

Dimensions



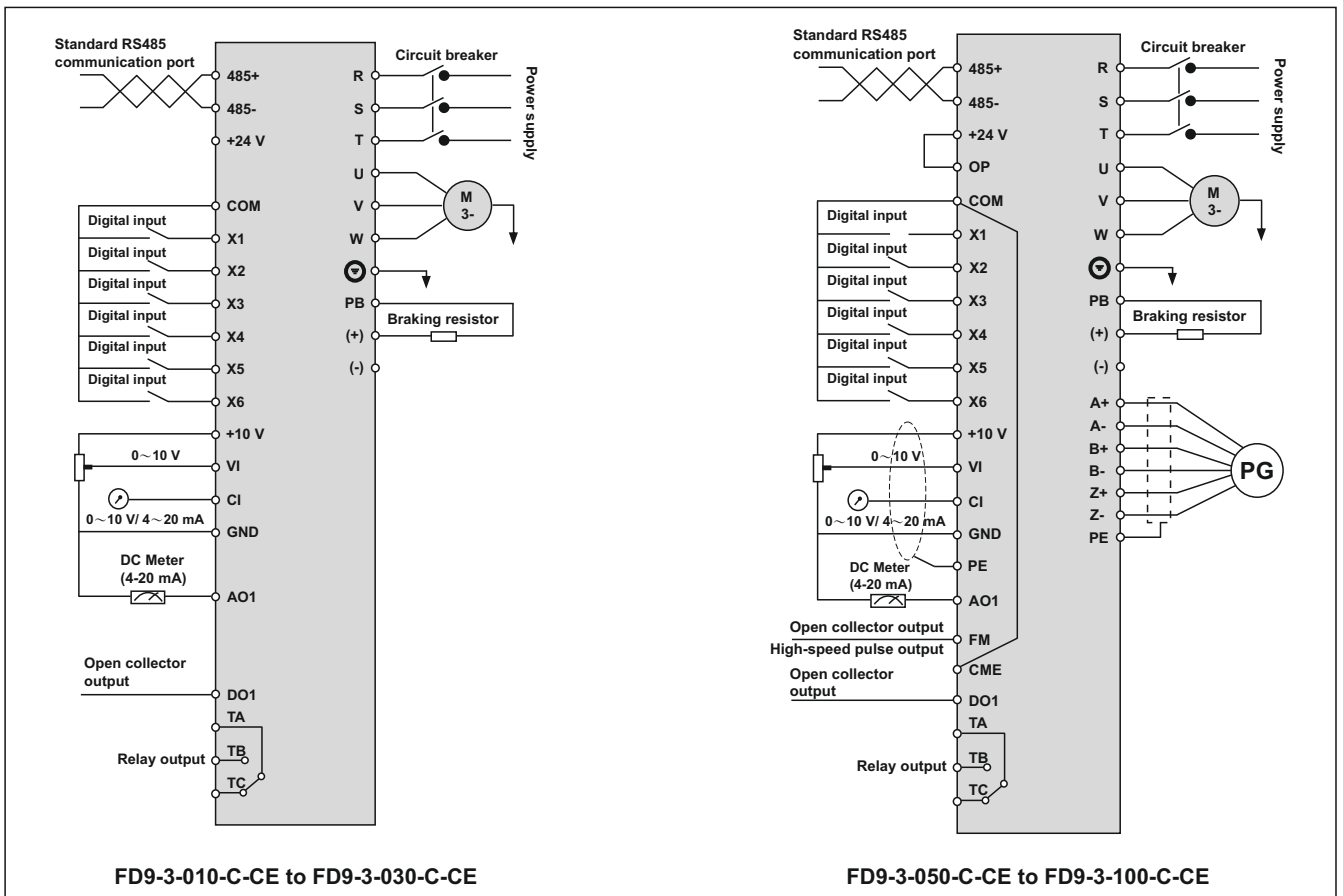
Inverter Model	Dimension (mm)			Installation (mm)			
	H	W	D	H2	H1	W1	Mount hole
FD9 series/Input voltage: 230 VAC Single-phase							
FD9-1-002-C-CE	174	76	131	---	162.5	58	Φ5
FD9-1-005-C-CE							
FD9-1-010-C-CE							
FD9-1-020-C-CE							
FD9 series/Input voltage: 415 VAC three-phase							
FD9-3-005-C-CE	174	76	131	---	162.5	58	Φ5
FD9-3-010-C-CE							
FD9-3-020-C-CE							
FD9-3-030-C-CE							
FD9-3-050-C-CE	184	98	156	---	178	88	Φ5
FD9-3-075-C-CE	230	118	173	---	220	108	Φ5
FD9-3-100-C-CE							
FD9-3-150-C-CE	261	130	190	---	251	120	Φ5
FD9-3-200-C-CE							
FD9-3-250-C-CE	293	190	196	---	283	180	Φ5
FD9-3-300-C-CE							
FD9-3-400-C-CE	445	280	200	---	435	270	Φ5
FD9-3-500-C-CE							
FD9-3-600-C-CE	505	320	240	---	495	310	Φ5
FD9-3-750-C-CE	555	310	260	---	545	300	Φ5
FD9-3-1000-C-CE	650	400	300	---	640	390	Φ5
FD9-3-1200-C-CE							
FD9-3-1500-C-CE							
FD9-3-1750-C-CE	760	390	320	---	750	380	Φ5
FD9-3-2100-C-CE							

FD9 control loop terminal instruction

Class	Sign	Terminal Name	Terminal instruction and factory default
Multi-functional Inputs	X1	Multifunction input terminal 1	Default : Forward Run
	X2	Multifunction input terminal 2	Default : External Forward Jog
	X3	Multifunction input terminal 3	Default : Fault Reset
	X4	Multifunction input terminal 4	Default : Multi-Reference Terminal 1
	X5	Multifunction input terminal 5	Default: Multi-Reference Terminal 2
	X6	Multifunction input terminal 6	Default: No Function

Class	Sign	Terminal Name	Terminal instruction and factory default
Analog Input	VI	Analog input VI	Input voltage range : 0~10 V (Impedance : 10 K Ω)
	CI	Analog voltage/ current input CI	Input voltage range : 0~10 V (Impedance : 10 K Ω) Input current range : 0~20 mA (Impedance : 500 Ω)
Multi-functional Output	TA	Relay output	Default: P4.12 - 0.0 % P4.13 - 1.00
	TB	TA - TC Normally Closed	
	TC	TA - TB Normally Open	
Analog Output	AO1	Analog output terminal	Current output range : 4~20 mA / Voltage output range : 0~10 V
	AO2	Analog output terminal	Current output range : 4~20 mA / Voltage output range : 0~10 V
Communication	485+	RS 485 Positive terminal	RS485 Communication with Modbus Protocol
	485-	RS 485 Negative terminal	
Power	OP	External power supply	When using external using external 24 V, OP terminal needs to connect to +24 V of external PS but before that please remove Jumper between +24 V and OP
	10V	+10 V power	Supply+10 V power (negative terminal: GND) ; Max Output current :50 mA)
	GND	+10 V common terminal	Grounding of analog signal and+10 V power source
	COM	Common Terminal	Digital signal input, output common terminal
	+24V	+24 V common terminal	Supply +24 V power (negative terminal: COM)
Digital output	DO1-CME	Open collector output terminal 1	Output voltage range: 0-24 V Output current range: 0~50 mA
Pulse output	FM-COM	Open collector pulse output terminal	Output range defined by P4.09, Max 100 KHz

3-2-1 Standard wiring diagram for FD9



Ordering Information

Product Code	Description	Output Current	Braking Unit	Certification
FD9-1-002-C-CE	1 PH 230VAC IN, 3 PH 0~230VAC 0.25HP/0.2KW	2.8A	Built-in	CE
FD9-1-005-C-CE	1 PH 230VAC IN, 3 PH 0~230VAC 0.5HP/0.4KW	3A	Built-in	CE
FD9-1-010-C-CE	1 PH 230VAC IN, 3 PH 0~230VAC 1HP/0.7KW	4.7A	Built-in	CE
FD9-1-020-C-CE	1 PH 230VAC IN, 3 PH 0~230VAC 2HP/1.5KW	7.5A	Built-in	CE
FD9-3-005-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 0.5HP/0.4KW	2.5A	Built-in	CE
FD9-3-010-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 1HP/0.7KW	2.5A	Built-in	CE
FD9-3-020-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 2HP/1.5KW	4A	Built-in	CE
FD9-3-030-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 3HP/2.2KW	6A	Built-in	CE
FD9-3-050-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 5HP/3.75KW	9.6A	Built-in	CE
FD9-3-075-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 7.5HP/5.5KW	14A	Built-in	CE
FD9-3-100-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 10HP/7.5KW	17A	Built-in	CE
FD9-3-150-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 15HP/11KW	25A	Built-in	CE
FD9-3-200-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 20HP/15KW	32A	Built-in	CE
FD9-3-250-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 25HP/18.5KW	39A	Built-in	CE
FD9-3-300-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 30HP/22.4KW	45A	Built-in	CE
FD9-3-400-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 40HP/30KW	60A	External	CE
FD9-3-500-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 50HP/37.5KW	75A	External	CE
FD9-3-600-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 60HP/45KW	91A	External	CE
FD9-3-750-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 75HP/55KW	112A	External	CE
FD9-3-1000-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 100HP/75KW	150A	External	CE
FD9-3-1200-C-CE	4 PH 415VAC IN, 3 PH 0-415VAC OUT 120HP/90KW	176A	External	CE
FD9-3-1500-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 150HP/110KW	210A	External	CE
FD9-3-1750-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 175HP/132KW	253A	External	CE
FD9-3-2100-C-CE	3 PH 415VAC IN, 3 PH 0-415VAC OUT 210HP/160KW	304A	External	CE

Note : If there is energy consumption braking requirement, please connect braking resistor externally

Applications : Suitable for fans, pumps, Conveyor, Food & drink packaging machinery, Industrial washing machine, Winder application, Hoists, Paper Mills, Textile Applications and most general industries etc.

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