

PowerXL Series DG1 general-purpose drives



Next-generation drives for today's demands



The DG1 general-purpose drives are part of the Eaton next-generation PowerXL™ series of adjustable frequency drives specifically engineered for today's more demanding commercial and industrial applications. With an industry-leading energy efficiency algorithm, high short-circuit current rating and robust design, the DG1 offers customers increased efficiency, safety and reliability.

Features

- Graphic LCD keypad display
- Active energy control algorithm
- On-board communications:
 - EtherNet/IP, Modbus®/TCP
 - RS-485: Modbus RTU, BACnet®, MS/TP
- Onboard I/O:
 - 8DI, 1DO
 - 2AI, 2AO
 - 2 FC relays and 1 FA relay
- Real-time clock with battery backup
- 5% DC link choke
- Standard applications:
 - Standard
 - Multi-pump and fan control
 - Multi-PID
 - Multi-purpose
- Advanced configuration PC tool

Benefits

- Dual VT and CT ratings
- Easy menu navigation
- Two configurable keypad soft keys
- Conformal coated boards standard
- EMC filter standard
- Brake chopper standard (FR1-FR3)

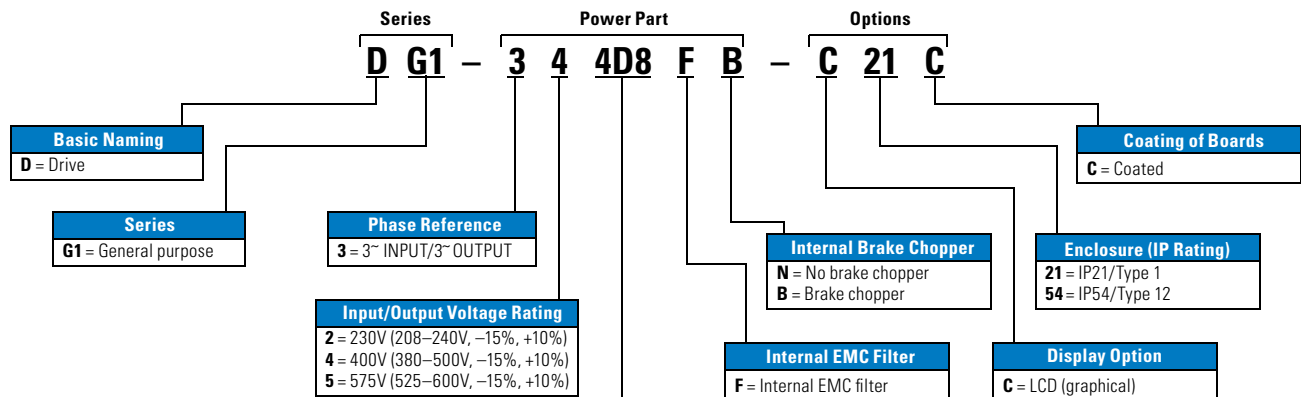


Product range

- 230V to 125 hp, 310A, 90 kW
- 480V to 250 hp, 310A, 160 kW
- 575V to 250 hp, 250A, 160 kW
- Type 1/IP21 or Type 12/IP54 packaging

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Output Current Rating (CT)		
208-240V	380-500V	525-600V
3D7 = 3.7A, 0.55 kW, 0.75 hp	2D2 = 2.2A, 0.75 kW, 1 hp	3D3 = 3.3A, 1.5 kW, 2 hp
4D8 = 4.8A, 0.75 kW, 1 hp	3D3 = 3.3A, 1.1 kW, 1.5 hp	4D5 = 4.5A, 2.2 kW, 3 hp
6D6 = 6.6A, 1.1 kW, 1.5 hp	4D3 = 4.3A, 1.5 kW, 2 hp	7D5 = 7.5A, 3.7 kW, 5 hp
7D8 = 7.8A, 1.5 kW, 2 hp	5D6 = 5.6A, 2.2 kW, 3 hp	010 = 10A, 5.5 kW, 7.5 hp
011 = 11A, 2.2 kW, 3 hp	7D6 = 7.6A, 3 kW, 5 hp	013 = 13.5A, 7.5 kW, 10 hp
012 = 12.5A, 3 kW, 5 hp (VT)	9D0 = 9A, 4 kW, 7.5 hp (VT)	018 = 18A, 11 kW, 15 hp
017 = 17.5A, 3.7 kW, 5 hp	012 = 12A, 5.5 kW, 7.5 hp	022 = 22A, 15 kW, 20 hp
025 = 25A, 5.5 kW, 7.5 hp	016 = 16A, 7.5 kW, 10 hp	027 = 27A, 18 kW, 25 hp
031 = 31A, 7.5 kW, 10 hp	023 = 23A, 11 kW, 15 hp	034 = 34A, 22 kW, 30 hp
048 = 48A, 11 kW, 15 hp	031 = 31A, 15 kW, 20 hp	041 = 41A, 30 kW, 40 hp
061 = 61A, 15 kW, 20 hp	038 = 38A, 18 kW, 25 hp	052 = 52A, 37 kW, 50 hp
075 = 75A, 18.5 kW, 25 hp	046 = 46A, 22 kW, 30 hp	062 = 62A, 45 kW, 60 hp
088 = 88A, 22 kW, 30 hp	061 = 61A, 30 kW, 40 hp	080 = 80A, 55 kW, 75 hp
114 = 114A, 30 kW, 40 hp	072 = 72A, 37 kW, 50 hp	100 = 100A, 75 kW, 100 hp
143 = 143A, 37 kW, 50 hp	087 = 87A, 45 kW, 60 hp	125 = 125A, 90 kW, 125 hp
170 = 170A, 45 kW, 60 hp	105 = 105A, 55 kW, 75 hp	144 = 144A, 110 kW, 150 hp
211 = 211A, 55 kW, 75 hp	140 = 140A, 75 kW, 100 hp	208 = 208A, 160 kW, 200 hp
261 = 261A, 75 kW, 100 hp	170 = 170A, 90 kW, 125 hp	
	205 = 205A, 110 kW, 150 hp	
	261 = 261A, 132 kW, 200 hp	

Space requirements for mounting the DG1 Series VFD and airflow

Frame Size	Voltage	hp (CT/IH)	kW ①	Amperes (CT/IH)
FR1	230 Vac	0.75-3	0.55-2.2	3.7-11
	480 Vac	1-5	0.75-3.7	2.2-7.6
	575 Vac	2-5	1.5-3.7	3.3-7.5
FR2	230 Vac	4-7.5	3-5.5	12.5-25
	480 Vac	7.5-15	5.5-11	12-23
	575 Vac	7.5-15	5.5-11	10-18
FR3	230 Vac	10-15	7.5-11	31-48
	480 Vac	20-30	15-22	31-46
	575 Vac	20-30	15-22	22-34
FR4	230 Vac	20-30	15-22	61-88
	480 Vac	40-60	30-45	61-87
	575 Vac	40-60	30-45	41-62
FR5	230 Vac	40-60	30-45	114-170
	480 Vac	75-125	55-90	105-170
	575 Vac	75-125	55-90	80-125
FR6	230 Vac	75-100	55-75	211-261
	480 Vac	150-200	110-150	205-261
	575 Vac	150-200	110-160	144-208

① kW ratings are at 400V / 50 Hz. The above guidelines apply unless testing has been completed to validate a design outside of these recommendations.

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Input ratings

Description	Specification
Input voltage (B _{in})	208-240V, 380-500V, 525-600V, -15 to 10%
Input frequency (f _{in})	50-60 Hz (variation up to 45-66 Hz)
Connection to power	Once per minute or less
Short-circuit withstand rating	100 kAIC

Output ratings

Description	Specification
Output voltage	0 to V _{in}
VT/I _L overload	Overload 1.1 x I _L (1 min./10 min.)
CT/IH overload	Overload 1.5 x I _H (1 min./10 min.)
Initial output current	200% (2 sec./20 sec.)
Output frequency	0-400 Hz (standard)
Frequency resolution	0.01 Hz

Ambient conditions

Description	Specification
Operating temperature	-10°C (no frost) to +40°C, up to +60°C with derating
Storage temperature	-40° to +70°C
Relative humidity	0-95% RH, noncondensing, non-corrosive
Altitude	100% load capacity (no derating) up to 3280 ft (1000m); 1% derating for each 328 ft (100m) above 3280 ft (1000m) 9843 ft (3000m) maximum

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