

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 variable 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)

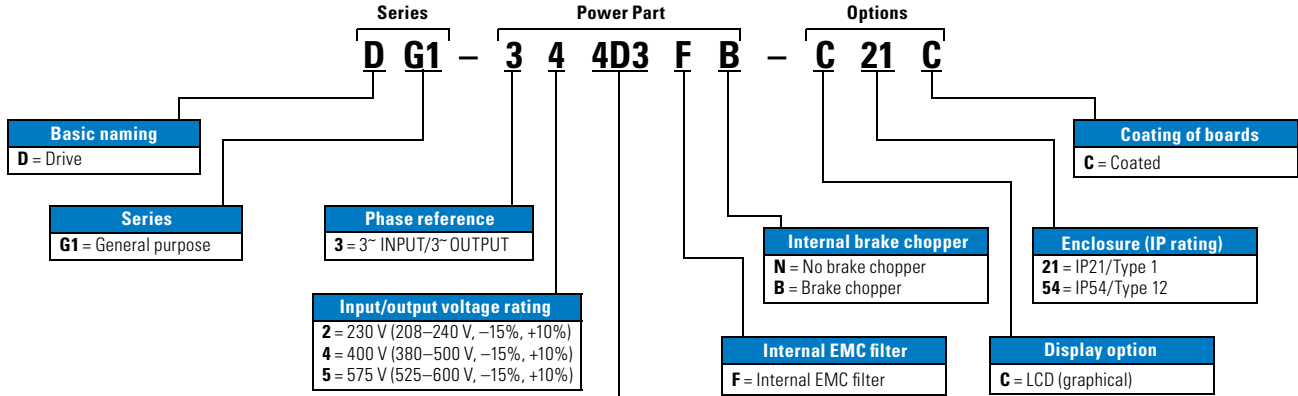


Product range

- 230 V to 125 hp, 312 A, 90 kW
- 480 V to 250 hp, 310 A, 160 kW
- 575 V to 250 hp, 250 A, 187 kW
- Type 1/IP21 or Type 12/IP54 packaging

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Output current rating (CT)		
208–240 V	380–500 V	525–600 V
3D7 = 3.7 A, 0.55 kW, 0.75 hp	2D2 = 2.2 A, 0.75 kW, 1 hp	3D3 = 3.3 A, 1.5 kW, 2 hp
4D8 = 4.8 A, 0.75 kW, 1 hp	3D3 = 3.3 A, 1.1 kW, 1.5 hp	4D5 = 4.5 A, 2.2 kW, 3 hp
6D6 = 6.6 A, 1.1 kW, 1.5 hp	4D3 = 4.3 A, 1.5 kW, 2 hp	7D5 = 7.5 A, 3.7 kW, 5 hp
7D8 = 7.8 A, 1.5 kW, 2 hp	5D6 = 5.6 A, 2.2 kW, 3 hp	010 = 10 A, 5.5 kW, 7.5 hp
011 = 11 A, 2.2 kW, 3 hp	7D6 = 7.6 A, 3 kW, 5 hp	013 = 13.5 A, 7.5 kW, 10 hp
012 = 12.5 A, 3 kW, 5 hp (VT)	9D0 = 9 A, 4 kW, 7.5 hp (VT)	018 = 18 A, 11 kW, 15 hp
017 = 17.5 A, 3.7 kW, 5 hp	012 = 12 A, 5.5 kW, 7.5 hp	022 = 22 A, 15 kW, 20 hp
025 = 25 A, 5.5 kW, 7.5 hp	016 = 16 A, 7.5 kW, 10 hp	027 = 27 A, 18 kW, 25 hp
031 = 31 A, 7.5 kW, 10 hp	023 = 23 A, 11 kW, 15 hp	034 = 34 A, 22 kW, 30 hp
048 = 48 A, 11 kW, 15 hp	031 = 31 A, 15 kW, 20 hp	041 = 41 A, 30 kW, 40 hp
061 = 61 A, 15 kW, 20 hp	038 = 38 A, 18 kW, 25 hp	052 = 52 A, 37 kW, 50 hp
075 = 75 A, 18.5 kW, 25 hp	046 = 46 A, 22 kW, 30 hp	062 = 62 A, 45 kW, 60 hp
088 = 88 A, 22 kW, 30 hp	061 = 61 A, 30 kW, 40 hp	080 = 80 A, 55 kW, 75 hp
114 = 114 A, 30 kW, 40 hp	072 = 72 A, 37 kW, 50 hp	100 = 100 A, 75 kW, 100 hp
143 = 143 A, 37 kW, 50 hp	087 = 87 A, 45 kW, 60 hp	125 = 125 A, 90 kW, 125 hp
170 = 170 A, 45 kW, 60 hp	105 = 105 A, 55 kW, 75 hp	144 = 144 A, 110 kW, 150 hp
211 = 211 A, 55 kW, 75 hp	140 = 140 A, 75 kW, 100 hp	208 = 208 A, 132 kW, 200 hp
248 = 248 A, 75 kW, 100 hp	170 = 170 A, 90 kW, 125 hp	
	205 = 205 A, 110 kW, 150 hp	
	245 = 245 A, 132 kW, 200 hp	

Frames and power ranges

Frame size	Voltage	hp (CT/I _n)	kW Ⓢ	Amperes (CT/I _n)
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	211–248
	480 Vac	150–200	110–132	205–245
	575 Vac	150–200	110–132	144–208

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

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

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Input ratings

Description	Specification
Input voltage (B _n)	208–240 V, 380–500 V, 525–600 V, –15 to 10%
Input frequency (f _{in})	50–60 Hz (variation up to 45–66 Hz)
Connection to power	Up to one connection every 60 seconds
Short-circuit withstand rating	100 kAIC (with fuses and circuit breakers)

Output ratings

Description	Specification
Output voltage	0 to V _{in}
VT/I _t overload	Overload 1.1 x I _L (1 min./10 min.)
CT/I _H 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 +50 °C, up to +60 °C with derating
Storage temperature	–40 °C to +70 °C
Relative humidity	0–95% RH, noncondensing, non-corrosive
Altitude	100% load capacity (no derating) up to 3280 ft (1000 m); 1% derating for each 328 ft (100 m) above 3280 ft (1000 m) 9843 ft (3000 m) maximum

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