



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, Modbus RTU, BACnet® MS/TP
- Onboard I/O:
 - 8DI, 1DO
 - 2AI, 2AO
 - 3 relays, one change-over contact
- 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

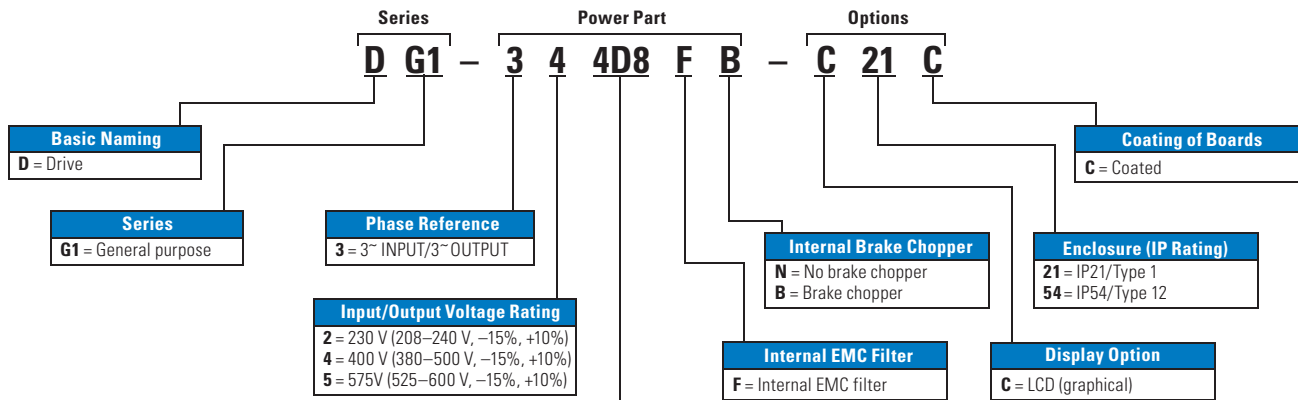
- Dual VT and CT ratings
- Easy menu navigation
- Two configurable keypad soft keys
- Conformal coated boards standard
- EMC filter standard
- Brake chopper standard (FR1-FR3)



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

Catalog numbering system



| 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, 160 kW, 200 HP |
| 261 = 261 A, 75 kW, 100 HP | 170 = 170 A, 90 kW, 125 HP | |
| | 205 = 205 A, 110 kW, 150 HP | |
| | 261 = 261 A, 132 kW, 200 HP | |

Framesizes and Power Range of PowerXL DG1

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

① 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.

Input ratings

| Description | Specification |
|------------------------------------|---|
| Input voltage (V _{in}) | 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 | Once per minute or less |
| Short-circuit rating | 100 kA |

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/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 +40°C, up to +60°C with derating |
| Storage temperature | –40° to +70°C |
| Relative humidity | 0–95% RH, noncondensing, non-corrosive |
| Altitude | 100% without 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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Printed in Germany 09/14
Publication No.: PA040002EN
ip September 2014
Article No.: 178156

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