DG1 General Purpose Drive

Contents

PowerXL DG1 Series Drives

Product Description

The DG1 general purpose drives are part of Eaton's next generation PowerXL Series of adjustable frequency drives specifically engineered for today's more demanding commercial and industrial applications. The power unit makes use of the most sophisticated semiconductor technology and a highly modular construction that can be flexibly adapted to meet the customer's needs.

The control module was designed to include today's standard communication protocols and I/O while still having the modularity to add additional option cards.

Eaton's patented Active Energy Control is also a standard feature on DG1 drives, offering customers increased efficiency, safety and reliability.

These drives continue the tradition of robust performance and raise the bar on features and functionality, ensuring the best solution at the right price.

Product Range

230 V to 125 hp, 312 A, 90 kW
480 V to 1000 hp, 1180 A, 630 kW
575 V to 800 hp, 820 A, 597 kW

Features and Benefits

Hardware

- Brake chopper standard on Frames 0, 1, 2, 3
- Dual overload ratings
  - 110% variable torque (I_L)
  - 150% constant torque (I_H)
- Open Type/IP00 or IP20 or Type 1/IP21 or Type 12/IP54 enclosures available
- Integrated common mode reduction 5% DC link choke with input surge protection
- EMI/RFI filters standard on all drives—meets EMC Category C2
- Real-time clock—supports calendaring and PLC functionality
- Graphic LCD display and keypad—supports simple menu navigation as well as on-screen diagnostics and troubleshooting
- LOCAL/REMOTE operation from keypad and two configurable soft keys
- Conformal coated control and power boards standard
- Control logic can be powered from an external auxiliary control panel—internal drive functions and fieldbus if necessary
- Standard I/O:
  - 8DI, 1DO
  - 2AI, 2AO
  - 2FC, 1FA relays
- Standard communications:
  - EtherNet/IP, Modbus TCP
  - RS-485: Modbus RTU, BACnet MS/TP
- Seamless integration into EtherNet/IP networks via EIP-Assist I/O tag-generation tool
- Two expansion slots—intended to support additional I/O or communication protocols as necessary
- Quick disconnect terminals for I/O connections—supports fast easy installation
- Safe Torque Off (STO) built-in with functional safety SIL1 certification

Software

- Active energy control—minimizes energy losses in your motor, resulting in industry-leading energy efficiency for your application
- Quick Start Wizard upon initial power-up supports fast, easy installation
- Standard applications:
  - Standard
  - Multi-pump and fan Control
  - Multi-PID
  - Multi-purpose
- Copy/paste functionality on drive keypad—allows for fast setup of multiple drives
- Pre-programmed I/O—supports fast, easy installation for most applications
- Dynamic motor regenerative energy management
- Advanced PC Tool with diagnostic capabilities
- Two keypad software keys for easy menu navigation and shortcuts

Standards and Certifications

Product
- IEC/EN 61800-5-1
- IEC/EN 61800-5-2
- UL 508C
- IEC 61508
- EN 62061
- EN ISO 13849-1

EMC
- Immunity: IEC/EN 61800-3
- Category C2

Certification
- UL
- cUL
- CE
- C-Tick
- RoHS
- EAC
- Plenum rated

Catalog Number Selection

Catalog Number Selection is for illustrative purposes only and not to be used to create new catalog numbers.

PowerXL Series—DG1 General Purpose Drive

Series | **Power Part** | **Options**

D G1 – 3 4 4D3 F B – C 21 C

Basic Naming
D = Drive

Series
G1 = General purpose

Phase Reference
3 = 3~ INPUT/3~ OUTPUT

Input/Output Voltage Rating
2 = 230 V (208–240 V, –15%, +10%)
4 = 400 V (380–500 V, –15%, +10%)
5 = 600 V (525–600 V, –15%, +10%)

Internal EMC Filter
D = DC choke only
E = EMC filter only
F = Internal EMC filter and DC choke
N = No EMC filter, no DC choke

Internal Brake Chopper
N = No brake chopper
B = Brake chopper

Coating of Boards
C = Coated

Enclosure (IP Rating)
00 = IP00
20 = IP20
21 = IP21/Type 1
54 = IP54/Type 12

Display Option
C = LCD (graphical)
N = No display

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	**105** = 105 A, 55 kW, 75 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	**140** = 140 A, 75 kW, 100 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	**170** = 170 A, 90 kW, 125 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	**205** = 205 A, 110 kW, 150 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	**245** = 245 A, 132 kW, 200 hp	**013** = 13.5 A, 7.5 kW, 10 hp
012 = 12.5 A, 3 kW, 4 hp	**9D0** = 9 A, 4 kW, 7.5 hp (VT)	**310** = 310 A, 160 kW, 250 hp	**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	**385** = 385 A, 200 kW, 300 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	**460** = 460 A, 250 kW, 350 hp	**027** = 27 A, 18.5 kW, 25 hp
031 = 31 A, 7.5 kW, 10 hp	**023** = 23 A, 11 kW, 15 hp	**520** = 520 A, 250 kW, 450 hp	**034** = 34 A, 22 kW, 30 hp
048 = 48 A, 11 kW, 15 hp	**031** = 31 A, 15 kW, 20 hp	**590** = 590 A, 315 kW, 500 hp	**041** = 41 A, 30 kW, 40 hp
061 = 61 A, 15 kW, 20 hp	**038** = 38 A, 18.5 kW, 25 hp	**650** = 650 A, 355 kW, 500 hp	**052** = 52 A, 37 kW, 50 hp
075 = 75 A, 18.5 kW, 25 hp	**046** = 46 A, 22 kW, 30 hp	**730** = 730 A, 400 kW, 600 hp	**062** = 62 A, 45 kW, 60 hp
088 = 88 A, 22 kW, 30 hp	**061** = 61 A, 30 kW, 40 hp	**820** = 820 A, 450 kW, 700 hp	**080** = 80 A, 55 kW, 75 hp
114 = 114 A, 30 kW, 40 hp	**072** = 72 A, 37 kW, 50 hp	**920** = 920 A, 500 kW, 800 hp	**100** = 100 A, 75 kW, 100 hp
143 = 143 A, 37 kW, 50 hp	**087** = 87 A, 45 kW, 60 hp	**1K0** = 1180 A, 630 kW, 1000 hp (VT)	**125** = 125 A, 90 kW, 125 hp
170 = 170 A, 45 kW, 60 hp			**144** = 144 A, 110 kW, 150 hp
211 = 211 A, 55 kW, 75 hp			**208** = 208 A, 132 kW, 200 hp
248 = 248 A, 75 kW, 100 hp			**261** = 261 A, 187 kW, 250 hp
			325 = 325 A, 224 kW, 300 hp
			385 = 385 A, 224 kW, 300 hp
			416 = 416 A, 298 kW, 400 hp
			460 = 460 A, 336 kW, 450 hp
			520 = 520 A, 373 kW, 500 hp
			590 = 590 A, 448 kW, 600 hp
			650 = 650 A, 485 kW, 650 hp
			820 = 820 A, 597 kW, 800 hp (VT)

PowerXL Series—DG1 General Purpose Drive Option Boards

DX G – NET – PROFIBUS

Basic Naming
DX = PowerXL Drive

Series
G = General purpose

Type
NET = Communication card
EXT = I/O card
ACC = Accessory
SPR = Spare part
KEY = Keypad
CBL = Cable

Function
PROFB = PROFIBUS
DEVICENET = DeviceNet
CANOPEN = CANopen
SWD = SmartWire
See Accessories on **Page V6-T2-56** for full offering

Product Selection

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DG1 Series Drives—208–240 Volt

PowerXL Series—DG1

IP20

Frame Size	Constant Torque (CT) / High Overload (I_H) 230 V, 50 Hz kW Rating	230 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 230 V, 50 Hz kW Rating	230 V, 60 Hz hp	Current A	Catalog Number
FR0	0.55	0.75	3.7	0.75	1	4.8	**DG1-323D7EB-C20C**
	0.75	1	4.8	1.1	1.5	6.6	**DG1-324D8EB-C20C**
	1.1	1.5	6.6	1.5	2	7.8	**DG1-326D6EB-C20C**

PowerXL Series—DG1

Type 1/IP21

Frame Size	Constant Torque (CT) / High Overload (I_H) 230 V, 50 Hz kW Rating	230 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 230 V, 50 Hz kW Rating	230 V, 60 Hz hp	Current A	Catalog Number
FR1	0.55	0.75	3.7	0.75	1	4.8	**DG1-323D7FB-C21C**
	0.75	1	4.8	1.1	1.5	6.6	**DG1-324D8FB-C21C**
	1.1	1.5	6.6	1.5	2	7.8	**DG1-326D6FB-C21C**
	1.5	2	7.8	2.2	3	11	**DG1-327D8FB-C21C**
	2.2	3	11	3	—	12.5	**DG1-32011FB-C21C**
FR2	3	—	12.5	3.7	5	17.5	**DG1-32012FB-C21C**
	3.7	5	17.5	5.5	7.5	25	**DG1-32017FB-C21C**
	5.5	7.5	25	7.5	10	31	**DG1-32025FB-C21C**
FR3	7.5	10	31	11	15	48	**DG1-32031FB-C21C**
	11	15	48	15	20	61	**DG1-32048FB-C21C**
FR4	15	20	61	18.5	25	75	**DG1-32061FN-C21C**
	18.5	25	75	22	30	88	**DG1-32075FN-C21C**
	22	30	88	30	40	114	**DG1-32088FN-C21C**
FR5	30	40	114	37	50	143	**DG1-32114FN-C21C**
	37	50	143	45	60	170	**DG1-32143FN-C21C**
	45	60	170	55	75	211	**DG1-32170FN-C21C**
FR6	55	75	211	75	100	261	**DG1-32211FN-C21C**
	75	100	248	90	125	312	**DG1-32248FN-C21C**

PowerXL Series—DG1

Type 12/IP54

Frame Size	Constant Torque (CT) / High Overload (I_H) 230 V, 50 Hz kW Rating	230 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 230 V, 50 Hz kW Rating	230 V, 60 Hz hp	Current A	Catalog Number
FR1	0.55	0.75	3.7	0.75	1	4.8	**DG1-323D7FB-C54C**
	0.75	1	4.8	1.1	1.5	6.6	**DG1-324D8FB-C54C**
	1.1	1.5	6.6	1.5	2	7.8	**DG1-326D6FB-C54C**
	1.5	2	7.8	2.2	3	11	**DG1-327D8FB-C54C**
	2.2	3	11	3	—	12.5	**DG1-32011FB-C54C**
FR2	3	—	12.5	3.7	5	17.5	**DG1-32012FB-C54C**
	3.7	5	17.5	5.5	7.5	25	**DG1-32017FB-C54C**
	5.5	7.5	25	7.5	10	31	**DG1-32025FB-C54C**
FR3	7.5	10	31	11	15	48	**DG1-32031FB-C54C**
	11	15	48	15	20	61	**DG1-32048FB-C54C**
FR4	15	20	61	18.5	25	75	**DG1-32061FN-C54C**
	18.5	25	75	22	30	88	**DG1-32075FN-C54C**
	22	30	88	30	40	114	**DG1-32088FN-C54C**
FR5	30	40	114	37	50	143	**DG1-32114FN-C54C**
	37	50	143	45	60	170	**DG1-32143FN-C54C**
	45	60	170	55	75	211	**DG1-32170FN-C54C**
FR6	55	75	211	75	100	261	**DG1-32211FN-C54C**
	75	100	248	90	125	312	**DG1-32248FN-C54C**

DG1 Series Drives—380–500 Volt

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PowerXL Series—DG1

IP20

Frame Size	Constant Torque (CT) / High Overload (I_H) 480 V, 50 Hz kW Rating	480 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 480 V, 50 Hz kW Rating	480 V, 60 Hz hp	Current A	Catalog Number
FR0	0.75	1	2.2	1.1	1.5	3.3	**DG1-342D2EB-C20C**
	1.1	1.5	3.3	1.5	2	4.6	**DG1-343D3EB-C20C**
	1.5	2	4.3	2.2	3	5.6	**DG1-344D3EB-C20C**
	2.2	3	5.6	3	5	7.6	**DG1-345D6EB-C20C**

PowerXL Series—DG1

Type 1/IP21

Frame Size	Constant Torque (CT) / High Overload (I_H) 400 V, 50 Hz kW Rating	460 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 400 V, 50 Hz kW Rating	460 V, 60 Hz hp	Current A	Catalog Number
FR1	0.75	1	2.2	1.1	1.5	3.3	**DG1-342D2FB-C21C**
	1.1	1.5	3.3	1.5	2	4.3	**DG1-343D3FB-C21C**
	1.5	2	4.3	2.2	3	5.6	**DG1-344D3FB-C21C**
	2.2	3	5.6	3	5	7.6	**DG1-345D6FB-C21C**
	3	5	7.6	4	—	9	**DG1-347D6FB-C21C**
	4	—	9	5.5	7.5	12	**DG1-349D0FB-C21C**
FR2	5.5	7.5	12	7.5	10	16	**DG1-34012FB-C21C**
	7.5	10	16	11	15	23	**DG1-34016FB-C21C**
	11	15	23	15	20	31	**DG1-34023FB-C21C**
FR3	15	20	31	18.5	25	38	**DG1-34031FB-C21C**
	18.5	25	38	22	30	46	**DG1-34038FB-C21C**
	22	30	46	30	40	61	**DG1-34046FB-C21C**
FR4	30	40	61	37	50	72	**DG1-34061FN-C21C**
	37	50	72	45	60	87	**DG1-34072FN-C21C**
	45	60	87	55	75	105	**DG1-34087FN-C21C**
FR5	55	75	105	75	100	140	**DG1-34105FN-C21C**
	75	100	140	90	125	170	**DG1-34140FN-C21C**
	90	125	170	110	150	205	**DG1-34170FN-C21C**
FR6	110	150	205	132	200	261	**DG1-34205FN-C21C**
	132	200	245	160	250	310	**DG1-34245FN-C21C**

PowerXL Series—DG1

Type 12/IP54

Frame Size	Constant Torque (CT) / High Overload (I_H) 400 V, 50 Hz kW Rating	460 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 400 V, 50 Hz kW Rating	460 V, 60 Hz hp	Current A	Catalog Number
FR1	0.75	1	2.2	1.1	1.5	3.3	DG1-342D2FB-C54C
	1.1	1.5	3.3	1.5	2	4.3	DG1-343D3FB-C54C
	1.5	2	4.3	2.2	3	5.6	DG1-344D3FB-C54C
	2.2	3	5.6	3	5	7.6	DG1-345D6FB-C54C
	3	5	7.6	4	—	9	DG1-347D6FB-C54C
	4	—	9	5.5	7.5	12	DG1-349D0FB-C54C
FR2	5.5	7.5	12	7.5	10	16	DG1-34012FB-C54C
	7.5	10	16	11	15	23	DG1-34016FB-C54C
	11	15	23	15	20	31	DG1-34023FB-C54C
FR3	15	20	31	18.5	25	38	DG1-34031FB-C54C
	18.5	25	38	22	30	46	DG1-34038FB-C54C
	22	30	46	30	40	61	DG1-34046FB-C54C
FR4	30	40	61	37	50	72	DG1-34061FN-C54C
	37	50	72	45	60	87	DG1-34072FN-C54C
	45	60	87	55	75	105	DG1-34087FN-C54C
FR5	55	75	105	75	100	140	DG1-34105FN-C54C
	75	100	140	90	125	170	DG1-34140FN-C54C
	90	125	170	110	150	205	DG1-34170FN-C54C
FR6	110	150	205	132	200	261	DG1-34205FN-C54C
	132	200	245	160	250	310	DG1-34245FN-C54C

PowerXL Series—DG1

Open Type/IP00

Frame Size	Constant Torque (CT) / High Overload (I_H) 400 V, 50 Hz kW Rating	460 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 400 V, 50 Hz kW Rating	460 V, 60 Hz hp	Current A	Catalog Number
FR7	160	250	311	200	300	385	DG1-34310FN-C00C
	200	300	385	250	350	460	DG1-34385FN-C00C
	250	350	460	250	450	520	DG1-34460FN-C00C
	250	450	520	315	500	590	DG1-34520FN-C00C
FR8	315	500	590	355	500	650	DG1-34590FN-C00C
	355	500	650	400	600	730	DG1-34650FN-C00C
	400	600	730	450	700	820	DG1-34730FN-C00C
	450	700	820	500	800	920	DG1-34820FN-C00C
	500	800	920	560	900	1040	DG1-34920FN-C00C
	500	800	920	630	1000	1180	DG1-341K0FN-C00C

DG1 Series Drives—575 Volt

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PowerXL Series—DG1

Type 1/IP21

Frame Size	Constant Torque (CT) / High Overload (I_H) 575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	Catalog Number
FR1	1.5	2	3.3	2.2	3	4.5	DG1-353D3FB-C21C
	2.2	3	4.5	3.7	5	7.5	DG1-354D5FB-C21C
	3.7	5	7.5	5.5	7.5	10	DG1-357D5FB-C21C
FR2	5.5	7.5	10	7.5	10	13.5	DG1-35010FB-C21C
	7.5	10	13.5	11	15	18	DG1-35013FB-C21C
	11	15	18	15	20	22	DG1-35018FB-C21C
FR3	15	20	22	18.5	25	27	DG1-35022FB-C21C
	18.5	25	27	22	30	34	DG1-35027FB-C21C
	22	30	34	30	40	41	DG1-35034FB-C21C
FR4	30	40	41	37	50	52	DG1-35041FN-C21C
	37	50	52	45	60	62	DG1-35052FN-C21C
	45	60	62	55	75	80	DG1-35062FN-C21C
FR5	55	75	80	75	100	100	DG1-35080FN-C21C
	75	100	100	90	125	125	DG1-35100FN-C21C
	90	125	125	110	150	144	DG1-35125FN-C21C
FR6	110	150	144	150	200	208	DG1-35144FN-C21C
	132	200	208	187	250	250	DG1-35208FN-C21C

PowerXL Series—DG1

Type 12/IP54

Frame Size	Constant Torque (CT) / High Overload (I_H) 575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	Catalog Number
FR1	1.5	2	3.3	2.2	3	4.5	DG1-353D3FB-C54C
	2.2	3	4.5	3.7	5	7.5	DG1-354D5FB-C54C
	3.7	5	7.5	5.5	7.5	10	DG1-357D5FB-C54C
FR2	5.5	7.5	10	7.5	10	13.5	DG1-35010FB-C54C
	7.5	10	13.5	11	15	18	DG1-35013FB-C54C
	11	15	18	15	20	22	DG1-35018FB-C54C
FR3	15	20	22	18.5	25	27	DG1-35022FB-C54C
	18.5	25	27	22	30	34	DG1-35027FB-C54C
	22	30	34	30	40	41	DG1-35034FB-C54C
FR4	30	40	41	37	50	52	DG1-35041FN-C54C
	37	50	52	45	60	62	DG1-35052FN-C54C
	45	60	62	55	75	80	DG1-35062FN-C54C
FR5	55	75	80	75	100	100	DG1-35080FN-C54C
	75	100	100	90	125	125	DG1-35100FN-C54C
	90	125	125	110	150	144	DG1-35125FN-C54C
FR6	110	150	144	150	200	208	DG1-35144FN-C54C
	132	200	208	187	250	250	DG1-35208FN-C54C

PowerXL Series—DG1

Open Type/IP00

Frame Size	Constant Torque (CT) / High Overload (I_H) 575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	Variable Torque (VT) / Low Overload (I_L) 575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	Catalog Number
FR7	186.5	250	261	223.8	300	325	**DG1-35261FN-C00C**
	223.8	300	325	298.4	400	385	**DG1-35325FN-C00C**
	223.8	300	385	335.7	450	416	**DG1-35385FN-C00C**
FR8	298.4	400	416	335.7	450	460	**DG1-35416FN-C00C**
	335.7	450	460	373	500	520	**DG1-35460FN-C00C**
	373	500	520	447.6	600	590	**DG1-35520FN-C00C**
	447.6	600	590	484.9	650	650	**DG1-35590FN-C00C**
	484.9	650	650	522.2	700	750	**DG1-35650FN-C00C**
	484.9	650	650	596.8	800	820	**DG1-35820FN-C00C**

Accessories

The PowerXL Series—DG1 drives can accommodate a wide selection of expander and adapter option boards to customize the drive for your application needs. The drive's control unit is designed to accept a total of two additional option boards.

The PowerXL Series—DG1 drives come with a factory-installed standard board configuration including the following:

- Standard I/O:
  - 8DI, 1DO
  - 2AI, 2AO
  - 2FC, 1FA relays
- Standard communications:
  - EtherNet/IP, Modbus TCP
  - RS-485: Modbus RTU, BACnet MS/TP

PowerXL Series—DG1 I/O Card Kits

Description	Catalog Number
3 x DI, 3 x DO, 1 x thermistor, 24 Vdc/EXT option card	**DXG-EXT-3DI3DO1T**
1 x AI, 2 x AO (isolated to control board) option card	**DXG-EXT-1AI2AO**
3 x relay dry contact (2NO + 1NO/NC) option card	**DXG-EXT-3RO**
3 x PT100 RTD thermistor input option card	**DXG-EXT-THER1**
6 x DI 240 Vac input option card	**DXG-EXT-6DI**

PowerXL Series—DG1 Communication Card Kits

Description	Catalog Number
PROFIBUS-DP communication card	**DXG-NET-PROFB**
CANopen communication card	**DXG-NET-CANOPEN**
DeviceNet communication card	**DXG-NET-DEVICENET**
PROFIBUS DB9 to 5-pin adapter card	**DXG-NET-PROAD**
SmartWire communication card and module IP20	**DXG-NET-SWD-IP20**
SmartWire communication card and module IP54	**DXG-NET-SWD-IP54**

PowerXL Series—DG1 Keypad Kits

Description	Catalog Number
Standard keypad	**DXG-KEY-LCD**
Remote keypad kit (IP 54 rated keypad holder and 3 m cable)	**DXG-KEY-RMTKIT**
1 m remote keypad cable	**DXG-CBL-1M0**
3 m remote keypad cable	**DXG-CBL-3M0**
Remote keypad mounting holder only	**DXG-KEY-HOLDER**
Type 12/IP54 keypad hole plug (maintain rating without keypad)	**DXG-KEY-N12PLUG**

PowerXL Series—DG1 Conversion and Flange Kits

The Type 12/IP54 option kit is used to convert a Type 1/IP21 to a Type 12/IP54 drive. The kit includes cover, fan and grommets.

Type 12/IP54 Conversion Kits ①

Description	Catalog Number
Frame 1 230 V Type 12/IP54 kit	**DXG-ACC-2FR1N12KIT**
Frame 1 480 V Type 12/IP54 kit	**DXG-ACC-4FR1N12KIT**
Frame 2 Type 12/IP54 kit	**DXG-ACC-FR2N12KIT**

The flange kit is used when the power section heat sink is mounted through the back panel of an enclosure. The kit includes hardware, top flange plate, bottom flange plate and two side flange plates.

Flange Kits

Description	Catalog Number
Frame 1 flange kit Type 12/IP54	**DXG-ACC-FR1N12FK**
Frame 2 flange kit Type 12/IP54	**DXG-ACC-FR2N12FK**
Frame 3 flange kit Type 12/IP54	**DXG-ACC-FR3N12FK**
Frame 4 flange kit Type 12/IP54	**DXG-ACC-FR4N12FK**
Frame 5 flange kit Type 12/IP54	**DXG-ACC-FR5N12FK**
Frame 6 flange kit Type 12/IP54	**DXG-ACC-FR6N12FK**

PowerXL Series—DG1 Demo Units

Demo Units

Description	Catalog Number
DG1 control module demo stand	**DG1-DEMO1**
DG1 full drive demo case	**DG1-DEMO2**

Note

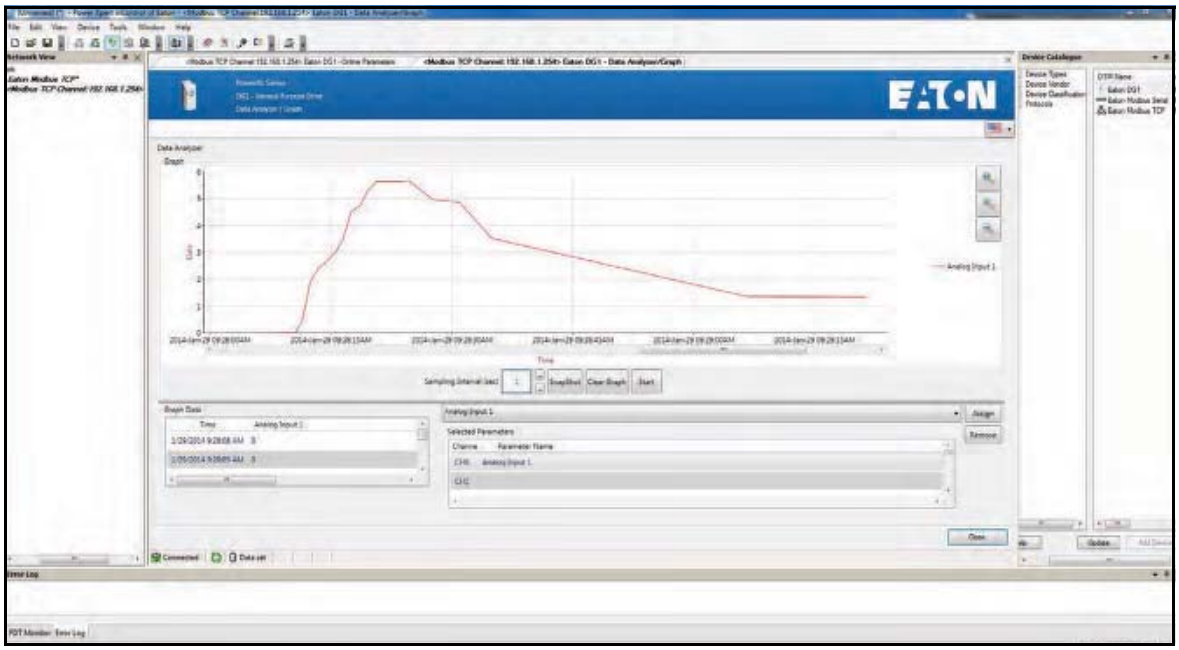
① NEMA 12 DG1 drives from W34 are available within 3 business days.

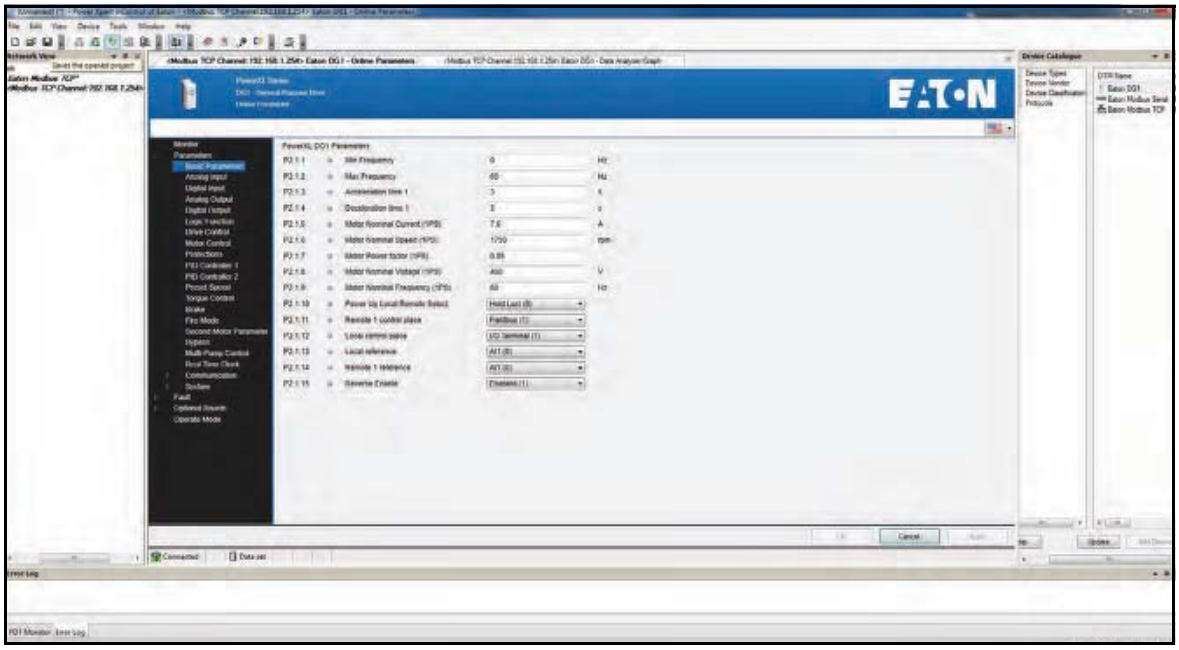
Power Xpert *in*Control Software

The PowerXL Series PC Tool is designed for programming, controlling and monitoring of the DG1 drives. Features include loading parameters that can be saved to a file or printed, setting references, starting and stopping the motor, monitoring signals in graphical or text form, and real-time display.

PowerXpert *in*Control Software

Description	Catalog Number
Software kit (software, cable, manual)	**DXG-ACC-SOFTWARE**
Software cable (USB to keypad [RJ45])	**DXG-CBL-PCCABLE**
Real-time clock battery (approximately 10,000 hours life)	**DXG-ACC-RTBATT**





Brake Chopper Options

The brake chopper circuit option is used for applications that require dynamic braking. Dynamic braking resistors are not included with drive purchase. Consult the factory for additional dynamic braking resistor selections that are supplied separately. A list of common resistors are listed below and are complete indoor assemblies, include a pre-wired terminal block and a thermal switch, and are not UL Listed.

Duty Cycle

The duty cycle rating is based on a 60-second period. For example, the 20% duty cycle resistor can carry 100% current for 12 seconds out of every 60 seconds, while the 50% duty cycle resistor can carry 150% current for 30 seconds out of every 60 seconds.

Torque

If the braking torque required is less than 15%, dynamic braking is not required because the regenerated energy will be dissipated in the drive and motor losses.

Dynamic Brake Resistor—Catalog Number Selection

DBR – R100 – W0800

Dynamic Brake Resistor	Resistance	Rated Watts
	1D0 = 1.0 Ohms **100** = 100 Ohms	**0800** = 800 Watts **8000** = 8000 Watts **080K** = 80,000 Watts

230 V Brake Resistors

Drive hp (CT/I_H)	Minimum Ohms	20% Duty Cycle, 100% Torque		50% Duty Cycle, 150% Torque	
		Catalog Number	Dimensions (Inches)	Catalog Number	Dimensions (Inches)
0.75	30.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R100-W0800**	12W x 7D x 5H
1	30.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R100-W0800**	12W x 7D x 5H
1.5	30.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R036-W1200**	12W x 10D x 5H
2	30.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R036-W1200**	12W x 10D x 5H
3	30.0	**DBR-R036-W0800**	12W x 7D x 5H	**DBR-R036-W2000**	12W x 16D x 5H
4	30.0	**DBR-R036-W0800**	12W x 7D x 5H	**DBR-R030-W2400**	19W x 10D x 5H
5	30.0	**DBR-R036-W0800**	12W x 7D x 5H	**DBR-R030-W2800**	19W x 13D x 5H
7.5	20.0	**DBR-R020-W1200**	12W x 10D x 5H	**DBR-R020-W4800**	26.5W x 13D x 5H
10	10.0	**DBR-R015-W1600**	12W x 13D x 5H	**DBR-R112-W6000**	26.5W x 13D x 5H
15	10.0	**DBR-R012-W2400**	19W x 10D x 5H	**DBR-R010-W9000**	28W x 10D x 10H
20	3.3	**DBR-R9D3-W3200**	19W x 10D x 5H	**DBR-R3D4-W012K**	28W x 10D x 10H
25	3.3	**DBR-R5D5-W4000**	26.5W x 10D x 5H	**DBR-R5D1-W015K**	28W x 16D x 10H
30	3.3	**DBR-R4D8-W4800**	26.5W x 10D x 5H	**DBR-R4D1-W020K**	28W x 16D x 10H
40	1.4	**DBR-R004-W6000**	26.5W x 13D x 5H	**DBR-R3D4-W025K**	30W x 18D x 16H
50	1.4	**DBR-R3D1-W7500**	26.5W x 16D x 5H	**DBR-R2D1-W030K**	30W x 18D x 24H
60	1.4	**DBR-R2D8-W9000**	26.5W x 16D x 5H	**DBR-R002-W036K**	30W x 18D x 24H
75	1.4	**DBR-R2D6-W012K**	28W x 10D x 10H	**DBR-R1D5-W045K**	30W x 18D x 32H
100	1.4	**DBR-R002-W015K**	28W x 16D x 10H	**DBR-R1D4-W060K**	30W x 18D x 40H

480 V Brake Resistors

Drive hp (CT/I_H)	Minimum Ohms	20% Duty Cycle, 100% Torque		50% Duty Cycle, 150% Torque	
		Catalog Number	Dimensions (Inches)	Catalog Number	Dimensions (Inches)
1	63.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R100-W0800**	12W x 7D x 5H
1.5	63.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R100-W1200**	12W x 10D x 5H
2	63.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R100-W1200**	12W x 10D x 5H
3	63.0	**DBR-R100-W0800**	12W x 7D x 5H	**DBR-R100-W2000**	12W x 16D x 5H
5	63.0	**DBR-R100-W0800**	12W x 7D x 5H	**DBR-R100-W2800**	19W x 13D x 5H
6	63.0	**DBR-R100-W1200**	12W x 10D x 5H	**DBR-R070-W4000**	19W x 16D x 5H
7.5	63.0	**DBR-R100-W1200**	12W x 10D x 5H	**DBR-R063-W4800**	26.5W x 13D x 5H
10	63.0	**DBR-R063-W1600**	12W x 13D x 5H	**DBR-R063-W6000**	26.5W x 16D x 5H
15	42.0	**DBR-R042-W2400**	19W x 10D x 5H	**DBR-R042-W9000**	28W x 10D x 10H
20	21.0	**DBR-R030-W3200**	19W x 13D x 5H	**DBR-R023-W012K**	28W x 13D x 10H
25	21.0	**DBR-R030-W4000**	19W x 16D x 5H	**DBR-R021-W015K**	28W x 13D x 10H
30	14.0	**DBR-R020-W4800**	26.5W x 13D x 5H	**DBR-R014-W020K**	30W x 18D x 24H
40	6.5	**DBR-R112-W6000**	26.5W x 13D x 5H	**DBR-R007-W025K**	30W x 18D x 16H
50	6.5	**DBR-R013-W7500**	26.5W x 16D x 5H	**DBR-R8D5-W030K**	30W x 18D x 24H
60	6.5	**DBR-R010-W9000**	28W x 10D x 10H	**DBR-R7D3-W036K**	30W x 18D x 24H
75	3.3	**DBR-R009-W012K**	28W x 13D x 10H	**DBR-R3D3-W045K**	30W x 18D x 32H
100	3.3	**DBR-R5D1-W015K**	28W x 16D x 10H	**DBR-R004-W060K**	30W x 18D x 40H
125	3.3	**DBR-R4D1-W020K**	28W x 16D x 10H	**DBR-R004-W070K**	30W x 18D x 48H
150	3.3	**DBR-R3D4-W025K**	30W x 18D x 16H	**DBR-R3D5-W085K**	30W x 18D x 56H
200	3.3	**DBR-R3D3-W030K**	30W x 18D x 24H	**DBR-R3D3-W110K**	30W x 18D x 72H
250	1.4	**DBR-R2D5-W036K**	30W x 18D x 24H	①	—
300	1.4	**DBR-R1D5-W045K**	30W x 18D x 32H	①	—
350	1.4	**DBR-R1D4-W060K**	30W x 18D x 40H	①	—
400	0.9	**DBR-R1D4-W060K**	30W x 18D x 40H	①	—
500	0.9	**DBR-R0D9-W080K**	30W x 18D x 48H	①	—
550	0.9	**DBR-R001-W085K**	30W x 18D x 56H	①	—

Note

① Consult factory.

575 V Brake Resistors

Drive hp (CT/I_H)	Minimum Ohms	20% Duty Cycle, 100% Torque		50% Duty Cycle, 150% Torque	
		Catalog Number	Dimensions (Inches)	Catalog Number	Dimensions (Inches)
2	100.0	**DBR-R100-W0400**	12W x 5D x 5H	**DBR-R100-W1200**	12W x 10D x 5H
3	100.0	**DBR-R100-W0800**	12W x 7D x 5H	**DBR-R100-W2000**	12W x 16D x 5H
4	100.0	**DBR-R100-W0800**	12W x 7D x 5H	**DBR-R100-W2400**	19W x 10D x 5H
5	100.0	**DBR-R100-W0800**	12W x 7D x 5H	**DBR-R100-W2800**	19W x 13D x 5H
7.5	100.0	**DBR-R100-W1200**	12W x 10D x 5H	**DBR-R100-W4800**	26.5W x 13D x 5H
10	30.0	**DBR-R063-W1600**	12W x 13D x 5H	**DBR-R063-W6000**	26.5W x 16D x 5H
15	30.0	**DBR-R042-W2400**	19W x 10D x 5H	**DBR-R042-W9000**	28W x 10D x 10H
20	30.0	**DBR-R030-W3200**	19W x 13D x 5H	**DBR-R030-W012K**	28W x 13D x 10H
25	30.0	**DBR-R030-W4000**	19W x 16D x 5H	**DBR-R030-W015K**	28W x 16D x 10H
30	18.0	**DBR-R020-W4800**	26.5W x 13D x 5H	**DBR-R020-W020K**	30W x 18D x 16H
40	18.0	**DBR-R030-W6000**	26.5W x 16D x 5H	**DBR-R184-W025K**	30W x 18D x 16H
50	9.0	**DBR-R013-W7500**	26.5W x 16D x 5H	**DBR-R012-W030K**	30W x 18D x 24H
60	9.0	**DBR-R010-W9000**	28W x 10D x 10H	**DBR-R010-W036K**	30W x 18D x 24H
75	9.0	**DBR-R009-W012K**	28W x 13D x 10H	**DBR-R009-W045K**	30W x 18D x 24H
100	7.0	**DBR-R013-W015K**	28W x 16D x 10H	**DBR-R8D4-W060K**	30W x 18D x 40H
125	7.0	**DBR-R8D2-W020K**	30W x 18D x 10H	**DBR-R007-W070K**	30W x 18D x 40H
150	7.0	**DBR-R007-W025K**	30W x 18D x 16H	**DBR-R006-W085K**	30W x 18D x 56H
175	7.0	**DBR-R007-W030K**	30W x 18D x 24H	**DBR-R007-W100K**	30W x 18D x 72H
200	2.5	**DBR-R3D3-W030K**	30W x 18D x 24H	**DBR-R2D6-W110K**	30W x 18D x 64H
250	2.5	**DBR-R2D5-W036K**	30W x 18D x 24H	**DBR-R003-W140K**	30W x 18D x 72H
300	2.5	**DBR-R3D3-W045K**	30W x 18D x 32H	①	—
400	1.7	**DBR-R002-W060K**	30W x 18D x 48H	①	—
450	1.7	**DBR-R1D8-W070K**	30W x 18D x 48H	①	—
500	1.7	**DBR-R002-W080K**	30W x 18D x 56H	①	—

Note

① Consult factory.

Line and Load Reactors

A line and load reactor is a three-phase inductance filter that can be placed on the line and load side of the AFD to help improve the harmonic performance of the system. Consult the factory for additional filtering options and further technical details.

DR1 Line Reactor

A line reactor helps to provide a moderate reduction in current harmonics similar to a DC choke. It also provides increased input protection for AFD and its semiconductors from line transients helping to extend the life of the AFD.

DR2 Output Reactor

An output filter is used to reduce the transient voltage (dV/dt) at the motor terminals. The output filter is recommended for cable lengths exceeding 100 ft (30 m) with a drive of 3 hp and above and for cable lengths of 33 ft (10 m) with a drive of 2 hp and below.

Line and Load Reactors—Catalog Number Selection

D R1 – 2 2D0 – 0 5

Basic Naming
D = Drive

Device Series
R1 = Line side reactor
R2 = Load side reactor

Input/Output Voltage
2 = 230 V
4 = 460 V

Current Rating
Examples:
2D0 = 2.0 A
4D0 = 4.0 A
8D0 = 8.0 A
012 = 12 A

Environment Rating
0 = Open
1 = NEMA 1

Impedance
3 = 3%
5 = 5%

Line and Load Reactors—230 V

	Open				NEMA 1			
	Line Reactor		Load Reactor		Line Reactor		Load Reactor	
hp (CT)	3%	5%	3%	5%	3%	5%	3%	5%
0.75	DR1-23D2-03	DR1-23D2-05	DR2-24D0-03	DR2-24D0-05	DR1-23D2-13	DR1-23D2-15	DR2-24D0-13	DR2-24D0-15
1	DR1-24D2-03	DR1-24D2-05	DR2-24D0-03	DR2-28D0-05	DR1-24D2-13	DR1-24D2-15	DR2-24D0-13	DR2-28D0-15
1.5	DR1-26D0-03	DR1-26D0-05	DR2-28D0-03	DR2-28D0-05	DR1-26D0-13	DR1-26D0-15	DR2-28D0-13	DR2-28D0-15
2	DR1-26D8-03	DR1-26D8-05	DR2-28D0-03	DR2-28D0-05	DR1-26D8-13	DR1-26D8-15	DR2-28D0-13	DR2-28D0-15
3	DR1-29D6-03	DR1-29D6-05	DR2-2012-03	DR2-2012-05	DR1-29D6-13	DR1-29D6-15	DR2-2012-13	DR2-2012-15
5	DR1-2015-03	DR1-2015-05	DR2-2018-03	DR2-2018-05	DR1-2015-13	DR1-2015-15	DR2-2018-13	DR2-2018-15
7.5	DR1-2022-03	DR1-2022-05	DR2-2025-03	DR2-2025-05	DR1-2022-13	DR1-2022-15	DR2-2025-13	DR2-2025-15
10	DR1-2028-03	DR1-2028-05	DR2-2035-03	DR2-2035-05	DR1-2028-13	DR1-2028-15	DR2-2035-13	DR2-2035-15
15	DR1-2042-03	DR1-2042-05	DR2-2045-03	DR2-2045-05	DR1-2042-13	DR1-2042-15	DR2-2045-13	DR2-2045-15
20	DR1-2054-03	DR1-2054-05	DR2-2055-03	DR2-2055-05	DR1-2054-13	DR1-2054-15	DR2-2055-13	DR2-2055-15
25	DR1-2068-03	DR1-2068-05	DR2-2080-03	DR2-2080-05	DR1-2068-13	DR1-2068-15	DR2-2080-13	DR2-2080-15
30	DR1-2080-03	DR1-2080-05	DR2-2080-03	DR2-2100-05	DR1-2080-13	DR1-2080-15	DR2-2080-13	DR2-2100-15
40	DR1-2104-03	DR1-2104-05	DR2-2100-03	DR2-2100-05	DR1-2104-13	DR1-2104-15	DR2-2100-13	DR2-2100-15
50	DR1-2130-03	DR1-2130-05	DR2-2130-03	DR2-2130-05	DR1-2130-13	DR1-2130-15	DR2-2130-13	DR2-2130-15
60	DR1-2154-03	DR1-2154-05	DR2-2160-03	DR2-2200-15	DR1-2154-13	DR1-2154-15	DR2-2160-13	DR2-2200-15
75	DR1-2192-03	DR1-2192-05	DR2-2200-13	DR2-2200-15	DR1-2192-13	DR1-2192-15	DR2-2200-13	DR2-2200-15
100	DR1-2248-03	DR1-2248-05	DR2-2225-13	DR2-2225-15	DR1-2248-13	DR1-2248-15	DR2-2225-13	DR2-2225-15

Line and Load Reactors—480 V

	Open				NEMA 1			
	Line Reactor		Load Reactor		Line Reactor		Load Reactor	
hp (CT)	3%	5%	3%	5%	3%	5%	3%	5%
1	DR1-42D1-03	DR1-42D1-05	DR2-42D0-05	DR2-42D0-05	DR1-42D1-13	DR1-42D1-15	DR2-42D0-13	DR2-42D0-15
1.5	DR1-43D0-03	DR1-43D0-05	DR2-44D0-05	DR2-44D0-05	DR1-43D0-13	DR1-43D0-15	DR2-44D0-13	DR2-44D0-15
2	DR1-43D4-03	DR1-43D4-05	DR2-44D0-03	DR2-44D0-05	DR1-43D4-13	DR1-43D4-15	DR2-44D0-13	DR2-44D0-15
3	DR1-44D8-03	DR1-44D8-05	DR2-48D0-03	DR2-48D0-05	DR1-44D8-13	DR1-44D8-15	DR2-48D0-13	DR2-48D0-15
5	DR1-47D6-03	DR1-47D6-05	DR2-48D0-03	DR2-48D0-05	DR1-47D6-13	DR1-47D6-15	DR2-48D0-13	DR2-48D0-15
7.5	DR1-4011-03	DR1-4011-05	DR2-4012-03	DR2-4012-05	DR1-4011-13	DR1-4011-15	DR2-4012-13	DR2-4012-15
10	DR1-4014-03	DR1-4014-05	DR2-4018-03	DR2-4018-05	DR1-4014-13	DR1-4014-15	DR2-4018-13	DR2-4018-15
15	DR1-4021-03	DR1-4021-05	DR2-4025-03	DR2-4025-05	DR1-4021-13	DR1-4021-15	DR2-4025-13	DR2-4025-15
20	DR1-4027-03	DR1-4027-05	DR2-4025-03	DR2-4025-05	DR1-4027-13	DR1-4027-15	DR2-4025-13	DR2-4025-15
25	DR1-4034-03	DR1-4034-05	DR2-4035-03	DR2-4035-05	DR1-4034-13	DR1-4034-15	DR2-4035-13	DR2-4035-15
30	DR1-4040-03	DR1-4040-05	DR2-4045-03	DR2-4045-05	DR1-4040-13	DR1-4040-15	DR2-4045-13	DR2-4045-15
40	DR1-4052-03	DR1-4052-05	DR2-4055-03	DR2-4055-05	DR1-4052-13	DR1-4052-15	DR2-4055-13	DR2-4055-15
50	DR1-4065-03	DR1-4065-05	DR2-4080-03	DR2-4080-05	DR1-4065-13	DR1-4065-15	DR2-4080-13	DR2-4080-15
60	DR1-4077-03	DR1-4077-05	DR2-4100-03	DR2-4080-05	DR1-4077-13	DR1-4077-15	DR2-4100-13	DR2-4080-15
75	DR1-4096-03	DR1-4096-05	DR2-4100-03	DR2-4100-05	DR1-4096-13	DR1-4096-15	DR2-4100-13	DR2-4100-15
100	DR1-4124-03	DR1-4124-05	DR2-4130-03	DR2-4130-05	DR1-4124-13	DR1-4124-15	DR2-4130-13	DR2-4130-15
125	DR1-4156-03	DR1-4156-05	DR2-4160-03	DR2-4160-05	DR1-4156-13	DR1-4156-15	DR2-4160-13	DR2-4160-15
150	DR1-4180-03	DR1-4180-05	DR2-4200-13	DR2-4200-15	DR1-4180-13	DR1-4180-15	DR2-4200-13	DR2-4200-15
200	DR1-4240-03	DR1-4240-05	DR2-4250-13	DR2-4250-15	DR1-4240-13	DR1-4240-15	DR2-4250-13	DR2-4250-15
250	DR1-4302-03	DR1-4302-05	DR2-4320-13	DR2-4320-15	DR1-4302-13	DR1-4302-15	DR2-4320-13	DR2-4320-15
300	DR1-4361-03	DR1-4361-05	DR2-4400-13	DR2-4400-15	DR1-4361-13	DR1-4361-15	DR2-4400-13	DR2-4400-15
350	DR1-4414-03	DR1-4414-05	DR2-4400-13	DR2-4400-15	DR1-4414-13	DR1-4414-15	DR2-4400-13	DR2-4400-15
400	DR1-4477-03	DR1-4477-05	DR2-4500-03	DR2-4500-05	DR1-4477-13	DR1-4477-15	DR2-4500-13	DR2-4500-15
500	DR1-4590-03	DR1-4590-05	DR2-4600-03	DR2-4600-05	DR1-4590-13	DR1-4590-15	DR2-4600-13	DR2-4600-15
600	DR1-4708-03	DR1-4708-05	DR2-4750-03	DR2-4750-05	DR1-4708-13	DR1-4708-15	DR2-4750-13	DR2-4750-15

Line and Load Reactors—575 V

	Open				NEMA 1			
	Line Reactor		Load Reactor		Line Reactor		Load Reactor	
hp (CT)	3%	5%	3%	5%	3%	5%	3%	5%
2	DR1-52D7-03	DR1-52D7-05	DR2-54D0-03	DR2-54D0-05	DR1-52D7-13	DR1-52D7-15	DR2-54D0-13	DR2-54D0-15
3	DR1-53D9-03	DR1-53D9-05	DR2-54D0-03	DR2-54D0-05	DR1-53D9-13	DR1-53D9-15	DR2-54D0-13	DR2-54D0-15
5	DR1-56D1-03	DR1-56D1-05	DR2-58D0-03	DR2-58D0-05	DR1-56D1-13	DR1-56D1-15	DR2-58D0-13	DR2-58D0-15
7.5	DR1-59D0-03	DR1-59D0-05	DR2-58D0-03	DR2-58D0-05	DR1-59D0-13	DR1-59D0-15	DR2-58D0-13	DR2-58D0-15
10	DR1-5011-03	DR1-5011-05	DR2-5012-03	DR2-5012-05	DR1-5011-13	DR1-5011-15	DR2-5012-13	DR2-5012-15
15	DR1-5017-03	DR1-5017-05	DR2-5018-03	DR2-5018-05	DR1-5017-13	DR1-5017-15	DR2-5018-13	DR2-5018-15
20	DR1-5022-03	DR1-5022-05	DR2-5025-03	DR2-5025-05	DR1-5022-13	DR1-5022-15	DR2-5025-13	DR2-5025-15
25	DR1-5027-03	DR1-5027-05	DR2-5025-03	DR2-5025-05	DR1-5027-13	DR1-5027-15	DR2-5025-13	DR2-5025-15
30	DR1-5032-03	DR1-5032-05	DR2-5035-03	DR2-5035-05	DR1-5032-13	DR1-5032-15	DR2-5035-13	DR2-5035-15
40	DR1-5041-03	DR1-5041-05	DR2-5045-03	DR2-5045-05	DR1-5041-13	DR1-5041-15	DR2-5045-13	DR2-5045-15
50	DR1-5052-03	DR1-5052-05	DR2-5055-03	DR2-5055-05	DR1-5052-13	DR1-5052-15	DR2-5055-13	DR2-5055-15
60	DR1-5062-03	DR1-5062-05	DR2-5080-03	DR2-5080-05	DR1-5062-13	DR1-5062-15	DR2-5080-13	DR2-5080-15
75	DR1-5077-03	DR1-5077-05	DR2-5080-03	DR2-5080-05	DR1-5077-13	DR1-5077-15	DR2-5080-13	DR2-5080-15
100	DR1-5100-03	DR1-5100-05	DR2-5100-03	DR2-5100-05	DR1-5100-13	DR1-5100-15	DR2-5100-13	DR2-5100-15
125	DR1-5125-03	DR1-5125-05	DR2-5130-03	DR2-5130-05	DR1-5125-13	DR1-5125-15	DR2-5130-13	DR2-5130-15
150	DR1-5144-03	DR1-5144-05	DR2-5160-03	DR2-5160-05	DR1-5144-13	DR1-5144-15	DR2-5160-13	DR2-5160-15
200	DR1-5192-03	DR1-5192-05	DR2-5200-13	DR2-5200-15	DR1-5192-13	DR1-5192-15	DR2-5200-13	DR2-5200-15
250	DR1-5242-03	DR1-5242-05	DR2-5250-13	DR2-5250-15	DR1-5242-13	DR1-5242-15	DR2-5250-13	DR2-5250-15
300	DR1-5289-03	DR1-5289-05	DR2-5320-13	DR2-5320-15	DR1-5289-13	DR1-5289-15	DR2-5320-13	DR2-5320-15
400	DR1-5382-03	DR1-5382-05	DR2-5400-13	DR2-5400-15	DR1-5382-13	DR1-5382-15	DR2-5400-13	DR2-5400-15
450	DR1-5412-03	DR1-5412-05	DR2-5400-13	DR2-5400-15	DR1-5412-13	DR1-5412-15	DR2-5400-13	DR2-5400-15
500	DR1-5472-03	DR1-5472-05	DR2-5500-03	DR2-5500-05	DR1-5472-13	DR1-5472-15	DR2-5500-13	DR2-5500-15
600	DR1-5576-03	DR1-5576-05	DR2-5600-03	DR2-5600-05	DR1-5576-13	DR1-5576-15	DR2-5600-13	DR2-5600-15

Replacement Parts

Frame 0

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	DXG-KEY-LCD	DXG-KEY-LCD	—
Main control board	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD	—
Control module kit with keypad ①	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT	—
Main fan kit	DXG-SPR-FR0FAN	DXG-SPR-FR0FAN	—
Main power board	DXG-SPR-2FR0MPB	DXG-SPR-4FR0MPB	—
EMI kit for C2	DXG-SPR-FR0EMCKIT	DXG-SPR-FR0EMCKIT	—

Frame 1

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	DXG-KEY-LCD	DXG-KEY-LCD	DXG-KEY-LCD
Main control board	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD
Control module kit with keypad ①	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT
Control board cover	DXG-SPR-BCOVER	DXG-SPR-BCOVER	DXG-SPR-BCOVER
Standard cover	DXG-SPR-FR1CVR	DXG-SPR-FR1CVR	DXG-SPR-FR1CVR
Main fan kit ①	DXG-SPR-FR1FAN	DXG-SPR-FR1FAN	DXG-SPR-FR1FAN
Control fan	DXG-SPR-2FR1CF	DXG-SPR-4FR1CF	DXG-SPR-4FR1CF
Main power board	DXG-SPR-2FR1MPB	DXG-SPR-4FR1MPB	DXG-SPR-4FR1MPB
EMI board	DXG-SPR-2FR1EB	DXG-SPR-4FR1EB	DXG-SPR-4FR1EB
Middle chassis cover	DXG-SPR-FR1MCC	DXG-SPR-FR1MCC	DXG-SPR-FR1MCC
Outer housing	DXG-SPR-FR1OH	DXG-SPR-FR1OH	DXG-SPR-FR1OH
UL conduit plate	DXG-SPR-FR1CPUL	DXG-SPR-FR1CPUL	DXG-SPR-FR1CPUL
IEC conduit plate	DXG-SPR-FR1CPIEC	DXG-SPR-FR1CPIEC	DXG-SPR-FR1CPIEC

Frame 2

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	DXG-KEY-LCD	DXG-KEY-LCD	DXG-KEY-LCD
Main control board	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD
Control module kit with keypad ①	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT
Control board cover	DXG-SPR-BCOVER	DXG-SPR-BCOVER	DXG-SPR-BCOVER
Standard cover	DXG-SPR-FR2CVR	DXG-SPR-FR2CVR	DXG-SPR-FR2CVR
Main fan kit ①	DXG-SPR-FR2FAN	DXG-SPR-FR2FAN	DXG-SPR-FR2FAN
Control fan	DXG-SPR-FR2CF	DXG-SPR-FR2CF	DXG-SPR-FR2CF
Bus capacitor	DXG-SPR-2FR2BC	DXG-SPR-4FR24BC	DXG-SPR-4FR24BC
Main power board	DXG-SPR-2FR2MPB	DXG-SPR-4FR2MPB	DXG-SPR-4FR2MPB
EMI board	DXG-SPR-2FR2EB	DXG-SPR-4FR2EB	DXG-SPR-4FR2EB
Middle chassis cover	DXG-SPR-FR2MCC	DXG-SPR-FR2MCC	DXG-SPR-FR2MCC
Outer housing	DXG-SPR-FR2OH	DXG-SPR-FR2OH	DXG-SPR-FR2OH
UL conduit plate	DXG-SPR-FR2CPUL	DXG-SPR-FR2CPUL	DXG-SPR-FR2CPUL
IEC conduit plate	DXG-SPR-FR2CPIEC	DXG-SPR-FR2CPIEC	DXG-SPR-FR2CPIEC

Note

① Factory recommended spare parts.

Frame 3

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	DXG-KEY-LCD	DXG-KEY-LCD	DXG-KEY-LCD
Main control board	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD
Control module kit with keypad ①	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT
Control board cover	DXG-SPR-BCOVER	DXG-SPR-BCOVER	DXG-SPR-BCOVER
Standard cover	DXG-SPR-FR3CVR	DXG-SPR-FR3CVR	DXG-SPR-FR3CVR
Main fan kit ①	DXG-SPR-FR3FANKIT	DXG-SPR-FR3FANKIT	DXG-SPR-FR3FANKIT
Main fan	DXG-SPR-FR3FAN	DXG-SPR-FR3FAN	DXG-SPR-FR3FAN
Control fan	DXG-SPR-FR34CF	DXG-SPR-FR34CF	DXG-SPR-FR34CF
Bus capacitor	DXG-SPR-FR3BC	DXG-SPR-FR3BC	DXG-SPR-FR3BC
Main power board	DXG-SPR-2FR3MPB	DXG-SPR-4FR3MPB	DXG-SPR-4FR3MPB
EMI board	DXG-SPR-2FR3EB	DXG-SPR-4FR3EB	DXG-SPR-4FR3EB
Drive board	DXG-SPR-2FR3DB	DXG-SPR-4FR3DB	DXG-SPR-4FR3DB
Output board	DXG-SPR-FR3OB	DXG-SPR-FR3OB	DXG-SPR-FR3OB
Middle chassis cover	DXG-SPR-FR3MCC	DXG-SPR-FR3MCC	DXG-SPR-FR3MCC
Outer housing	DXG-SPR-FR3OH	DXG-SPR-FR3OH	DXG-SPR-FR3OH
UL conduit plate	DXG-SPR-FR3CPUL	DXG-SPR-FR3CPUL	DXG-SPR-FR3CPUL
IEC conduit plate	DXG-SPR-FR3CPIEC	DXG-SPR-FR3CPIEC	DXG-SPR-FR3CPIEC

Frame 4

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	DXG-KEY-LCD	DXG-KEY-LCD	DXG-KEY-LCD
Main control board	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD
Control module kit with keypad ①	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT
Control board cover	DXG-SPR-BCOVER	DXG-SPR-BCOVER	DXG-SPR-BCOVER
Standard cover	DXG-SPR-FR4CVR	DXG-SPR-FR4CVR	DXG-SPR-FR4CVR
Main fan kit ①	DXG-SPR-FR4FANKIT	DXG-SPR-FR4FANKIT	DXG-SPR-FR4FANKIT
Main fan	DXG-SPR-FR4FAN	DXG-SPR-FR4FAN	DXG-SPR-FR4FAN
Control fan	DXG-SPR-FR34CF	DXG-SPR-FR34CF	DXG-SPR-FR34CF
Bus capacitor	DXG-SPR-2FR4BC	DXG-SPR-4FR24BC	DXG-SPR-4FR24BC
Main power board	DXG-SPR-2FR4MPB	DXG-SPR-4FR4MPB	DXG-SPR-4FR4MPB
EMI board	DXG-SPR-2FR4EB	DXG-SPR-4FR4EB	DXG-SPR-4FR4EB
Softstart board	DXG-SPR-2FR4SB	DXG-SPR-4FR4SB	DXG-SPR-4FR4SB
IGBT module	DXG-SPR-2FR4IGBT	DXG-SPR-4FR4IGBT	DXG-SPR-4FR4IGBT
Rectifier module	DXG-SPR-2FR4RM	DXG-SPR-4FR4RM	DXG-SPR-4FR4RM
Brake chopper module	DXG-SPR-2FR4BCM	DXG-SPR-4FR4BCM	DXG-SPR-4FR4BCM
Middle chassis cover	DXG-SPR-FR4MCC	DXG-SPR-FR4MCC	DXG-SPR-FR4MCC
Outer housing	DXG-SPR-FR4OH	DXG-SPR-FR4OH	DXG-SPR-FR4OH
UL conduit plate	DXG-SPR-FR4CPUL	DXG-SPR-FR4CPUL	DXG-SPR-FR4CPUL
IEC conduit plate	DXG-SPR-FR4CPIEC	DXG-SPR-FR4CPIEC	DXG-SPR-FR4CPIEC

Note

① Factory recommended spare parts.

Frame 5

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	DXG-KEY-LCD	DXG-KEY-LCD	DXG-KEY-LCD
Main control board	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD
Control module kit with keypad ①	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT
Control board cover	DXG-SPR-BCOVER	DXG-SPR-BCOVER	DXG-SPR-BCOVER
Standard cover	DXG-SPR-FR5CVR	DXG-SPR-FR5CVR	DXG-SPR-FR5CVR
Main fan kit ①	DXG-SPR-FR5FANKIT	DXG-SPR-FR5FANKIT	DXG-SPR-FR5FANKIT
Main fan	DXG-SPR-FR5FAN	DXG-SPR-FR5FAN	DXG-SPR-FR5FAN
Control fan	DXG-SPR-FR5CF	DXG-SPR-FR5CF	DXG-SPR-FR5CF
Bus capacitor	DXG-SPR-FR5BC	DXG-SPR-FR5BC	DXG-SPR-FR5BC
Main power board	DXG-SPR-2FR5MPB	DXG-SPR-4FR5MPB	DXG-SPR-4FR5MPB
EMI-1 board	DXG-SPR-2FR5E1B	DXG-SPR-4FR5E1B	DXG-SPR-4FR5E1B
EMI-2 board	DXG-SPR-2FR5E2B	DXG-SPR-4FR5E2B	DXG-SPR-4FR5E2B
EMI-3 board	DXG-SPR-FR5E3B	DXG-SPR-FR5E3B	DXG-SPR-FR5E3B
IGBT module	DXG-SPR-2FR5IGBT	DXG-SPR-4FR5IGBT	DXG-SPR-5FR5IGBT
Rectifier module	DXG-SPR-FR5RM	DXG-SPR-FR5RM	DXG-SPR-5FR5RM
Brake chopper module	DXG-SPR-2FR5BCM	DXG-SPR-4FR5BCM	DXG-SPR-4FR5BCM
Middle chassis cover	DXG-SPR-FR5MCC	DXG-SPR-FR5MCC	DXG-SPR-FR5MCC
Outer housing	DXG-SPR-FR5OH	DXG-SPR-FR5OH	DXG-SPR-FR5OH
UL conduit plate	DXG-SPR-FR5CPUL	DXG-SPR-FR5CPUL	DXG-SPR-FR5CPUL
IEC conduit plate	DXG-SPR-FR5IECCP	DXG-SPR-FR5IECCP	DXG-SPR-FR5IECCP
DC terminal kit	DXG-SPR-FR5DCKIT	DXG-SPR-FR5DCKIT	DXG-SPR-FR5DCKIT

Frame 6

Description	230 V Catalog Number	480 V Catalog Number	600 V Catalog Number
Standard keypad	DXG-KEY-LCD	DXG-KEY-LCD	DXG-KEY-LCD
Main control board	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD	DXG-SPR-CTRLBOARD
Control module kit with keypad	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT	DXG-SPR-CTRLKIT
Control board cover	DXG-SPR-BCOVER	DXG-SPR-BCOVER	DXG-SPR-BCOVER
Standard cover	DXG-SPR-FR6CVR	DXG-SPR-FR6CVR	DXG-SPR-FR6CVR
Type 12 grommet kit	DXG-SPR-FR6GRN12	DXG-SPR-FR6GRN12	DXG-SPR-FR6GRN12
Main fan kit	DXG-SPR-FR6FANKIT	DXG-SPR-FR6FANKIT	DXG-SPR-FR6FANKIT
Main fain	DXG-SPR-FR6FAN	DXG-SPR-FR6FAN	DXG-SPR-FR6FAN
Control fan	DXG-SPR-FR6CF	DXG-SPR-FR6CF	DXG-SPR-FR6CF
Bus capacitor	DXG-SPR-FR6BC	DXG-SPR-FR6BC	DXG-SPR-5FR6BC
Main power board	DXG-SPR-2FR6MPB	DXG-SPR-4FR6MPB	DXG-SPR-5FR6MPB
EMI board	DXG-SPR-FR6EB	DXG-SPR-FR6EB	DXG-SPR-FR6EB
IGBT module	DXG-SPR-2FR6IGBT	DXG-SPR-4FR6IGBT	DXG-SPR-5FR6IGBT
Rectifier module	DXG-SPR-FR6RM	DXG-SPR-FR6RM	DXG-SPR-5FR6RM
Middle chassis cover	DXG-SPR-FR6MCC	DXG-SPR-FR6MCC	DXG-SPR-FR6MCC
Outer housing	DXG-SPR-FR6OH	DXG-SPR-FR6OH	DXG-SPR-FR6OH
UL conduit plate	DXG-SPR-FR6CPUL	DXG-SPR-FR6CPUL	DXG-SPR-FR6CPUL
IEC conduit plate	DXG-SPR-FR6CPIEC	DXG-SPR-FR6CPIEC	DXG-SPR-FR6CPIEC
Softstart board	DXG-SPR-2FR6SB	DXG-SPR-4FR6SB	DXG-SPR-5FR6SB
Rectifier snubber board	DXG-SPR-2FR6RSB	DXG-SPR-4FR6RSB	DXG-SPR-5FR6RSB
Terminal block kit (1-pole)	DXG-SPR-FR6TB1P	DXG-SPR-FR6TB1P	DXG-SPR-FR6TB1P
Terminal block kit (3-pole)	DXG-SPR-FR6TB3P	DXG-SPR-FR6TB3P	DXG-SPR-FR6TB3P

Note

① Factory recommended spare parts.

Frame 7

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	—	**DXG-KEY-LCD**	**DXG-KEY-LCD**
Control module kit with keypad ①	—	**DXG-SPR-HPCTRLKIT**	**DXG-SPR-HPCTRLKIT**
Control board cover	—	**DXG-SPR-BCOVER**	**DXG-SPR-BCOVER**
Standard cover	—	**DXG-SPR-FR1CVR**	**DXG-SPR-FR1CVR**

Frame 8

Description	230 V Catalog Number	480 V Catalog Number	575 V Catalog Number
Standard keypad	—	**DXG-KEY-LCD**	**DXG-KEY-LCD**
Control module kit with keypad ①	—	**DXG-SPR-HPCTRLKIT**	**DXG-SPR-HPCTRLKIT**
Control board cover	—	**DXG-SPR-BCOVER**	**DXG-SPR-BCOVER**
Standard cover	—	**DXG-SPR-FR1CVR**	**DXG-SPR-FR1CVR**

Note

① Factory recommended spare parts.

Technical Data and Specifications

PowerXL Series—DG1 Technical Data and Specifications

Attribute	Description	Specification
Input ratings	Input voltage U_{in}	208 V to 240 V, 380 V to 500 V, 525 V to 600 V, –15 to 10%
	Input frequency	50 Hz to 60 Hz (variation up to 45 Hz to 66 Hz)
	Connection to power	Once per minute or less
	Starting delay	3 s (FR1 to FR2), 4 s (FR3), 5 s (FR4), 6 s (FR5 and FR6)
	Short-circuit withstand rating	100 kAIC (fuses and circuit breakers); 5 kAIC (without fuses or breakers)
Output ratings	Output voltage	0 to U_{in}
	Continuous output current	I_L: ambient temperature maximum 40 °C, up to 60 °C with derating, overload 1.1 x I_L (1 min./10 min.) I_H: ambient temperature maximum 50 °C, up to 60 °C with derating, overload 1.5 x I_H (1 min./10 min.)
	Overload current	150% of drive rating for constant torque, 110% for variable torque
	Initial output current	200% (2 s / 20 s)
	Output frequency	0–400 Hz (standard)
	Frequency resolution	0.01 Hz
Control characteristics	Control methods	Frequency control Speed control Open-loop speed control Open-loop torque control
	Switching frequency	230 V / 480 V range: FR1–3: 1 kHz to 12 kHz FR4–6: 1 kHz to 10 kHz 230 V / 480 V defaults: FR1–3: 4 kHz FR4–5: 3.6 kHz FR6: 2 kHz 575 V range: FR1–6: 1 kHz to 6 kHz 575 V defaults: FR1–4: 3 kHz FR5–6: 2 kHz Automatic switching frequency derating in case of overload.
	Frequency reference	Analog input: resolution 0.1% (10-bit), accuracy +1% Analog output: resolution 0.1% (10-bit), accuracy +1% Panel reference: resolution 0.01 Hz
	Field weakening point	20 Hz to 400 Hz
	Acceleration time	0.1 s to 3000 s
	Deceleration time	0.1 s to 3000 s
	Braking torque	DC brake: 30% x Motor Rated Torque (Tn) (without brake chopper) Dynamic braking (with optional brake chopper using an external brake resistor): 100% continuous maximum rating
Ambient conditions	Ambient operating temperature	–10 °C (no frost) to +50 °C, up to +60 °C with derating (CT) –10 °C (no frost) to +40 °C, up to +60 °C with derating (VT)
	Storage temperature	–40 °C to +70 °C
	Relative humidity	0–95% RH, noncondensing, non-corrosive
	Air quality: • Chemical vapors • Mechanical particles	Tested according to IEC 60068-2-60 Test Key: Flowing mixed gas corrosion test, Method 1 (H2S [hydrogen sulfide] and SO2 [sulfur dioxide]) Designed according to: IEC 60721-3-3, unit in operation, class 3C2 IEC 60721-3-3, unit in operation, class 3S2
	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); max. 9842 ft (3000 m) (2000 m for corner grounded earth main systems) For 575 V product, maximum altitude is 6561 ft (2000 m) regardless of main system

PowerXL Series—DG1 Technical Data and Specifications, continued

Attribute	Description	Specification
Ambient conditions, continued	Vibration: • EN 61800-5-1 • EN 60668-2-6	5–150 Hz Displacement amplitude: 1 mm (peak) at 5 Hz to 15.8 Hz (FR1–FR6) Maximum acceleration amplitude: 1g at 15.8 Hz to 150 Hz (FR1–FR6)
	Shock: • ISTA 1 A • EN 60068-2-27	Storage and shipping: maximum 15 g, 11 ms (in package)
	Overvoltage	Overvoltage Category III
	Pollution degree	Pollution Degree 2
	Enclosure class	IP21/Type 1 standard in entire kW/hp range IP54/Type 12 option Note: Keypad or keypad hole plug required to be mounted in drive for IP54/Type 12 rating
	Immunity	Fulfills EN 61800-3 (2004), first and second environment
	MTBF	FR1: 165,457 hours FR2: 134,833 hours FR3: 102,515 hours FR4: 121,567 hours FR5: 108,189 hours FR6: 100,000 hours
	Noise	FR1: 51.2 dB FR2: 58.6 dB FR3: 61.0 dB FR4: 68.0 dB FR5: 69.1 dB FR6: 73.2 dB
Standards	Safety	UL 508C, CSA C22.2 No. 274-13 and EN 61800-5-1
	EMC	+EMC2: EN 61800-3 (2004), Category C2 The drive can be modified for IT networks and corner grounding TN system
	Electrostatic discharge	Second environment, IEC 61000-4-2, 4 kV CD or 8 kV AD, Criterion B
	Fast transient burst	Second environment, IEC 61000-4-4, 2 kV/5 kHz, Criterion B
	Dielectrical strength	Primary to secondary: 3600 Vac/5100 Vdc Primary to earth: 2000 Vac/2828 Vdc
	Approvals	EAC, RCM (C-Tick), RoHS, CE, UL and cUL (see nameplate for more detailed approvals)
Fieldbus connections		Onboard: EtherNet/IP, Modbus® TCP, Modbus RTU, BACnet

PowerXL Series—DG1 Technical Data and Specifications, continued

Attribute	Description	Specification
Safety/protections	Overvoltage protection	Yes
	Overvoltage trip limit	230 V drives: 456 V 480 V drives: 911 V 575 V drives: 1100 V
	Undervoltage protection	Yes
	Undervoltage trip limit	230 V drives: 211 V 480 V drives: 370 V 575 V drives: 550 V
	Earth fault protection	Yes Default: 15% motor FLA Minimum: 0% motor FLA Maximum: 30% motor FLA
	Input phase supervision	Yes
	Motor phase supervision	Yes
	Overcurrent protection	Yes
	Unit overtemperature protection	Yes
	Motor overload protection	Yes
	Motor stall protection	Yes
	Motor underload protection	Yes
	DC bus overvoltage control	Yes
	Short-circuit protection of 24 V reference voltages	Yes
	Surge protection	Yes (differential mode 2 kV; common mode 4 kV 230 V drives: 275 Vac, 10,000 A 480 V drives: 320 Vac, 8000 A 575 V drives: 385 Vac, 10,000 A
	Common coated boards	Yes (prevents corrosion)

PowerXL Series—DG1 Technical Data and Specifications—Efficiency

230 V

Frame Size	Load Torque	Efficiency VT	Efficiency CT	Input THDi
FR1	25%	92.10%	90.90%	42.8%
	50%	95.20%	95.20%	35.2%
	100%	96.70%	96.20%	29.9%
FR2	25%	90.80%	94.20%	70.0%
	50%	96.64%	97.09%	46.6%
	100%	97.30%	97.30%	33.3%
FR3	25%	97.23%	97.06%	53.1%
	50%	97.37%	97.17%	43.6%
	100%	97.00%	97.20%	30.8%
FR4	25%	94.60%	94.30%	39.4%
	50%	97.20%	97.10%	32.4%
	100%	97.60%	97.60%	25.6%
FR5	25%	94.5	94.30%	30.50%
	50%	97.80%	97.60%	30.8%
	100%	97.70%	97.80%	25.0%

480 V

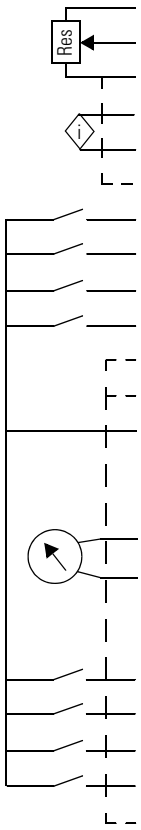
Frame Size	Load Torque	Efficiency VT	Efficiency CT	Input THDi
FR1	25%	93.30%	90.70%	54.0%
	50%	97.10%	96.98%	46.8%
	100%	97.61%	97.67%	35.3%
FR2	25%	95.90%	94.20%	59.8%
	50%	97.81%	98.34%	42.7%
	100%	98.11%	98.20%	33.8%
FR3	25%	96.40%	95.20%	69.2%
	50%	97.87%	97.99%	45.2%
	100%	97.79%	98.15%	32.6%
FR4	25%	98.00%	97.80%	56.5%
	50%	97.97%	97.89%	39.8%
	100%	97.96%	98.17%	31.5%
FR5	25%	97.8	97.60%	50.3%
	50%	98.39%	98.10%	37.0%
	100%	98.14%	98.19%	29.5%

575 V

Frame Size	Load Torque	Efficiency VT	Efficiency CT	Input THDi
FR1	25%	97.48%	97.25%	62.6%
	50%	97.79%	97.66%	45.6%
	100%	98.10%	97.60%	36.8%
FR2	25%	98.06%	97.98%	60.6%
	50%	98.19%	98.11%	47.2%
	100%	98.20%	98.10%	36.7%
FR3	25%	97.98%	97.77%	78.9%
	50%	98.32%	98.18%	55.5%
	100%	98.10%	98.10%	36.3%
FR4	25%	98.27%	97.96%	66.1%
	50%	98.57%	98.44%	41.6%
	100%	98.30%	98.30%	31.2%
FR5	25%	98.60%	98.50%	52.80%
	50%	98.81%	98.78%	35.9%
	100%	98.60%	98.70%	28.4%

Wiring Diagram

PowerXL Series—DG1 Control Wiring Diagram



External Wiring	Pin	Signal Name	Signal	Default Setting	Description
	1	+10 V	Ref. Output Voltage	—	10 Vdc Supply Source
	2	AI1+	Analog Input 1	0–10 V	Voltage Speed Reference (Programmable to 4 mA to 20 mA)
	3	AI1–	Analog Input 1 Ground	—	Analog Input 1 Common (Ground)
	4	AI2+	Analog Input 2	4 mA to 20 mA	Current Speed Reference (Programmable to 0–10 V)
	5	AI2–	Analog Input 2 Ground	—	Analog Input 2 Common (Ground)
	6	GND	I/O Signal Ground	—	I/O Ground for Reference and Control
	7	DIN5	Digital Input 5	Preset Speed B0	Sets frequency output to Preset Speed 1
	8	DIN6	Digital Input 6	Preset Speed B1	Sets frequency output to Preset Speed 2
	9	DIN7	Digital Input 7	—	—
	10	DIN8	Digital Input 8	Force Remote (TI+)	Input takes VFD from Local to Remote
	11	CMB	DI5 to DI8 Common	Grounded	Allows source input
	12	GND	I/O Signal Ground	—	I/O Ground for Reference and Control
	13	24 V	+24 Vdc Output	—	Control voltage output (100 mA max.)
	14	DO1	Digital Output 1	Ready	Shows the drive is ready to run
	15	24 Vo	+24 Vdc Output	—	Control voltage output (100 mA max.)
	16	GND	I/O Signal Ground	—	I/O Ground for Reference and Control
	17	AO1+	Analog Output 1	Output Frequency	Shows Output frequency to motor 0–60 Hz (4 mA to 20 mA)
	18	AO2+	Analog Output 2	Motor Current	Shows Motor current of motor 0–FLA (4 mA to 20 mA)
	19	24 Vi	+24 Vdc Input	—	External control voltage input
	20	DIN1	Digital Input 1	Run Forward	Input starts drive in forward direction (start enable)
	21	DIN2	Digital Input 2	Run Reverse	Input starts drive in reverse direction (start enable)
	22	DIN3	Digital Input 3	External Fault	Input causes drive to fault
	23	DIN4	Digital Input 4	Fault Reset	Input resets active faults
	24	CMA	DI1 to DI4 Common	Grounded	Allows source input
	25	A	RS-485 Signal A	—	Fieldbus Communication (Modbus, BACnet)
	26	B	RS-485 Signal B	—	Fieldbus Communication (Modbus, BACnet)
	27	R3NO	Relay 3 Normally Open	At Speed	Relay output 3 shows VFD is at Ref. Frequency
	28	R1NC	Relay 1 Normally Closed	Run	Relay output 1 shows VFD is in a run state
	29	R1CM	Relay 1 Common		
	30	R1NO	Relay 1 Normally Open		
	31	R3CM	Relay 3 Common	At Speed	Relay output 3 shows VFD is at Ref. Frequency
	32	R2NC	Relay 2 Normally Closed	Fault	Relay output 2 shows VFD is in a fault state
	33	R2CM	Relay 2 Common		
	34	R2NO	Relay 2 Normally Open		

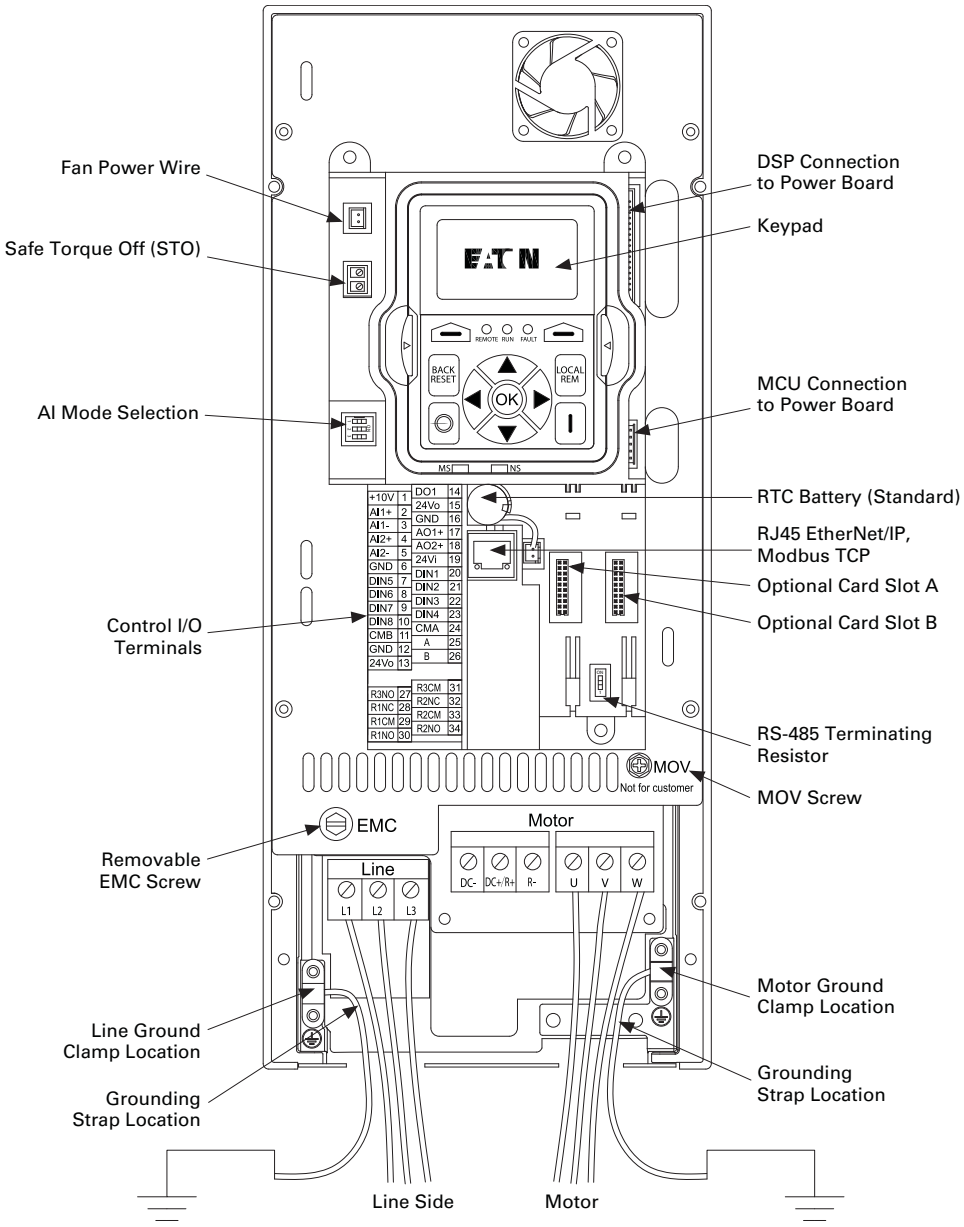
Notes

The above wiring demonstrates a SINK configuration. It is important that CMA and CMB are wired to ground (as shown by dashed line).
If a SOURCE configuration is desired, wire 24 V to CMA and CMB and close the inputs to ground.
When using the +10 V for AI1, it is important to wire AI1– to ground (as shown by dashed line).
If using +10 V for AI1 or AI2, terminals 3, 5 and 6 need to be jumpered together.

Control Board Layout

2

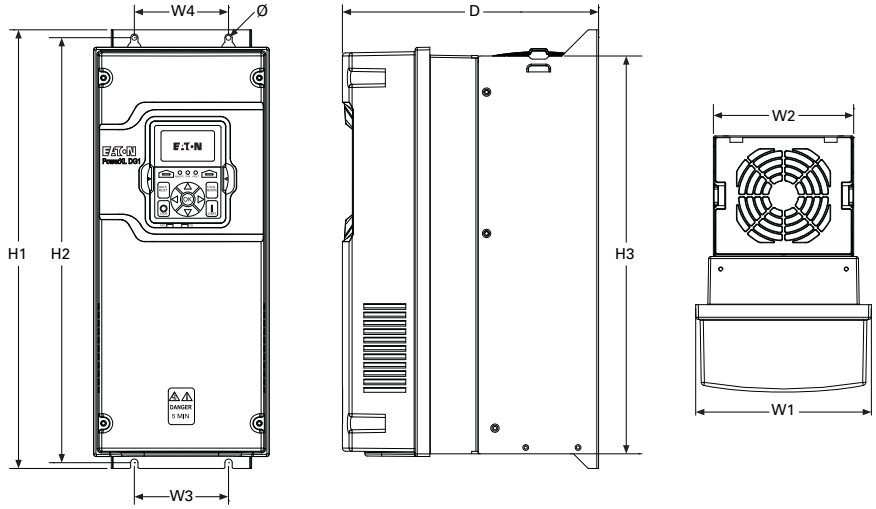
PowerXL Series—DG1 Control Board Layout



Dimensions

Approximate Dimensions in Inches (mm)

PowerXL Series—DG1 Dimensions



Frame Size	Voltage	hp (CT/I_H)	kW	Amperes (CT/I_H)	Approximate Dimensions in Inches (mm) D	H1	H2	H3	W1	W2	W3	W4	Ø	Weight Lb (kg)
FR0	230 Vac	0.75–1.5	0.55–1.1	3.7–6.6	6.83 (173.5)	10.58 (268.7)	10.16 (258)	9.54 (242.3)	5.00 (127)	4.97 (126.3)	4.26 (108.3)	4.26 (108.3)	0.28 (7.0)	4.41 (2.0)
	480 Vac	1–3	0.75–2.2	2.2–5.6										
FR1	230 Vac	0.75–3	0.55–2.2	3.5–11	7.91 (200.9)	12.87 (326.9)	12.28 (311.9)	11.50 (292.1)	6.02 (153.0)	4.80 (121.9)	3.94 (100.1)	3.94 (100.1)	0.28 (7.0)	14.33 (6.5)
	480 Vac	1–5	0.75–3.7	2.3–7.6										
	575 Vac	2–5	1.5–3.7	3.3–7.5										
FR2	230 Vac	5–7.5	3–5.5	12.5–25	9.63 (244.7)	16.50 (419.1)	15.98 (405.9)	14.96 (380.0)	6.61 (167.8)	5.28 (134.1)	3.54 (90.0)	3.54 (90.0)	0.28 (7.0)	23.37 (10.6)
	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	10.44 (265.1)	21.97 (558.0)	21.46 (545.0)	20.41 (518.5)	8.06 (204.6)	7.24 (183.9)	4.92 (125.0)	4.92 (125.0)	0.35 (9.0)	49.82 (22.6)
	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	11.57 (294.0)	24.80 (629.9)	24.31 (617.5)	23.27 (591.1)	9.36 (237.7)	9.13 (231.9)	8.07 (205.0)	8.07 (205.0)	0.35 (9.0)	77.60 (35.2)
	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	13.41 (340.7)	34.98 (888.5)	29.65 (753.1)	27.83 (706.9)	11.34 (288.0)	11.10 (281.9)	8.66 (220.0)	8.66 (220.0)	0.35 (9.0)	154.32 (70.0)
	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	14.61 (371.0)	34.04 (864.5)	33.27 (845.0)	40.75 (1035.0)	19.13 (486.0)	18.90 (480.0)	15.75 (400.0)	15.75 (400.0)	0.35 (9.0)	281.3 (127.6)
	480 Vac	150–200	110–150	205–261										
	575 Vac	150–200	110–160	144–208										
FR7	480 Vac	250–450	160–250	311–520	20.51 (507.0)	38.58 (980.0)	34.25 (870.0)	34.49 (876.0)	19.92 (506.0)	19.92 (506.0)	17.99 (457.0)	18.74 (476.0)	0.98 (25.0)	452 (205.0)
	575 Vac	250–400	187–298	261–416										
	690 Vac	335–536	250–400	261–416										
FR7 with brake chopper	480 Vac	250–450	160–250	311–520	20.67 (525.0)	60.55 (1538.0)	56.81 (1442.0)	59.13 (1501.9.0)	19.92 (506.0)	19.92 (506.0)	15.91 (404.0)	18.74 (476.0)	0.98 (25.0)	904 (410.0)
	575 Vac	250–400	187–298	261–416										
	690 Vac	335–536	250–400	261–416										
FR8	480 Vac	500–800	315–500	590–920	20.51 (507.0)	38.58 (980.0)	34.25 (870.0)	34.49 (876.0)	39.84 (1012.0)	39.84 (1012.0)	17.99 (457.0)	18.74 (476.0)	0.98 (25.0)	904 (410.0)
	575 Vac	450–650	336–485	460–650										
	690 Vac	603–845	450–630	460–650										
FR8 with brake chopper	480 Vac	500–800	315–500	590–920	20.67 (525.0)	60.55 (1538.0)	56.81 (1442.0)	59.13 (1501.9.0)	39.84 (1012.0)	39.84 (1012.0)	15.91 (404.0)	18.74 (476.0)	0.98 (25.0)	1808 (820.0)
	575 Vac	450–650	336–485	460–650										
	690 Vac	603–845	450–630	460–650										

Note: The FR8 drive includes 2 FR7 power units coupled together.

DG1 General Purpose Enclosed Drive

Contents

PowerXL DG1 Series Enclosed Drives

Product Description

The DG1 Enclosed Drive family incorporates the latest Eaton drive technology into pre-engineered enclosed solutions covering the industry's most common applications. Using the benefits of the PowerXL DG1, the enclosed family provides enhanced user safety with the Safe Torque feature as well as industry-leading energy efficiency from the patented Active Energy Control algorithm. Eaton further raises the bar by providing customers with industry best lead times with the Rapid Response System. This system allows customers to select from 9 million standard configurations that have been pre-engineered with each configuration having a set lead time. The Rapid Response System delivers an improved quotation process and a faster delivery.

Features and Benefits

- Dual rated for both constant torque (CT) / high overload (I_H) and variable torque (VT) / low overload applications
- Optional Brake Chopper for external braking applications
- Available circuit breaker, motor circuit protector, fused disconnect, isolation fusing and surge protection device options to provide input power protection
- Optional 3% input and output reactors provide a reduction in voltage and current harmonics on both line and load side
- Bypass options include a standard three-contactor design and a reduced voltage soft starter design
- Output contactor option provides a means for positive disconnection of the drive output from the motor terminals
- MotoRX and dV/dt filter options are used to reduce transients voltages at the motor terminals
- Customizable cover control options
- Padlockable disconnect
- The PowerXL DG1 comes standard with the following communication protocols:
  - EtherNet/IP
  - Modbus/TCP
  - Modbus RTU
  - BACnet MS/TP

Communication Options

- PROFIBUS-DP
- LonWorks
- CANopen
- DeviceNet

Enclosure Ratings

- NEMA Type 1
- NEMA Type 12
- NEMA Type 3R

Mounting

- Wall mount
- Floor mount: 12-inch legs
- Floor mount: 22-inch legs

Product Range

- 208 V: 0.75–100 hp
- 230 V: 0.75–125 hp
- 480 V: 1–250 hp
- 230 V single-phase: 1–30 hp
- 480 V single-phase: 1.5–60 hp

Standards and Certifications

- UL 508C

UL Listed

Catalog Number Selection

Catalog Number Selection is for reference only. Not all option combinations may be available.

DG1 Enclosed—Base Catalog Number

EGS 3D5 1 D 1 _ _ _ _ _ _

Product Family

EGS = Enclosed DG1 drives—standard

Options ③

See **Page V6-T2-76** for catalog number option selection.

Enclosure Rating ②

1 = NEMA Type 1
2 = NEMA Type 12
3 = NEMA Type 3R
6 = NEMA Type 1 Filtered and gasketed
• = Custom option

Braking Application ①

A = No brake chopper, low overload
B = Brake chopper, low overload
C = No brake chopper, high overload
D = Brake chopper, high overload

Output Ampere Rating

208 V	230 V	480 V
3D5 = 3.5 A, 0.75 hp	**3D2** = 3.2 A, 0.75 hp	**2D1** = 2.1 A, 1 hp
4D6 = 4.6 A, 1 hp	**4D2** = 4.2 A, 1 hp	**3D0** = 3.0 A, 1.5 hp
6D6 = 6.6 A, 1.5 hp	**6D0** = 6.0 A, 1.5 hp	**3D4** = 3.4 A, 2 hp
7D5 = 7.5 A, 2 hp	**6D8** = 6.8 A, 2 hp	**4D8** = 4.8 A, 3 hp
010 = 10.6 A, 3 hp	**9D6** = 9.6 A, 3 hp	**7D6** = 7.6 A, 5 hp
016 = 16.7 A, 5 hp	**015** = 15.2, 5 hp	**011** = 11 A, 7.5 hp
024 = 24.2 A, 7.5 hp	**022** = 22 A, 7.5 hp	**014** = 14 A, 10 hp
030 = 30.8 A, 10 hp	**028** = 28 A, 10 hp	**021** = 21 A, 15 hp
046 = 46.2 A, 15 hp	**042** = 42 A, 15 hp	**027** = 27 A, 20 hp
059 = 59.4 A, 20 hp	**054** = 54 A, 20 hp	**034** = 34 A, 25 hp
074 = 74.8 A, 25 hp	**068** = 68 A, 25 hp	**040** = 40 A, 30 hp
088 = 88 A, 30 hp	**080** = 80 A, 30 hp	**052** = 52 A, 40 hp
114 = 114 A, 40 hp	**104** = 104 A, 40 hp	**065** = 65 A, 50 hp
143 = 143 A, 50 hp	**130** = 130 A, 50 hp	**077** = 77 A, 60 hp
169 = 169 A, 60 hp	**154** = 154 A, 60 hp	**096** = 96 A, 75 hp
211 = 211 A, 75 hp	**192** = 192 A, 75 hp	**124** = 124 A, 100 hp
273 = 273 A, 100 hp	**248** = 248 A, 100 hp	**156** = 156 A, 125 hp
	312 = 312 A, 125 hp	**180** = 180 A, 150 hp
		240 = 240 A, 200 hp
		302 = 302 A, 250 hp

Phasing, Voltage

1 = Input: Three-phase, 208 V Output: Three-phase	**5** = Input: Three-phase, 575 V Output: Three-phase
2 = Input: Three-phase, 230 V Output: Three-phase	**J** = Input: Single-phase, 230 V Output: Three-phase
4 = Input: Three-phase, 480 V Output: Three-phase	**K** = Input: Single-phase, 480 V Output: Three-phase

Notes

① Brake chopper is a factory-installed option only. Braking resistors sold separately. See DG1 drives starting on **Page V6-T2-59** for selection.
② Additional enclosure options including NEMA 4, 4X, 7 and 9 are available. Please contact the factory for configuration and pricing.
③ Part number configuration continued on the following page.

Catalog Number Selection is for reference only. Not all option combinations may be available.

DG1 Enclosed—Catalog Number Options

2

EGS 3D5 1 D 1 — 2 0 0 B 1 0 0 0 0

Base Catalog Number Example

See **Page V6-T2-75** for base catalog number selection.

Power Disconnect Options

0 = None
1 = MCP disconnect ①
2 = Circuit breaker
3 = Circuit breaker/isolation fusing
4 = Circuit breaker/isolation fusing/3% input reactor
5 = Circuit breaker/isolation fusing/SPD
6 = Circuit breaker/isolation fusing/SPD/3% input reactor
7 = Circuit breaker/3% input reactor
8 = Circuit breaker/SPD
9 = Circuit breaker/SPD/3% input reactor
A = Fused disconnect
B = Fused disconnect/SPD
C = Fused disconnect/SPD/3% input reactor
D = Fused disconnect/3% input reactor
E = Isolation fuses
F = Isolation fuses/3% input reactor
G = Isolation fuses/SPD
H = Isolation fuses/SPD/3% input reactor
• = Custom option ②

Bypass Options ③

0 = None
1 = Manual HOA bypass
2 = Manual HOA bypass/isolation fusing
3 = Manual HOA bypass/isolation fusing/3% input reactor
4 = Manual HOA bypass/isolation fusing/SPD
5 = Manual HOA bypass/isolation fusing/SPD/3% input reactor
6 = Manual HOA bypass/3% input reactor
7 = Manual HOA bypass/SPD
8 = Manual HOA bypass/SPD/3% input reactor
H = Manual HOA RVSS bypass
J = Manual HOA RVSS bypass/isolation fusing
K = Manual HOA RVSS bypass/isolation fusing/3% input reactor
L = Manual HOA RVSS bypass/isolation fusing/SPD
M = Manual HOA RVSS bypass/isolation fusing/SPD/3% input reactor
N = Manual HOA RVSS bypass/3% input reactor
P = Manual HOA RVSS bypass/SPD
R = Manual HOA RVSS bypass/SPD/3% input reactor
• = Custom option ②

Output Power Options ④

0 = None
A = Output contactor
B = 3% Output reactor
D = dV/dt filter
E = 3% Output Reactor/output contactor
G = dV/dt/output contactor
• = Custom option ②

Control Options ⑤

0 = None
1 = Speed pot
2 = Start-stop pushbutton
3 = Start-stop pushbutton with speed pot
A = HOA switch
B = Start-stop pushbutton with speed pot & HOA switch
C = Start-stop pushbutton with HOA switch
D = HOA switch with speed pot
• = Custom option ②

Light Options ⑤

0 = None
1 = Non-bypass light kit—Power On, Run, Fault
2 = Bypass light kit—On, VFD Run, Fault, Bypass Run
• = Custom option ②

Enclosure Options

0 = None
1 = Floor stand—12 inches
2 = Floor stand—22 inches
A = Space heater
B = Space heater & 12-inch floor stands
C = Space heater & 22-inch floor stands
• = Custom option ②

Communication Options

0 = No option
1 = PROFIBUS-DP
3 = CANopen (slave)
4 = DeviceNet
5 = PROFIBUS-DP (D9 connector)
D = SmartWire-DT
• = Custom option ②

Option Boards 1

0 = No option
1 = 3 x DI, 3 x DO, 1 Thermistor, 24 Vdc/EXT
2 = 1 x AI, 2 x AO (isolated to control board)
3 = 3 x relay dry contact (2NO + 1NO/NC)
4 = 3 x PT100 RTD thermistor input
5 = 6 DI 240 Vac input
• = Custom option ②

Option Boards 2

Same options and codes as Option Boards 1

Notes

① HMCP disconnect option required and only available when bypass is selected.
② More options are available as Engineered to Order through the Bid Manager tool.
③ All bypass options include third contactor for drive isolation when in bypass mode.
④ Output contactor not available with bypass. Bypass comes standard with output contactor.
⑤ Pilot devices are 22 mm standard. 30 mm options are available as engineered to order through the Bid Manager tool.

Production Selection

DG1 Enclosed Drive

208 V Drives—Constant Torque (CT)/High Overload (I_H) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
0.75	3.5	1	**EGS3D51D1**	**EGS3D51D2**	**EGS3D51D3**
1	4.6	1	**EGS4D61D1**	**EGS4D61D2**	**EGS4D61D3**
1.5	6.6	1	**EGS6D61D1**	**EGS6D61D2**	**EGS6D61D3**
2	7.5	1	**EGS7D51D1**	**EGS7D51D2**	**EGS7D51D3**
3	10.6	1	**EGS0101D1**	**EGS0101D2**	**EGS0101D3**
5	16.7	2	**EGS0161D1**	**EGS0161D2**	**EGS0161D3**
7.5	24.2	2	**EGS0241D1**	**EGS0241D2**	**EGS0241D3**
10	30.8	3	**EGS0301D1**	**EGS0301D2**	**EGS0301D3**
15	46.2	3	**EGS0461D1**	**EGS0461D2**	**EGS0461D3**
20	59.4	4	**EGS0591C1**	**EGS0591C2**	**EGS0591C3**
25	74.8	4	**EGS0741C1**	**EGS0741C2**	**EGS0741C3**
30	88	4	**EGS0881C1**	**EGS0881C2**	**EGS0881C3**
40	114	5	**EGS1141C1**	**EGS1141C2**	**EGS1141C3**
50	143	5	**EGS1431C1**	**EGS1431C2**	**EGS1431C3**
60	169	5	**EGS1691C1**	**EGS1691C2**	**EGS1691C3**
75 ②	211	6	**EGS2111C1** ②	**EGS2111C2** ②	**EGS2111C3** ②
100 ②③	261 ③	6	**EGS2611C1** ②	**EGS2611C2** ②	**EGS2611C3** ②

DG1 Enclosed Drive

208 V Drives—Variable Torque (VT)/Low Overload (I_L) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
1	4.6	1	**EGS4D61B1**	**EGS4D61B2**	**EGS4D61B3**
1.5	6.6	1	**EGS6D61B1**	**EGS6D61B2**	**EGS6D61B3**
2	7.5	1	**EGS7D51B1**	**EGS7D51B2**	**EGS7D51B3**
3	10.6	1	**EGS0101B1**	**EGS0101B2**	**EGS0101B3**
5	16.7	2	**EGS0161B1**	**EGS0161B2**	**EGS0161B3**
7.5	24.2	2	**EGS0241B1**	**EGS0241B2**	**EGS0241B3**
10	30.8	2	**EGS0301B1**	**EGS0301B2**	**EGS0301B3**
15	46.2	3	**EGS0461B1**	**EGS0461B2**	**EGS0461B3**
20	59.4	3	**EGS0591B1**	**EGS0591B2**	**EGS0591B3**
25	74.8	4	**EGS0741A1**	**EGS0741A2**	**EGS0741A3**
30	88	4	**EGS0881A1**	**EGS0881A2**	**EGS0881A3**
40	114	4	**EGS1141A1**	**EGS1141A2**	**EGS1141A3**
50	143	5	**EGS1431A1**	**EGS1431A2**	**EGS1431A3**
60	169	5	**EGS1691A1**	**EGS1691A2**	**EGS1691A3**
75	211	5	**EGS2111A1**	**EGS2111A2**	**EGS2111A3**
100 ②	273	6	**EGS2731A1** ②	**EGS2731A2** ②	**EGS2731A3** ②

Notes

① Table is for base catalog number reference only. For complete catalog number selection, see **Page V6-T2-76**.
② Available in 2017.
③ These units are current rated. They do not meet NEC ampere rating at this horsepower.

DG1 Enclosed Drive

230 V Drives—Constant Torque (CT)/High Overload (I_H) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
0.75	3.2	1	**EGS3D22D1**	**EGS3D22D2**	**EGS3D22D3**
1	4.2	1	**EGS4D22D1**	**EGS4D22D2**	**EGS4D22D3**
1.5	6	1	**EGS6D02D1**	**EGS6D02D2**	**EGS6D02D3**
2	6.8	1	**EGS6D82D1**	**EGS6D82D2**	**EGS6D82D3**
3	9.6	1	**EGS9D62D1**	**EGS9D62D2**	**EGS9D62D3**
5	15.2	2	**EGS0152D1**	**EGS0152D2**	**EGS0152D3**
7.5	22	2	**EGS0222D1**	**EGS0222D2**	**EGS0222D3**
10	28	3	**EGS0282D1**	**EGS0282D2**	**EGS0282D3**
15	42	3	**EGS0422D1**	**EGS0422D2**	**EGS0422D3**
20	54	4	**EGS0542C1**	**EGS0542C2**	**EGS0542C3**
25	68	4	**EGS0682C1**	**EGS0682C2**	**EGS0682C3**
30	80	4	**EGS0802C1**	**EGS0802C2**	**EGS0802C3**
40	104	5	**EGS1042C1**	**EGS1042C2**	**EGS1042C3**
50	130	5	**EGS1302C1**	**EGS1302C2**	**EGS1302C3**
60	154	5	**EGS1542C1**	**EGS1542C2**	**EGS1542C3**
75 ②	192	6	**EGS1922C1** ②	**EGS1922C2** ②	**EGS1922C3** ②
100 ②	248	6	**EGS2482C1** ②	**EGS2482C2** ②	**EGS2482C3** ②

DG1 Enclosed Drive

230 V Drives—Variable Torque (VT)/Low Overload (I_L) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
1	4.2	1	**EGS4D22B1**	**EGS4D22B2**	**EGS4D22B3**
1.5	6	1	**EGS6D02B1**	**EGS6D02B2**	**EGS6D02B3**
2	6.8	1	**EGS6D82B1**	**EGS6D82B2**	**EGS6D82B3**
3	9.6	1	**EGS9D62B1**	**EGS9D62B2**	**EGS9D62B3**
5	15.2	2	**EGS0152B1**	**EGS0152B2**	**EGS0152B3**
7.5	22	2	**EGS0222B1**	**EGS0222B2**	**EGS0222B3**
10	28	2	**EGS0282B1**	**EGS0282B2**	**EGS0282B3**
15	42	3	**EGS0422B1**	**EGS0422B2**	**EGS0422B3**
20	54	3	**EGS0542B1**	**EGS0542B2**	**EGS0542B3**
25	68	4	**EGS0682A1**	**EGS0682A2**	**EGS0682A3**
30	80	4	**EGS0802A1**	**EGS0802A2**	**EGS0802A3**
40	104	4	**EGS1042A1**	**EGS1042A2**	**EGS1042A3**
50	130	5	**EGS1302A1**	**EGS1302A2**	**EGS1302A3**
60	154	5	**EGS1542A1**	**EGS1542A2**	**EGS1542A3**
75	192	5	**EGS1922A1**	**EGS1922A2**	**EGS1922A3**
100 ②	248	6	**EGS2482A1** ②	**EGS2482A2** ②	**EGS2482A3** ②
125 ②	312	6	**EGS3122A1** ②	**EGS3122A2** ②	**EGS3122A3** ②

Notes

① Table is for base catalog number reference only. For complete catalog number selection, see **Page V6-T2-76**.

② Available in 2017.

DG1 Enclosed Drive

480 V Drives—Constant Torque (CT)/High Overload (I_H) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
1	2.1	1	**EGS2D14D1**	**EGS2D14D2**	**EGS2D14D3**
1.5	3	1	**EGS3D04D1**	**EGS3D04D2**	**EGS3D04D3**
2	3.4	1	**EGS3D44D1**	**EGS3D44D2**	**EGS3D44D3**
3	4.8	1	**EGS4D84D1**	**EGS4D84D2**	**EGS4D84D3**
5	7.6	1	**EGS7D64D1**	**EGS7D64D2**	**EGS7D64D3**
7.5	11	2	**EGS0114D1**	**EGS0114D2**	**EGS0114D3**
10	14	2	**EGS0144D1**	**EGS0144D2**	**EGS0144D3**
15	21	2	**EGS0214D1**	**EGS0214D2**	**EGS0214D3**
20	27	3	**EGS0274D1**	**EGS0274D2**	**EGS0274D3**
25	34	3	**EGS0344D1**	**EGS0344D2**	**EGS0344D3**
30	40	3	**EGS0404D1**	**EGS0404D2**	**EGS0404D3**
40	52	4	**EGS0524C1**	**EGS0524C2**	**EGS0524C3**
50	65	4	**EGS0654C1**	**EGS0654C2**	**EGS0654C3**
60	77	4	**EGS0774C1**	**EGS0774C2**	**EGS0774C3**
75	96	5	**EGS0964C1**	**EGS0964C2**	**EGS0964C3**
100	124	5	**EGS1244C1**	**EGS1244C2**	**EGS1244C3**
125	156	5	**EGS1564C1**	**EGS1564C2**	**EGS1564C3**
150 ②	180	6	**EGS1804C1** ②	**EGS1804C2** ②	**EGS1804C3** ②
200 ②	240	6	**EGS2404C1** ②	**EGS2404C2** ②	**EGS2404C3** ②

DG1 Enclosed Drive

480 V Drives—Variable Torque (VT)/Low Overload (I_L) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
1.5	3	1	**EGS3D04B1**	**EGS3D04B2**	**EGS3D04B3**
2	3.4	1	**EGS3D44B1**	**EGS3D44B2**	**EGS3D44B3**
3	4.8	1	**EGS4D84B1**	**EGS4D84B2**	**EGS4D84B3**
5	7.6	1	**EGS7D64B1**	**EGS7D64B2**	**EGS7D64B3**
7.5	11	1	**EGS0114B1**	**EGS0114B2**	**EGS0114B3**
10	14	2	**EGS0144B1**	**EGS0144B2**	**EGS0144B3**
15	21	2	**EGS0214B1**	**EGS0214B2**	**EGS0214B3**
20	27	2	**EGS0274B1**	**EGS0274B2**	**EGS0274B3**
25	34	3	**EGS0344B1**	**EGS0344B2**	**EGS0344B3**
30	40	3	**EGS0404B1**	**EGS0404B2**	**EGS0404B3**
40	52	3	**EGS0524B1**	**EGS0524B2**	**EGS0524B3**
50	65	4	**EGS0654A1**	**EGS0654A2**	**EGS0654A3**
60	77	4	**EGS0774A1**	**EGS0774A2**	**EGS0774A3**
75	96	4	**EGS0964A1**	**EGS0964A2**	**EGS0964A3**
100	124	5	**EGS1244A1**	**EGS1244A2**	**EGS1244A3**
125	156	5	**EGS1564A1**	**EGS1564A2**	**EGS1564A3**
150	180	5	**EGS1804A1**	**EGS1804A2**	**EGS1804A3**
200 ②	240	6	**EGS2404A1** ②	**EGS2404A2** ②	**EGS2404A3** ②
250 ②	302	6	**EGS3024A1** ②	**EGS3024A2** ②	**EGS3024A3** ②

Notes

① Table is for base catalog number reference only. For complete catalog number selection, see **Page V6-T2-76**.

② Available in 2017.

DG1 Enclosed Drive

230 V Single-Phase Drives—Variable Torque (VT)/Low Overload (I_L) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
Low Overload (VT) Enclosed Drives					
0.75	3.2	1	**EGS3D2JB1**	**EGS3D2JB2**	**EGS3D2JB3**
1	4.2	1	**EGS4D2JB1**	**EGS4D2JB2**	**EGS4D2JB3**
1.5	6	2	**EGS6D0JB1**	**EGS6D0JB2**	**EGS6D0JB3**
2	6.8	2	**EGS6D8JB1**	**EGS6D8JB2**	**EGS6D8JB3**
3	9.6	2	**EGS9D6JB1**	**EGS9D6JB2**	**EGS9D6JB3**
5	15.2	2	**EGS015JB1**	**EGS015JB2**	**EGS015JB3**
7.5	22	3	**EGS022JB1**	**EGS022JB2**	**EGS022JB3**
10	28	3	**EGS028JB1**	**EGS028JB2**	**EGS028JB3**
15	42	4	**EGS042JB1**	**EGS042JB2**	**EGS042JB3**
20	54	4	**EGS054JB1**	**EGS054JB2**	**EGS054JB3**
25	68	5	**EGS068JA1**	**EGS068JA2**	**EGS068JA3**
30	80	5	**EGS080JA1**	**EGS080JA2**	**EGS080JA3**
40	104	5	**EGS104JA1**	**EGS104JA2**	**EGS104JA3**

DG1 Enclosed Drive

480 V Single-Phase Drives—Variable Torque (VT)/Low Overload (I_L) Enclosed Drives

hp	Current (A)	Drive Frame Size	NEMA Type 1 Base Catalog Number ①	NEMA Type 12 Base Catalog Number ①	NEMA Type 3R Base Catalog Number ①
Low Overload (VT) Enclosed Drives					
1	2.1	1	**EGS2D1KB1**	**EGS2D1KB2**	**EGS2D1KB3**
1.5	3	1	**EGS3D0KB1**	**EGS3D0KB2**	**EGS3D0KB3**
2	3.4	1	**EGS3D4KB1**	**EGS3D4KB2**	**EGS3D4KB3**
3	4.8	1	**EGS4D8KB1**	**EGS4D8KB2**	**EGS4D8KB3**
5	7.6	2	**EGS7D6KB1**	**EGS7D6KB2**	**EGS7D6KB3**
7.5	11	2	**EGS011KB1**	**EGS011KB2**	**EGS011KB3**
10	14	2	**EGS014KB1**	**EGS014KB2**	**EGS014KB3**
15	21	3	**EGS021KB1**	**EGS021KB2**	**EGS021KB3**
20	27	4	**EGS027KB1**	**EGS027KB2**	**EGS027KB3**
25	34	4	**EGS034KB1**	**EGS034KB2**	**EGS034KB3**
30	40	4	**EGS040KB1**	**EGS040KB2**	**EGS040KB3**
40	52	5	**EGS052KB1**	**EGS052KB2**	**EGS052KB3**
50	65	5	**EGS065KA1**	**EGS065KA2**	**EGS065KA3**
60	77	5	**EGS077KA1**	**EGS077KA2**	**EGS077KA3**

Note

① Table is for base catalog number reference only. For complete catalog number selection, see **Page V6-T2-76**.

Enclosure Selection

EGS

Enclosure selection charts are based on physical space limitations only and only to be used as a reference. For actual enclosure sizing, refer to Bid Manager.

Note: Standard enclosure sizing includes dedicated space for a circuit breaker or fusible disconnect, CPT, SPD, heater/thermostat, control relay and terminal blocks.

Standard Enclosure X-Space

Enclosure Size	Frame 1	Frame 2	Frame 3	Frame 4	Frame 5
AX	2	2	2	—	—
BX	4	4	4	4	—
CX	7	7	7	7	7
DX	18	18	18	18	18

Standard Power Options X-Space

Power Options	Frame 1	Frame 2	Frame 3	Frame 4	Frame 5
Isolation fuses	1	1	1	1	1
3% Input reactor	2	2	3	5	6
3% Output reactor	1	1	3	5	6
dV/dt filter	3	3	3	5	6
Output contactor	1	1	1	1	1

Note: Bypass enclosure sizing includes dedicated space for a MCP, CPT, input contactor, output bypass contactors, overload relay, SPD, heater/thermostat, control relay and terminal blocks.

Bypass Enclosure X-Space

Enclosure Size	Frame 1	Frame 2	Frame 3	Frame 4	Frame 5
AX	0	0	0	—	—
BX	2	2	2	0	—
CX	5	5	5	3	2
DX	16	16	16	14	13

Bypass Power Options X-Space

Power Options	Frame 1	Frame 2	Frame 3	Frame 4	Frame 5
Isolation fuses	1	1	1	1	1
3% Input reactor	2	2	3	5	6
RVSS bypass	2	2	2	3	4
3% output reactor	1	1	3	5	6
dV/dt filter	3	3	3	5	6

Note: Single-phase enclosure sizing includes dedicated space for a capacitor kit, circuit breaker or fusible disconnect, CPT, SPD, heater/thermostat, control relay and terminal blocks.

Single-Phase Enclosure X-Space

Enclosure Size	Frame 1	Frame 2	Frame 3	Frame 4	Frame 5
AX	0	0	—	—	—
BX	2	2	1	1	—
CX	5	5	4	4	4
DX	16	16	15	15	15

Single-Phase Power Options X-Space

Power Options	Frame 1	Frame 2	Frame 3	Frame 4	Frame 5
Isolation fuses	1	1	1	1	1
3% Input reactor	2	2	3	5	6
3% Output reactor	1	1	3	5	6
dV/dt filter	3	3	3	5	6
Output contactor	1	1	1	1	1

Accessories

The PowerXL Series—DG1 drives can accommodate a wide selection of expander and adapter option boards to customize the drive for your application needs. The drive's control unit is designed to accept a total of two additional option boards.

The PowerXL Series—DG1 drives come with a factory-installed standard board configuration including the following:

- Standard I/O:
  - 8DI, 1DO
  - 2AI, 2AO
  - 2FC, 1FA relays
- Standard communications:
  - EtherNet/IP, Modbus TCP
  - RS-485: Modbus RTU, BACnet MS/TP

PowerXL Series—DG1 I/O Card Kits

Description	Catalog Number
3 x DI, 3 x DO, 1 x thermistor, 24 Vdc/EXT option card	**DXG-EXT-3DI3DO1T**
1 x AI, 2 x AO (isolated to control board) option card	**DXG-EXT-1AI2AO**
3 x relay dry contact (2NO + 1NO/NC) option card	**DXG-EXT-3RO**
3 x PT100 RTD thermistor input option card	**DXG-EXT-THER1**
6 x DI 240 Vac input option card	**DXG-EXT-6DI**

PowerXL Series—DG1 Communication Card Kits

Description	Catalog Number
PROFIBUS-DP communication card	**DXG-NET-PROFB**
CANopen communication card	**DXG-NET-CANOPEN**
DeviceNet communication card	**DXG-NET-DEVICENET**
PROFIBUS DB9 to 5-pin adapter card	**DXG-NET-PROAD**
SmartWire communication card and module	**DXG-NET-SWD** ①

Note

① Available in January 2017.

Options

Input Power Options

Option	Description
HMCP Disconnect	The HMCP motor protection circuit breaker uses an electronic trip unit to provide typical motor overload relay functionality and short-circuit protection against potential phase-to-phase or phase-to-ground faults.
Circuit Breaker	Utilizes a circuit breaker to provide a means of short-circuit protection for the power cables between it and the drive, and protection from high-level ground faults on the power cable. Allows a convenient means of disconnecting the drive from the line, and the operating mechanism can be padlocked in the OFF position. This is factory mounted in the enclosure.
Isolation Fusing	Provides high-level fault protection of the drive input power circuit from the load side of the fuses to the input side of the power transistors. This option consists of three 200 kA fuses that are factory mounted in the enclosure.
3% Input Reactor	The input reactor is a three-phase series inductance on the line side of an AFD. It is used to provide a reduction in voltage and current harmonics. It also provides increased input protection for AFD and its semiconductors from line transients.
SPD	Provides a UL 1449 surge protection device (SPD) rated for 40 kA/ph that is connected to the line side terminals.
Fused Disconnect	Utilizes fusing to provide a means of short-circuit protection for the power cables between it and the drive, and protection from high-level ground faults on the power cable. Allows a convenient means of disconnecting the drive from the line, and the operating mechanism can be padlocked in the OFF position. This is factory mounted in the enclosure.

Bypass Options

Option	Description
Manual HOA Bypass	Provides a three-position selector switch that allows the user to select either a HAND or AUTO mode of operation. HAND mode is defaulted keypad operation, and AUTO mode is defaulted to control from an external terminal source. These modes of operation can be configured via programming to allow for alternate combinations of start and speed sources. Start and speed sources include keypad, I/O and fieldbus.
Manual HOA RVSS Bypass	This option adds a reduced voltage soft starter to bypass assembly for soft starting in bypass mode.

Output Power Options

Option	Description
Output Contactor	Provides a means for positive disconnection of the drive output from the motor terminals. The contactor coil is controlled by the drive's run or permissive logic. NC and NO auxiliary contacts rated at 10 A, 600 Vac are provided for customer use. This option includes a low VA 115 Vac fused control power transformer and is factory mounted in the enclosure.
3% Output Reactor	The output reactor is a three-phase series inductance on the load side of a VFD. It is used to reduce transient voltage (dv/dt) and peak voltages at the motor terminals. A 3% output filter is recommended for motor cable lengths up to 300 ft (10 m).
dV/dt Filter	Used to reduce the transient voltage (dV/dt) at the motor terminals. Recommended for motor cable lengths over 300 ft (10 m) and up to 1000 ft (304.8 m). This option is mounted in the enclosure.

Control Options

Option	Description
Speed Pot	Provides the ability to adjust the frequency reference using a door-mounted potentiometer. This option uses the 10 Vdc reference to generate a 0–10 V signal at the analog voltage input signal terminal. When the HOA bypass option is added, the speed is controlled when the HOA switch is in the HAND position. Without the HOA bypass option, a two-position switch (labeled local/remote) is provided on the keypad to select speed reference from the speed potentiometer or a remote speed signal.
HOA Switch	Provides a three-position selector switch that allows the user to select either a HAND or AUTO mode of operation. HAND mode is defaulted to keypad operation, and AUTO mode is defaulted to control from an external terminal source. These modes of operation can be configured via drive programming to allow for alternate combinations of start and speed sources. Start and speed sources include Keypad, I/O and fieldbus.
Start-Stop Pushbutton	Provides door-mounted START and STOP pushbuttons for either bypass or non-bypass configurations.

Light Options

Option	Description
Non-Bypass Light Kit—Power On, Run, Fault	Provides a white POWER ON light that indicates power to the enclosed cabinet, a green RUN light that indicates the drive is running and a red FAULT light that indicates a drive fault has occurred.
Bypass Light Kit—On, VFD Run, Fault, Bypass Run	Provides a white POWER ON light that indicates power to the enclosed cabinet, a green RUN light that indicates the drive is running, a red FAULT light that indicates a drive fault has occurred and an amber light that indicates when the motor is running in Bypass mode.

Enclosure Options

Option	Description
Floor Stand 12 in	Converts a normally wall-mounted enclosure to a floor-standing enclosure with a height of 12 in (304.8 mm).
Floor Stand 22 in	Converts a normally wall-mounted enclosure to a floor-standing enclosure with a height of 22 in (558.8 mm).

Technical Data and Specifications

PowerXL Series—DG1 Technical Data and Specifications

Attribute	Description	Specification
Input ratings	Input voltage U_{in}	208 V, 230 V, 480 V, 575 V, –15 to 10%
	Input frequency	50 Hz to 60 Hz (variation up to 45 Hz to 66 Hz)
	Connection to power	Once per minute or less
	Starting delay	3 s (FR1 to FR2), 4 s (FR3), 5 s (FR4), 6 s (FR5 and FR6)
	Short-circuit withstand rating	100 kAIC (fuses and circuit breakers)
Output ratings	Output voltage	0 to U_{in}
	Output current	I_L: ambient temperature maximum 40 °C, up to 60 °C with derating, overload 1.1 x I_L (1 min./10 min.) I_H: ambient temperature maximum 50 °C, up to 60 °C with derating, overload 1.5 x I_H (1 min./10 min.)
	Initial output current	200% (2 s / 20 s)
	Output frequency	0–400 Hz (standard)
	Frequency resolution	0.01 Hz
Control characteristics	Control methods	Frequency control Speed control Open-loop speed control Open-loop torque control
	Switching frequency	230 V / 480 V range: FR1–3: 1 kHz to 12 kHz FR4–6: 1 kHz to 10 kHz 230 V / 480 V defaults: FR1–3: 4 kHz FR4–5: 3.6 kHz FR6: 2 kHz 575 V range: FR1–6: 1 kHz to 6 kHz 575 V defaults: FR1–4: 3 kHz FR5–6: 2 kHz Automatic switching frequency derating in case of overload.
	Frequency reference	Analog input: resolution 0.1% (10-bit), accuracy +1% Analog output: resolution 0.1% (10-bit), accuracy +1% Panel reference: resolution 0.01 Hz
	Field weakening point	20 Hz to 400 Hz
	Acceleration time	0.1 s to 3000 s
	Deceleration time	0.1 s to 3000 s
	Braking torque	DC brake: 30% x Motor Rated Torque (Tn) (without brake chopper) Dynamic braking (with optional brake chopper using an external brake resistor): 100% continuous maximum rating
Ambient conditions	Ambient operating temperature	–10 °C (no frost) to +40 °C
	Storage temperature	–40 °C to +70 °C
	Relative humidity	0–95% RH, noncondensing, non-corrosive
	Air quality: • Chemical vapors • Mechanical particles	Tested according to IEC 60068-2-60 Test Key: Flowing mixed gas corrosion test, Method 1 (H2S [hydrogen sulfide] and SO2 [sulfur dioxide]) Designed according to: IEC 60721-3-3, unit in operation, class 3C2 IEC 60721-3-3, unit in operation, class 3S2
	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); max. 9842 ft (3000 m) (2000 m for corner grounded earth main systems) For 575 V product, maximum altitude is 6561 ft (2000 m) regardless of main system

PowerXL Series—DG1 Technical Data and Specifications, continued

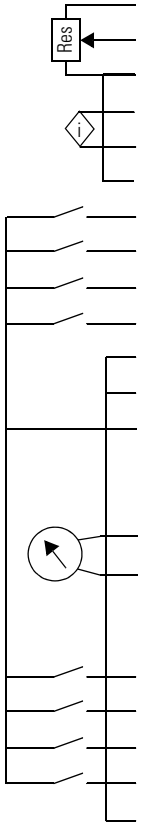
Attribute	Description	Specification
Ambient conditions, continued	Overvoltage	Overvoltage Category III
	Pollution degree	Pollution Degree 2
	Enclosure class	NEMA Type 1, 12, 3R
	Immunity	Fulfills EN 61800-3 (2004), first and second environment
Standards	Safety	UL 508C, EN 61800-5-1
	Approvals	UL and cUL
Fieldbus connections		Onboard: EtherNet/IP, Modbus® TCP, Modbus RTU, BACnet
Safety/protections	Overvoltage protection	Yes
	Overvoltage trip limit	230 V drives: 456 V 480 V drives: 911 V 575 V drives: 1100 V
	Undervoltage protection	Yes
	Undervoltage trip limit	230 V drives: 211 V 480 V drives: 370 V 575 V drives: 550 V
	Earth fault protection	Yes Default: 15% motor FLA Minimum: 0% motor FLA Maximum: 30% motor FLA
	Input phase supervision	Yes
	Motor phase supervision	Yes
	Overcurrent protection	Yes
	Unit overtemperature protection	Yes
	Motor overload protection	Yes
	Motor stall protection	Yes
	Motor underload protection	Yes
	DC bus overvoltage control	Yes
	Short-circuit protection of 24 V reference voltages	Yes
	Surge protection	Yes (differential mode 2 kV; common mode 4 kV 230 V drives: 275 Vac, 10,000 A 480 V drives: 320 Vac, 8000 A 575 V drives: 385 Vac, 10,000 A
	Common coated boards	Yes (prevents corrosion)
Efficiency	Drive efficiency ratings ①	480 V: FR1 = 97.7% FR2 = 97.9% FR3 = 97.7% FR4 = 98.0% FR5 = 98.2% 230 V: FR1 = 96.7% FR2 = 97.4% FR3 = 97.2% FR4 = 97.4% FR5 = 97.7%

Note

① Based on DG1 efficiency ratings in an enclosure with no options.

Wiring Diagram

PowerXL Series—DG1 Control Wiring Diagram

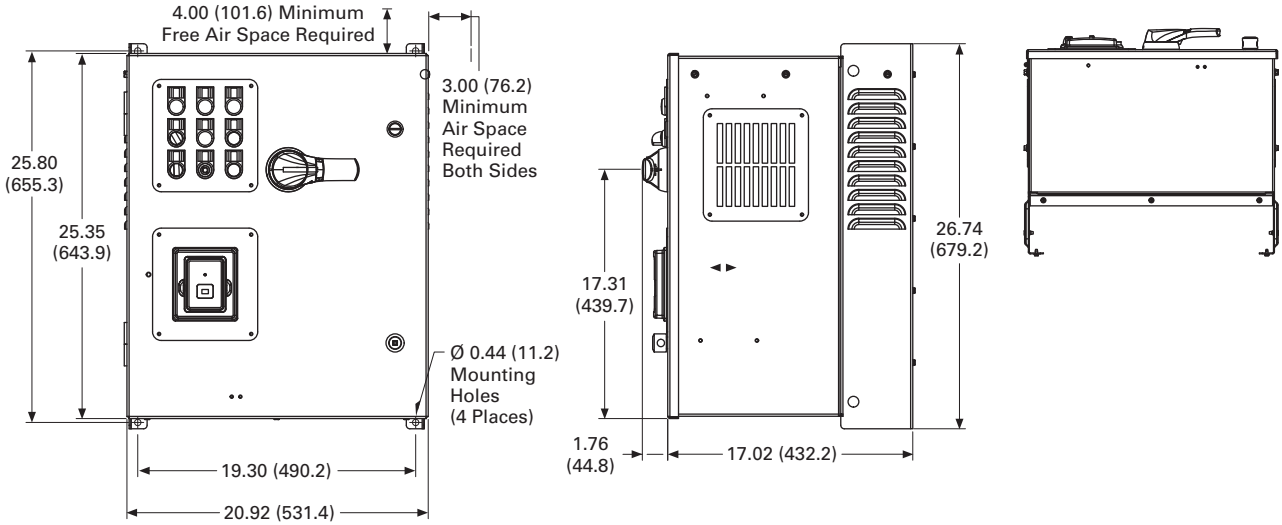


Pin	Signal Name	Signal	Default Setting	Description
1	+10 V	Ref. Output Voltage	—	10 Vdc Supply Source
2	AI1+	Analog Input 1	0–10 V	Voltage Speed Reference (Programmable to 4 mA to 20 mA)
3	AI1–	Analog Input 1 Ground	—	Analog Input 1 Common (Ground)
4	AI2+	Analog Input 2	4 mA to 20 mA	Current Speed Reference (Programmable to 0–10 V)
5	AI2–	Analog Input 2 Ground	—	Analog Input 2 Common (Ground)
6	GND	I/O Signal Ground	—	I/O Ground for Reference and Control
7	DIN5	Digital Input 5	Preset Speed B0	Sets frequency output to Preset Speed 1
8	DIN6	Digital Input 6	Preset Speed B1	Sets frequency output to Preset Speed 2
9	DIN7	Digital Input 7	Emergency Stop (TI–)	Input forces VFD output to shut off
10	DIN8	Digital Input 8	Force Remote (TI+)	Input takes VFD from Local to Remote
11	CMB	DI5 to DI8 Common	Grounded	Allows source input
12	GND	I/O Signal Ground	—	I/O Ground for Reference and Control
13	24 V	+24 Vdc Output	—	Control voltage output (100 mA max.)
14	DO1	Digital Output 1	Ready	Shows the drive is ready to run
15	24 Vo	+24 Vdc Output	—	Control voltage output (100 mA max.)
16	GND	I/O Signal Ground	—	I/O Ground for Reference and Control
17	AO1+	Analog Output 1	Output Frequency	Shows Output frequency to motor 0–60 Hz (4 mA to 20 mA)
18	AO2+	Analog Output 2	Motor Current	Shows Motor current of motor 0–FLA (4 mA to 20 mA)
19	24 Vi	+24 Vdc Input	—	External control voltage input
20	DIN1	Digital Input 1	Run Forward	Input starts drive in forward direction (start enable)
21	DIN2	Digital Input 2	Run Reverse	Input starts drive in reverse direction (start enable)
22	DIN3	Digital Input 3	External Fault	Input causes drive to fault
23	DIN4	Digital Input 4	Fault Reset	Input resets active faults
24	CMA	DI1 to DI4 Common	Grounded	Allows source input
25	A	RS-485 Signal A	—	Fieldbus Communication (Modbus, BACnet)
26	B	RS-485 Signal B	—	Fieldbus Communication (Modbus, BACnet)
27	R3NO	Relay 3 Normally Open	At Speed	Relay output 3 shows VFD is at Ref. Frequency
28	R1NC	Relay 1 Normally Closed	Run	Relay output 1 shows VFD is in a run state
29	R1CM	Relay 1 Common		
30	R1NO	Relay 1 Normally Open		
31	R3CM	Relay 3 Common	At Speed	Relay output 3 shows VFD is at Ref. Frequency
32	R2NC	Relay 2 Normally Closed	Fault	Relay output 2 shows VFD is in a fault state
33	R2CM	Relay 2 Common		
34	R2NO	Relay 2 Normally Open		

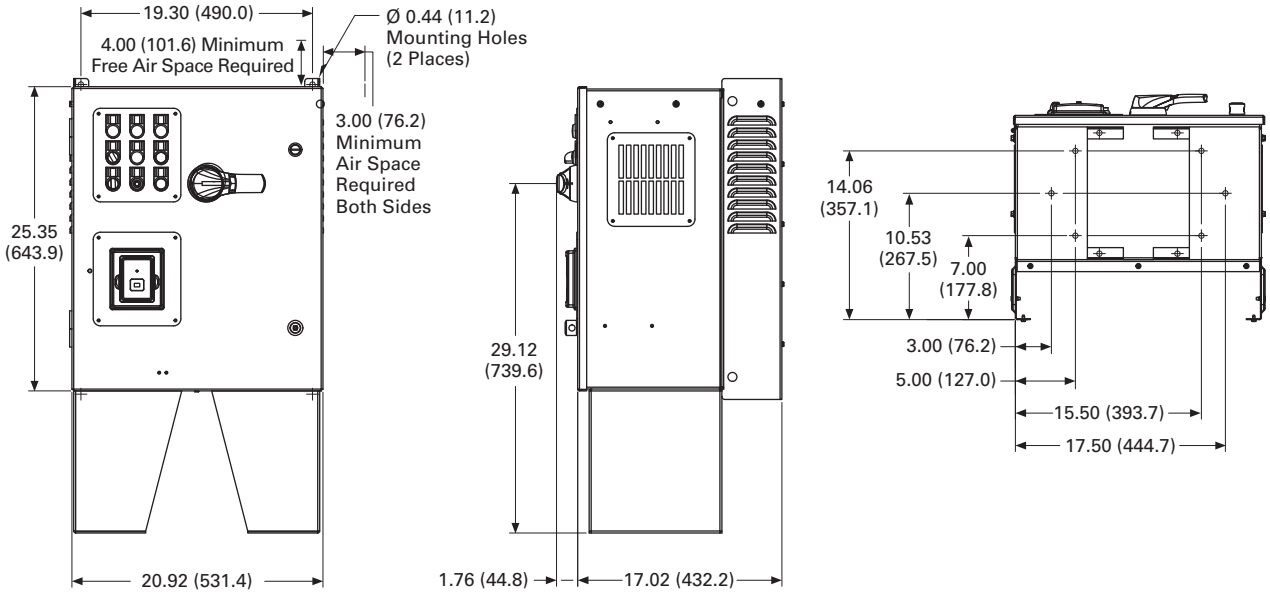
Dimensions

Approximate Dimensions in Inches (mm)

AX Box Type 1

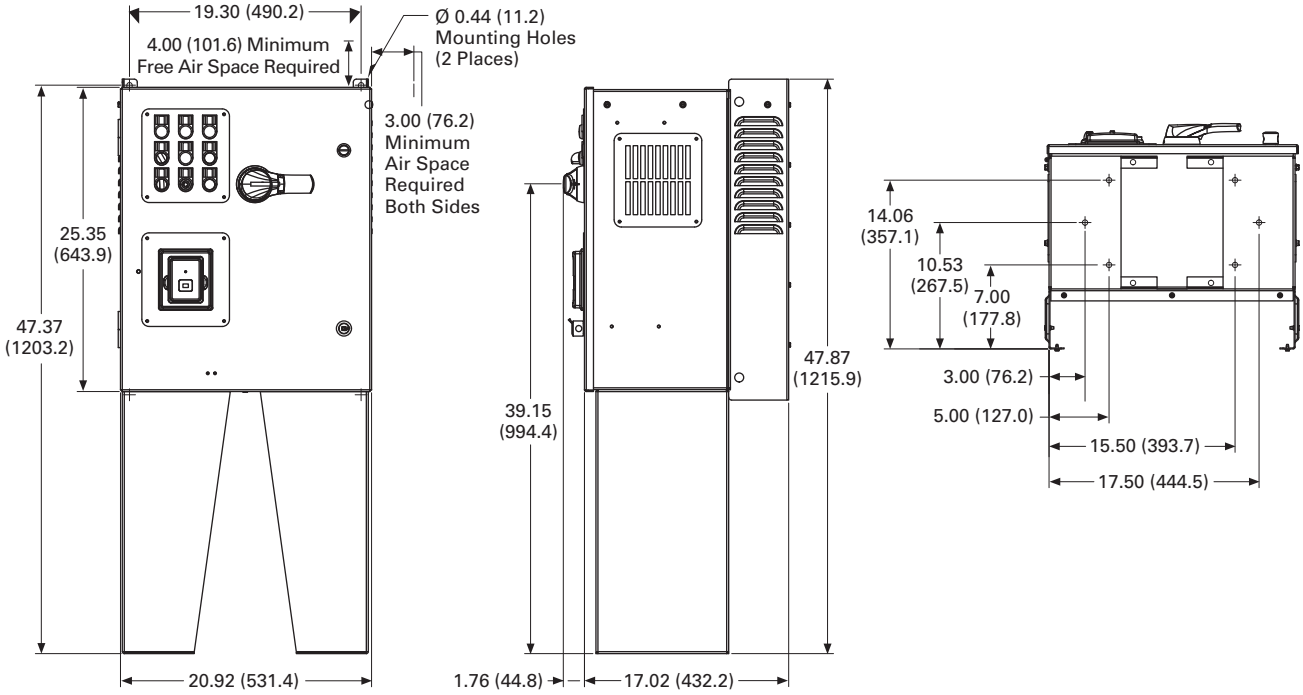


AX Box Type 1—12 Inch Floor Stands

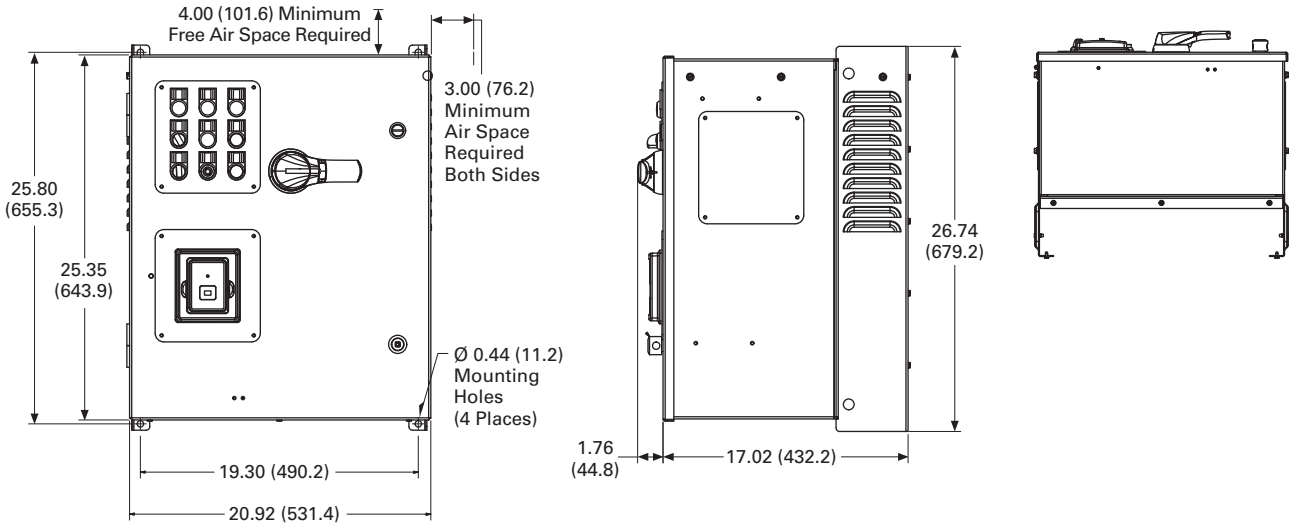


Approximate Dimensions in Inches (mm)

AX Box Type 1—22 Inch Floor Stands

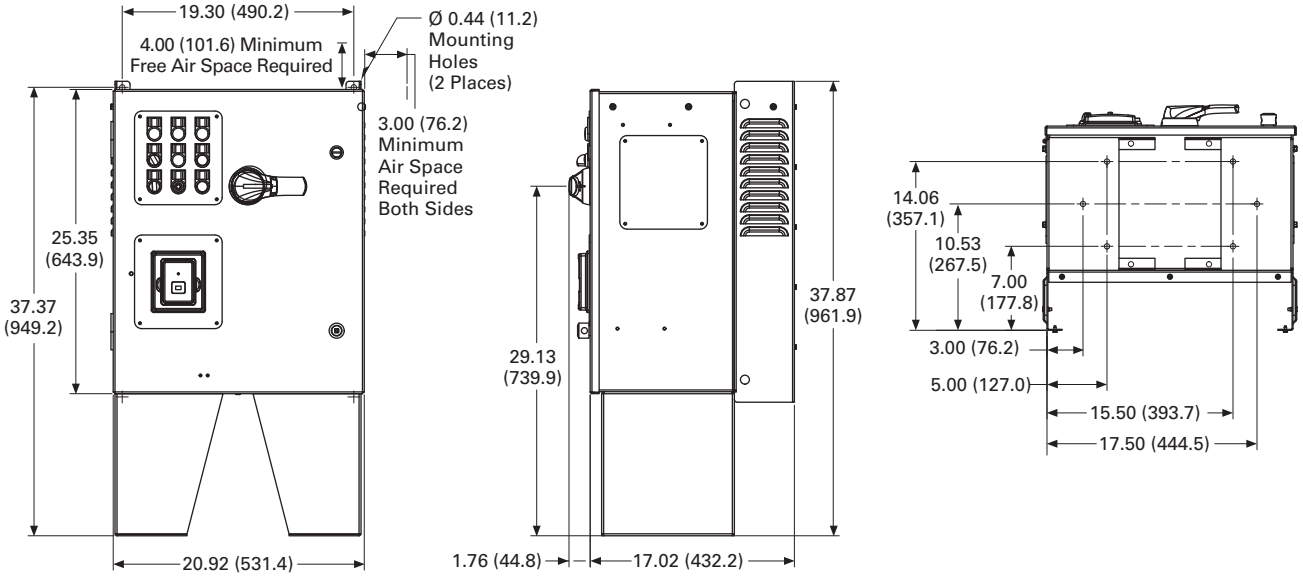


AX Box Type 12

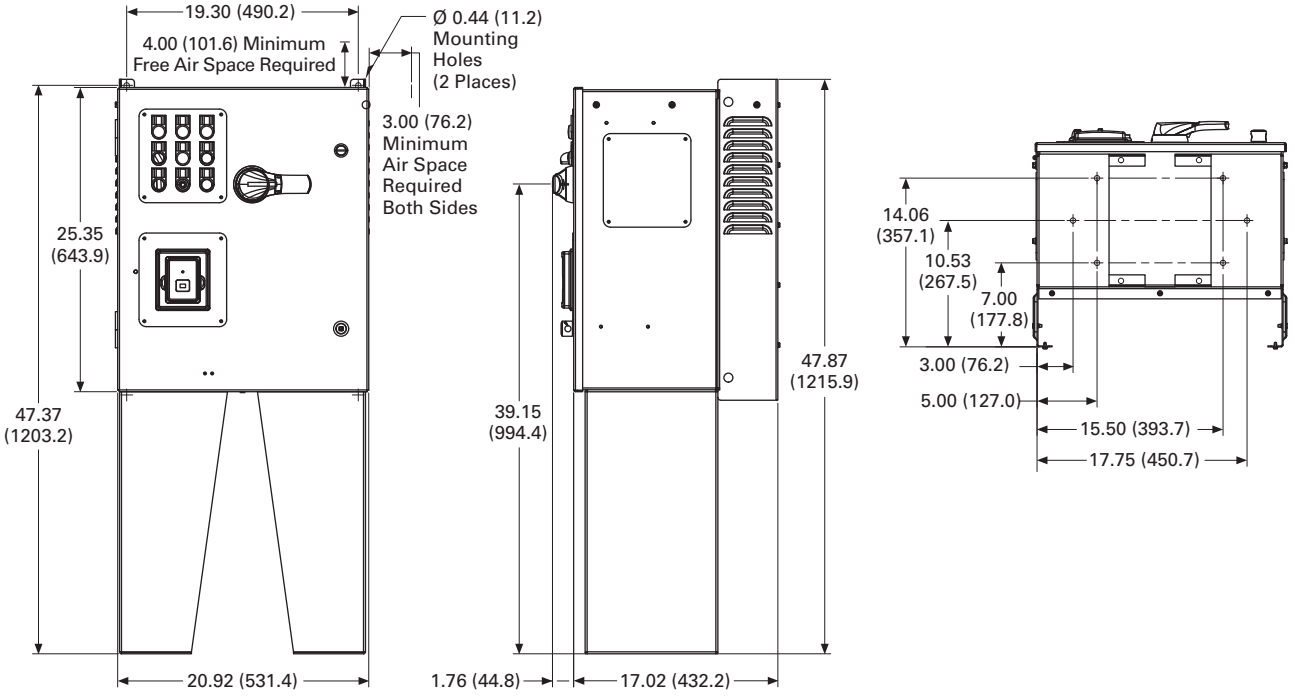


Approximate Dimensions in Inches (mm)

AX Box Type 12—12 Inch Floor Stands

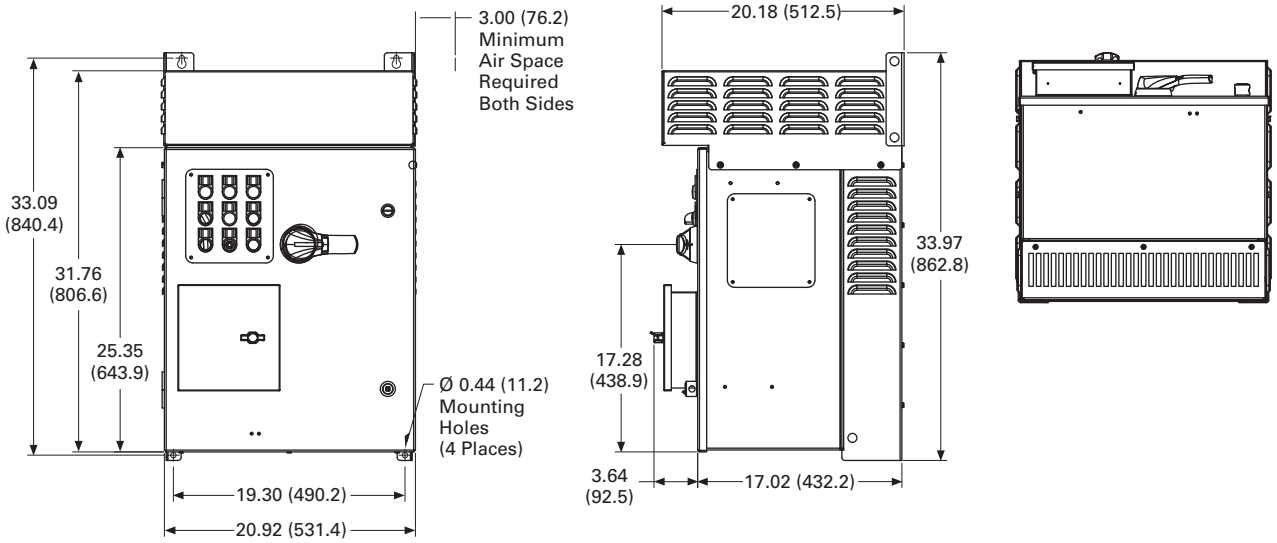


AX Box Type 12—22 Inch Floor Stands

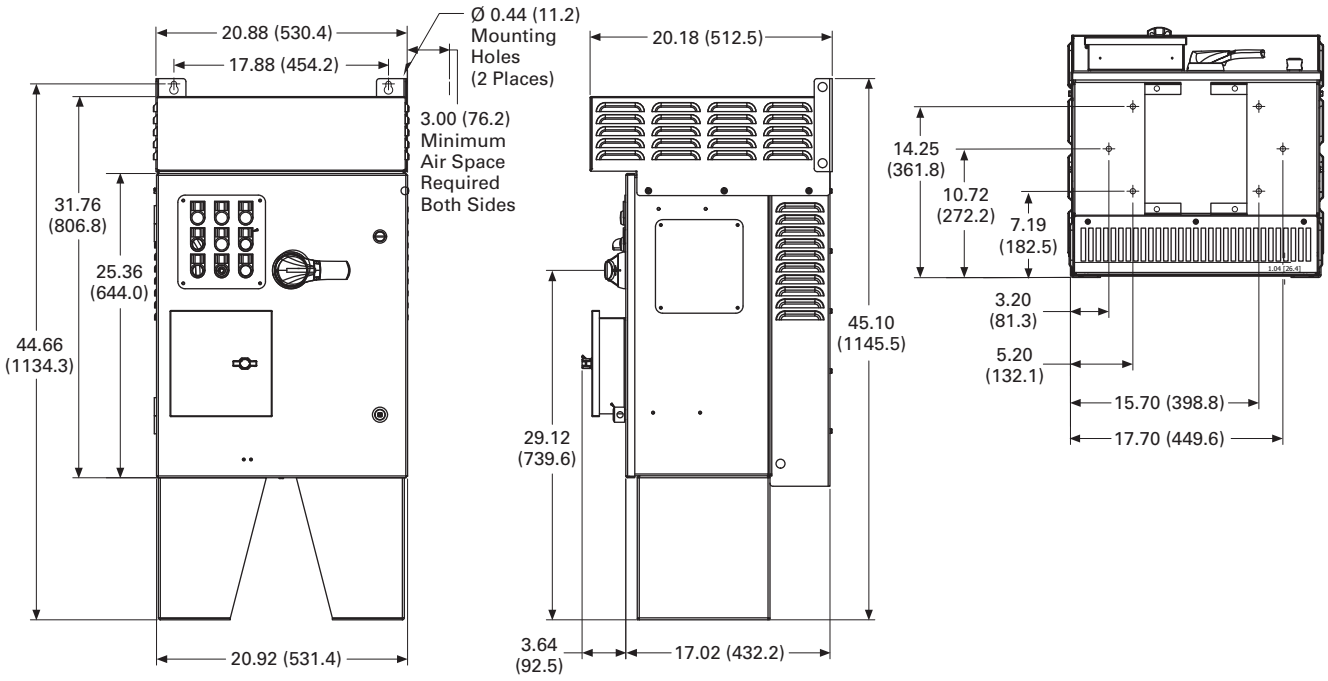


Approximate Dimensions in Inches (mm)

AX Box Type 3R

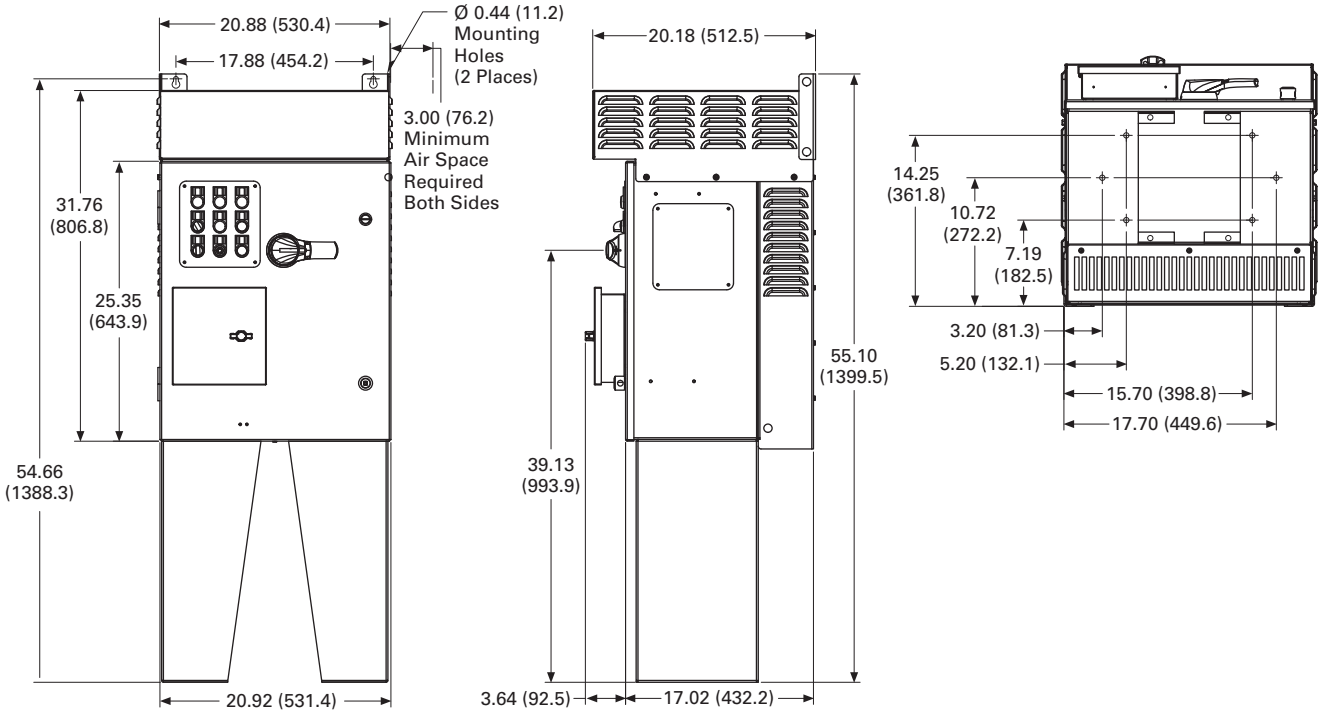


AX Box Type 3R—12 Inch Floor Stands

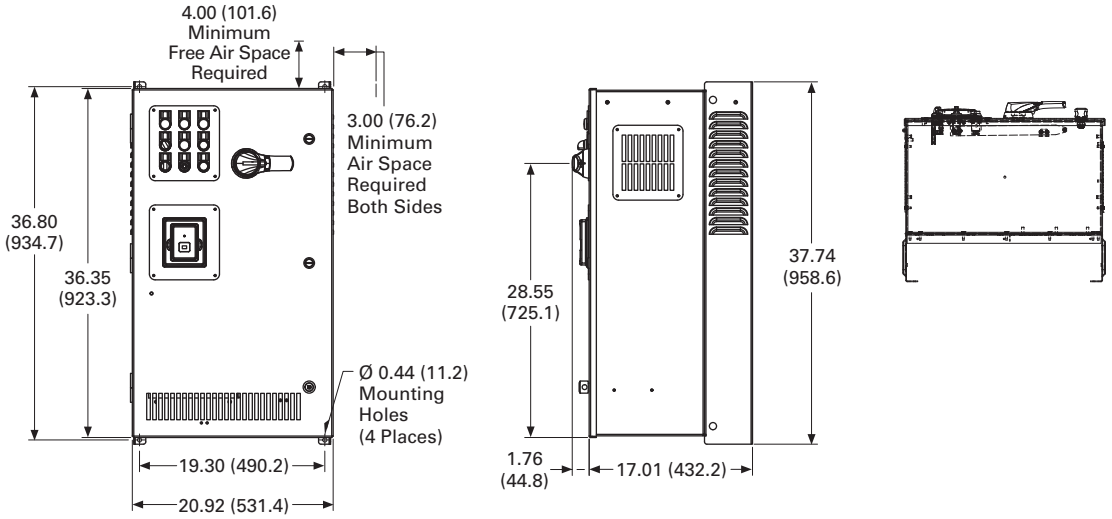


Approximate Dimensions in Inches (mm)

AX Box Type 3R—22 Inch Floor Stands

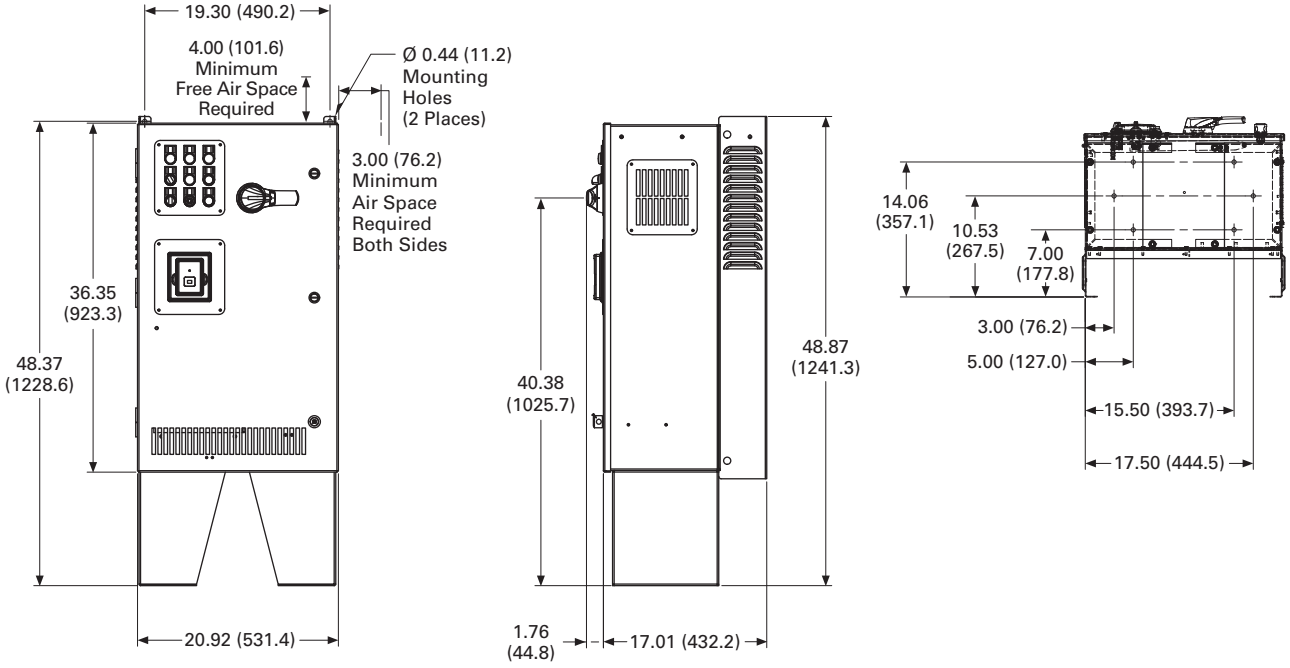


BX Box Type 1

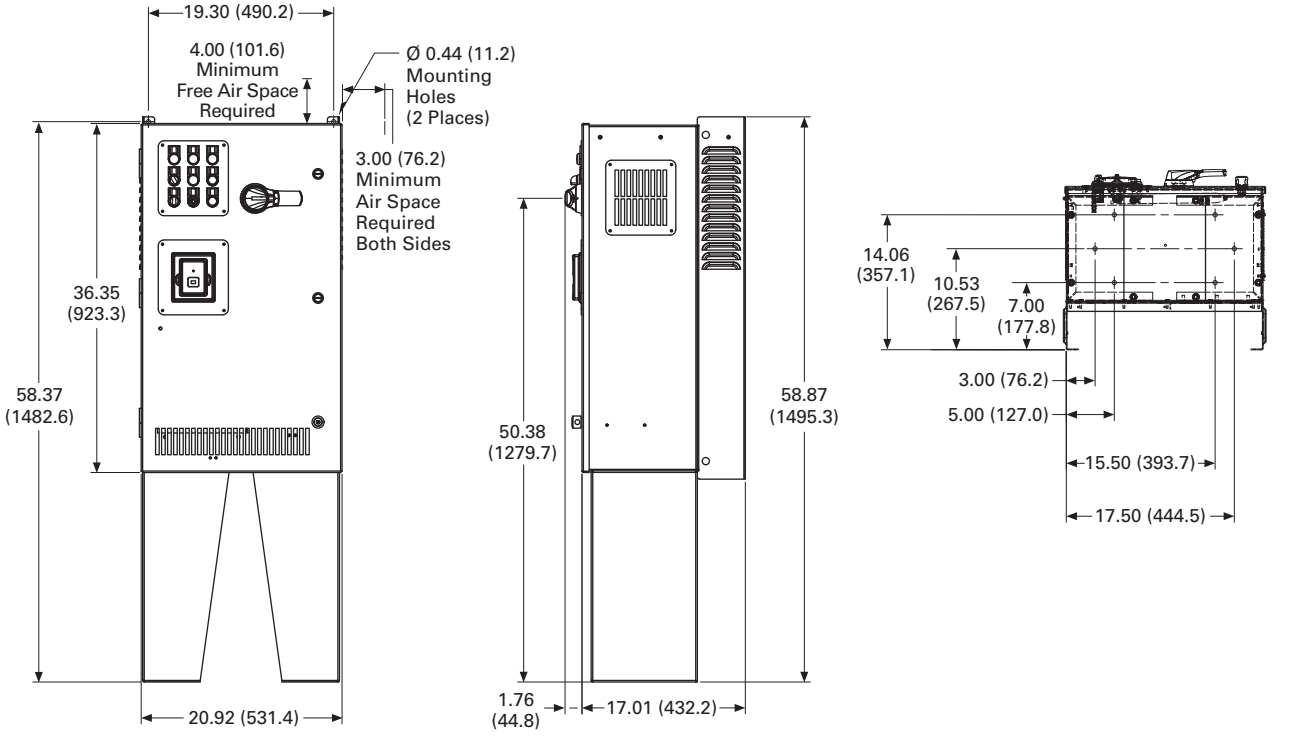


Approximate Dimensions in Inches (mm)

BX Box Type 1—12 Inch Floor Stands

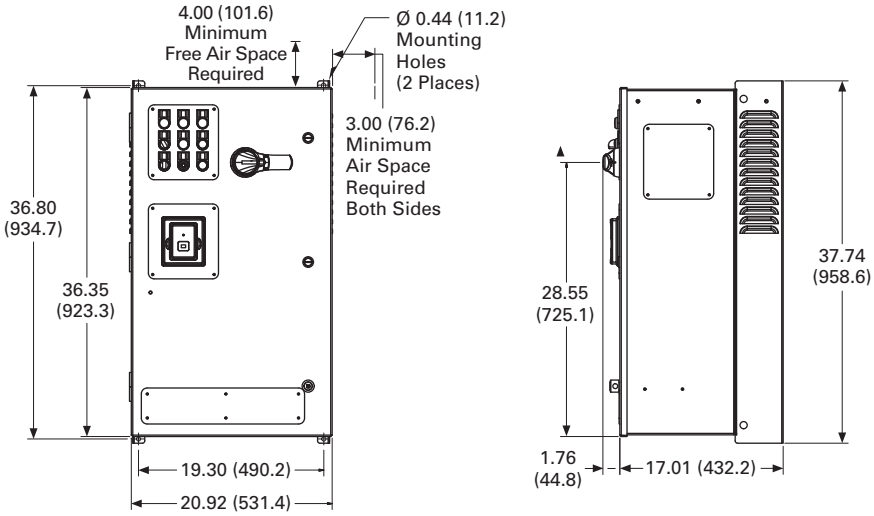


BX Box Type 1—22 Inch Floor Stands

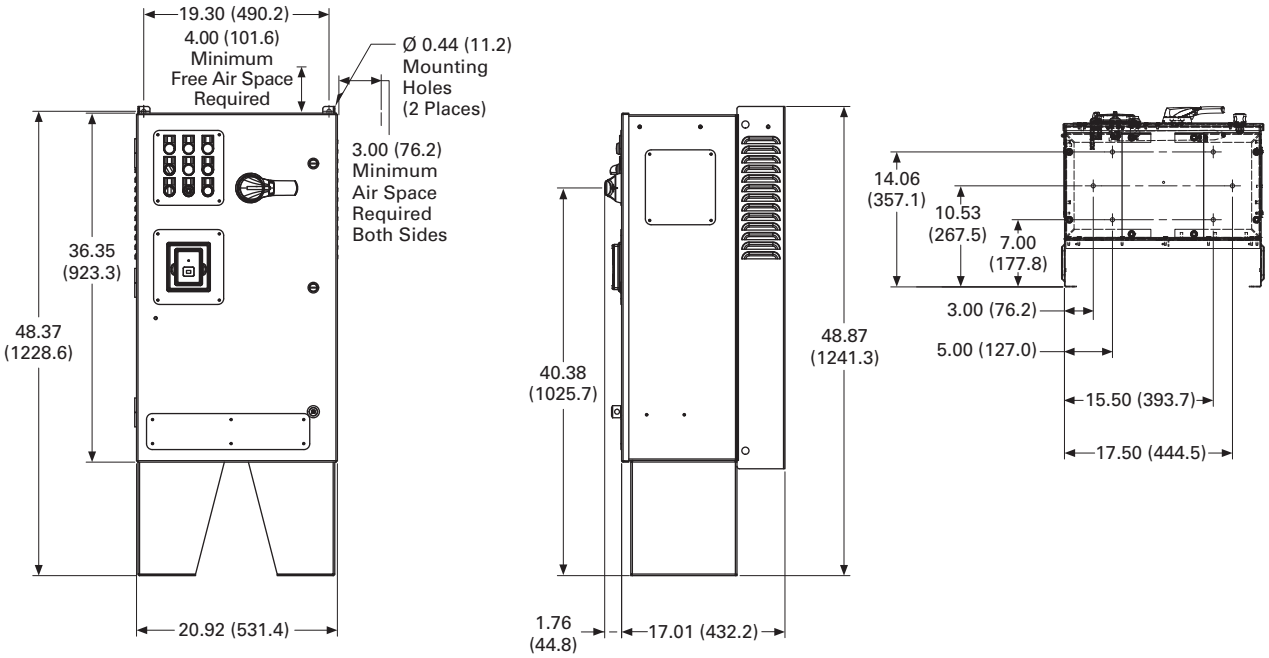


Approximate Dimensions in Inches (mm)

BX Box Type 12

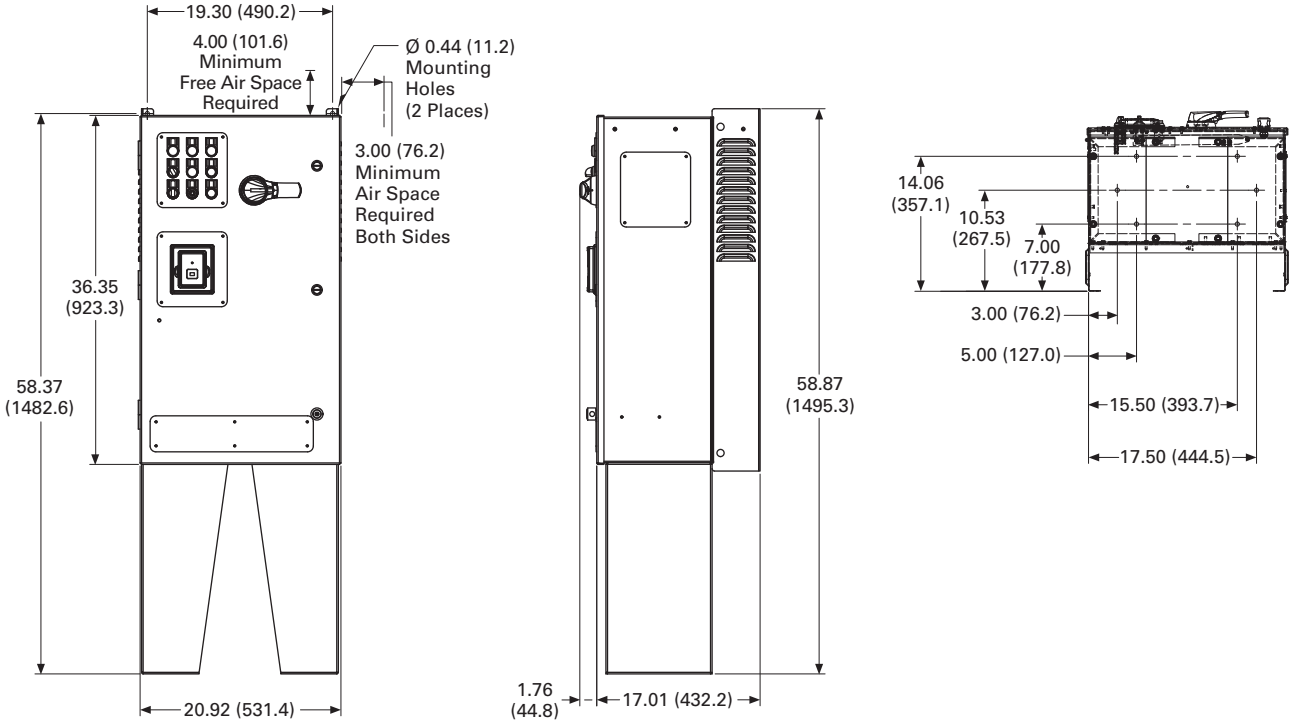


BX Box Type 12—12 Inch Floor Stands

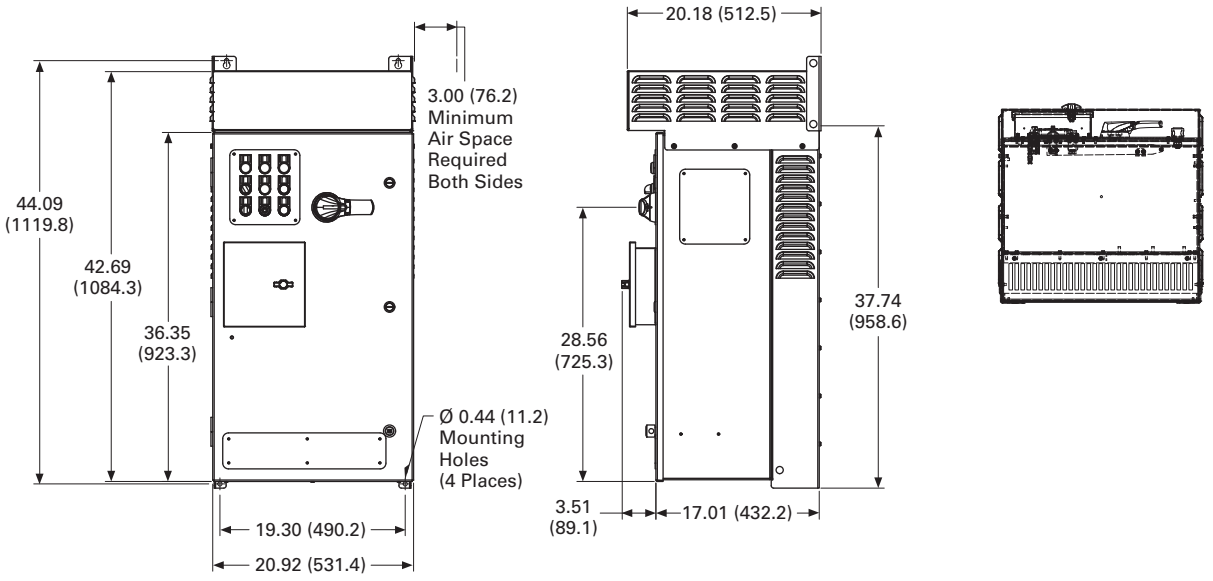


Approximate Dimensions in Inches (mm)

BX Box Type 12—22 Inch Floor Stands

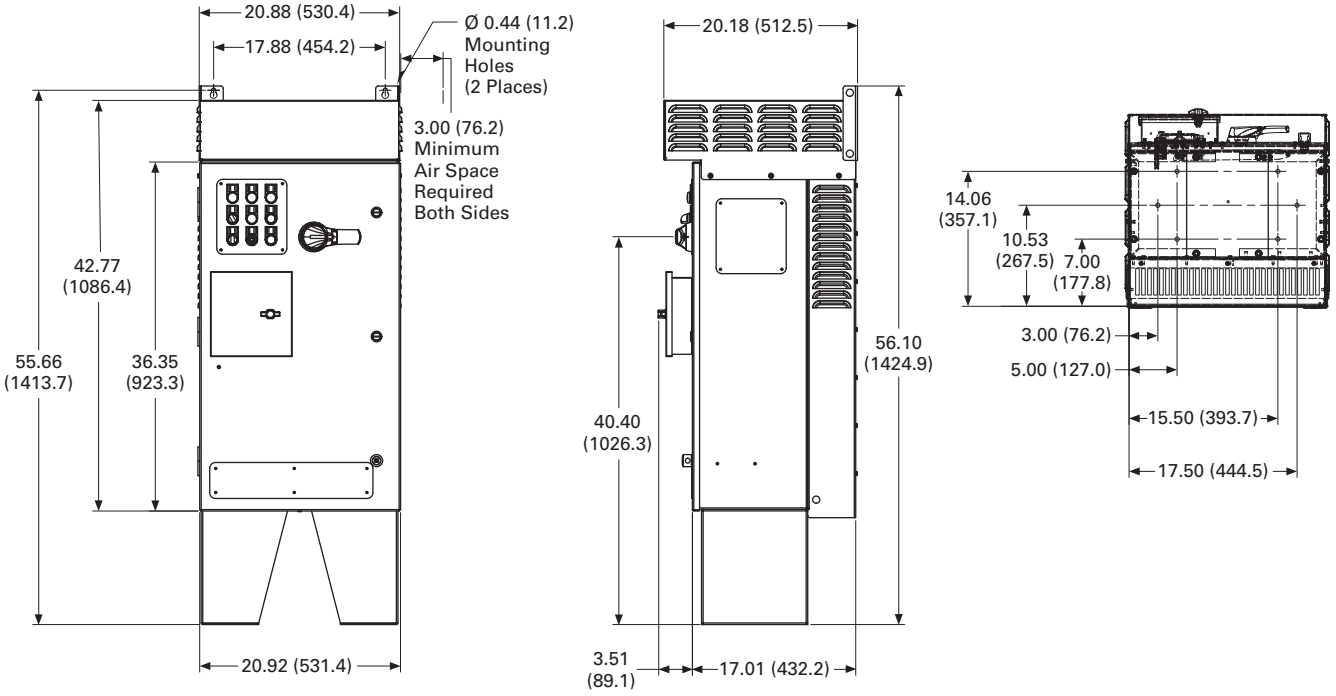


BX Box Type 3R

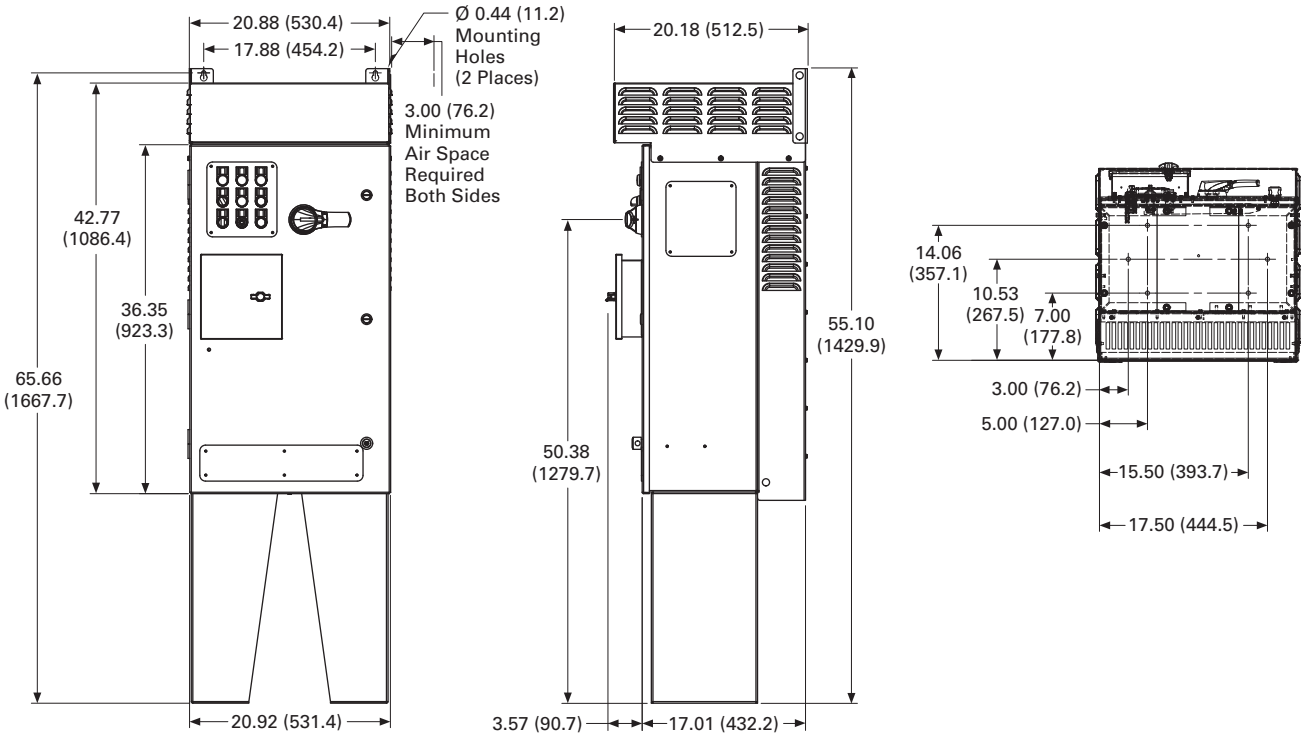


Approximate Dimensions in Inches (mm)

BX Box Type 3R—12 Inch Floor Stands

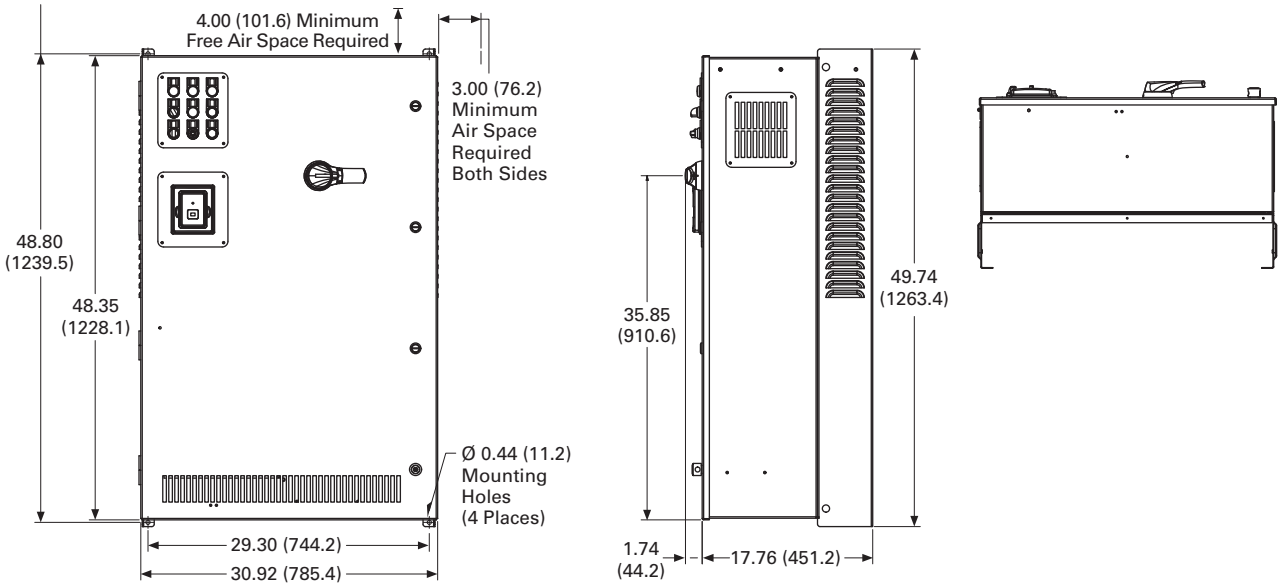


BX Box Type 3R—22 Inch Floor Stands

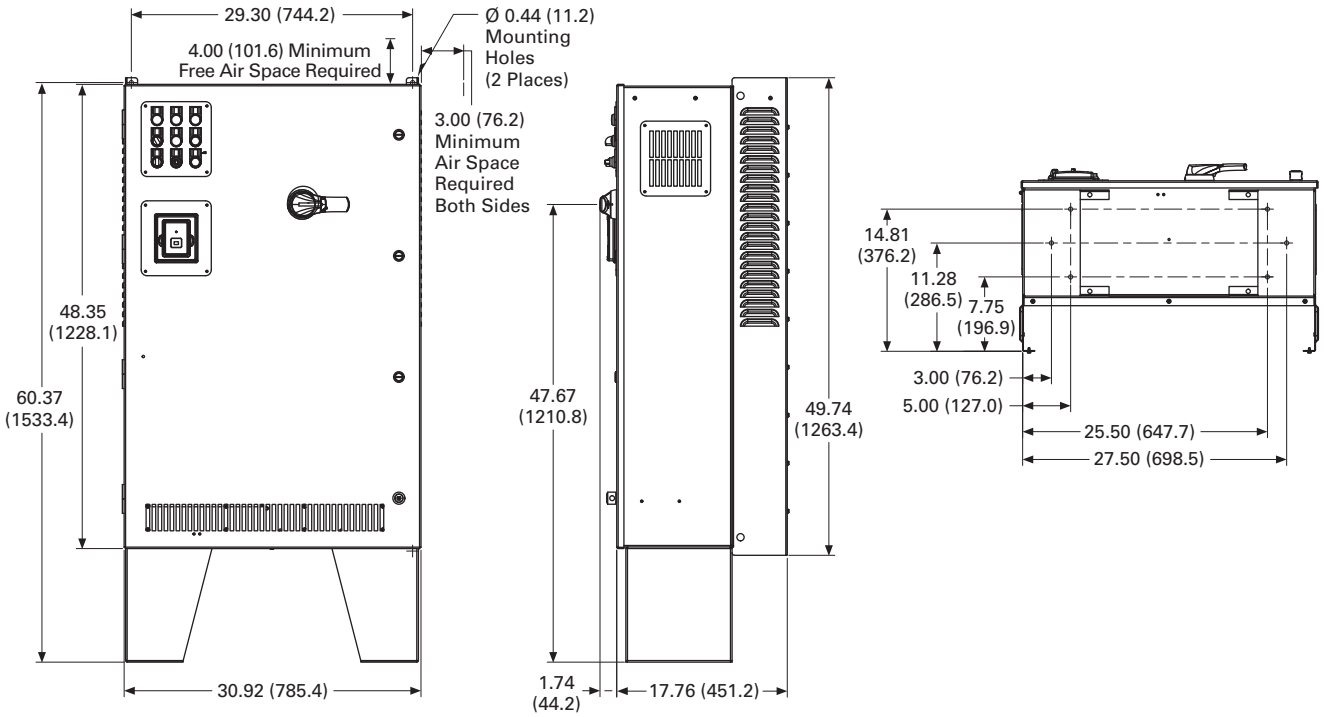


Approximate Dimensions in Inches (mm)

CX Box Type 1

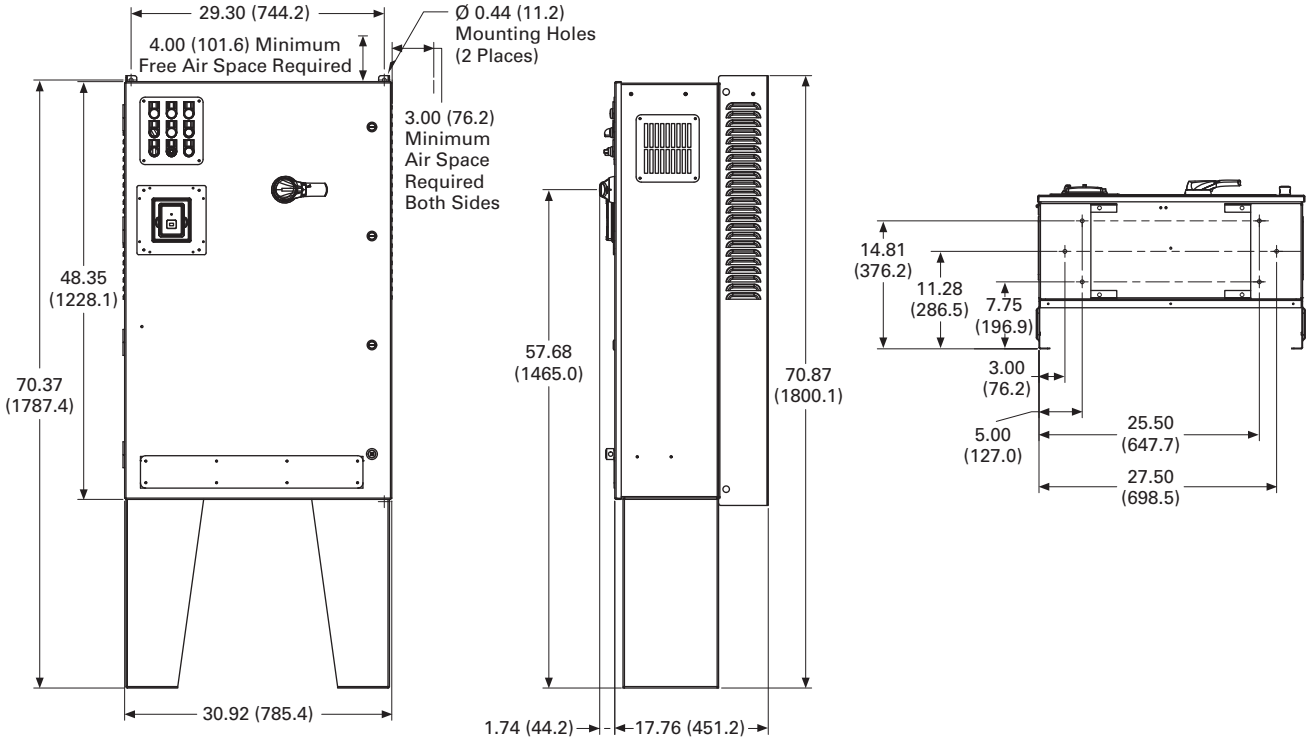


CX Box Type 1—12 Inch Floor Stands



Approximate Dimensions in Inches (mm)

CX Box Type 1—22 Inch Floor Stands



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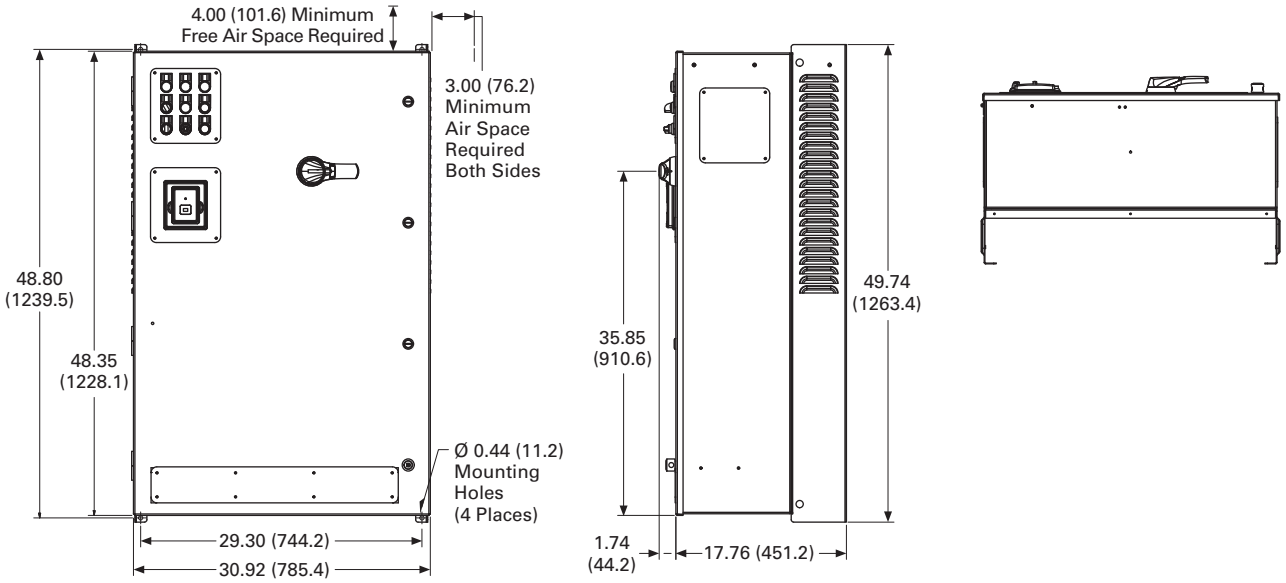
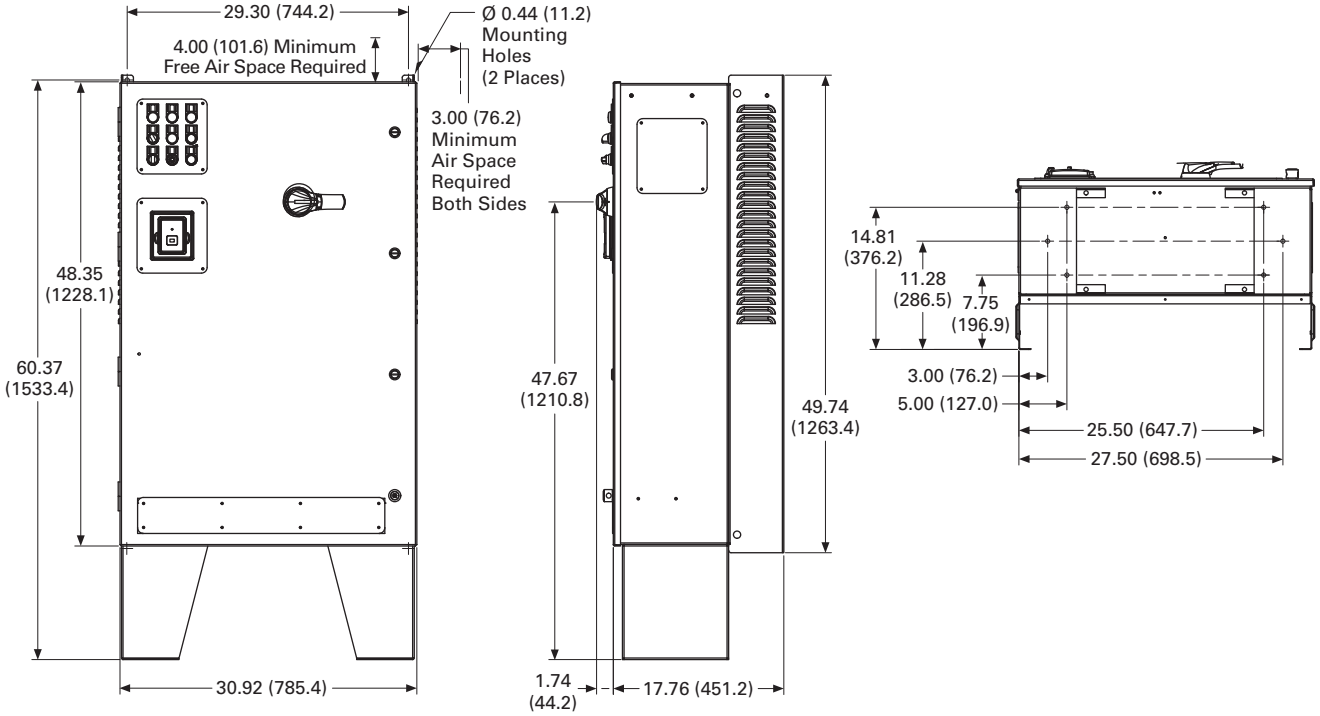
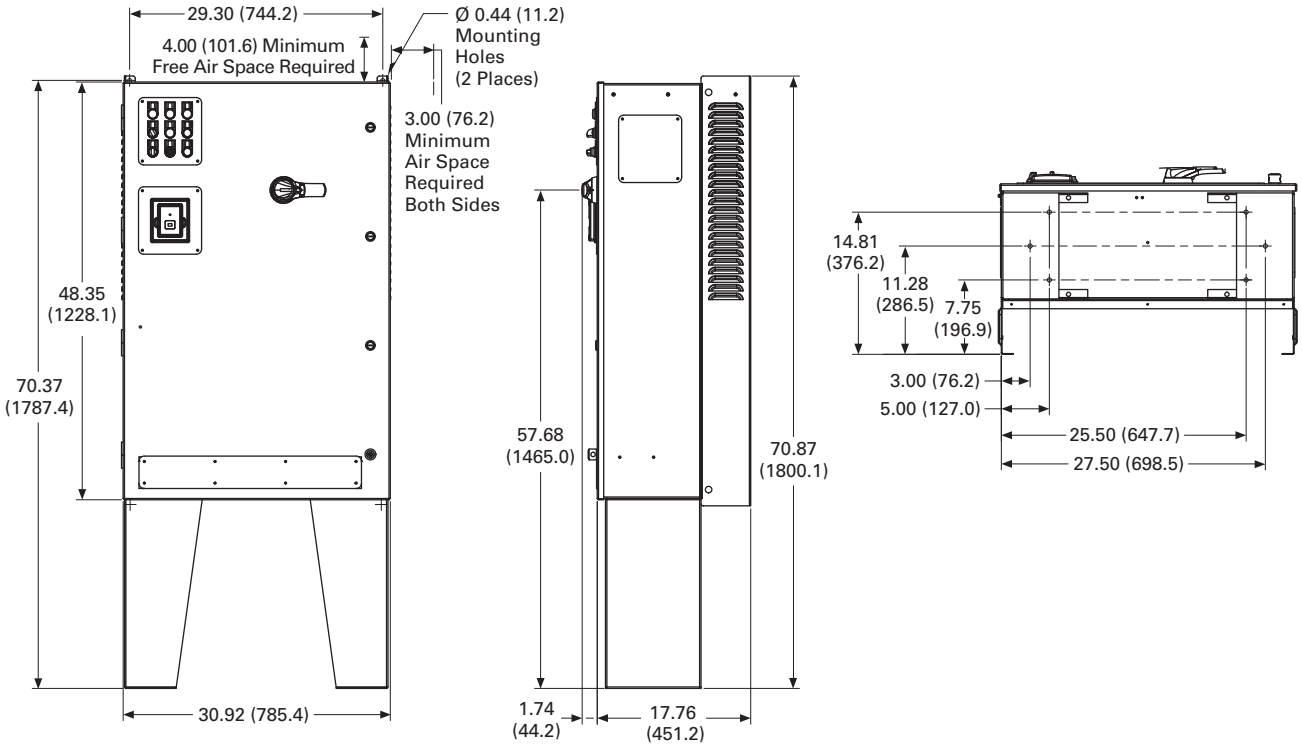


Approximate Dimensions in Inches (mm)

CX Box Type 12—12 Inch Floor Stands

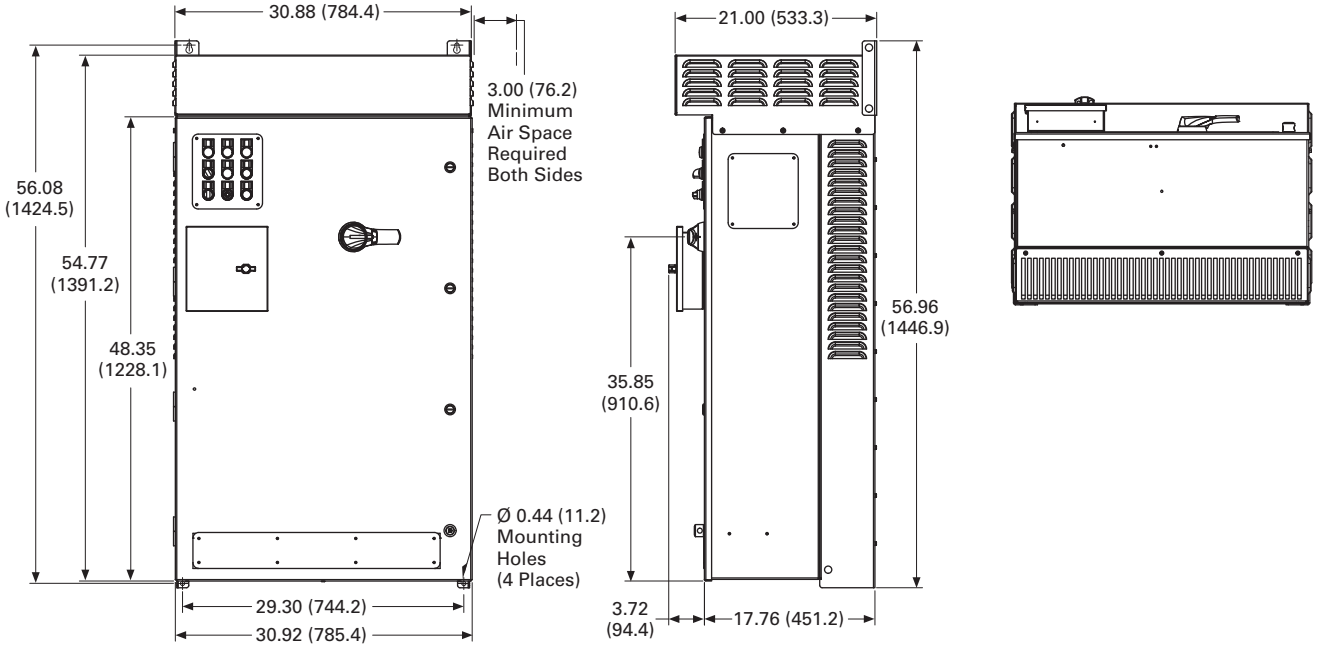


CX Box Type 12—22 Inch Floor Stands

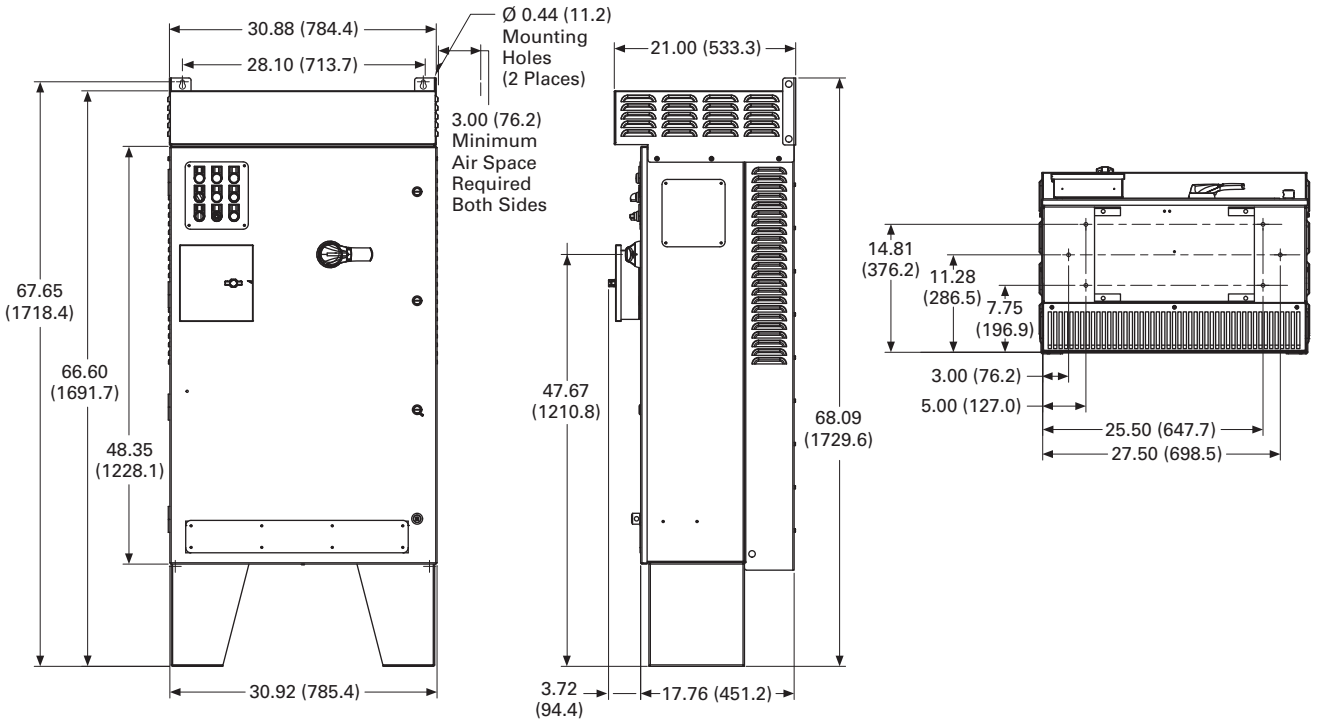


Approximate Dimensions in Inches (mm)

CX Box Type 3R

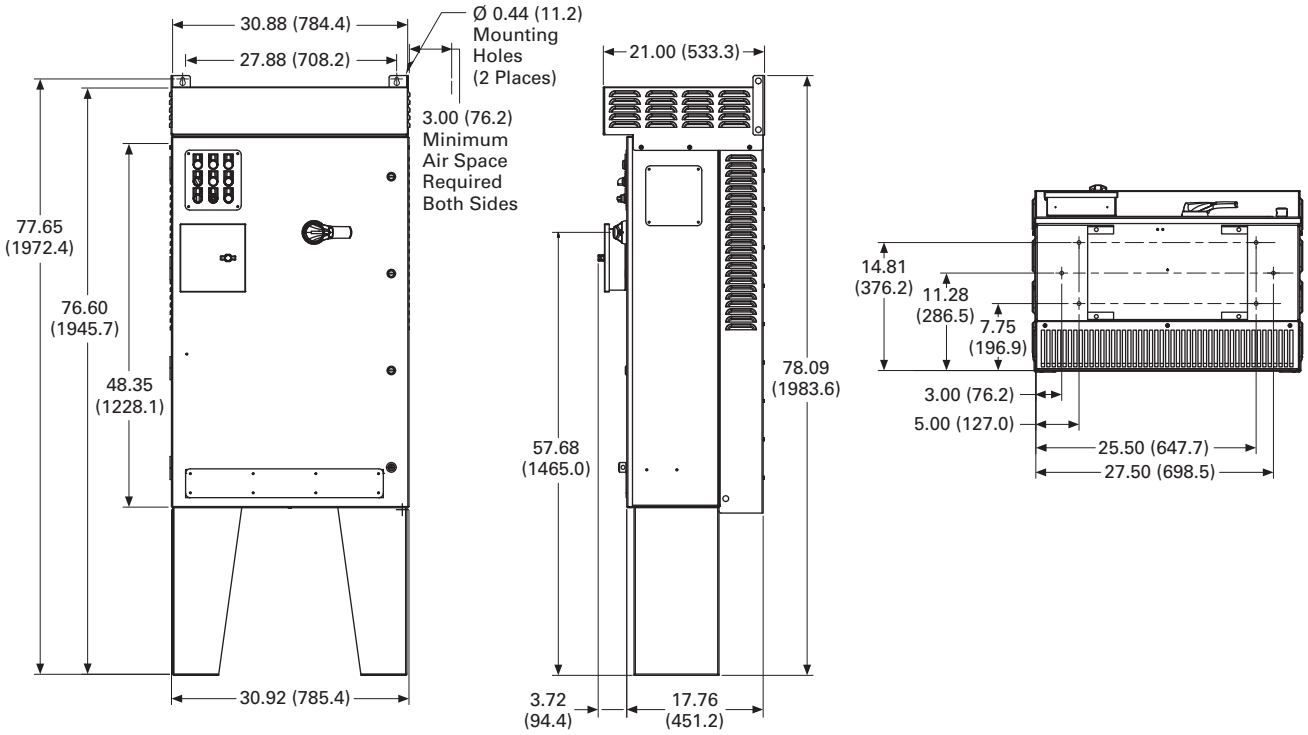


CX Box Type 3R—12 Inch Floor Stands

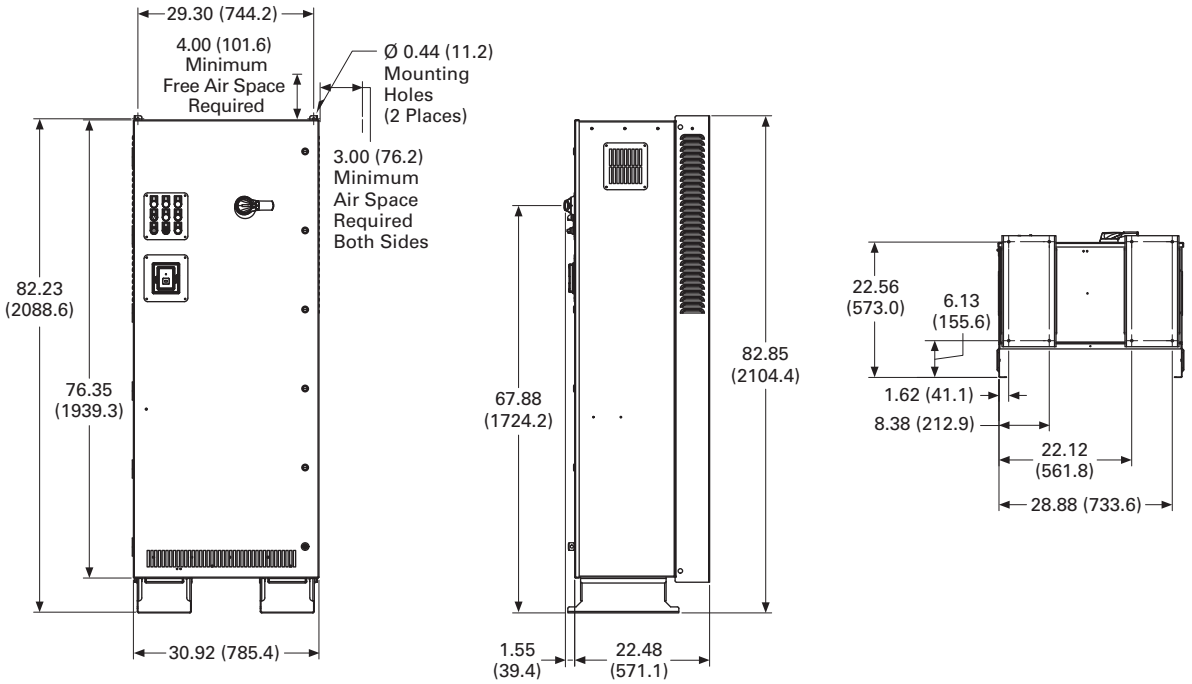


Approximate Dimensions in Inches (mm)

CX Box Type 3R—22 Inch Floor Stands

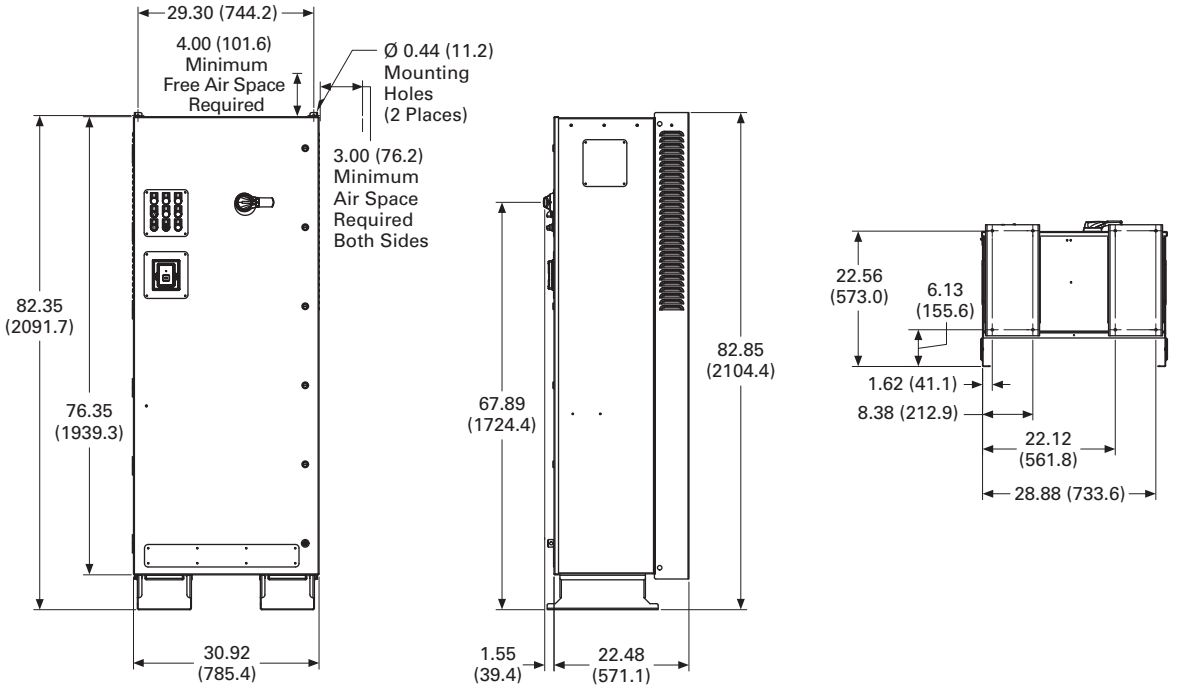


DX Box Type 1



Approximate Dimensions in Inches (mm)

DX Box Type 12



DX Box Type 3R