

DH1 HVAC/R Drive



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## PowerXL DH1 Series Drives

### Product Description

The DH1 HVAC/R drives are part of Eaton's next generation PowerXL Series of adjustable frequency drives specifically engineered for today's demanding HVAC/R market. 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 HVAC/R 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 DH1 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 250 hp, 310 A, 160 kW

575 V to 250 hp, 250 A, 187 kW

### Features and Benefits

#### Hardware

- Integrated common mode reduction 5% DC link choke with input surge protection
- Variable torque rated for HVAC/R demands
- 110% variable torque (1L)
- Type 1/IP21 and Type 12/IP54 enclosures available
- 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
- AUTO 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:
  - BACnet/IP, Modbus TCP, Modbus RTU, BACnet MS/TP
- 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

#### Software

- Active Energy Control—minimizes energy losses in the motor, resulting in industry-leading energy efficiency for your application
- Energy savings calculator
- Quick Start Wizard upon initial power-up supports fast, easy installation
- Standard applications:
  - Standard
  - Multi-PID
  - Advanced
- 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

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## Adjustable Frequency Drives

### PowerXL DH1 Series Drives

#### 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

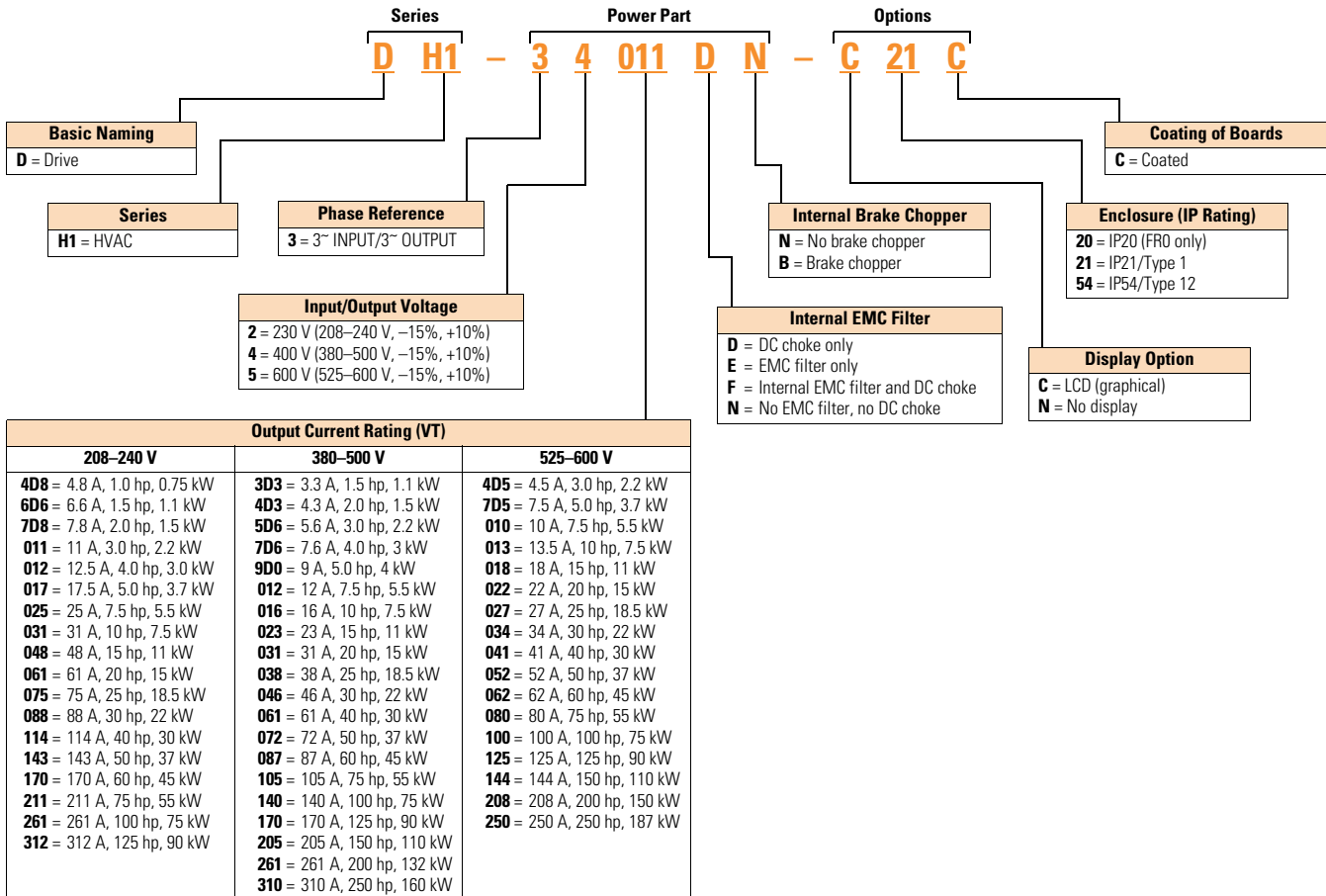
- UL
- cUL
- CE
- C-Tick
- RoHS
- Plenum rated



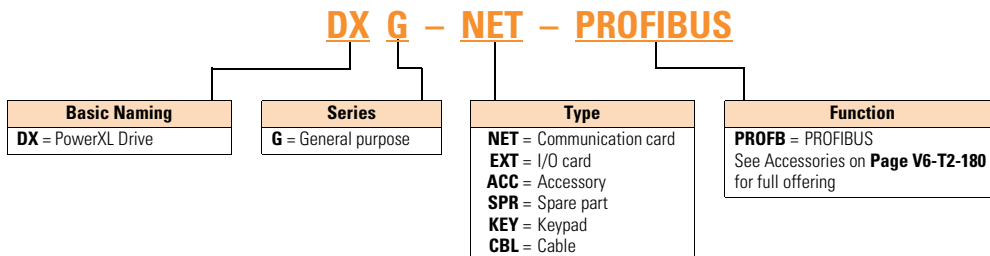
#### Catalog Number Selection

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

#### PowerXL Series—DH1 HVAC/R Drive



#### PowerXL Series—DH1 HVAC/R Drive Option Boards



**DH1 Series Drives—575 Volt****PowerXL Series—DH1 Type 1/IP21**

Frame Size	Variable Torque (VT) / Low Overload (I <sub>L</sub> )			Catalog Number
	575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	
FR1	2.2	3	4.5	DH1-354D5FB-C21C
	3.7	5	7.5	DH1-357D5FB-C21C
	5.5	7.5	10	DH1-35010FB-C21C
FR2	7.5	10	13.5	DH1-35013FB-C21C
	11	15	18	DH1-35018FB-C21C
	15	20	22	DH1-35022FB-C21C
FR3	18.5	25	27	DH1-35027FB-C21C
	22	30	34	DH1-35034FB-C21C
	30	40	41	DH1-35041FB-C21C
FR4	37	50	52	DH1-35052FN-C21C
	45	60	62	DH1-35062FN-C21C
	55	75	80	DH1-35080FN-C21C
FR5	75	100	100	DH1-35100FN-C21C
	90	125	125	DH1-35125FN-C21C
	110	150	144	DH1-35144FN-C21C
FR6	150	200	208	DH1-35208FN-C21C
	187	250	250	DH1-35250FN-C21C

**PowerXL Series—DH1 Type 12/IP54**

Frame Size	Variable Torque (VT) / Low Overload (I <sub>L</sub> )			Catalog Number
	575 V, 60 Hz kW Rating	575 V, 60 Hz hp	Current A	
FR1	2.2	3	4.5	DH1-354D5FB-C54C
	3.7	5	7.5	DH1-357D5FB-C54C
	5.5	7.5	10	DH1-35010FB-C54C
FR2	7.5	10	13.5	DH1-35013FB-C54C
	11	15	18	DH1-35018FB-C54C
	15	20	22	DH1-35022FB-C54C
FR3	18.5	25	27	DH1-35027FB-C54C
	22	30	34	DH1-35034FB-C54C
	30	40	41	DH1-35041FB-C54C
FR4	37	50	52	DH1-35052FN-C54C
	45	60	62	DH1-35062FN-C54C
	55	75	80	DH1-35080FN-C54C
FR5	75	100	100	DH1-35100FN-C54C
	90	125	125	DH1-35125FN-C54C
	110	150	144	DH1-35144FN-C54C
FR6	150	200	208	DH1-35208FN-C54C
	187	250	250	DH1-35250FN-C54C