

## PowerXL™ Series

DA1 high-performance compact variable frequency drives



# Compact solution for your demanding applications



The Eaton DA1 variable frequency drive is compact and simple to mount and install. With 200% torque ratings and encoder feedback features, the DA1 drive is ideal for demanding OEM applications. Unique capabilities standard with the DA1 drive, including high safety functionality, SmartWire-DT™ connectivity and permanent magnet motor compatibility, truly make this an advanced micro-drive with an expanded application range.

# EATON

Powering Business Worldwide

### Features

- High overload capability: 150% for 60 sec, 200% for 4 sec
- Integrated Modbus® RTU and CANopen
- Standard IP20 protection
- Integrated PID controller
- V/Hz, sensorless vector (SLV) and closed-loop vector (CLV) control
- On-board I/O:
  - 5 inputs (3 DI and 2 DI/AI)
  - 2 outputs (2 AO/DO)
  - 2 relay outputs
- Plug-in modules to expand I/O
- Optional high protection degree (IP66)
- Higher ambient temperature: +50 °C
- Safe torque off (STO) function
- Standard conformal-coated boards
- Contactor style wiring
- Optional communication cards integrated in the drive:
  - EtherNet I/P
  - DeviceNet™
  - PROFIBUS® DP
  - PROFINET®
  - Modbus TCP
  - BACnet®
  - EtherCAT®

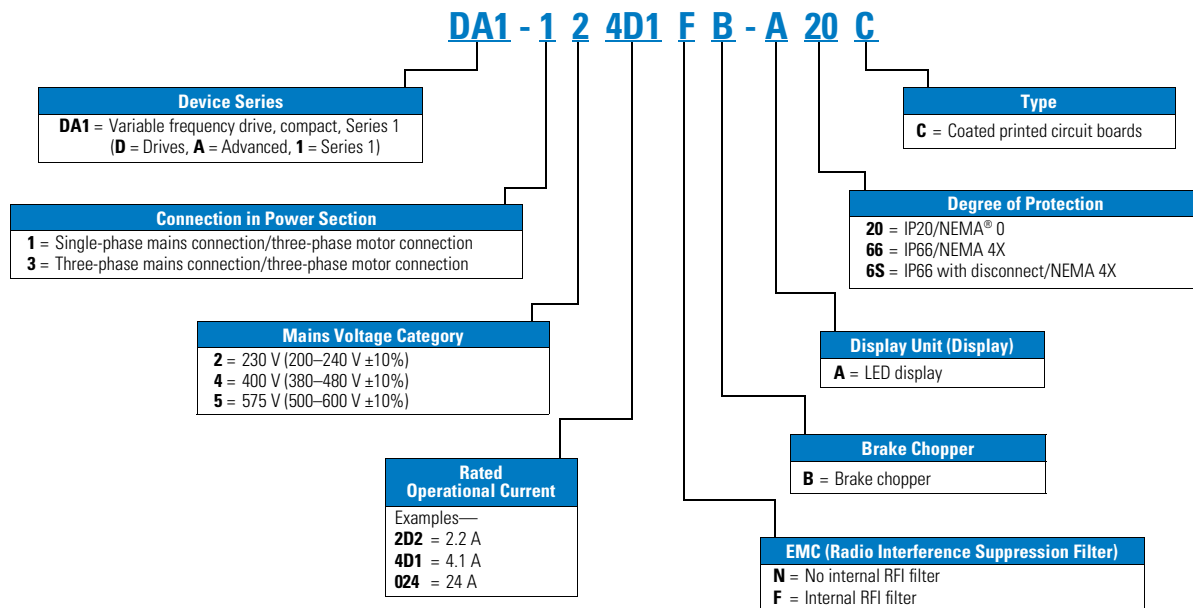
### Benefits

- Easy menu navigation
- Ease of control wiring—detachable terminal pad
- Lean connectivity through use of SmartWire-DT
- Standard RFI filter and brake chopper circuit
- PC tool for easy configuration
- Unique functional block PLC programming capability
- Works with permanent magnet motor



### Product range

- 1–3 hp at 230 V (single-phase in and three-phase out)
- 1–7.5 hp at 230 V (three-phase in and three-phase out)
- 1–15 hp at 480 V (three-phase in and three-phase out)
- 1–20 hp at 600 V (three-phase in and three-phase out)



**Dimensions**

Approximate dimensions in inches (mm).

Product	Dimensions
FR2	9.09 x 4.21 x 7.32 (231.0 x 107.0 x 186.0)
FR3	10.75 x 5.16 x 8.03 (273.0 x 131.0 x 204.0)

**Input ratings**

Description	Specification
Input voltage ( $V_{in}$ )	200–240 V, 380–480 V, ±10%
Input frequency ( $f_{in}$ )	50–60 Hz (variation up to 48–62 Hz)
Short-circuit withstand rating	100 kAIC

**Output ratings**

Description	Specification
Output voltage	0 to $V_{in}$
Overload	1.5 x $I_e$ (1 min / 10 min) 2.0 x $I_e$ (4 sec / 40 sec)
Output frequency	0–500 Hz (standard)
Frequency resolution	0.1 Hz

**Ambient conditions**

Description	Specification
Operating temperature	–10 °C to +50 °C (–10 °C to +40 °C for IP66)
Storage temperature	–40 °C to +60 °C
Relative humidity	0–95% RH, noncondensing, non-corrosive
Altitude	100% load capacity (no derating) up to 3280 ft (1000 m); 1% derating for each 328 ft (100 m) above 3280 ft (1000 m) Maximum altitude is 13,123 ft (4000 m)

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