Compact solution for your general-purpose applications

The Eaton DC1 variable frequency drive is compact and simple to mount and install. Constant torque ratings make the DC1 ideal for conveyors, packaging machines, pumps and fans. Unique capabilities include single-phase output and Eaton SmartWire-DT™ connectivity.

**Features**
- High overload capability: 150% for 60 sec, 175% for 2 sec
- Integrated Modbus® RTU and CANopen
- SmartWire-DT and EtherNet/IP communication modules
- Standard IP20 protection
- Integrated PID controller
- Fire mode
- V/Hz control with voltage boost
- Onboard I/O:
  - 4 inputs (2 DI and 2 DI/AI)
  - 1 output (1 DO/AO)
  - 1 relay output
- Plug-in modules to expand the number of relays
- Optional high protection degree (IP66)
- Higher ambient temperature: +50 °C
- Ability to work with single-phase motor applications
- Contactor style wiring
- Sensorless vector control
- Permanent magnet motor compatibility

**Benefits**
- Easy menu navigation
- Ease of control wiring—detachable terminal pad
- Lean connectivity through use of SmartWire-DT
- Optional RFI filter
- PC tool for easy configuration

**Product range**
- 0.5–0.75 hp at 115 V (single-phase in and single-phase out)
- 0.5–1.5 hp at 115 V (single-phase in and 230 V three-phase out)
- 0.5–1.5 hp at 230 V (single-phase in and single-phase out)
- 0.5–5 hp at 230 V (single-phase in and three-phase out)
- 0.5–15 hp at 230 V (three-phase in and three-phase out)
- 1–30 hp at 480 V (three-phase in and three-phase out)
Catalog numbering system

Device series

**DC1** = Variable frequency drive, compact, Series 1
(D = Drives, C = Compact, 1 = Series 1)

Mains voltage category

- **1** = 110 V (110–115 V ±10%)
- **2** = 230 V (220–240 V ±10%)
- **4** = 460 V (380–480 V ±10%)
- **D** = 110 V input/230 V output (voltage doubler)

Connection in power section

- **1** = Single-phase mains connection/three-phase motor connection
- **3** = Three-phase mains connection/three-phase motor connection
- **S** = Single-phase mains connection/single-phase motor connection

Type

- **N** = Standard basic device
- **CE1** = Enhanced device

Display unit (display)

- **A** = LED display

Brake chopper

- **N** = No internal brake chopper
- **B** = Brake chopper

EMC (radio interference suppression filter)

- **N** = No internal RFI filter
- **F** = Internal RFI filter

Degree of protection

- **20** = IP20/NEMA® 0
- **66** = IP66/NEMA 4X
- **6S** = IP66 with disconnect/NEMA 4X with disconnect

Rated operational current

Examples—
- 2D2 = 2.2 A
- 4D1 = 4.1 A
- 024 = 24 A

Dimensions

Approximate dimensions in inches (mm).

<table>
<thead>
<tr>
<th>Product</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR1</td>
<td>7.24 x 3.19 x 4.88 (184.0 x 81.0 x 124.0)</td>
</tr>
<tr>
<td>FR2</td>
<td>9.09 x 4.21 x 5.98 (231.0 x 107.0 x 152.0)</td>
</tr>
<tr>
<td>FR3</td>
<td>10.75 x 5.08 x 6.89 (273.0 x 129.0 x 175.0)</td>
</tr>
<tr>
<td>FR4</td>
<td>16.48 x 6.81 x 8.31 (418.5 x 173.0 x 211.0)</td>
</tr>
</tbody>
</table>

Input ratings

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage (V&lt;sub&gt;i&lt;/sub&gt;)</td>
<td>110–115 V, 200–240 V, 380–480 V ±10%</td>
</tr>
<tr>
<td>Input frequency (f&lt;sub&gt;i&lt;/sub&gt;)</td>
<td>50–60 Hz (variation up to 48–62 Hz)</td>
</tr>
<tr>
<td>Short-circuit withstand rating</td>
<td>100 kAIC</td>
</tr>
</tbody>
</table>

Output ratings

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>0 to Vin</td>
</tr>
<tr>
<td>Overload</td>
<td>1.5 x I&lt;sub&gt;e&lt;/sub&gt; (1 min. / 10 min.)</td>
</tr>
<tr>
<td></td>
<td>1.75 x I&lt;sub&gt;e&lt;/sub&gt; (2 sec. / 20 sec.)</td>
</tr>
<tr>
<td>Output frequency</td>
<td>0–500 Hz (standard)</td>
</tr>
<tr>
<td>Frequency resolution</td>
<td>0.1 Hz</td>
</tr>
</tbody>
</table>

Ambient conditions

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

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