Emerald eZA

Electronically Commutated Motor
Global presence is essential, as much as understanding your needs.

Global Presence
With approximately 30,000 employees globally, WEG is one of the largest electric motor, electronic equipment and systems manufacturers worldwide. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG’s know-how guarantees our Emerald eZA motor is the right choice for your application and business, assuring safety, efficiency and reliability.

- **Availability** is to have a global support network
- **Partnership** is to create solutions that suit your needs
- **Competitive edge** is to unite technology and innovation
Emerald eZA - Electronically Commutated Motor

**Standard Features**

- Permanent Magnet, Electronically Commutated Motor
- Single-phase, 50/60Hz input
  - 115/208 to 277VAC: 1/6 to 1/2 HP
  - 115/220 to 277VAC: 3/4 HP
  - 220 to 277VAC: 1 to 1.5 HP
- Output power: 1/6 to 1.5 HP at 1800rpm
- N48, steel frame, degree of protection IP54
- Mounting: rods
- Ambient temperature
  - -4°F to 104°F (-20 to 40°C) in (TENV)¹
  - -4°F to 140°F (-20 to 60°C) (TEAO)²
- Total efficiency (motor + drive) – IE5³
- Vibration Grade A
- Direction of rotation CW/CCW (selectable)
- Continuous speed adjustment (200 to 1800rpm) by:
  - Tact buttons (local)
  - DC voltage (remote): 2 to 10VDC
  - DC current (remote): 4 to 20mA DC
  - Frequency (remote): 10 to 95%
- Local controls optically isolated
- With drain plug and 'V' ring sealing
- Sealed for life bearings
- Power and control cables with 20"(0.5m) long
- Electronic protection: overload, over temperature and locked-rotor.
- Fire mode (Override & Maximum speed mode)

**Notes:**

1. Totally Enclosed, Non-ventilated. Output limited to 0.85hp. Refer to WEG for electrical data.
2. Totally Enclosed, Air Over rated. Minimum airflow over motor frame and drive cover 16.4fps (6m/s).
3. Direct method - Input-Output IE levels according to 60034-30-1 and 60034-30-2.
Optional features

- Foot mounting
- Terminal box
- Slinger seal for vertical shaft-up mounting

Special features

- Decentralized drive and motor mounting
- Customized cable lengths
- Customized shaft end
- Double shaft ends (only with decentralized drive version)
- External controller with display to adjust maximum and instant speed values
- Resilient base mounting

Note:
4. Consult WEG about these specialities.

Nameplate

<table>
<thead>
<tr>
<th>Performance</th>
<th>VOLT. 115/208-277V</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>RPM</td>
</tr>
<tr>
<td>0.75</td>
<td>1800</td>
</tr>
<tr>
<td>0.58</td>
<td>1400</td>
</tr>
<tr>
<td>0.42</td>
<td>1000</td>
</tr>
<tr>
<td>0.25</td>
<td>600</td>
</tr>
</tbody>
</table>

Voltage selection
115V — Red leads interconnected
208-277V — Red leads disconnected

Power leads
- Line: white
- Neutral: black
- Ground: green

Control cable
- DC voltage [2-10V]: blue
- DC current [4-20mA]: red
- PWM [10-95%]: brown
- Speed reference: white
- 10VDC source: yellow
- Common: black

Local switch adjust

<table>
<thead>
<tr>
<th>SW</th>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Local</td>
<td>Remote</td>
</tr>
<tr>
<td>Rotation</td>
<td>CCW-SE</td>
<td>CW-SE</td>
</tr>
</tbody>
</table>

Local speed adjust
SW1: speed down/off
SW2: speed up/on

WARNING: refer to motor manual before applying power
AVERTISSEMENT: se référer au manuel du moteur avant de mettre sous tension
Electrical Data

Emerald eZA motors performance:

220V / 1800rpm

<table>
<thead>
<tr>
<th>Cooling</th>
<th>hp-nom</th>
<th>hp-out</th>
<th>FLC (A)</th>
<th>Torque (lb.ft)</th>
<th>rpm</th>
<th>Eff [%]*</th>
</tr>
</thead>
<tbody>
<tr>
<td>TENV</td>
<td>1/6</td>
<td>0.17</td>
<td>1.4</td>
<td>0.48</td>
<td>1800</td>
<td>83.1</td>
</tr>
<tr>
<td></td>
<td>1/4</td>
<td>0.25</td>
<td>1.9</td>
<td>0.72</td>
<td>1800</td>
<td>83.5</td>
</tr>
<tr>
<td></td>
<td>1/3</td>
<td>0.28</td>
<td>2.0</td>
<td>0.96</td>
<td>1800</td>
<td>83.3</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>0.50</td>
<td>3.5</td>
<td>1.44</td>
<td>1800</td>
<td>85.3</td>
</tr>
<tr>
<td></td>
<td>3/4</td>
<td>0.75</td>
<td>4.7</td>
<td>2.16</td>
<td>1800</td>
<td>86.8</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1.00</td>
<td>5.7</td>
<td>2.88</td>
<td>1800</td>
<td>88.2</td>
</tr>
<tr>
<td></td>
<td>1 1/2</td>
<td>1.50</td>
<td>8.9</td>
<td>4.32</td>
<td>1800</td>
<td>89.7</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>2.95</td>
<td>7.5</td>
<td>4.32</td>
<td>1800</td>
<td>89.7</td>
</tr>
<tr>
<td></td>
<td>Q</td>
<td>3.94</td>
<td>12.01</td>
<td></td>
<td>16.1 x 8.9 x 8.7</td>
<td>16.1 x 10.2 x 7.9</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>4.33</td>
<td>12.4</td>
<td></td>
<td>(410 x 225 x 220)</td>
<td>(410 x 260 x 200)</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>5.32</td>
<td>14.17</td>
<td></td>
<td>(40 motors / pallet)</td>
<td>(32 motors / pallet)</td>
</tr>
</tbody>
</table>

Note: * Total efficiency (motor + drive) according to direct method: Input-Output (IEC)

** 0.75Hp solution up to 2/3Hp is also TENV, 1Hp solution up to 0.85Hp is also TENV.

Mechanical Data

Packaging Data (dimensions in inches (mm))

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Model</th>
<th>hp</th>
<th>lb (Kg)**</th>
<th>LD</th>
<th>Rods mounting</th>
<th>Package dimensions (L x W x H in inches(mm))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without foot (1 &amp; 2)</td>
<td>A</td>
<td>1/6</td>
<td>10.4 (4.7)</td>
<td>2.95 (75)</td>
<td>2.95 (75)</td>
<td>16.1 x 8.9 x 8.7</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>1/4</td>
<td>11.9 (5.5)</td>
<td>3.15 (80)</td>
<td>3.15 (80)</td>
<td>(410 x 225 x 220)</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>1/3</td>
<td>13.4 (6.1)</td>
<td>3.35 (85)</td>
<td>3.35 (85)</td>
<td>16.1 x 8.9 x 8.7</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>1/2</td>
<td>16.3 (7.4)</td>
<td>3.54 (90)</td>
<td>3.54 (90)</td>
<td>(40 motors / pallet)</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>3/4</td>
<td>19.6 (9.9)</td>
<td>4.33 (110)</td>
<td>4.33 (110)</td>
<td>16.1 x 8.9 x 8.7</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>1</td>
<td>21.2 (9.6)</td>
<td>4.53 (115)</td>
<td>4.53 (115)</td>
<td>(40 motors / pallet)</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>1 1/2</td>
<td>25.1 (11.4)</td>
<td>5.32 (135)</td>
<td>5.32 (135)</td>
<td>16.1 x 8.9 x 8.7</td>
</tr>
<tr>
<td>With foot (3 &amp; 4)</td>
<td>P</td>
<td>1/6</td>
<td>10.8 (4.9)</td>
<td>3.94 (100)</td>
<td>3.94 (100)</td>
<td>16.1 x 8.9 x 8.7</td>
</tr>
<tr>
<td></td>
<td>Q</td>
<td>3/4</td>
<td>20.1 (9.1)</td>
<td>4.33 (110)</td>
<td>4.33 (110)</td>
<td>(40 motors / pallet)</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>1</td>
<td>21.6 (9.8)</td>
<td>4.53 (115)</td>
<td>4.53 (115)</td>
<td>16.1 x 8.9 x 8.7</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>1 1/2</td>
<td>25.6 (11.6)</td>
<td>5.32 (135)</td>
<td>5.32 (135)</td>
<td>(40 motors / pallet)</td>
</tr>
</tbody>
</table>

Notes:
1. Pallet dimensions (L x W x H): 45.3 x 37.8 x 44.1in (1150 x 960 x 1120mm);
24 pallets / 20ft container - 48 pallets / 40ft container

** approximate weight subject to changes without notice.
Mechanical Data (dimensions in inches(mm))

1. Rods mounting (Up to 3/4 HP)

2. Rods mounting (1 HP and 1 1/2 HP)

3. Rods mounting with connection box
4. Foot mounting (Up to 3/4 HP)

5. Foot mounting (1 HP and 1 1/2 HP)

6. Foot mounting with connection box