

86 mm square - 1.5 Nm continuous with Hall effect sensors 205 W nominal at 24 V DC and 1400 rpm Part number 80120301


- 205 W nominal at 24V DC at 1400 rpm
- Compact dimensions
- Suitable for voltages between 4.2 and 75 V
- Shaft with key

Part numbers

| | Type | Type |
|-----------------|---------------------------------------|--------|
| 80120301 | 205 W nominal at 24 V DC and 1400 rpm | 801203 |

Specifications
General characteristics

| | |
|--|-----------------|
| Max. speed (rpm) | 5000 |
| Torque peak in (mNm) | 4200* |
| Maximum continuous torque (mNm) | 1526** |
| Motor constant (mNm/W ^{1/2}) | 286 |
| Electrical time constant (ms) | 2,3 |
| Mechanical time constant (ms) | 2,0 |
| Energy losses at peak torque (W) | 215 |
| Torque/speed factor - zero impedance (mNm/ (rad/s)) | 81,92 |
| Friction torque (mNm) | 126 |
| Rotor inertia (gcm ²) | 1600 |
| Thermal resistance (°C/W) | 2,6 |
| Max. coil temperature (°C) | 120 |
| Integrated temperature sensor | No |
| Number of phases | 3 (star config) |
| Number of poles | 8 |
| Ambient operating temperature (°C) | -40 →70 °C |
| Dielectric strength at 500 V DC | 1000 MΩ |
| Service life (h) | 20000 |
| Output ball bearing | Yes |
| Weight (g) | 3150 |
| Length (mm) | 112 |
| Protection index | IP 40 |

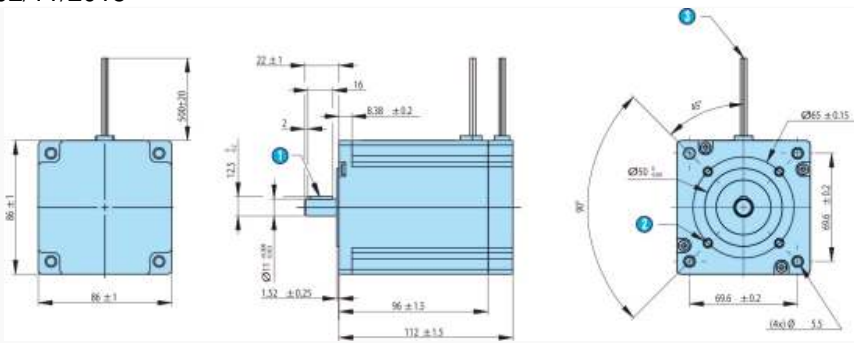
Comments
Standard winding

| | |
|---------------------------------|--------------|
| Phase-to-phase resistance (Ω) | 0,20 ±12,5 % |
| Voltage at peak torque (V) | 6,56 |
| Current at peak torque (A) | 32,81 |
| Torque constant (mNm/A) | 128 ±10 % |
| Back EMF constant (V/ (rad/s)) | 0,128 |
| Back EMF constant (V/Krpm) | 13,4 ±10 % |
| Inductance (mH) | 0,46 ±30 % |

Accessories

| Description | Code |
|---|----------|
| Part number 80120301 can be used with control electronics BDE40 | 84855101 |

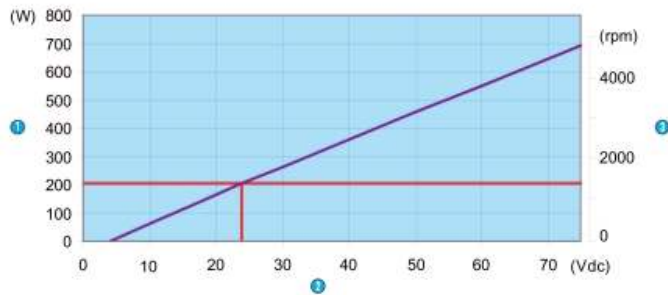
Dimensions (mm)
80120301



| N° | Legend |
|----|-------------------------------|
| ① | Key 4 x 4 x 16 |
| ② | 4 x M5 |
| ③ | 8 x stripped wire - 5 to 8 mm |

Curves

Power/Power supply




| N° | Legend |
|----|----------------|
| ① | Nominal power |
| ② | Supply voltage |
| ③ | Speeds (rpm) |

Connections

Forward

| Hall | | | ① | | |
|------|---|---|-------------|-------------|-------------|
| 1 | 2 | 3 | 1 | 2 | 3 |
| 1 | 0 | 0 | 0V | +V \equiv | - |
| 1 | 1 | 0 | 0V | - | +V \equiv |
| 0 | 1 | 0 | - | 0V | +V \equiv |
| 0 | 1 | 1 | +V \equiv | 0V | - |
| 0 | 0 | 1 | +V \equiv | - | 0V |
| 1 | 0 | 1 | - | +V \equiv | 0V |




| N° | Legend |
|----|---------|
| ① | Winding |

Connections

Reverse

| Hall | | | ① | | |
|------|---|---|-------------|-------------|-------------|
| 1 | 2 | 3 | 1 | 2 | 3 |
| 1 | 0 | 0 | +V \equiv | 0V | - |
| 1 | 0 | 1 | - | 0V | +V \equiv |
| 0 | 0 | 1 | 0V | - | +V \equiv |
| 0 | 1 | 1 | 0V | +V \equiv | - |
| 0 | 1 | 0 | - | +V \equiv | 0V |
| 1 | 1 | 0 | +V \equiv | - | 0V |



| N° | Legend |
|----|---------|
| ① | Winding |

Connections

Part number 801203

| Wire colour | Connection name | Wire gauge (AWG) |
|-------------|------------------------------|------------------|
| Red | Winding 1 | 16 |
| Yellow | Winding 2 | 16 |
| Black | Winding 3 | 16 |
| Red | + Hall power supply | 22 |
| Black | - Hall power supply (return) | 22 |
| Green | Hall 1 | 22 |
| Blue | Hall 2 | 22 |
| White | Hall 3 | 22 |

Hall effect : Voltage range : 4.5 24 VDC Max. current : 20 mA Type of output : NPN open collector Not protected against connection errors

Other information

For other standard windings visit www.crouzet.com

Precautions for use

Not protected against connection errors

Product adaptations



- Other characteristics
- Shaft Ø8 or Ø14 mm
- Special connections