

57 mm square and Ø 57 mm - 463 mNm continuous with Hall effect sensors 100 W nominal at 24 V and 3200 rpm Part number 80180514



- High power motors (up to 160 W continuous at 24 VDC)
- Suitable for voltages between 6 and 75 VDC
- Ideal for applications where the control electronics have to be remote due to the high ambient temperature

Part numbers

| Type | Type | References |
|--|--------|------------------------------|
| 80180514 100 W nominal at 24 V and 3200 rpm | 801805 | With mechanical brake 0.5 Nm |

Specifications

General characteristics

| | |
|--|------------------|
| Max. speed (rpm) | 10000 |
| Torque peak in (mNm) | 845* |
| Maximum continuous torque (mNm) | 340** |
| Motor constant (mNm/W ^{1/2}) | 78 |
| Electrical time constant (ms) | 2,6 |
| Mechanical time constant (ms) | 1,7 |
| Energy losses at peak torque (W) | 117 |
| Torque/speed factor - zero impedance (mNm/ (rad/s)) | 6,1 |
| Friction torque (mNm) | 25 |
| Rotor inertia (gcm ²) | 105 |
| Thermal resistance (°C/W) | 3,8 |
| Max. coil temperature (°C) | 120 |
| Integrated temperature sensor | Yes*** |
| Number of phases | 3 (delta config) |
| Number of poles | 4 |
| Ambient operating temperature (°C) | -40 →70 |
| Dielectric strength at 500 V DC (MΩ) | 1000 |
| Service life (h) | 20000 |
| Output ball bearing | Yes |
| Weight (g) | 1300 |
| Length (mm) | 94 |
| Protection index | IP54 |

Comments

Standard winding

| | |
|---------------------------------|--------------|
| Phase-to-phase resistance (Ω) | 0,44 ±12,5 % |
| Voltage at peak torque (V) | 7,2 |
| Current at peak torque (A) | 16,3 |
| Torque constant (mNm/A) | 52 ±10 % |
| Back EMF constant (V/ (rad/s)) | 0,052 |
| Back EMF constant (V/Krpm) | 5,45 ±10 % |
| Inductance (mH) | 1,15 ±30 % |

Comments

Motor mounted on aluminium plate 254 x 254 x 10 mm thick to encourage heat flow

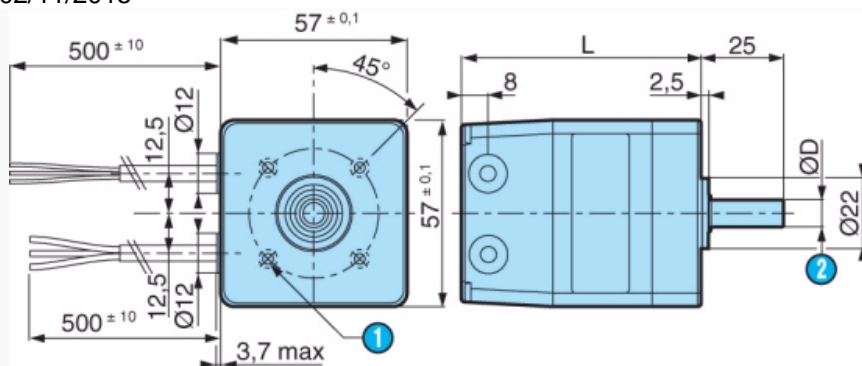
* 10 sec. at 25 °C ambient temperature

** 25 °C ambient temperature and 120 °C winding temperature

*** With the exception of part number 80180504

Dimensions (mm)

801805



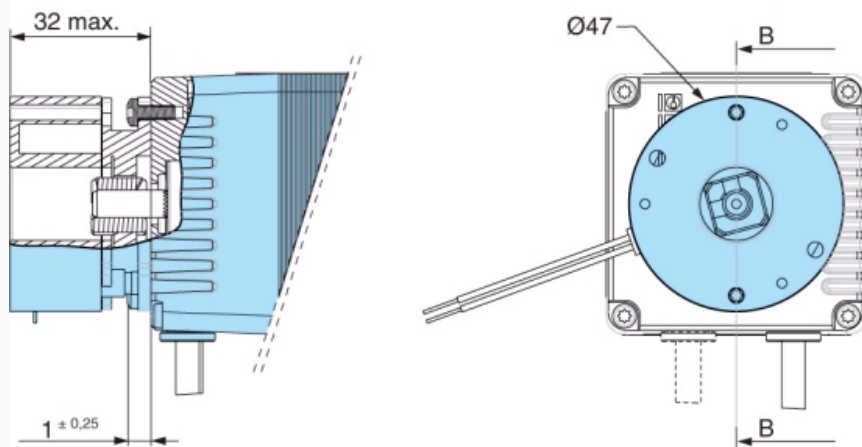
80180504 : With BDE30 connections

| N° | Legend |
|----|---|
| 1 | 4 holes M5 over Ø 40 mm - depth of thread : 4.5 mm - depth of hole 6.6 mm |
| 2 | D : Ø8 - 0.010 mm- 0.020 mm |
| | L : 94.2 mm max. |

Dimensions (mm)

Holding brake : 80180514

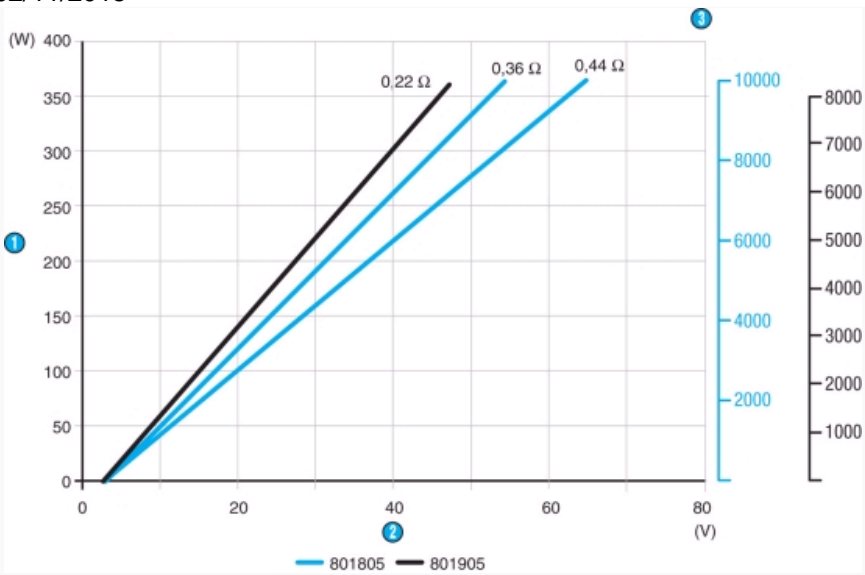
B-B



Holding brake : At power switch off - 0.5 Nm - 7 W - 24 V ± 10% Weight : 250 g - AWG26 leads - 400 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  | 0V | - |
| 1 | 0 | 1 | - | 0V | +V  |
| 0 | 0 | 1 | 0V | - | +V  |
| 0 | 1 | 1 | 0V | +V  | - |
| 0 | 1 | 0 | - | +V  | 0V |
| 1 | 1 | 0 | +V  | - | 0V |



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

Connections

Part number 801805

| Wire colour | Connection name | Wire gauge (AWG) |
|-------------|------------------------------|------------------|
| Black | Winding 1 | 20 |
| Brown | Winding 2 | 20 |
| Red | Winding 3 | 20 |
| Red | + Hall power supply | 24 |
| Black | - Hall power supply (return) | 24 |
| Yellow | Sonde temp. | 24 |
| Orange | Hall 1 | 24 |
| Brown | Hall 2 | 24 |
| Green | Hall 3 | 24 |

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

- Special shafts
- Lead length
- C12 connector built in
- 200, 500, 1000 points/revolution encoder