

**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
<b>80120301</b>	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 <sup>1/2</sup> )	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 <sup>2</sup> )	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

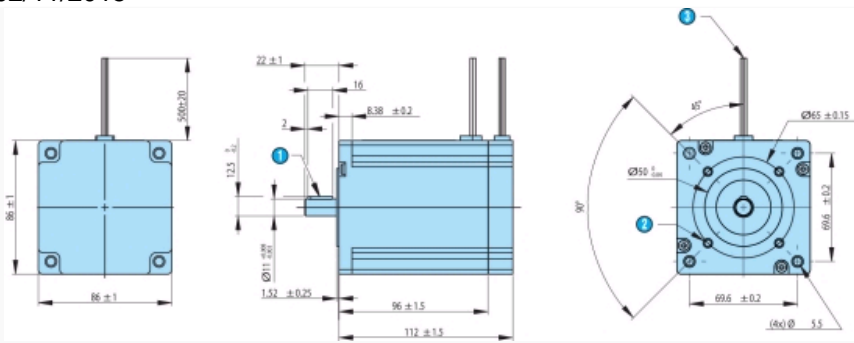
**Comments**
**Standard winding**

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

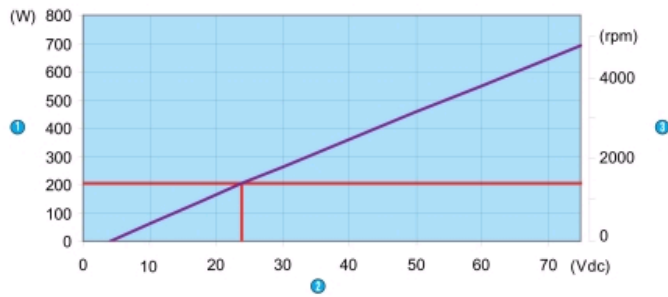
**Dimensions (mm)**
**80120301**



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](http://www.crouzet.com)

#### Precautions for use

Not protected against connection errors

#### Product adaptations



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