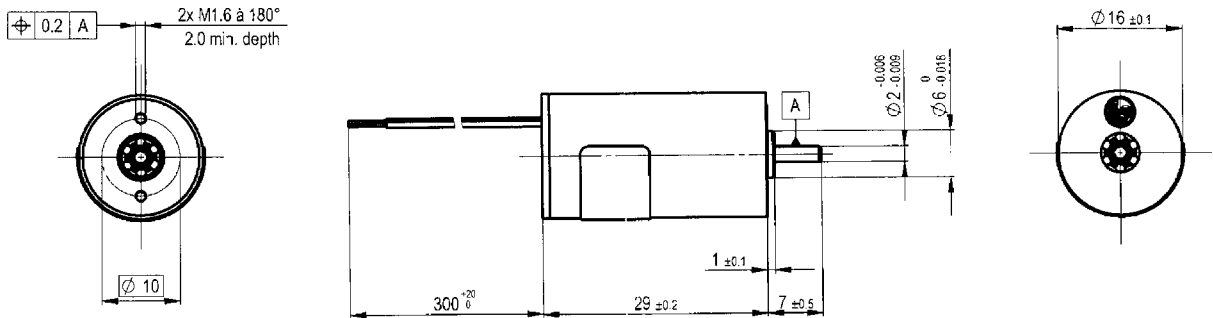


# 16BS 2A

# Portescap Brushless DC Motor

DC motor with integrated electronic commutation



scale: 1:1  
 dimensions in mm  
 mass: 29 g

### Connections

Color	Designation
red	+VDC
black/red	ground

## 16BS 2A □ •01

Winding type	⊙⊙	-A	-E	-H	-L	-P	-R	-T
<b>Coil dependent parameters</b>								
Phase/phase resistance	ohm	120.0	29.3	20.1	16.5	7.8	4.5	2.1
Phase/phase inductance	mH	4.80	1.17	0.80	0.66	0.32	0.18	0.08
Back-EMF constant	V/1000rpm	2.45	1.22	1.02	0.85	0.65	0.48	0.32
Torque constant	mNm/A	22.40	11.65	9.74	8.12	6.21	4.58	3.06
<b>Dynamic parameters</b>								
Rated voltage	V	12.0	12.0	9.0	12.0	6.0	12.0	12.0
No-load current	A	0.034	0.069	0.082	0.099	0.129	0.175	0.262
No-load speed	rpm	3200	8200	7200	12200	7700	23400	35800
Max. continuous stall torque	mNm	2.7	2.8	2.8	2.5	2.8	2.8	2.7
Max. continuous stall current	A	0.15	0.31	0.37	0.41	0.59	0.78	1.13
Max. continuous torque at 10 krpm	mNm	2.3	2.3	2.4	2.1	2.4	2.3	2.3
Max. continuous current at 10 krpm	A	0.13	0.27	0.33	0.36	0.52	0.68	1.00
Max. continuous power at 10 krpm	W	6.2	6.3	6.3	6.1	6.4	6.2	6.1
<b>Intrinsic parameters</b>								
Motor constant	mNm/W <sup>1/2</sup>	2.1	2.2	2.2	2.0	2.2	2.2	2.1
Rotor inertia	Kgm <sup>2</sup> ×10 <sup>-7</sup>	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Mechanical time constant	ms	13.2	13.0	12.7	15.0	12.3	12.9	13.5
Electrical time constant	ms	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Thermal resistance	°C/W	26	26	26	26	26	26	26

• Motor with preloaded ball bearing	
• Typical preload	3.5N
• Maximum external load:	
-axial static	25N
-axial dynamic	2N
-radial dynamic	5N
• Operating temperature range	-40°C to +100°C
• Max. rated coil temperature:	125°C

- Motor with electronic
- **Warning: an incorrect supply voltage polarity may damage the electronic circuitry!**
- Direction of rotation is CCW when viewing the output end
- Voltage range: from 3.0 to 15.0 VDC
- Special operation at 2.0 VDC (optional)
- Speed signal 1 pulse per turn (optional)
- Dual shaft configuration (optional)