

Electronically Commutated Motor

dimensions in mm  
mass: 125 g

**22BL 8B** ☉☉ • 01  
With Hall effect sensors

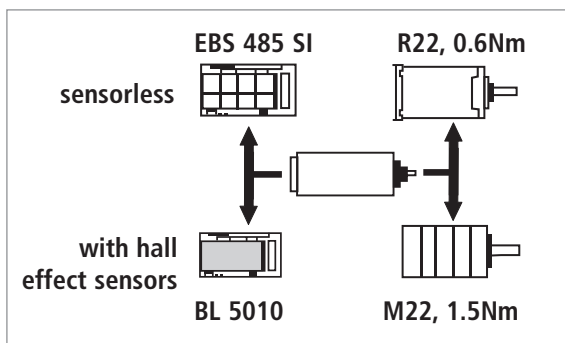
Color	Designation
grey	phase 1
violet	phase 2
blue	phase 3
green	4.5 to 24 VDC
yellow	GND
orange	sensor 1
red	sensor 2
brown	sensor 3

**22BL 3C** ☉☉ • 01  
Sensorless

Color	Designation
grey	phase 1
violet	phase 2
blue	phase 3

Slotless BLDC

Winding Type	☉☉	-K	-P
<b>Coil Dependent Parameters</b>			
Phase/phase resistance	ohm	0.77	0.41
Phase/phase inductance	mH	0.03	0.02
Back-EMF constant	V/1000 rpm	0.94	0.65
Torque Constant	mNm/A (oz.-in/A)	8.98 (1.27)	6.21 (0.88)
<b>Dynamic Parameters</b>			
Rated Voltage	V	24	24
No-load Current	A	0.13	0.19
No-load Speed	rpm	25400	36800
Max. continuous stall torque	mNm (oz-in)	22.8 (3.22)	21.6 (3.06)
Max. continuous stall current	A	2.7	3.7
Max. continuous torque at 10 krpm	mNm (oz-in)	20.8 (2.94)	19.6 (2.77)
Max. continuous current at 10 krpm	A	2.5	3.4
Max. continuous power at 10 krpm	W	21.8	20.5
<b>Intrinsic Parameters</b>			
Motor constant	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )	10.2 (1.45)	9.7 (1.37)
Rotor inertia	kgm <sup>2</sup> 10 <sup>-7</sup>	3.9	3.9
Mechanical time constant	ms	3.7	4.2
Electrical time constant	ms	0.04	0.04
Thermal resistance	°C/W	13	13



- Motor with preloaded ball bearings
- Typical preload = 6 N
- Maximum external load:
  - axial static 50 N
  - axial dynamic 5 N
  - radial dynamic 10 N
- Operating temperature range: -40°C to 100°C
- Max. rated coil temperature: 125°C

