

# 80mm high speed BLDC motor



## General Specifications

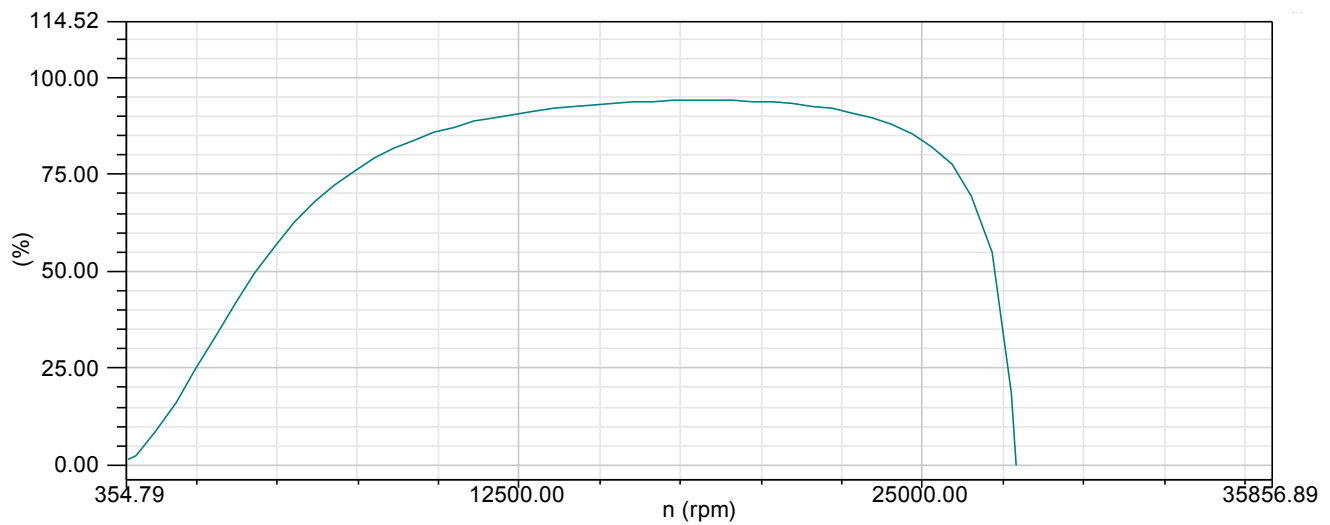
Pairs of poles	3
Numbers of Phases	3
Dielectric Strength	600 VAC/S
Insulation Resistance	100MOhm @500VDC
Shaft Axial Play	0.08mmMax.@4N
Shaft Radial Play	0.02mmMax.@4N
Distance from flange	10mm
Ambient Environment	-20...+55°C, Humidity max 85%(No condensation)
Storage Environment	-10...+55°C, Humidity max 85%(No condensation)
IP Grade	IP 65
Built-in driver	Available for 81401-4825 and all 220VAC motor

## Electrical Specifications

Model		81401-4825	81401-4815	81401-4822	81401-2280	81401-2215	81401-2222
Rated Voltage	V	DC48	DC48	DC48	AC220	AC220	AC220
No-load Current	A	0.85	2.35	2.65	0.6	0.85	1.1
Rated Current	A	6	37	52	3.1	5.5	8.1
Rated Power	W	250	1500	2200	800	1500	2200
Rated Speed	rpm	12000	23000	23000	23000	23000	23000
No-load Speed	rpm	14050	29100	30700	27700	27850	28400
Rated Torque	N.m	0.2	0.62	0.91	0.33	0.62	0.91
Peak Torque	N.m	0.3	0.9	1.27	0.68	1.26	2.1
Peak Current	A	8.5	53	100	6.2	11	15.8
Back-EMF Constant	vs/Krpm	3.6	14.4	14.2	10.1	10.4	10.2
Rotor inertia	*10 <sup>-5</sup> kg.m <sup>2</sup>	1.81	3.15	4.24	2.66	4.86	5.12
Resistance	mΩ	45	5.2	3.6	318	118	102

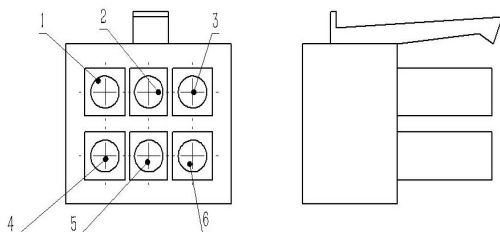
Inductance	mH	0.88	0.148	0.021	0.142	0.15	0.10
Torque Constant	Nm/A	0.018	0.018	0.018	0.113	0.115	0.115
Electrical time constant	ms	0.78	0.8	0.92	0.86	1.07	1.05
Efficiency	%	84.3	86.9	87.3	87.1	89.5	90.5
Axial force	N	127	146	157	142	178	403
Radial force	N	76	97	100	93	124	227
Motor Length	mm	109	118	130	125	145	165
Weight	Kg	0.93	1.82	2.11	1.72	2.52	2.67

## Speed- Efficiency Curve



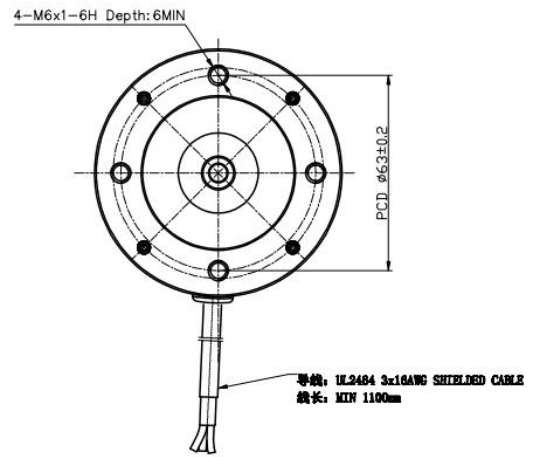
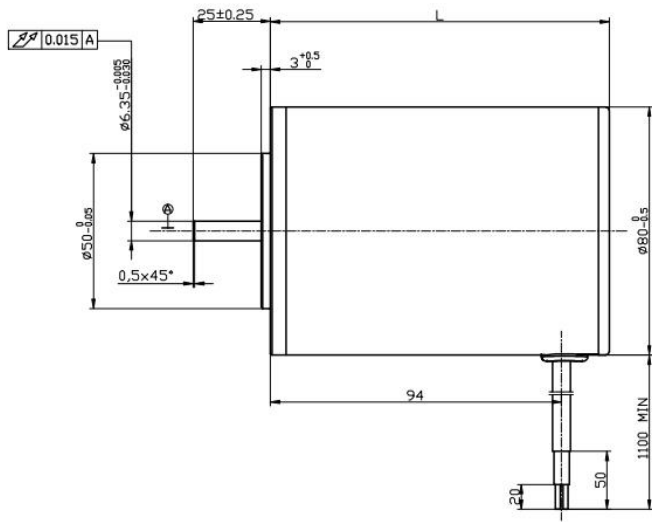
## Connections

### Power wire



Sequence	Colour	Definition	Guage
1	Blue	U	16AWG
2	Green	V	16AWG
3	Yellow	W	16AWG
4	Yellow/Green	PE	16AWG
5	/	/	/
6	/	/	/

## Dimensions



红: V+, 黑: V-, 黄绿: 速度控制