

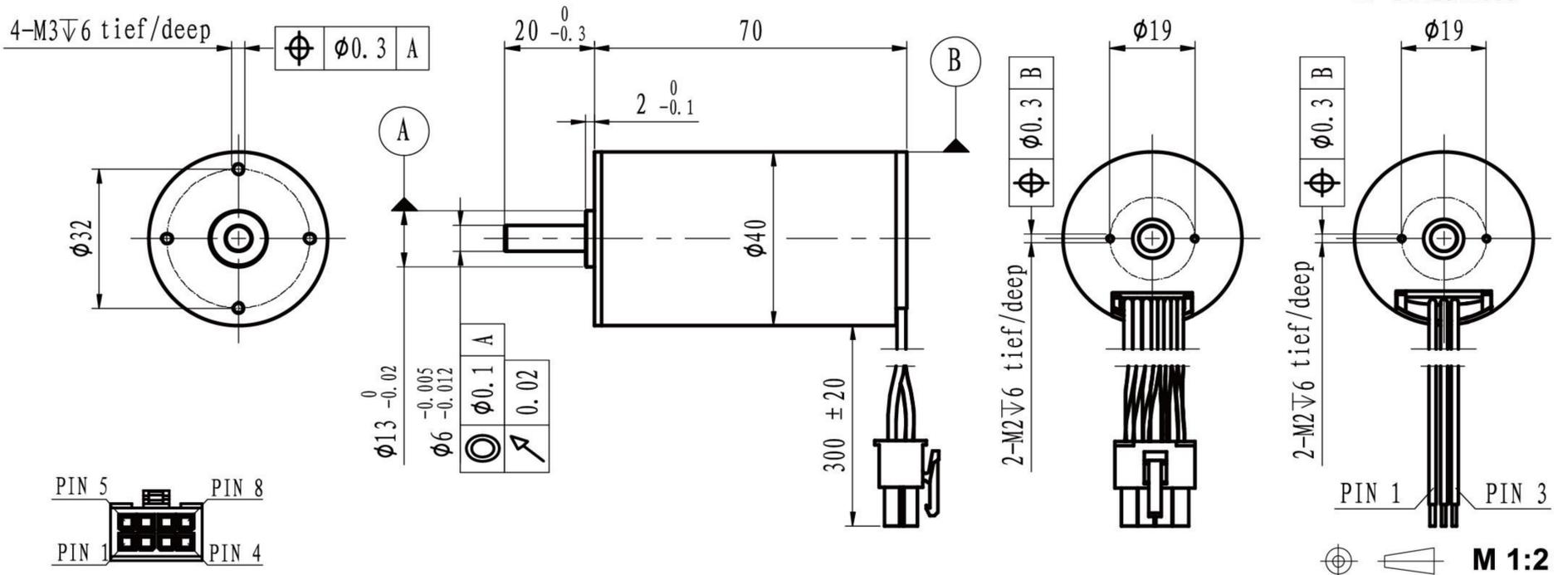
EC series. Slotless Brushless DC Motor

EC4070, $\Phi 40\text{mm} \times 70\text{mm}$

vishan 唯川

A: With Hall Sensors

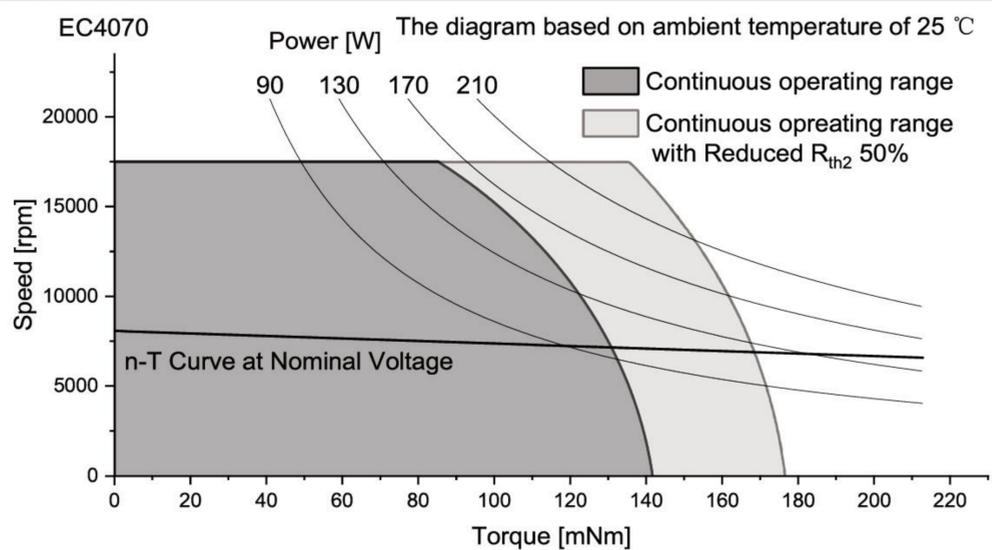
B: Sensorless



	Sensorless	EC4070L-...	1208	2408	3608	4808			
	With hall sensor	EC4070S-...							
Motor data									
Values at nominal voltage									
1	Nominal voltage	V	12	24	36	48			
2	No load speed	rpm	6154	8102	8113	8061			
3	No load current	mA	264	200	190	130			
4	Nominal speed	rpm	5066	7304	7266	7238			
5	Nominal torque	mNm	130	130	130	130			
6	Nominal current	A	7.29	4.82	3.28	2.43			
7	Stall torque	mNm	735.0	1319.9	1244.6	1272.7			
8	Stall current	A	40.00	47.06	29.75	22.64			
9	Max. efficiency	%	84.4	87.4	84.7	85.4			
10	Terminal resistance	Ω	0.3	0.51	1.21	2.12			
11	Terminal inductance	mH	0.11	0.3	0.66	1.2			
12	Torque constant	mNm/A	18.50	28.17	42.10	56.54			
13	Speed constant	rpm/V	516	339	227	169			
14	Speed/torque gradient	rpm/mNm	8	6	7	6			
15	Mechanical time constant	ms	3.5	2.5	2.7	2.6			
16	Rotor inertia	gcm ²	39.4	39.4	39.4	39.4			

17	Thermal resistance housing-ambient	3.8 K/W
18	Thermal resistance winding-housing	1.5 K/W
19	Thermal time constant winding	33 s
20	Thermal time constant motor	775 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+150°C
23	Max. permissible speed	17500 rpm
24	Axial play at axial load	<10N 0 mm >10N max. 0.3 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	9 N
27	Max. force for press fits (static)	170 N
	(static, shaft supported)	4500 N
28	Max. radial loading, 5mm from flange	80 N
29	Number of pole pairs	1
30	Number of phases	3
31	Weight of motor	415 g

Operating Range



Connection

Conection A (Sensor)		PTFE	
Pin 1	Motor winding MB	AWG20	Green
Pin 2	Vhall 3-18 VDC	AWG26	Red
Pin 3	Hall sensor HA	AWG26	Yellow
Pin 4	Hall sensor HC	AWG26	Blue
Pin 5	Motor winding MA	AWG20	Yellow
Pin 6	Motor winding MC	AWG20	Blue
Pin 7	GND	AWG26	Black
Pin 8	Hall sensor HB	AWG26	Green
Conector			
Molex5557-8P			

Conection B (Sensorless)		PTFE	
Pin 1	Motor winding MA	AWG20	Yellow
Pin 2	Motor winding MB	AWG20	Green
Pin 3	Motor winding MC	AWG20	Blue

Configuration

Performance: Customized in the continuous operating range
 Ball bearing: Preload
 Flange: Standard frange front&back/customize the frange
 Shaft: Length/Diameter/Cut face/double shaft/hollow shaft
 Leadwire: PVC/Silicon/Teflon/UL No/Dimension/length
 Connector: JST/MOLEX/TE