EC series. Slotless Brushless DC Motor
EC2864, Φ28mmX64mm

vishan 唯川

A: With Hall Sensors   B: Sensorless

4-M3▽6 tief/deep

M 1:1.5

Sensorless EC2864L-... / With hall sensor EC2864S-...		1212	2412	3612	4812				
Motor data									
Values at nominal voltage									
1 Nominal voltage	V	12	24	36	48				
2 No load speed	rpm	12210	12100	12021	12305				
3 No load current	mA	460	240	170	120				
4 Nominal speed	rpm	10828	10853	10843	11008				
5 Nominal torque	mNm	50	50	50	50				
6 Nominal current	A	5.84	2.90	1.93	1.47				
7 Stall torque	mNm	441.89	485.06	510.28	474.35				
8 Stall current	A	48.00	26.09	18.18	12.97				
9 Max. efficiency	%	81.4	81.7	81.6	81.7				
10 Terminal resistance	Ω	0.25	0.92	1.98	3.7				
11 Terminal inductance	mH	0.11	0.46	0.46	0.96				
12 Torque constant	mNm/A	9.30	18.77	28.33	36.91				
13 Speed constant	rpm/V	1027	509	337	259				
14 Speed/torque gradient	rpm/mNm	28	25	24	26				
15 Mechanical time constant	ms	2.8	2.5	2.4	2.6				
16 Rotor inertia	gcm^2	9.6	9.6	9.6	9.6				

17 Thermal resistance housing-ambient	5.5 K/W
18 Thermal resistance winding-housing	4 K/W
19 Thermal time constant winding	56 s
20 Thermal time constant motor	521 s
21 Ambient temprature	-30…+100℃
22 Max. permissible winding temperature	+150℃
23 Max. permissible speed	25000 rpm
24 Axial play at axial load <8 N	0 mm
>8 N	max. 0.3 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	7.5 N
27 Max.force for press fits (static)	100 N
(static, shaft supported)	2000 N
28 Max. radial loading, 5mm from flange	25 N
29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	195 g

Operating Range

EC2864

The diagram based on ambient temperature of 25 ℃

Continuous operating range

Continuous opreating range with Reduced R_{th2} 50%

n-T Curve at Nominal Voltage
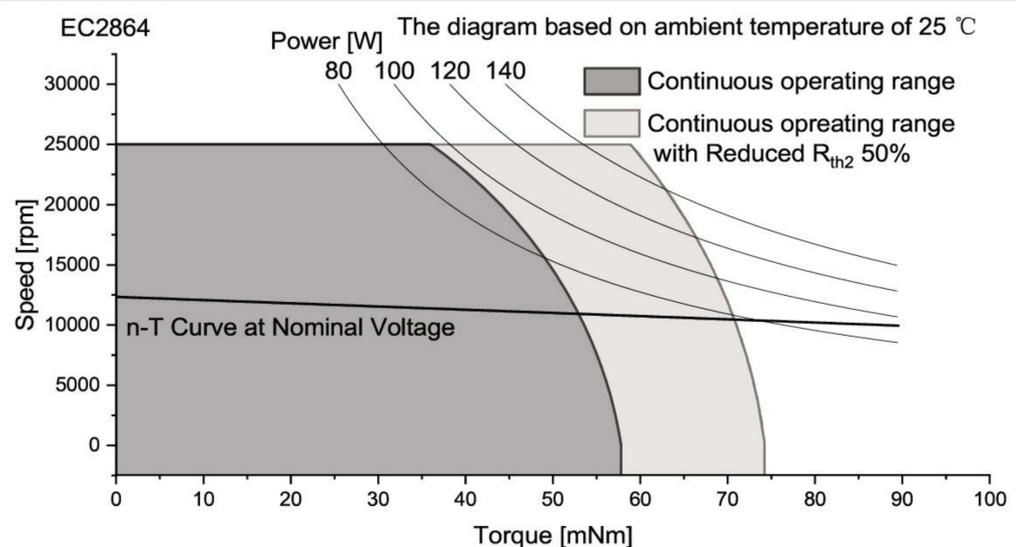
Connection

Conection A (Sensor)   PVC
Pin 1   Vhall 3-18 VDC   AWG26   black
Pin 2   Hall sensor HA   AWG26   black
Pin 3   Hall sensor HB   AWG26   black
Pin 4   Hall sensor HC   AWG26   black
Pin 5   GND   AWG26   black
Pin 6   Motor winding MA   AWG26   black
Pin 7   Motor winding MB   AWG26   black
Pin 8   Motor winding MC   AWG26   black
Conector
JST   PH2.0-8P

Conection B (Sensorless)   PVC
Pin 1   Motor winding MA   AWG26   yellow
Pin 2   Motor winding MB   AWG26   green
Pin 3   Motor winding MC   AWG26   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