



### Φ36-3024-12 Brushless DC Motor Product Datasheet

#### Φ36-3024-12 BLDC Overview

- Three Phase, Six Step, Full Wave, Y-Circuit
- Sintered Nd-Fe-B Permanent Magnet Rotor
- Sensorless
- Step (Cogging)
- Slot



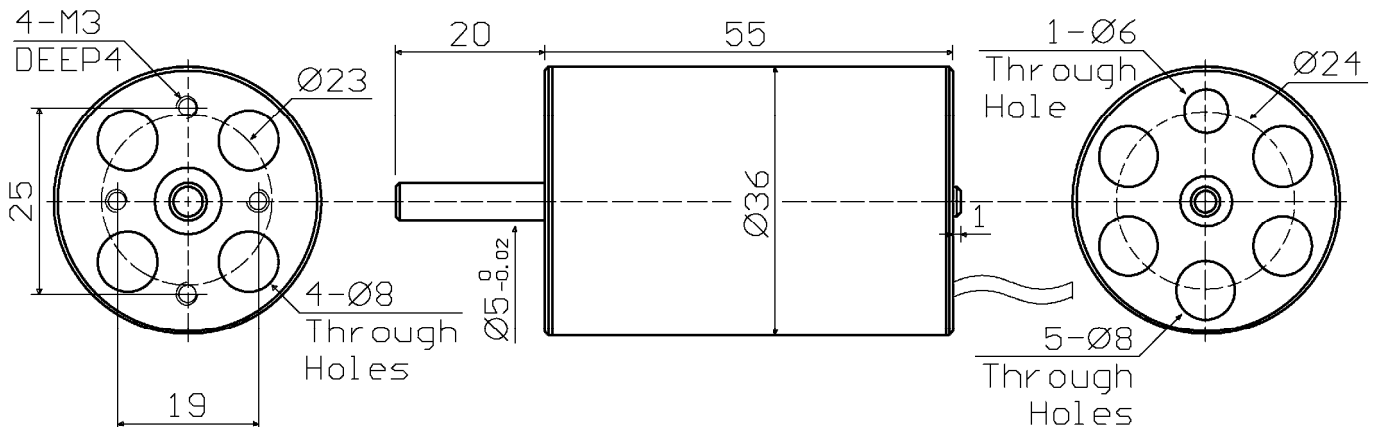
Parameters	Φ36-3024-12 BLDC Absolute Maximum Ratings	Unit
Rotor/Bearing Broken Speed	40000	rpm
Winding and Rotor Temperature	-20 to +130	°C
Ambient Temperature	-20 to +85	°C

**Notice:** The Absolute Maximum Ratings are those values beyond which the safety of the device cannot be guaranteed

Parameters	Φ36-3024-12 BLDC Intrinsic Characteristics (20°C)	Unit
Resistance (Including Line)	0.12	Ohm
Inductance (Including Line)	0.047	mH
Speed-Torque Gradient	20500	rpm/Nm
Torque Constant	0.013	Nm/A
Speed Constant	690	rpm/V
Back-EMF Constant	1.4	mV/rpm
Rotor Magnetic Poles	4	Poles
Ball Bearing No Load Continuous Life (At Nominal Voltage)	15000	(Please order if have special requirement) Hours
Weight (Including Line)	Approximate 250	g

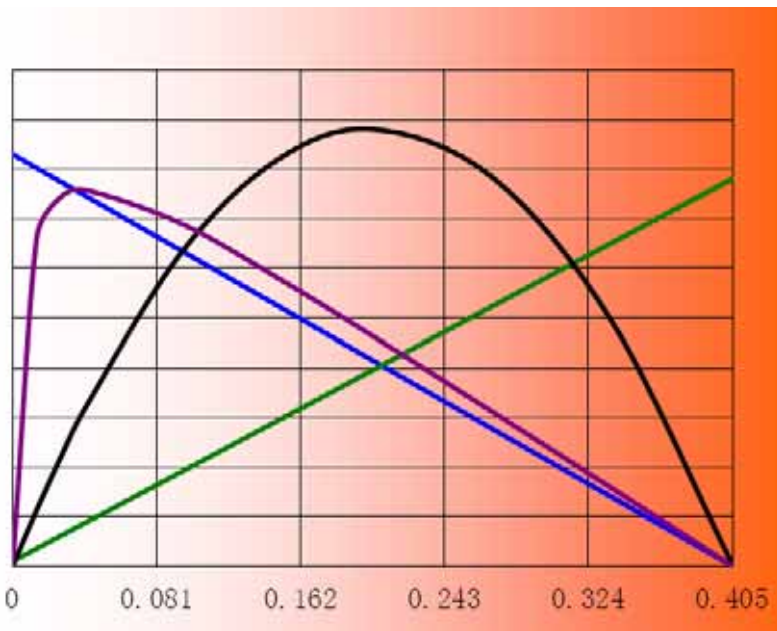
**IMPORTANT NOTICE:** Please keep the cooling holes unblocked and air blast cooling.

#### Φ36-3024-12 BLDC Physical Size (Unit: mm)





Parameters	Φ36-3024-12 BLDC Performance Characteristics (20°C)					Unit
Nominal Voltage	12					V
Maximum Output Power (P2)	89					W
(See Curves Below)	No Load Point	Some Loaded Points Performance				
Output Torque (T)	0	0.04	0.08	0.12	0.16	Nm
Output Speed (N)	8300	7500	6700	5800	5000	rpm
Input Current (I)	0.4	3.4	6.5	9.5	12.6	A
Output Power (P2)	0	31	56	73	84	W
Efficiency (η)	0	76	72	64	55	%
Free-convection Cooling	If the shell temperature of the motor is higher than 85°C, fan or other cooling equipments must be installed. Otherwise the motor may be damaged by hotness.					



η(%)      P2(W)      I(A)      N(rpm)  
**100**      **150**      **30**      **3000**

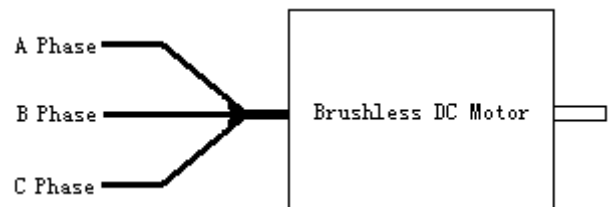
Speed vs. Torque: N -----  
 Current vs. Torque: I -----  
 Output Power vs. Torque: P2 -----  
 Efficiency vs. Torque: η -----

Short Term  
 Operation Range:                     

Torque(Nm)

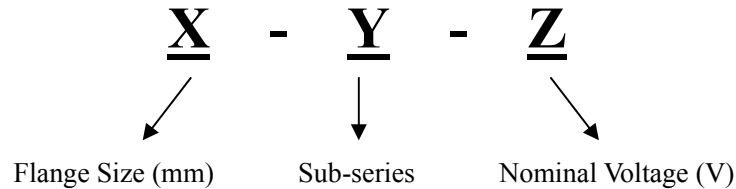
### Φ36-3024-12 BLDC Connection Diagram

- The running direction depends on the connection sequence of three phase lines. Exchanging any two lines of the three will cause the motor to run in the opposite direction.
- Line Length: 50mm, Φ4 bullet plugs (Male).





### Eletechnic BLDC Motor Product Code Regulation



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