

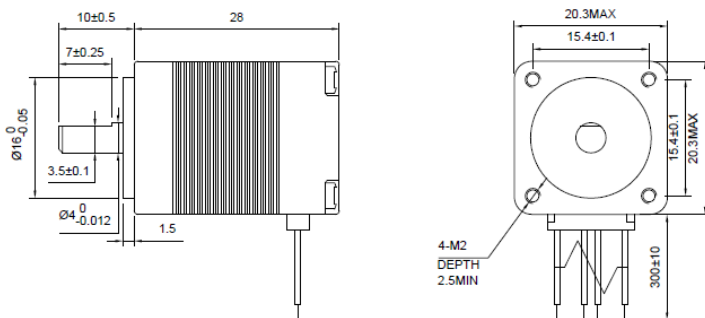
## NEMA 8



### Nema 8(20x28mm) 1.8deg 0.2A Smallest stepper motor 8HS11-0204S

<http://www.omc-stepperonline.com/nema-820x28mm-18deg-02a-smallest-stepper-motor-8hs110204s-p-81.html>

⊗ DIMENSIONS unit=mm



**Body length: 28 mm**  
**Shaft Length: 10 mm**  
**Width: 20.3 mm**  
**Step: 1.8 deg**

#### Electrical Specification

Manufacturer Part Number	8HS11-0204S
Motor Type	Bipolar Stepper
Step Angle	1.8°
Holding Torque	1.6Ncm(2.3oz.in)
Rated Current/phase	0.2A
Phase Resistance	24ohms
Recommended Voltage	12-24V
Inductance	8mH±20%(1KHz)

#### Physical Specification

Frame Size	20 x 20mm
Body Length	28mm
Shaft Diameter	Φ4mm
Shaft Length	10mm
D-cut Length	7mm
Number of Leads	4
Lead Length	300mm
Weight	60g

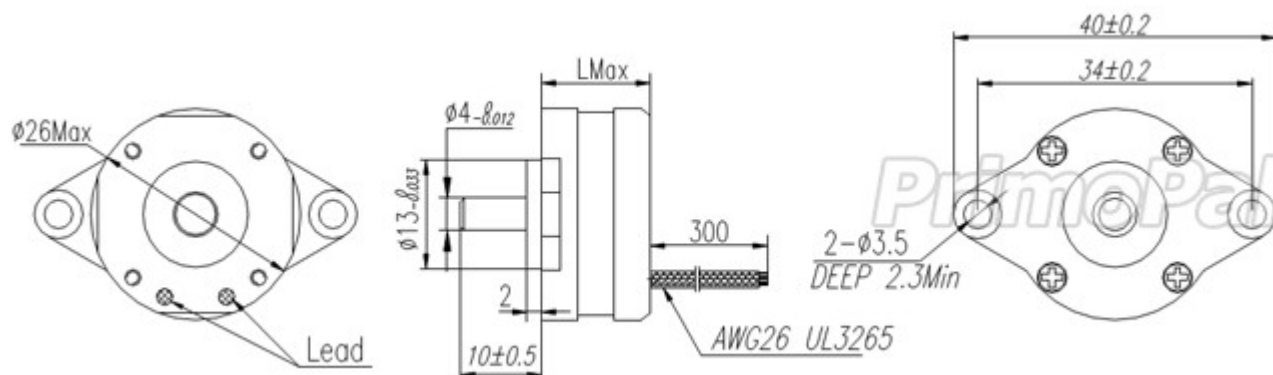
## NEMA 11

**PrimoPal**



**PHB26K**- Ø26mm Round Step Motor

[http://www.primopal.com/web/Product4\\_GoodsID\\_7.html](http://www.primopal.com/web/Product4_GoodsID_7.html)



**Body length (Lmax): 13.5 mm**

**Shaft Length: 10 mm**

**Diameter: 26 mm**

**Step: 1.8 deg**

Step Angle	1.8°
Step Angle Accuracy	±5% (full step, no load)
Resistance Accuracy	±10%
Inductance Accuracy	±20%
Temperature Rise	80 °C Max. (rated current, 2 phase on)
Ambient Temperature	-10 °C ~ +50 °C
Insulation Resistance	100 MΩ Min., 500VDC
Dielectric Strength	500 VAC for one minute
Shaft Radial Play	0.02 Max. (450 g-load)
Shaft Axial Play	0.08 Max. (450 g-load)

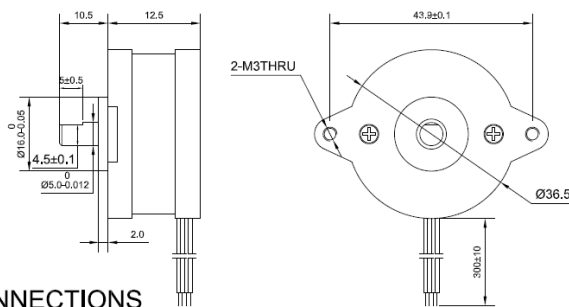
## NEMA 14



### **.9deg Thin Stepper Motor 12.5mm 0.5A 7Ncm(10oz.in) 14HR05-0504S**

<http://www.omc-stepperonline.com/9deg-thin-stepper-motor-125mm-05a-7ncm10ozin-14hr050504s-p-88.html>

⊕ DIMENSIONS unit=mm



⊕ CONNECTIONS



**Body length: 12.5mm**  
**Shaft Length: 10.5 mm**  
**Diameter: 36.5mm**  
**Step: 0.9 deg**

#### **Electrical Specification**

Manufacturer Part Number	14HR05-0504S
Motor Type	Bipolar Stepper
Step Angle	0.9°
Holding Torque	7Ncm(10oz.in)
Rated Current/phase	0.5A
Phase Resistance	17ohms
Recommended Voltage	12-24V
Inductance	7.5mH±20%(1KHz)

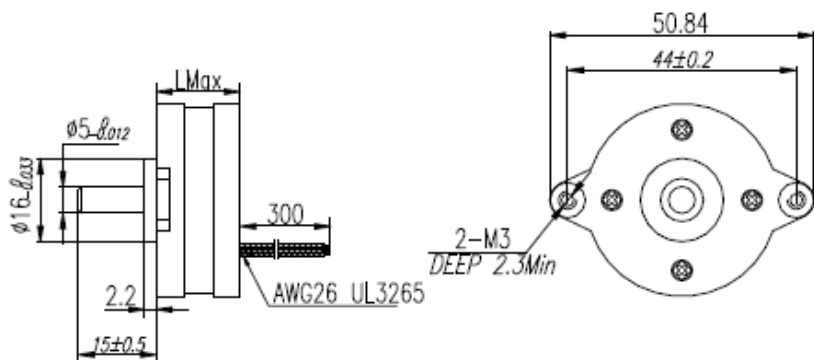
#### **Physical Specification**

Frame Size	Φ36mm
Body Length	12.5mm
Shaft Diameter	Φ5mm
Shaft Length	10.5mm
D-cut Length	5mm
Number of Leads	4
Lead Length	300mm
Weight	50g

**PrimoPal**

**PHB36D** - Ø36mm Round Step Motor

[http://www.primopal.com/web/Product4\\_GoodsID\\_17.html](http://www.primopal.com/web/Product4_GoodsID_17.html)



**Body length (Lmax): 13.5mm**

**Shaft Length: 15 mm**

**Diameter: 36mm**

**Step: 0.9 deg**

Step Angle	0.9°
Step Angle Accuracy	±5% (full step, no load)
Resistance Accuracy	±10%
Inductance Accuracy	±20%
Temperature Rise	80 °C Max.(rated current, 2 phase on)
Ambient Temperature	-10 °C ~ +50 °C
Insulation Resistance	100 MΩ Min., 500VDC
Dielectric Strength	500 VAC for one minute
Shaft Radial Play	0.02 Max. (450 g-load)
Shaft Axial Play	0.08 Max. (450 g-load)

## 3809 Series

### Xtreme Accuracy Stepper Motor

<http://www.linengineering.com/products/stepper-motors/3809-series/>

Body length: 12.7 / 14.0 / 14.7 / 19.8 mm

Step: 0.9 deg

- Signature Series Technology for ultimate smooth motion and high accuracy



Model Number:	Connection:	Length in (mm):	Current AMP:	Holding Torque oz-in (Nm):	Resistance:	Inertia (oz-in <sup>2</sup> ):	Weight:	Number of Leads:
<a href="#">3809Z-14</a>	Bipolar	0.50 (12.7)	0.25	4.0 (0.03)	15.40	0.02	0.12	4
<a href="#">3809Y-51</a>	Bipolar	0.55 (14.0)	0.60	6.0 (0.04)	4.00	0.03	0.16	4
<a href="#">3809X-15</a>	Bipolar	0.58 (14.7)	0.30	6.0 (0.04)	15.10	0.04	0.18	4
<a href="#">3809X-51</a>	Bipolar	0.58 (14.7)	0.60	6.0 (0.04)	5.00	0.04	0.18	4
<a href="#">3809V-03</a>	Bipolar	0.79 (19.8)	1.20	16.0 (0.11)	3.00	0.07	0.27	4
<a href="#">3809V-18</a>	Bipolar	0.79 (19.8)	0.60	16.0 (0.11)	10.00	0.07	0.27	4

#### 3809Z-14:

Shaft Length: 14.7 mm

Diameter: 36mm

#### Specifications:

Step Angle: 0.9 Degree

Frame Size: NEMA 14

Body Length (in): 0.50

Body Length (mm): 12.7

Current (AMP): 0.25

Holding Torque (oz-in): 4.0

Holding Torque (N-m): 0.03

Resistance: 15.40

Max Optimal Speed (RPS): 22

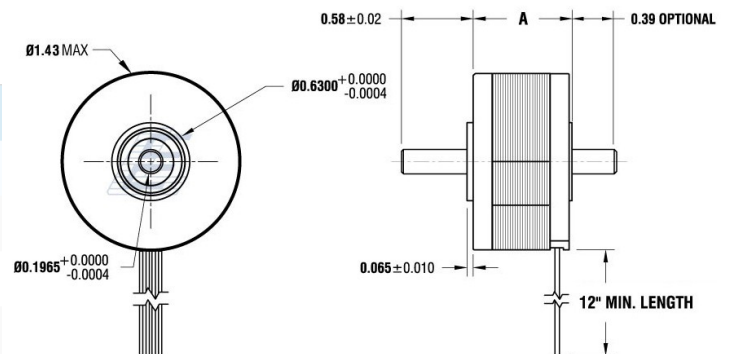
Rotor Inertia (oz-in<sup>2</sup>): 0.02

Number of leads: 4

Connection: Bipolar

Weight (lbs): 0.12

Branding: Smooth Step Xtreme Accuracy

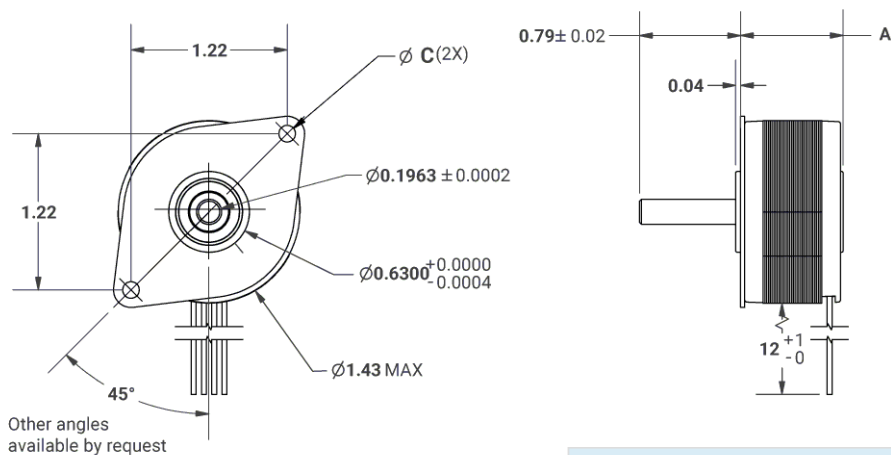


## 3709 Series

### Xtreme Accuracy Stepper Motor

Μοντέλα: 3709Z-14 , 3709Z-12, 3709Y-51, 3709X-15

<http://www.linengineering.com/products/stepper-motors/3709-series/>



**Body length: 14.0 / 15.0**

**Shaft Length: 20 mm**

**Diameter: 36mm**

**Step: 0.9 deg**

- **Signature Series Technology for ultimate smooth motion and high accuracy**

#### Specifications:

Step Angle:	0.9 Degree
Frame Size:	NEMA 14
Body Length (in):	0.55
Body Length (mm):	14.0
Current (AMP):	0.25
Holding Torque (oz-in):	4.0
Holding Torque (N-m):	0.03
Resistance:	15.40
Max Optimal Speed (RPS):	16
Rotor Inertia (oz-in <sup>2</sup> ):	0.02
Number of leads:	4
Connection:	Bipolar
Weight (lbs):	0.12
Branding:	Smooth Step Xtreme Accuracy