



KOCO
Group

A VARIETY OF APPLICATIONS



PRECISION DC CORELESS MOTOR

1



BRUSHLESS DC MOTOR

2



ELECTRONIC SPEED CONTROLLER

3



PRECISION GEARMOTOR

4



PRECISION SERVO MOTOR

5



DC CORELESS MOTOR

6



FLAT DC MOTOR

7



DC CORE MOTOR

8



MINI STEP MOTOR

9



SONIC MOTOR

10





Overview of the MINI STEP MOTORS

	Motor No.	Dia x Length (max)	Max. Torque	Page
1	1011P0209	10.00 x 10.20 mm	0.40 mNm	4
2	1511P0209	15.00 x 11.60 mm	1.00 mNm	5
3	3515P0489	35.00 x 15.00 mm	10.00 mNm	6

MINI STEP MOTOR

The mini step motor features a rational permanent magnet (PM) design. In an open loop system the motor performs very reliably with good positioning precision and repeatability. When properly matched with driving electronics, various incremental steps can be achieved (half step, micro steps).



Permanent Magnet · 1011P0209

Motor Characteristics			-015-5.0
1	No. of phase		2
2	Excitation mode		2-2
3	Voltage	V	5
4	Resistance	Ω	15
5	Step angle	Deg	18°
6	Current	A	0.3
7	No-load pull-in frequency	pps	1200
8	No-load pull-out frequency	pps	1300
9	Detent torque	mNm	0.1
10	Pull-in torque	mNm	0.4
11	Load pull-in frequency	pps	500
12	Weight	g	5.5
13	Operating temperature range	°C	-20 ~ +100

Applications

Security systems, office automation systems, medical equipment, mini household appliances, toys, etc.

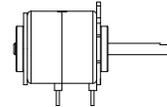
Options

Lead wire

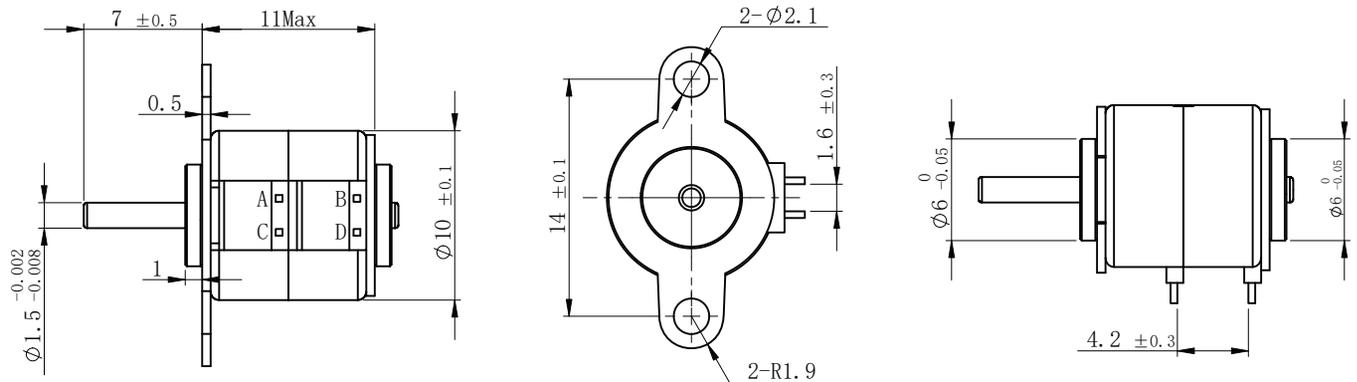
Special shaft

Flange

Approx. actual size



Dimension (mm) · 1011P0209



Sequence Diagram

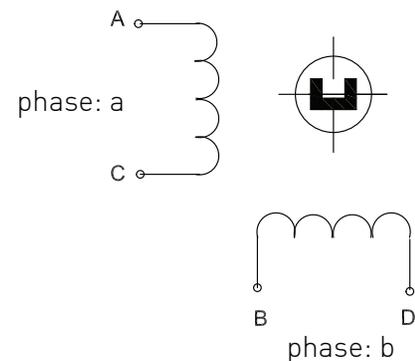
Excitation Mode
2-2

CCW →

PIN	Step 1	Step 2	Step 3	Step 4
A	+	-	-	+
C	-	+	+	-
B	+	+	-	-
D	-	-	+	+
Phase	a,b	-a,b	-a,-b	$\bar{a}, -b$

← CW

Wiring Diagram



Permanent Magnet · 1511P0209

Motor Characteristics			-013-5.0
1	No. of phase		2
2	Excitation mode		2-2
3	Voltage	V	5
4	Resistance	Ω	12.6
5	Step angle	Deg	9°
6	Current	A	0.25
7	No-load pull-in frequency	pps	1200
8	No-load pull-out frequency	pps	1500
9	Detent torque	mNm	0.80
10	Pull-in torque	mNm	1
11	Load pull-in frequency	pps	1000
12	Weight	g	9.5
13	Operating temperature range	°C	-20 ~ +100

Applications

Security systems, office automation systems, medical equipment, mini household appliances, toys, etc.

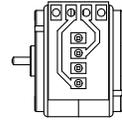
Options

Lead wire

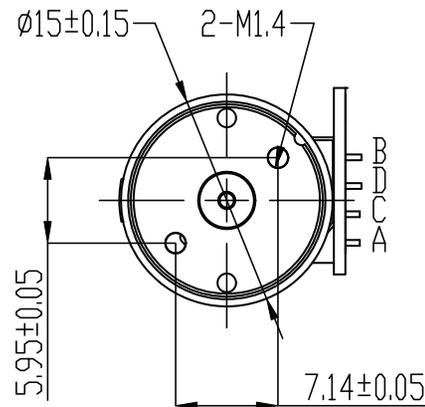
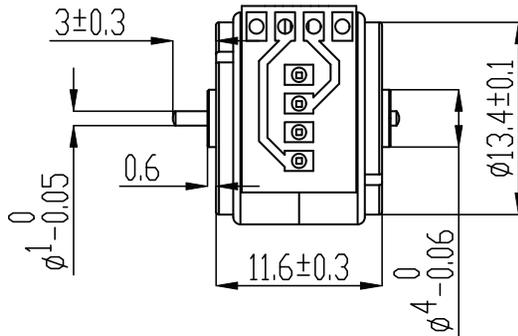
Special shaft

Flange

Approx. actual size



Dimension (mm) · 1511P0209



Sequence Diagram

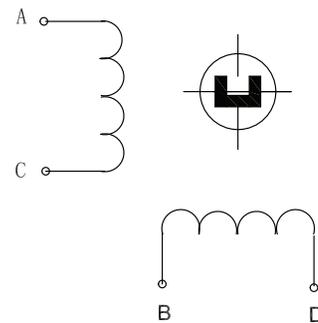
Excitation Mode
2-2

PIN	Step 1	Step 2	Step 3	Step 4
A	+	-	-	+
C	-	+	+	-
B	+	+	-	-
D	-	-	+	+
Phase	a,b	-a,b	-a,-b	a,-b

← CW

CCW →

Wiring Diagram



Permanent Magnet · 3515P0489

Motor Characteristics			-142-24.0
1	No. of phase		4
2	Excitation mode		1-2
3	Voltage	V	24
4	Resistance	Ω	142
5	Step angle	Deg	3.75°
6	Current	A	0.16
7	No-load pull-in frequency	pps	1200
8	No-load pull-out frequency	pps	1500
9	Detent torque	mNm	5
10	Pull-in torque	mNm	10
11	Load pull-in frequency	pps	200
12	Weight	g	32
13	Operating temperature range	°C	-20 ~ +80

Applications

Security systems, office automation systems, medical equipment, mini household appliances, toys, etc.

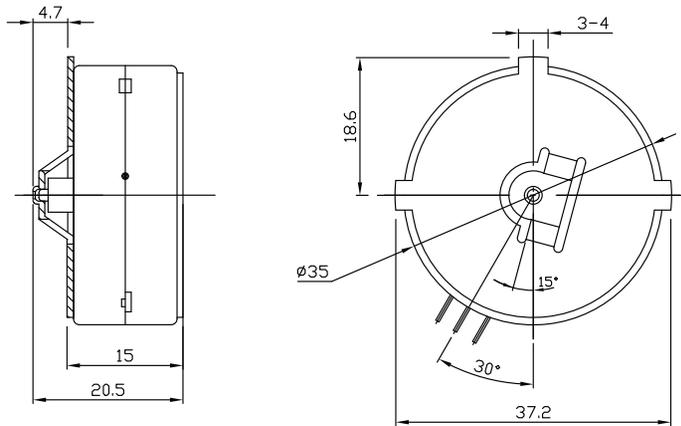
Options

Lead wire

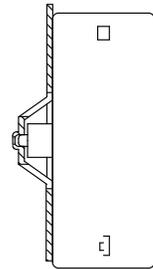
Special shaft

Flange

Dimension (mm) · 3515P0489



Approx. actual size



Sequence Diagram

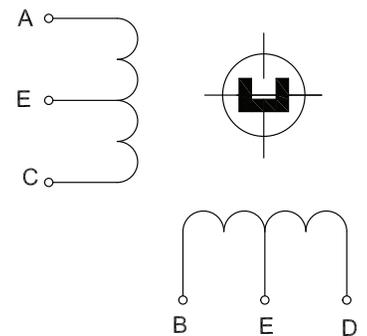
Excitation Mode
2-2

CCW →

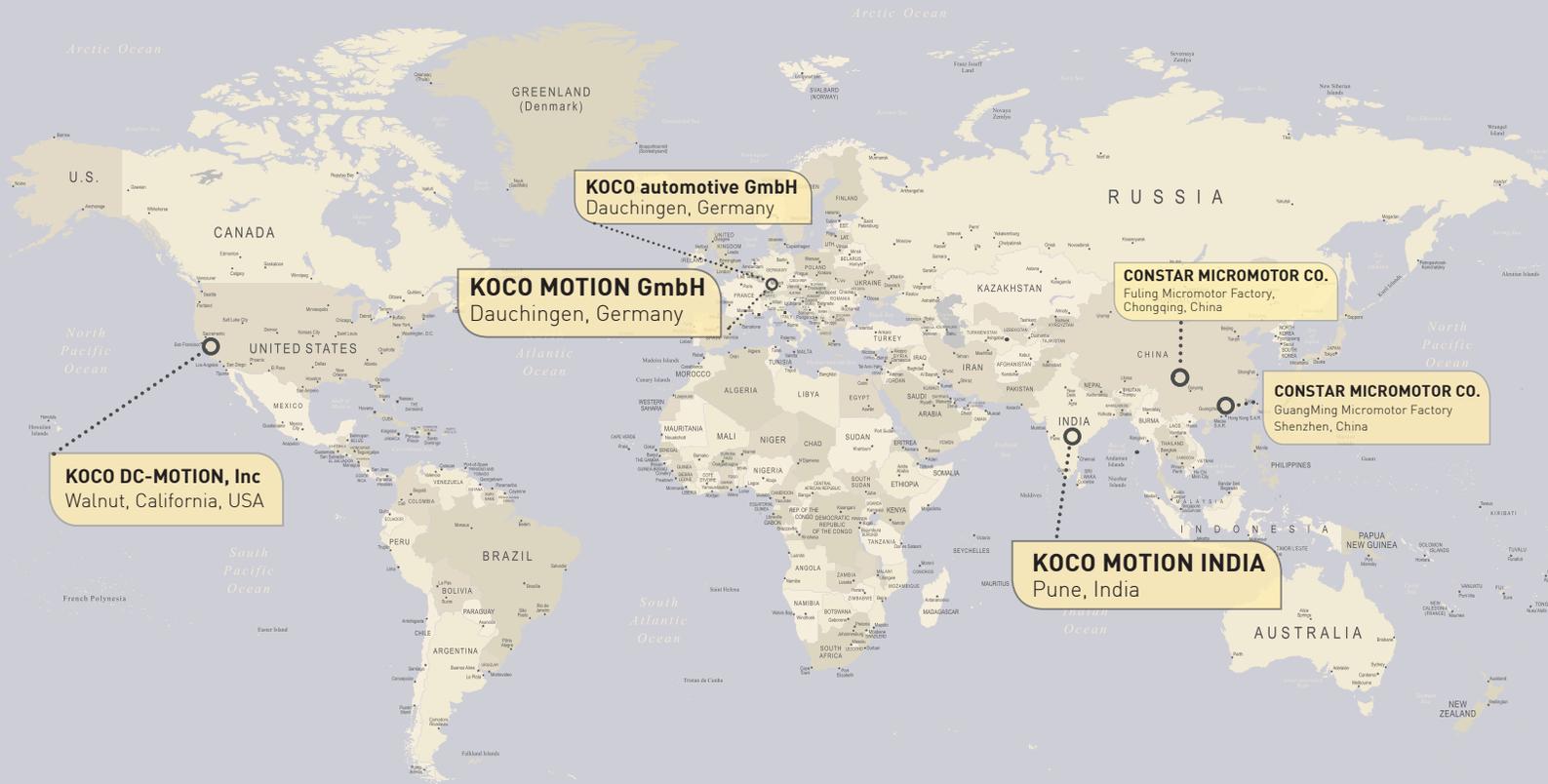
PIN	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
E	+	+	+	+	+	+	+	+
A	-	-						-
B		-	-	-				
C				-	-	-		
D						-	-	-

← CW

Wiring Diagram



SALES REPRESENTATIVES



**KOCO
INDIA**

INDIA

KOCO MOTION INDIA PVT. LTD.

S. No. 100/5, Ambegaon,
Pune Satara Highway, Pune 411 046
India

Phone +91 95119 54544, 77700 26168
sales@kocomotionindia.com

www.kocomotionindia.com

KOCO MOTION GROUP

KOCO MOTION GmbH

Niedereschacherstr. 54
78083 Dauchingen
Germany
Phone +49 7720 995858-0
info@kocomotion.de
www.kocomotion.de

KOCO automotive GmbH

Niedereschacherstr. 52
78083 Dauchingen
Germany
Phone +49 7720 995164-0
info@kocoautomotive.de
www.kocoautomotive.de

KOCO DC-MOTION, Inc

20676 Carrey Rd.
Walnut, CA 91789
USA
Phone (+1) 909-468-9877
sales@kocodcmotion.com
www.kocodcmotion.com