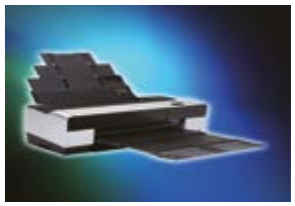

KOCO DC-MOTION

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

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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).

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Permanent Magnet · **1011P0209**

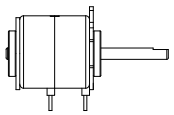
Motor Characteristics			-015-5.0
1	No. of phase		2
2	Excitation mode		2-2
3	Voltage	V	5
4	Resistance	Ω	15
5	Step angle	Deg	18°
6	Current	A	0.3
7	No-load pull-in frequency	pps	1200
8	No-load pull-out frequency	pps	1300
9	Detent torque	mNm	0.1
10	Pull-in torque	mNm	0.4
11	Load pull-in frequency	pps	500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

Applications

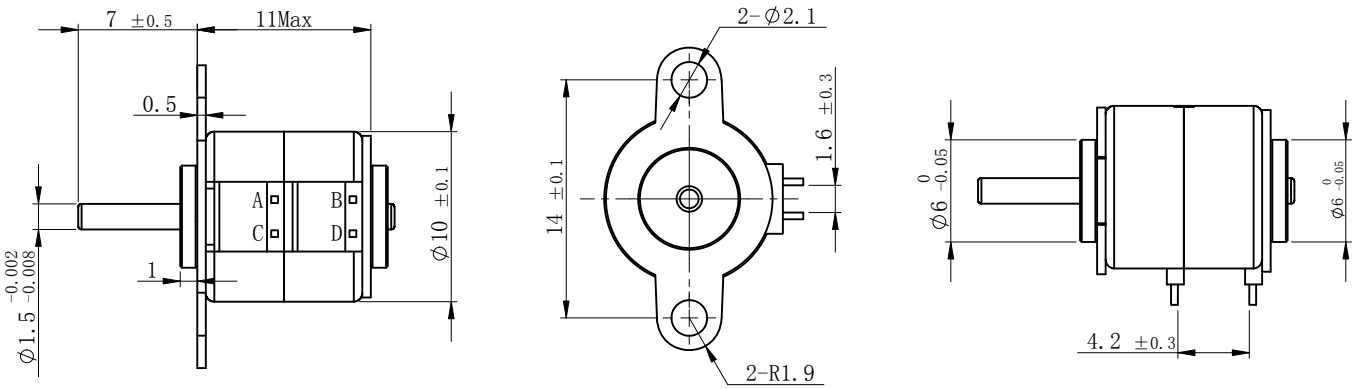
Security systems,
office automation systems,
medical equipment,
mini household appliances,
toys, etc.

Options
Lead wire
Special shaft
Flange

Approx. actual size



Dimension (mm) · 1011P0209



Sequence Diagram

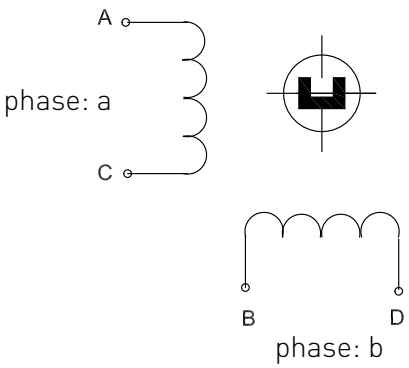
Excitation Mode
2-2

CCW →

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

← CW

Wiring Diagram



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Permanent Magnet · **1511P0209**

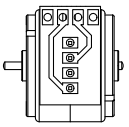
Motor Characteristics			-013-5.0
1	No. of phase		2
2	Excitation mode		2-2
3	Voltage	V	5
4	Resistance	Ω	12.6
5	Step angle	Deg	9°
6	Current	A	0.25
7	No-load pull-in frequency	pps	1200
8	No-load pull-out frequency	pps	1500
9	Detent torque	mNm	0.80
10	Pull-in torque	mNm	1
11	Load pull-in frequency	pps	1000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

Applications

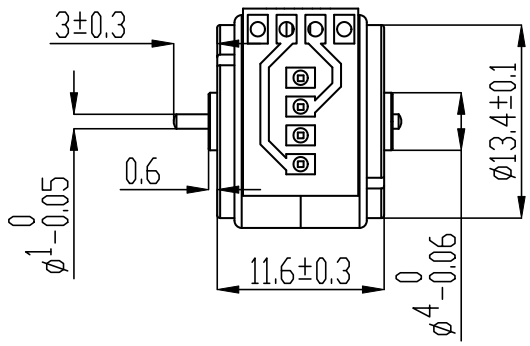
Security systems,
office automation systems,
medical equipment,
mini household appliances,
toys, etc.

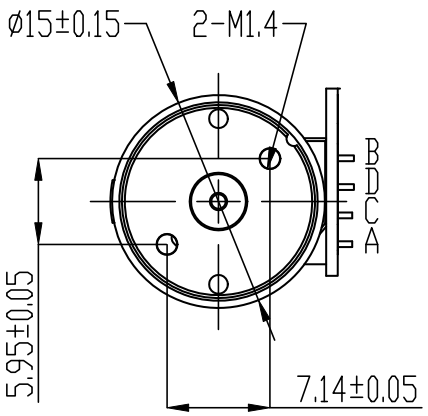
Options
Lead wire
Special shaft
Flange

Approx. actual size



Dimension (mm) · 1511P0209





Sequence Diagram

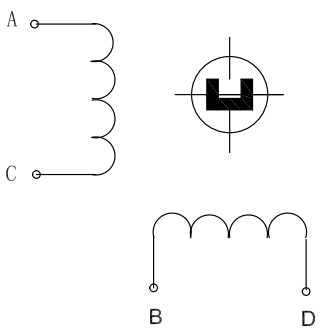
Excitation Mode
2-2

CCW →

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

← CW

Wiring Diagram



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Permanent Magnet · **3515P0489**

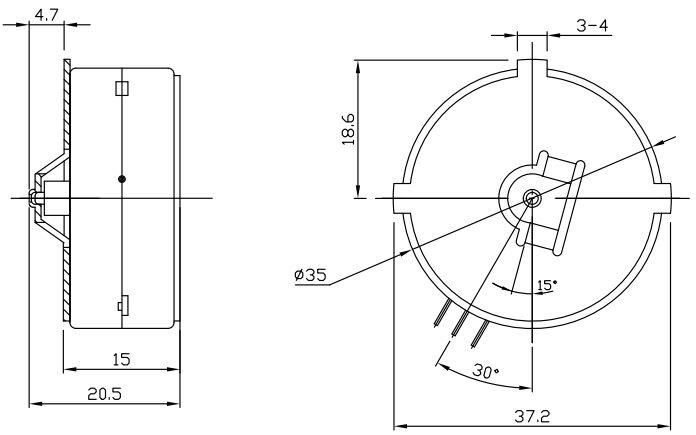
Motor Characteristics			-142-24.0
1	No. of phase		4
2	Excitation mode		1-2
3	Voltage	V	24
4	Resistance	Ω	142
5	Step angle	Deg	3.75°
6	Current	A	0.16
7	No-load pull-in frequency	pps	1200
8	No-load pull-out frequency	pps	1500
9	Detent torque	mNm	5
10	Pull-in torque	mNm	10
11	Load pull-in frequency	pps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

Applications

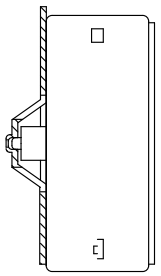
Security systems,
office automation systems,
medical equipment,
mini household appliances,
toys, etc.

Options
Lead wire
Special shaft
Flange

Dimension (mm) · 3515P0489



Approx. actual size



Sequence Diagram

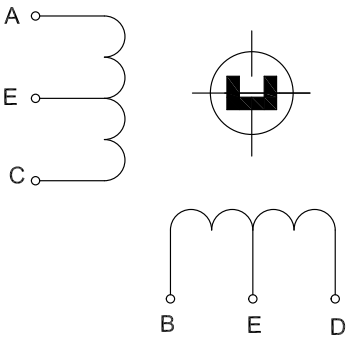
Excitation Mode
2-2

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



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