
86STEP
ENCODER IN STEP

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About 86STEP

86STEP is a stepper motor with a built-in optical encoder to directly monitor the position of the motor rotor. Through the encoder's feedback mechanism, closed loop control is realized, which not only retains the advantages of stepping motors, but also effectively avoids step loss problems. This feature is particularly suitable for application devices that require location verification and location maintenance, and can significantly improve the safety and reliability of the system.

Features

- Stall Detection
- Position Verification
- Accurate Homing
- Close-loop control with step motor benefit

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Key Specifications

- Hybrid stepper motor
- Encoder inside, resolution 8,192 ppr to 16,384 ppr
- Durable design
- Suitable for a range of applications

Application Examples

- CNC machines
- Additive Manufacturing
- Automation
- Dispensing devices
- Medical devices
- Position required

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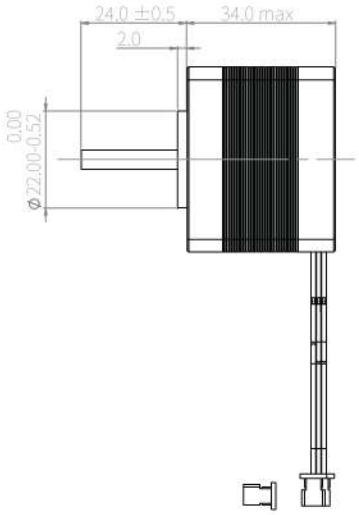
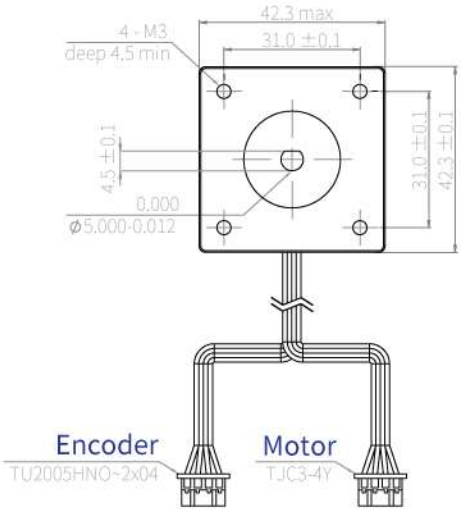
42 mm sq.

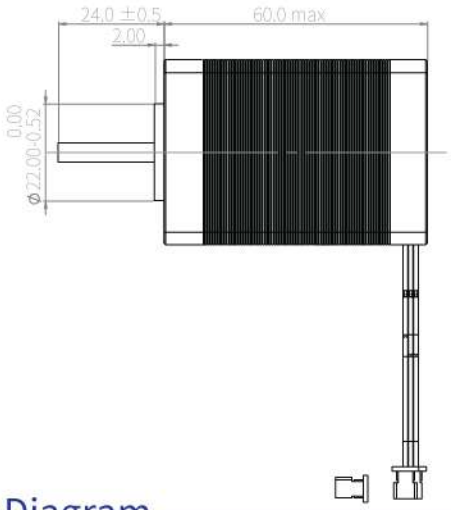
423409 : 34mm

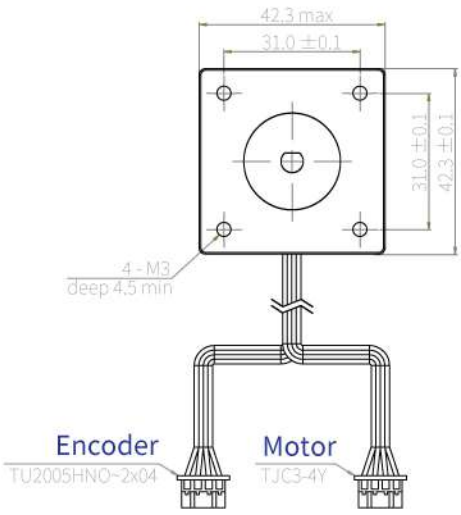
426009 : 60mm

Part number	Holding torque	Step angle	Detent torque	Rated Current	Phase resistance	Phase inductance	Insulation resistance	Rotor inertia	Weight
86STEP-423409	280mN.m	0.9°	12mN.m	0.75A	10 Ω±10%	15mH±20%	100MΩmin. (500V DC)	39g.cm²	0.2 kg
86STEP-426009	860mN.m	0.9°	20mN.m	1.50A	3.5 Ω±10%	9mH±20%	100MΩmin. (500V DC)	102g.cm²	0.45 kg

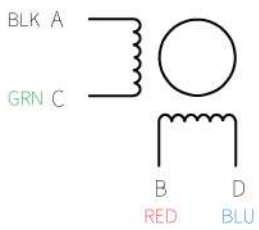








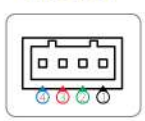
Wiring Diagram



Encoder

Conn1 PIN#	1	2	3	4	5	6	7	8
FUN	A+	A-	B+	B-	Z+	Z-	VCC	GND
Color	●	●	●	●	●	●	●	●

Motor



Conn1 PIN#	1	2	3	4
FUN	A	C	B	D
Color	●	●	●	●

Uni-polarfull step

Excitation sequence anddirection of rotation

STEP \ PHASE	A	B	C	D
1	+	+	-	-
2	-	+	+	-
3	-	-	+	+
4	+	-	-	+

seen from the mounting surface, it is clockwise

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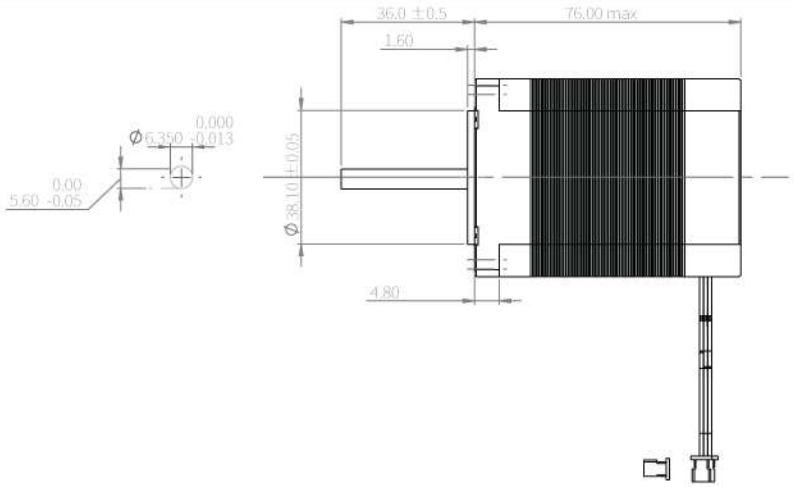
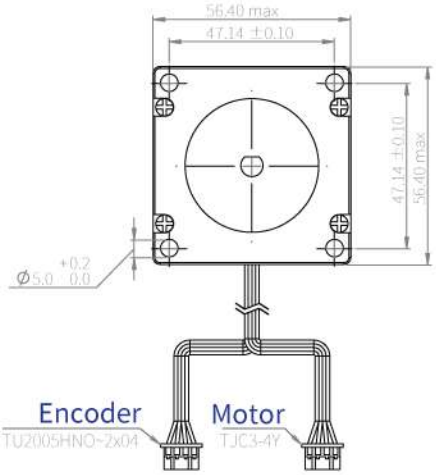
57 mm sq.

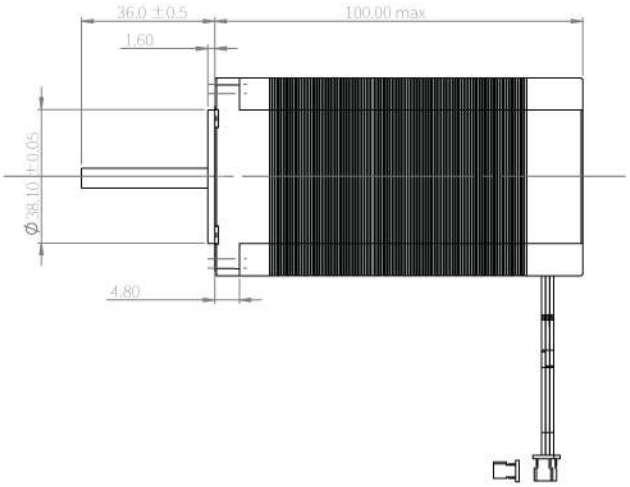
577609 ： 76mm

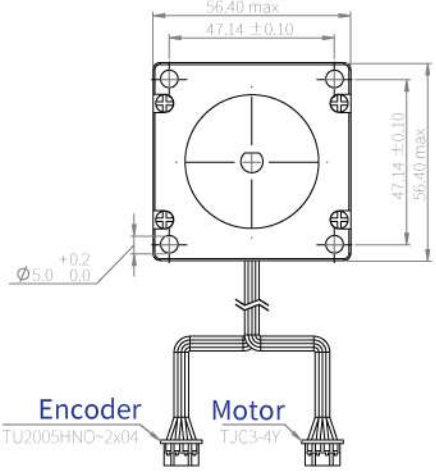
5710009：100mm

Part number	Holding torque	Step angle	Detent torque	Rated Current	Phase resistance	Phase inductance	Insulation resistance	Rotor inertia	Weight
86STEP-577609	1800mN.m	0.9°	70mN.m	3.0A	2.0Ω±10%	10mH±20%	100MΩmin. (500V DC)	460g.cm²	1.0 kg
86STEP-5710009	2400mN.m	0.9°	100mN.m	4.2A	0.75Ω±10%	2.8mH±20%	100MΩmin. (500V DC)	650g.cm²	1.3 kg

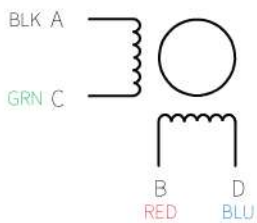








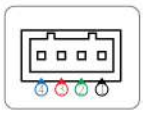
Wiring Diagram



Encoder

Conn1 PIN#	1	2	3	4	5	6	7	8
FUN	A+	A-	B+	B-	Z+	Z-	VCC	GND
Color	●	●	●	●	●	●	●	●

Motor



Conn1 PIN#	1	2	3	4
FUN	A	C	B	D
Color	●	●	●	●

Uni-polarfull step

Excitation sequence anddirection of rotation

PHASE / STEP	A	B	C	D
1	+	+	-	-
2	-	+	+	-
3	-	-	+	+
4	+	-	-	+

seen from the mounting surface, it is clockwise

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