

SANMOTION F2

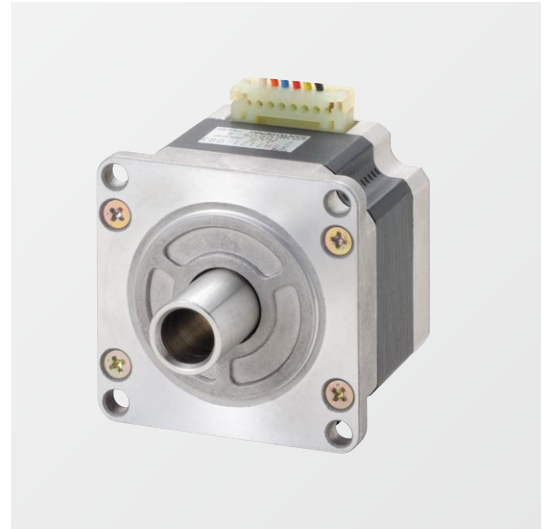
2-PHASE STEPPING SYSTEMS

2-phase Hollow Shaft Stepping Motor

42 mm sq. **56 mm sq.**

Features

- For system designs that take advantage of hollow shaft structure.
- Gases, laser beam, cables and the like can be routed through the hollow shaft.
 - The hollow shaft structure enables reducing power mechanism component count and saving space by installing ball screws or gear shafts within it.



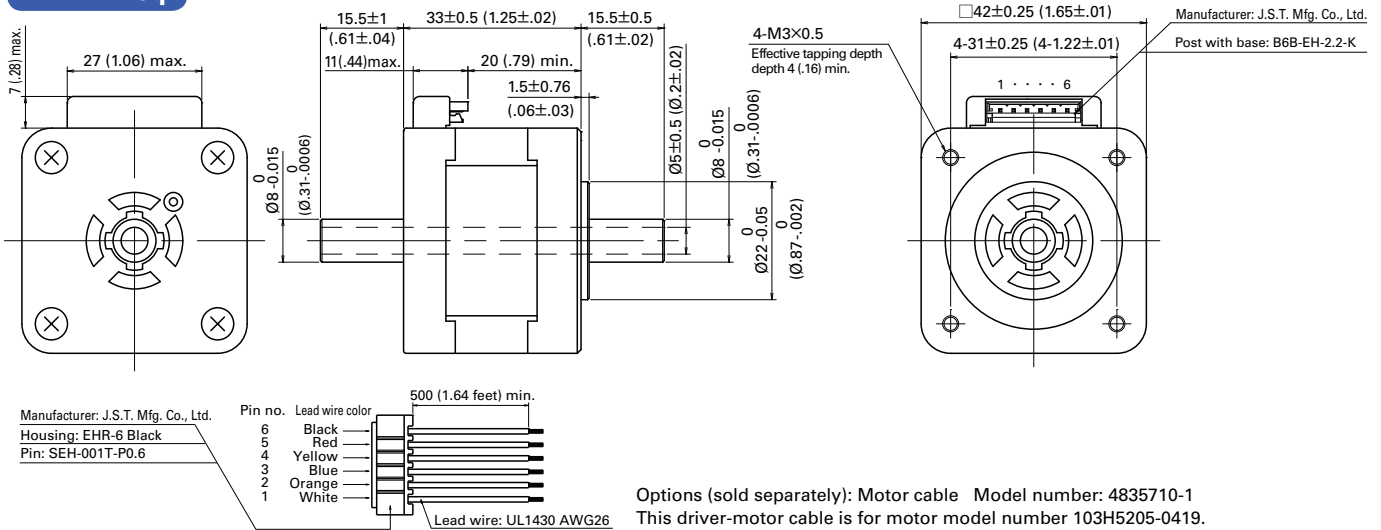
RoHS

Applications

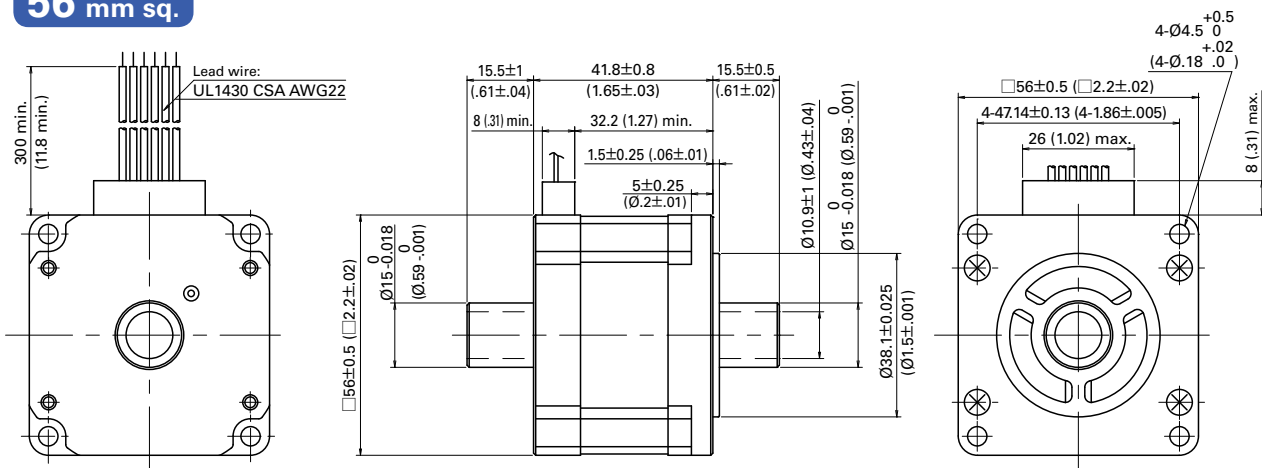
Semiconductor manufacturing devices, general industrial machinery, machine tools, and conveyors.

Dimensions [Unit : mm (inch)]

42 mm sq.



56 mm sq.



Specifications 1.8° /step Unipolar winding

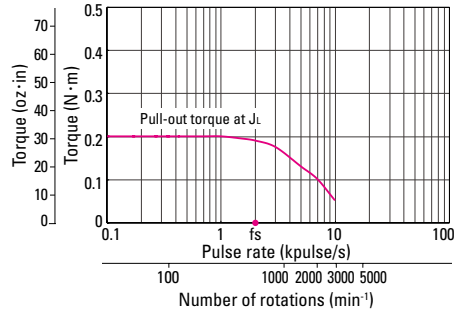
Model number		Holding torque at 2-phase energization	Rated current	Wiring resistance	Winding inductance	Rotor inertia	Axle OD	Axle ID	Mass (Weight)
Cable type	Connector type	[N·m (oz·in) min.]	A/phase	Ω /phase	mH/phase	[× 10 ⁻⁴ kg·m ² (oz·in ²)]	mm (in)	mm (in)	[kg (lbs)]
—	103H5205-0419	0.2 (28.32)	1.2	2.4	2.3	0.036 (0.20)	φ 8 (.31)	φ 5 (.2)	0.23 (0.51)

Characteristics diagram

Characteristics when combined with our DC driver (Model no.: US1D200P10)

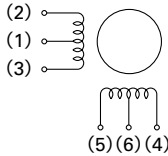
Constant current circuit
 Source voltage: 24 VDC
 Operating current: 1.2 A/phase, 2-phase energization (full-step)
 $J_L = [0.94 \times 10^{-4} \text{kg}\cdot\text{m}^2 (5.14 \text{oz}\cdot\text{in}^2)]$ use the rubber coupling]

24 VDC



Internal wiring

() connector pin number



Direction of motor rotation

When excited by DC in the order shown below, the direction of rotation is clockwise as viewed from the output shaft side.

	Connector pin number				
	(1.6)	(5)	(3)	(4)	(2)
Exciting order	1	+	-	-	-
	2	+	-	-	-
	3	+	-	-	-
	4	+	-	-	-

Specifications 1.8° /step Unipolar winding

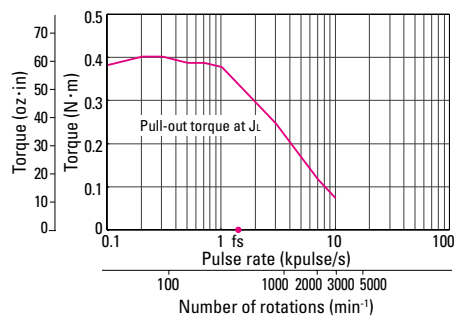
Model number		Holding torque at 2-phase energization	Rated current	Wiring resistance	Winding inductance	Rotor inertia	Axle OD	Axle ID	Mass (Weight)
Cable type	Connector type	[N·m (oz·in) min.]	A/phase	Ω /phase	mH/phase	[× 10 ⁻⁴ kg·m ² (oz·in ²)]	mm (in)	mm (in)	[kg (lbs)]
103H7121-0419	—	0.42 (59.47)	2	1.25	1.8	0.1 (0.55)	φ 15 (.59)	φ 10.9 (.43)	0.47 (1.04)

Characteristics diagram

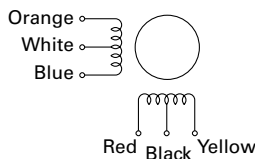
Characteristics when combined with our DC driver (Model no.: US1D200P10)

Constant current circuit
 Source voltage: 24 VDC
 Operating current: 2 A/phase, 2-phase energization (full-step)
 $J_L = [0.94 \times 10^{-4} \text{kg}\cdot\text{m}^2 (5.14 \text{oz}\cdot\text{in}^2)]$ use the rubber coupling]

24 VDC



Internal wiring



Direction of motor rotation

When excited by DC in the order shown below, the direction of rotation is clockwise as viewed from the output shaft side.

	Lead wire color				
	White & black	Red	Blue	Yellow	Orange
Exciting order	1	+	-	-	-
	2	+	-	-	-
	3	+	-	-	-
	4	+	-	-	-