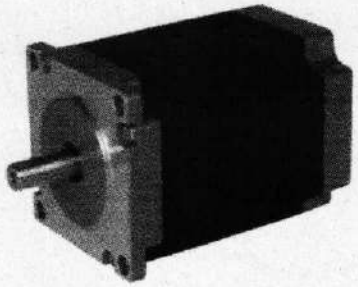
PHB57S Series

2 Phase Hybrid Stepper Motors

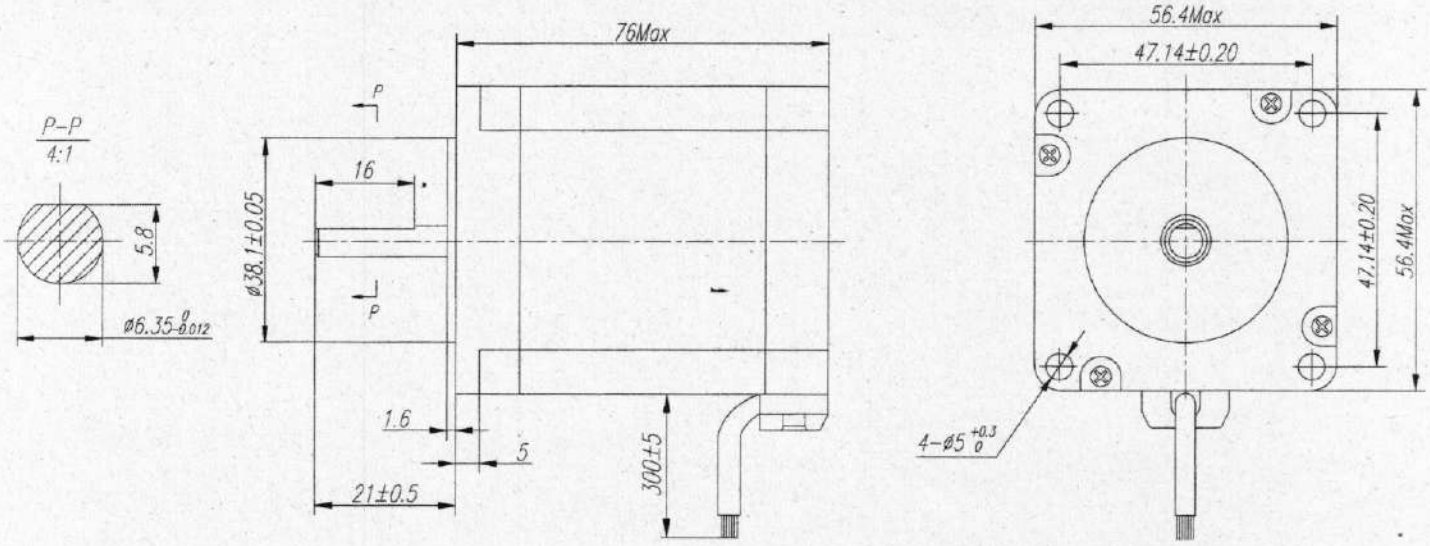
Step Angle	1.8°
Step Angle Accuracy	±5% (full step, no load)
Resistance Accuracy	±10%
Inductance Accuracy	±20%
Temperature Rise	80 °C Max.(rated current, 2 phase on)
Ambient Temperature	-20 °C ~ +50 °C
Insulation Resistance	100 MΩ Min., 500VDC
Dielectric Strength	500 VAC for one minute
Shaft Radial Play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



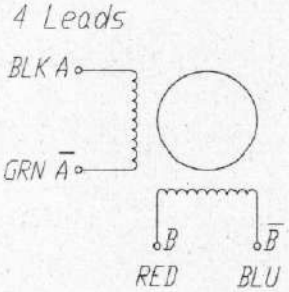
■ Specifications

Model	Current	Resistance	Inductance	Holding Torque	Detent Torque	Rotor Inertia	Bi/Unipolar	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	N.cm	g.cm^2	# of Leads	g	mm
PHB57S76-430-SF	3.0	1.0	3.5	180	6.0	440	Bi (4)	1050	76

■ Mechanical Dimension



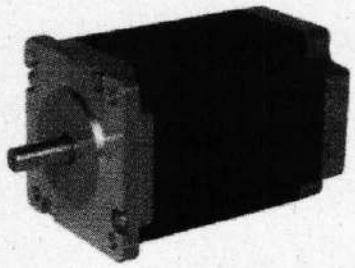
■ Wiring Diagram



PHB60S Series

2 Phase Hybrid Stepper Motors

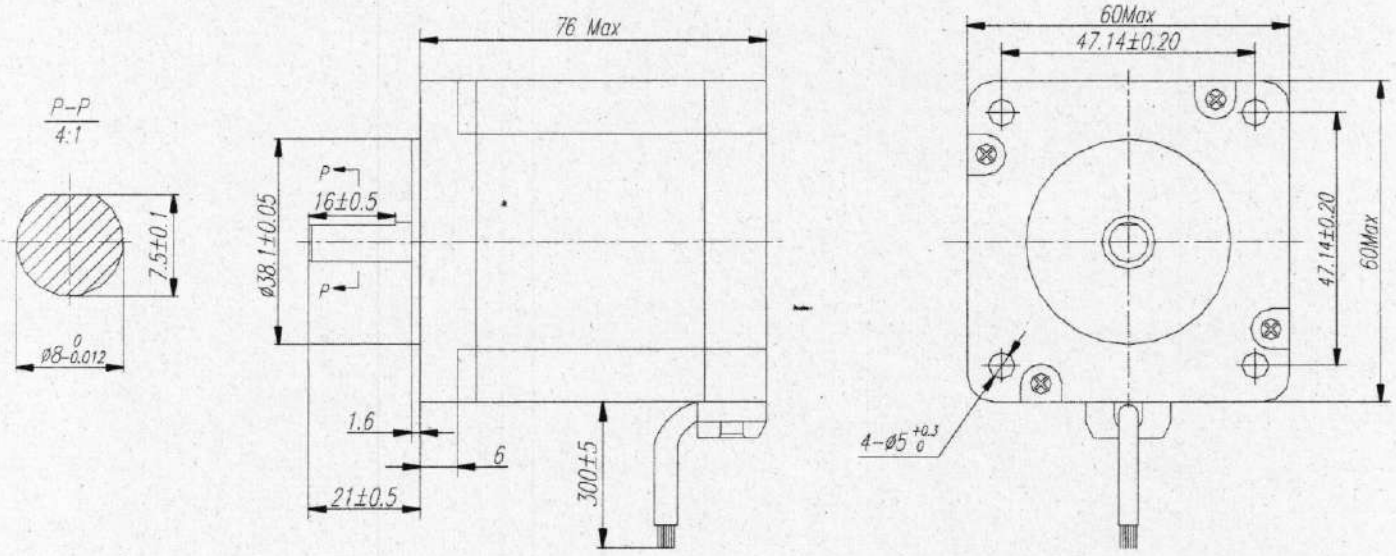
Step Angle	1.8°
Step Angle Accuracy	±5% (full step, no load)
Resistance Accuracy	±10%
Inductance Accuracy	±20%
Temperature Rise	80 °C Max.(rated current, 2 phase on)
Ambient Temperature	-20 °C ~ +50 °C
Insulation Resistance	100 MΩ Min., 500VDC
Dielectric Strength	500 VAC for one minute
Shaft Radial Play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



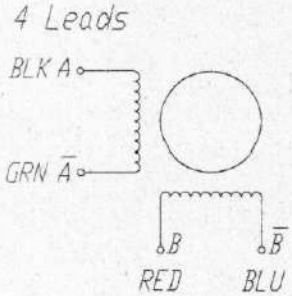
■ Specifications

Model	Current	Resistance	Inductance	Holding Torque	Detent Torque	Rotor Inertia	Bi/Unipolar	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	N.cm	g.cm^2	# of Leads	g	mm
PHB60S76-430-8D	3.0	1.0	3.5	220	7.0	550	Bi (4)	1150	76

■ Mechanical Dimension



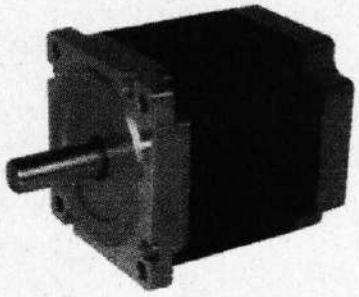
Wiring Diagram



PHB86S Series

2 Phase Hybrid Stepper Motors

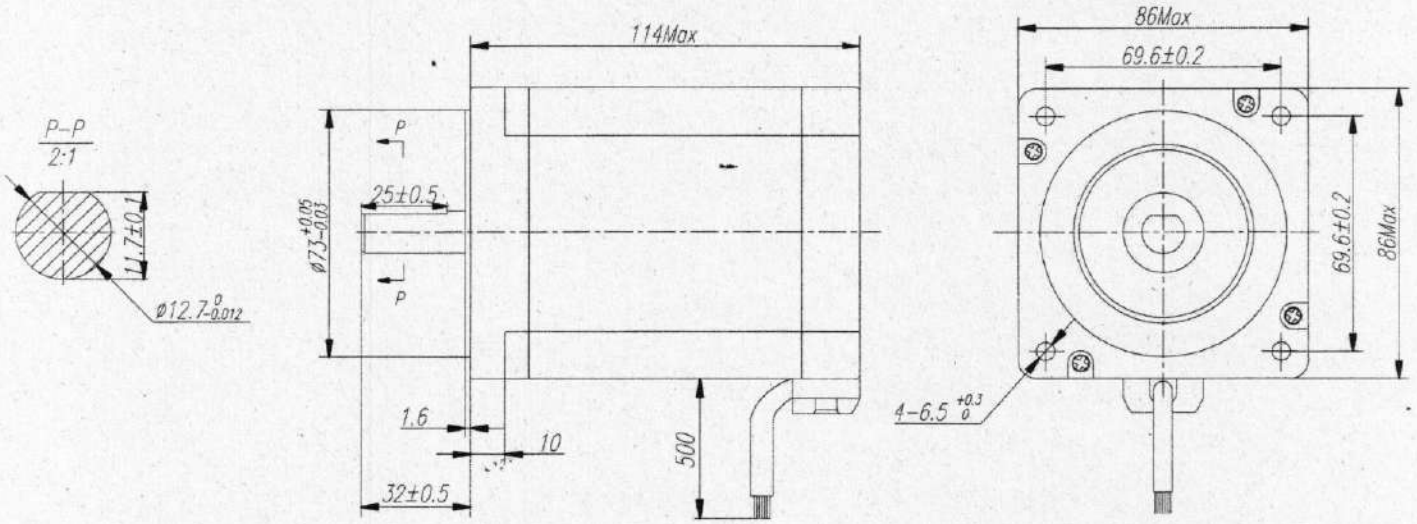
Step Angle	1.8°
Step Angle Accuracy	±5% (full step, no load)
Resistance Accuracy	±10%
Inductance Accuracy	±20%
Temperature Rise	80 °C Max.(rated current, 2 phase on)
Ambient Temperature	-20 °C ~ +50 °C
Insulation Resistance	100 MΩ Min., 500VDC
Dielectric Strength	820VAC, 1s, 3mA
Shaft Radial Play	0.02 Max. (450 g-load)
Shaft Axial Play	0.08 Max. (920 g-load)



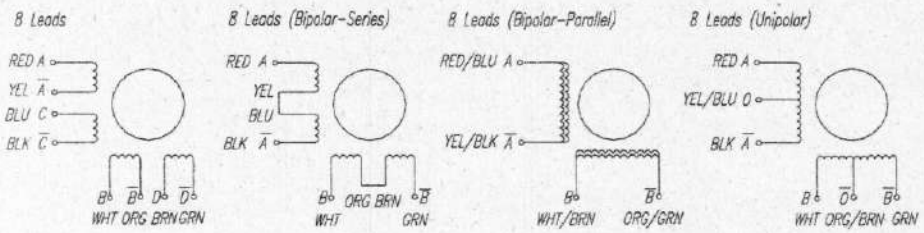
■ Specifications

Model	Current	Resistance	Inductance	Holding Torque	Bi/Unipolar	Detent Torque	Rotor Inertia	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	# of Leads	N.cm	g.cm^2	kg	mm
PHB86S114-802-127D	5.6	0.55	5.5	820	Bi-P (8)	12.5	1800	4.0	114
	2.8	2.2	22.0	820	Bi-S (8)				
	4.0	1.1	5.5	580	Uni (8)				

■ Mechanical Dimension



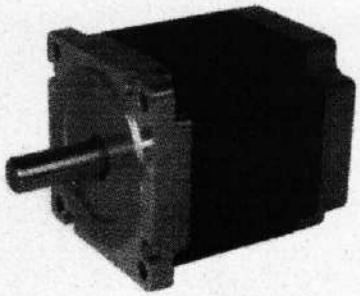
Wiring Diagram



PHB86S Series

2 Phase Hybrid Stepper Motors

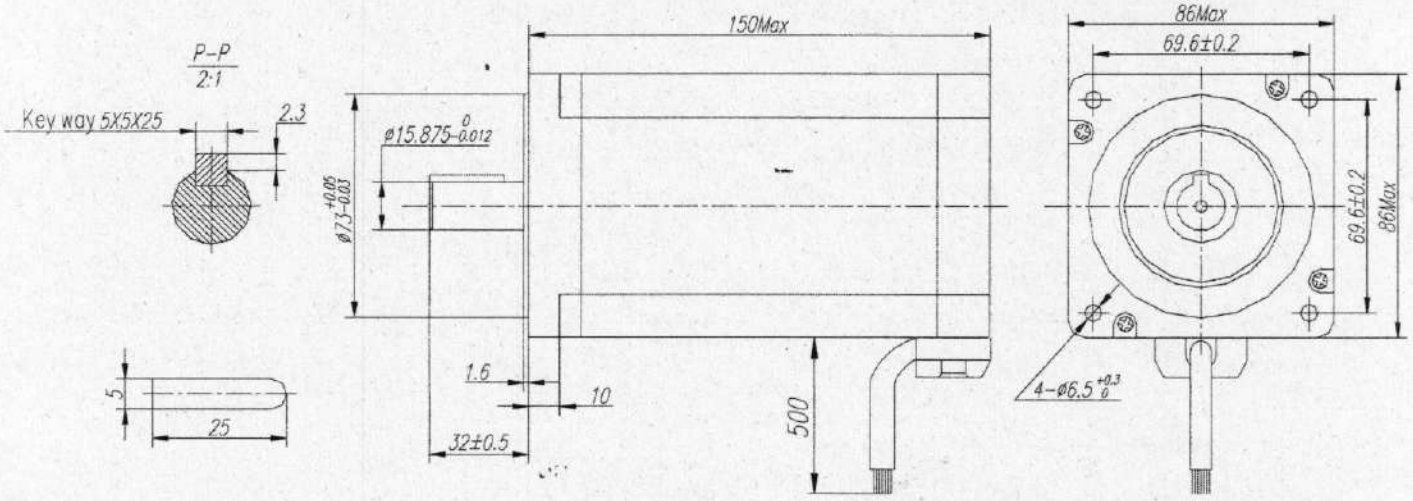
Step Angle	1.8°
Step Angle Accuracy	±5% (full step, no load)
Resistance Accuracy	±10%
Inductance Accuracy	±20%
Temperature Rise	80 °C Max.(rated current, 2 phase on)
Ambient Temperature	-20 °C ~ +50 °C
Insulation Resistance	100 MΩ Min., 500VDC
Dielectric Strength	820VAC, 1s, 3mA
Shaft Radial Play	0.02 Max. (450 g-load)
Shaft Axial Play	0.08 Max. (920 g-load)



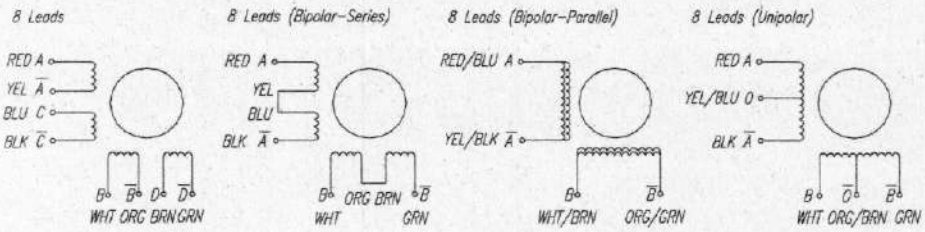
■ Specifications

Model	Current	Resistance	Inductance	Holding Torque	Bi/Unipolar	Detent Torque	Rotor Inertia	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	# of Leads	N.cm	$g.cm^2$	kg	mm
PHB86S150-802-625IK5	5.6	0.7	9.2	1200	Bi-P (8)	24.5	2500	5.0	150
	2.8	2.8	36.8	1200	Bi-S (8)				
	4.0	1.4	9.2	850	Uni (8)				

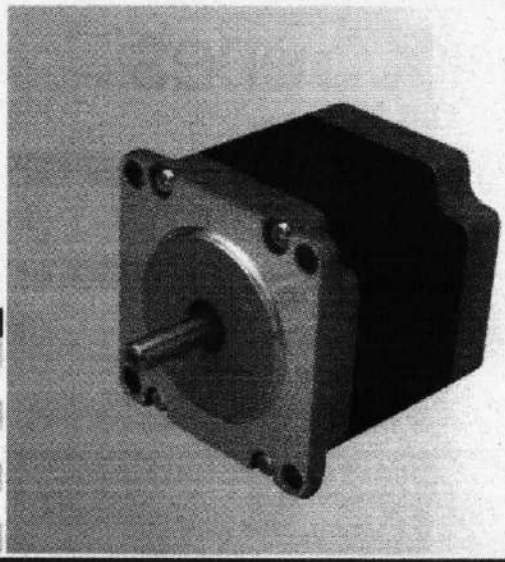
■ Mechanical Dimension



■ Wiring Diagram



57HSxx Series



General Specifications

Angle Accuracy	± 5%(full step, no load)
Temperature Rise	80 °C Max
Ambient Temperature	-10 °C — +50 °C
Insulation Resistance	100M Ω min. 500VDC
Dielectric Strength	500VAC for one minute
Shaft Radial Play	0.06 Max. (450g-load)
Shaft Axial Play	0.08 Max. (450g-load)

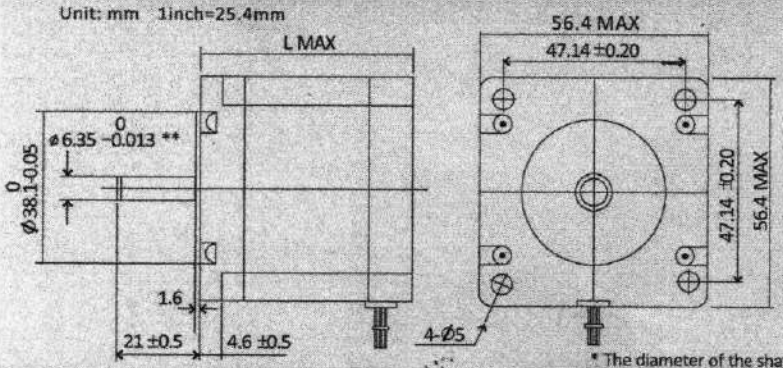
Selection Table

Phase	NEMA Size	Model	Step Angle (°)	# of Leads	Connection	Current/Phase (A)	Holding Torque (Nm)	Length L (mm)	Weight (kg)	Match Drives
2	23	57HS04	1.8	6	Series	2.0	0.4	41	0.45	EM503 / DM556
					Unipolar	2.8	0.28			
					Parallel	4.2	1.3			
		57HS09	1.8	8	Series	2.1	1.3	54	0.6	EM503 / EM705 / DM556
					Unipolar	2.8	0.9			
					Parallel	4.0	1.8			
		57HS13	1.8	8	Series	2.0	1.8	76	1.0	EM503 / EM705 / DM556
					Unipolar	2.8	1.3			
					Parallel	5.6	2.2			
		57HS22*	1.8	8	Series	2.8	2.2	81	1.15	EM503 / EM705 / DM556
					Unipolar	4.0	1.5			

* The diameter of the shaft of the 57HS22 is 8 mm, and those of the others are 6.35 mm.

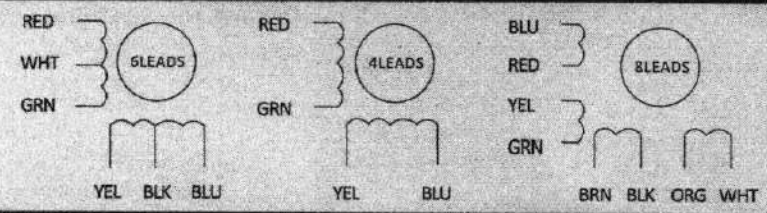
Mechanical Specifications

Unit: mm 1inch=25.4mm



* The diameter of the shaft of the 57HS22 is 8 mm, and those of the others are 6.35 mm.

Wiring Diagram

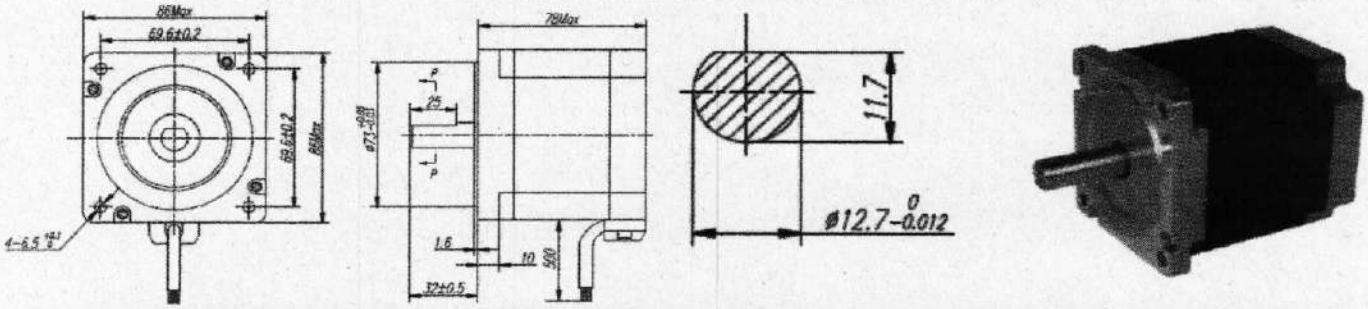


Match Drives

Model	Match Drives	Model	Match Drives
57HS04 57HS09	EM503 / EM705 / DM556	57HS13 57HS22	EM503 / EM705 / DM556

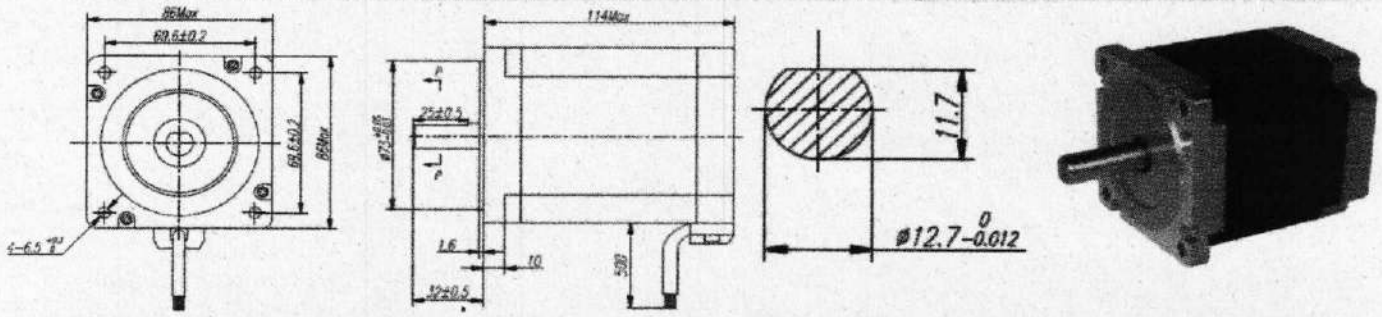
STEP (ADIM) MOTORLAR

4,2Nm (PHB86S78-802)



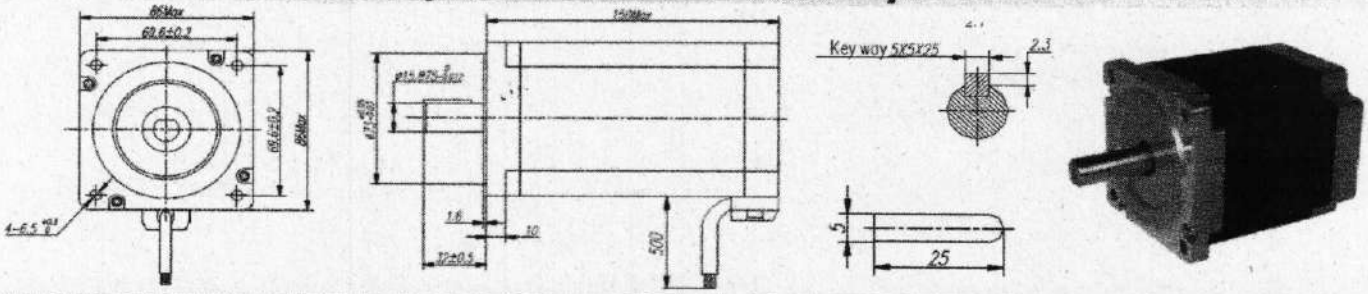
Model	Current	Resistance	Inductance	Holding Torque	Bi/Unipolar	Detent Torque	Rotor Inertia	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	# of Leads	N.cm	g.cm²	kg	mm
PHB86S78-802-127D	5.6	0.35	3.0	420	Bi-P (8)	6.5	1050	2.5	78
	2.8	1.4	12.0	420	Bi-S (8)				
	4.0	0.7	3.0	300	Uni (8)				

8,2Nm (PHB86S114-802)



Model	Current	Resistance	Inductance	Holding Torque	Bi/Unipolar	Detent Torque	Rotor Inertia	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	# of Leads	N.cm	g.cm²	kg	mm
PHB86S114-802-127D	5.6	0.55	5.5	820	Bi-P (8)	12.5	1800	4.0	114
	2.8	2.2	22.0	820	Bi-S (8)				
	4.0	1.1	5.5	580	Uni (8)				

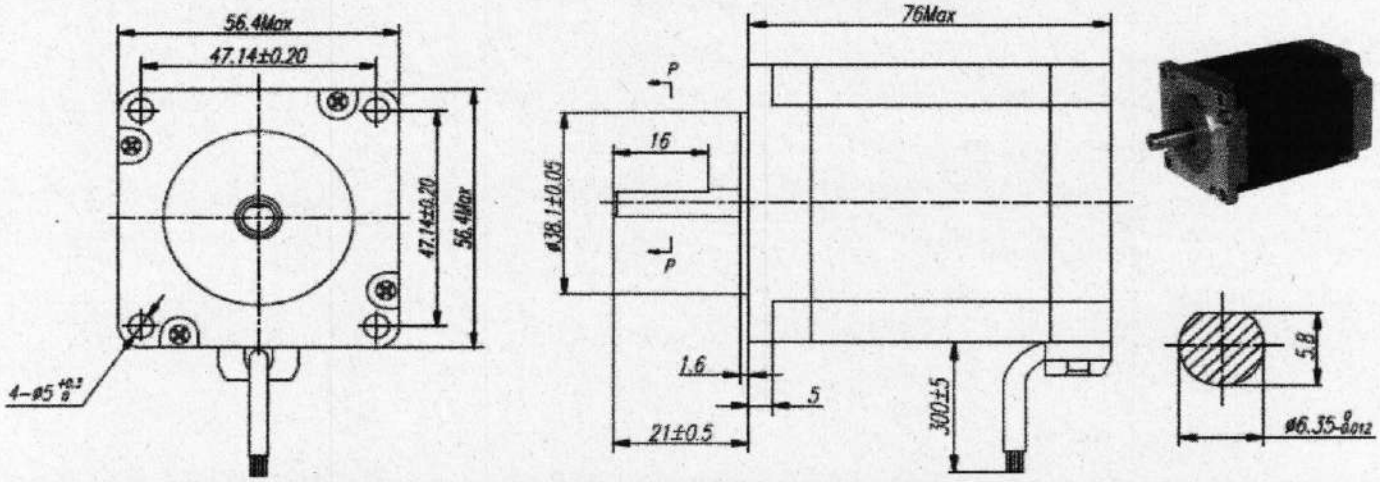
12Nm (PHB86S150-802)



Model	Current	Resistance	Inductance	Holding Torque	Bi/Unipolar	Detent Torque	Rotor Inertia	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	# of Leads	N.cm	g.cm²	kg	mm
PHB86S150-802-625IK5	5.6	0.7	9.2	1200	Bi-P (8)	24.5	2500	5.0	150
	2.8	2.8	36.8	1200	Bi-S (8)				
	4.0	1.4	9.2	850	Uni (8)				

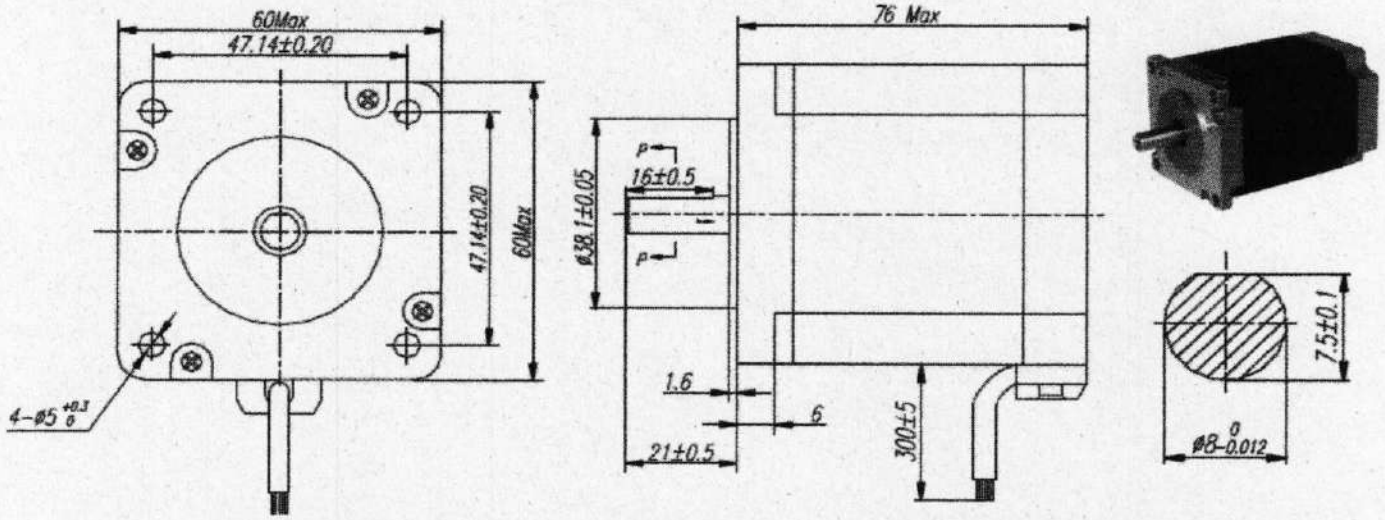
STEP (ADIM) MOTORLAR

1,8Nm (PHB57S76-430)

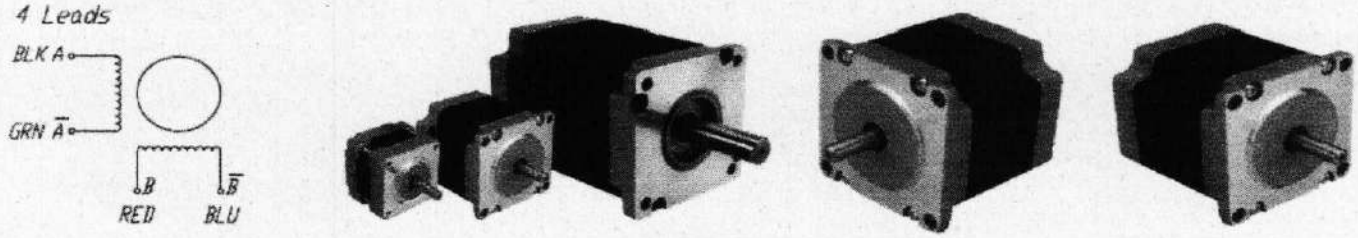


Model	Current	Resistance	Inductance	Holding Torque	Detent Torque	Rotor Inertia	Bi/Unipolar	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	N.cm	g.cm²	# of Leads	g	mm
PHB57S76-430-SF	3.0	1.0	3.5	180	6.0	440	Bi (4)	1050	76

2,2Nm (PHB60S76-430)



Model	Current	Resistance	Inductance	Holding Torque	Detent Torque	Rotor Inertia	BI/Unipolar	Weight	Length
	A/Ø	Ω/Ø	mH/Ø	N.cm	N.cm	g.cm²	# of Leads	g	mm
PHB60S76-430-8D	3.0	1.0	3.5	220	7.0	550	Bi (4)	1150	76



M880A

Introduction

The M880A is a high performance microstepping drive based on pure-sinusoidal current control and self-adjustment (self-adjust current control parameters according to different motors) technologies. Driven motors can run with lower noise, lower heating, smoother movement and have better performance at higher speed than most drives on the market. It is suitable for driving 2-phase and 4-phase hybrid stepping motors from NEMA23 to NEMA42.

Applications

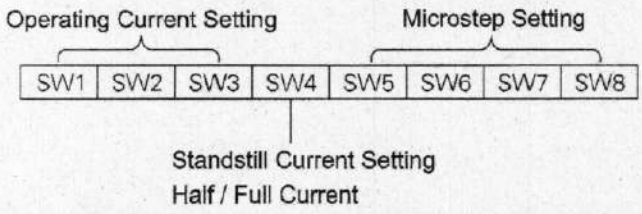
Suitable for a wide range of stepping motors from NEMA23 to NEMA42. Widely used in various kinds of machines, such as CNC routers, cutting machines, electronic manufacturing, packing, pick-place devices, and so on. Particularly suitable for the applications require low cost, low noise and high speed performance.

Function Description

Function	Description
Microstep Setting	16 selectable microstep resolutions up to 512,00 steps/rev. Set by SW5, 6, 7, 8 of the DIP switch. In order to avoid losing steps, do not change the microstep on the fly.
Current Setting	The first three bits (SW1, 2, 3) of the DIP switch are used to set the operating current, which is up to 7.8 A.. Select a setting closest to your motor's required current.
Automatic Standstill Current Reduction	SW4 is used for the automatic standstill current reduction function. When this function i active, the current will automatically reduced to 60% of the selected operating current 0.4 second after the last pulse. Theoretically, this will reduce motor heating to 36% (due to $P=I^2*R$) of the original value.
Control Signals	PUL+ and PUL- are for the pulse command signal. DIR+ and DIR- are for the direction control signal. ENA+ and ENA- are for the enable/ disable control signal. Series connect resistors for current-limiting when +12V or +24V is used.
Motor Connector	A+, A- and B+, B- are for motor connections. Exchanging the connection of two wires for a coil to the drive will reverse default motion direction.
Power Connector	Recommended to use power supplies with theoretical output of +24 VDC to +68 VDC, leaving room for power fluctuation and back-EMF.
Indicators	There are two LED indicators on the drive for power and alarm signals. When the Green LED is on means the drive is powered up, and when the Red LED is on means the drive is in fault status. When in fault status, the motor shaft will be free. Reset the drive by re-powering it to make it function properly after removing problem(s).

Parameter Settings

This M880A uses an 8-bit DIP switch to set microstep resolution, and motor operating current, as shown below.

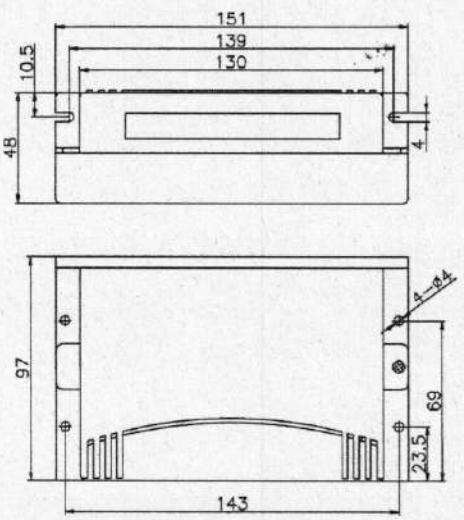


Operating Current Setting

Peak Current	RMS Current	SW1	SW2	SW3
2.80A	2.00 A	on	on	on
3.50A	2.50 A	off	on	on
4.20A	3.00 A	on	off	on
4.90A	3.50 A	off	off	on
5.70A	4.07 A	on	on	off
6.40A	4.57 A	off	on	off
7.00A	5.00 A	on	off	off
7.80A	5.57 A	off	off	off

Mechanical Specifications

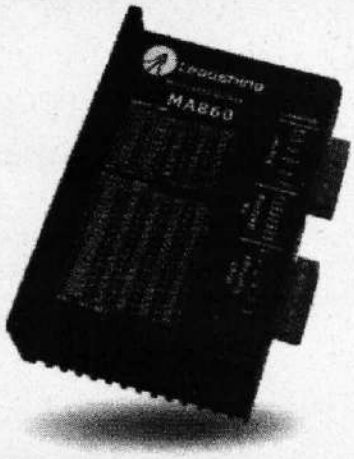
Unist: mm 1 inch = 25.4mm



Microstep Resolution Setting

Steps/rev.	SW5	SW6	SW7	SW8
400	on	on	on	on
800	off	on	on	on
1600	on	off	on	on
3200	off	off	on	on
6400	on	on	off	on
12800	off	on	off	on
25600	on	off	off	on
51200	off	off	off	on
1000	on	on	on	off
2000	off	on	on	off
4000	on	off	on	off
5000	off	off	on	off
8000	on	on	off	off
10000	off	on	off	off
20000	on	off	off	off
40000	off	off	off	off

MA860



Introduction

The MA860 is a high performance microstepping drive based on pure-sinusoidal current control and self-adjustment (self-adjust current control parameters according to different motors) technologies. Driven motors can run with lower noise, lower heating, smoother movement and have better performance at higher speed than most drives on the market. It is suitable for driving 2-phase and 4-phase hybrid stepping motors from NEMA23 to NEMA42.

Applications

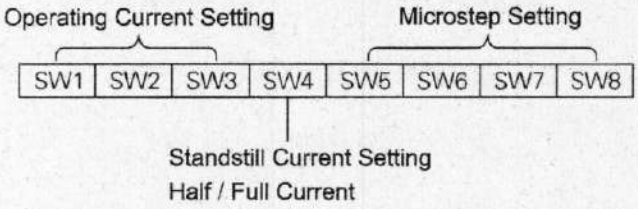
Suitable for a wide range of stepping motors from NEMA23 to NEMA42. Widely used in various kinds of machines, such as CNC routers, cutting machines, packing devices, pick-place devices, and so on. Particularly suitable for the applications require low cost, low noise, low heating and high speed performance.

Function Description

Function	Description
Microstep Setting	16 selectable microstep resolutions up to 512,00 steps/rev. Set by SW5, 6, 7, 8 of the DIP switch. In order to avoid losing steps, do not change the microstep on the fly.
Current Setting	The first three bits (SW1, 2, 3) of the DIP switch are used to set the operating current, which is up to 7.2 A.. Select a setting closest to your motor's required current.
Automatic Standstill Current Reduction	SW4 is used for the automatic standstill current reduction function. When this function is active, the current will automatically reduced to 60% of the selected operating current 0.4 second after the last pulse. Theoretically, this will reduce motor heating to 36% (due to $P=I^2*R$) of the original value.
Control Signals	PUL+ and PUL- are for the pulse command signal. DIR+ and DIR- are for the direction control signal. ENA+ and ENA- are for the enable/ disable control signal. Series connect resistors for current-limiting when +12V or +24V is used.
Motor Connector	A+, A- and B+, B- are for motor connections. Exchanging the connection of two wires for a coil to the drive will reverse default motion direction.
Power Connector	Recommended to use power supplies with theoretical output of 18 to 50VAC or +20 to 68VDC, leaving room for power fluctuation and back-EMF.
Indicators	There are two LED indicators on the drive for power and alarm signals. When the Green LED is on means the drive is powered up, and when the Red LED is on means the drive is in fault status. When in fault status, the motor shaft will be free. Reset the drive by repowering it to make it function properly after removing problem(s).

Parameter Settings

This MA860 uses an 8-bit DIP switch to set microstep resolution, and motor operating current, as shown below.

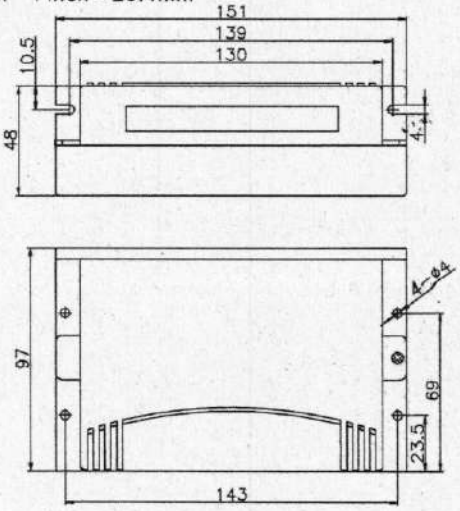


Operating Current Setting

Peak Current	M860 REF Current	SW1	SW2	SW3
2.40 A	2.00 A	on	on	on
3.08 A	2.57 A	off	on	on
3.77 A	3.14 A	on	off	on
4.45 A	3.71 A	off	off	on
5.14 A	4.28 A	on	on	off
5.83 A	4.86 A	off	on	off
6.52 A	5.43 A	on	off	off
7.20 A	6.00 A	off	off	off

Mechanical Specifications

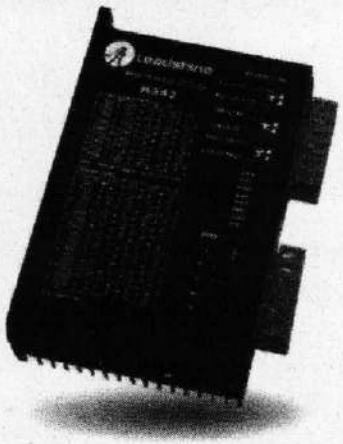
Units: mm 1 inch = 25.4mm



Microstep Resolution Setting

Steps/rev.	SW5	SW6	SW7	SW8
400	on	on	on	on
800	off	on	on	on
1600	on	off	on	on
3200	off	off	on	on
6400	on	on	off	on
12800	off	on	off	on
25600	on	off	off	on
51200	off	off	off	on
1000	on	on	on	off
2000	off	on	on	off
4000	on	off	on	off
5000	off	off	on	off
8000	on	on	off	off
10000	off	on	off	off
20000	on	off	off	off
40000	off	off	off	off

M542 V2.0



Introduction

The M542 is a high performance microstepping drive based on pure-sinusoidal current control and self-adjustment (self-adjust current control parameters according to different motors) technologies. Driven motors can run with lower noise, lower heating, smoother movement and have better performance at higher speed than most drives on the market. It is suitable for driving 2-phase and 4-phase hybrid stepping motors from NEMA14 to NEMA34.

Applications

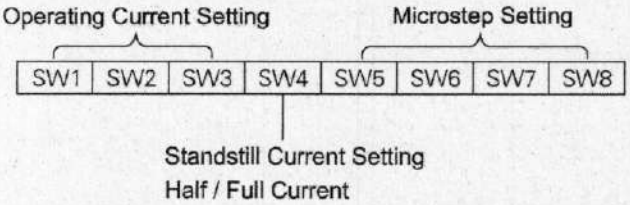
Suitable for a wide range of stepping motors from NEMA size 14 to NEMA34. Widely used in various kinds of machines, such as CNC routers, labelling machines, laser machines, X-Y tables, pick-place devices, and so on. Particularly suitable for the applications require low cost, low noise, low heating and high speed performance.

Function Description

Function	Description
Microstep Setting	15 selectable microstep resolutions up to 256,00 steps/rev. Set by SW5, 6, 7, 8 of the DIP switch. In order to avoid losing steps, do not change the microstep on the fly.
Current Setting	The first three bits (SW1, 2, 3) of the DIP switch are used to set the operating current, which is up to 4.2 A. Select a current setting closest to your motor's required current.
Automatic Standstill Current Reduction	SW4 is used for the automatic standstill current reduction function. When this function is active, the current will automatically reduced to 60% of the selected operating current 0.4 second after the last pulse. Theoretically, this will reduce motor heating to 36% (due to $P=I^2*R$) of the original value.
Control Signals	PUL+ and PUL- are for the pulse command signal. DIR+ and DIR- are for the direction control signal. ENA+ and ENA- are for the enable/disable control signal. Series connect resistors for current-limiting when +12V or +24V is used.
Motor Connector	A+, A- and B+, B- are for motor connections. Exchanging the connection of two wires for a coil to the drive will reverse default motion direction.
Power Connector	Recommended to use power supplies with theoretical output of +20 VDC to +45 VDC, leaving room for power fluctuation and back-EMF.
Indicators	There are two LED indicators on the drive for power and alarm signals. When the Green LED is on means the drive is powered up, and when the Red LED is on means the drive is in fault status. When in fault status, the motor shaft will be free. Reset the drive by re-powering it to make it function properly after removing problem(s).

Parameter Settings

This M542 uses an 8-bit DIP switch to set microstep resolution, and motor operating current, as shown below.

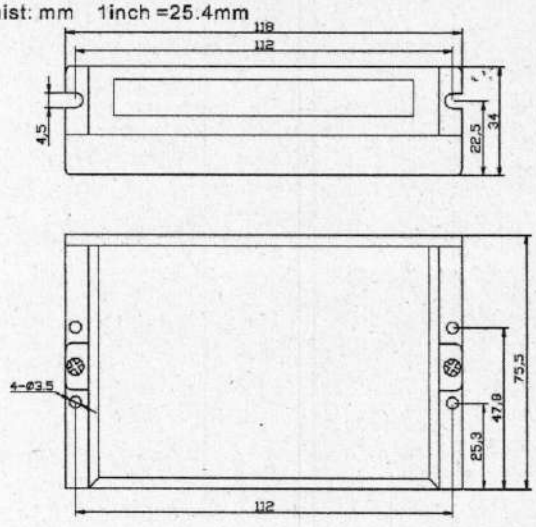


Operating Current Setting

Peak Current	RMS Current	SW1	SW2	SW3
1.00 A	0.71 A	on	on	on
1.46 A	1.04 A	off	on	on
1.91 A	1.36 A	on	off	on
2.37 A	1.69 A	off	off	on
2.84 A	2.03 A	on	on	off
3.31 A	2.36 A	off	on	off
3.76 A	2.69 A	on	off	off
4.20 A	3.00 A	off	off	off

Mechanical Specifications

Unist: mm 1inch =25.4mm



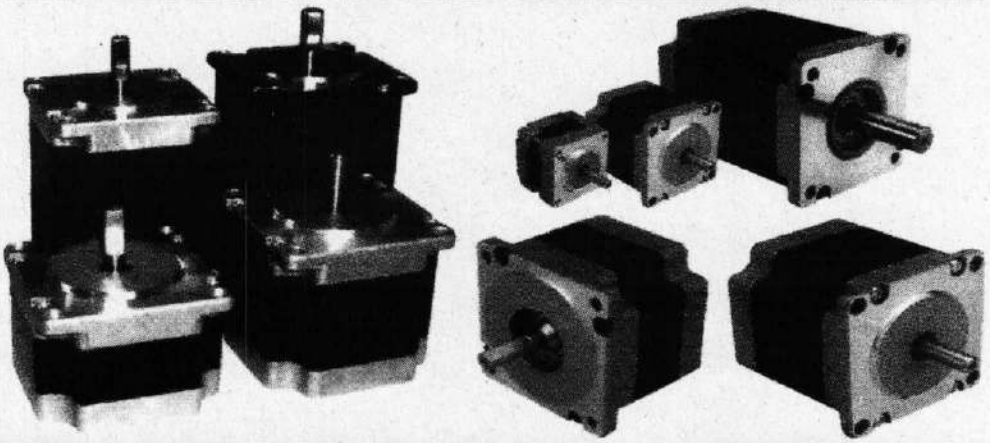
Microstep Resolution Setting

Steps/rev.	SW5	SW6	SW7	SW8
400	off	on	on	on
800	on	off	on	on
1600	off	off	on	on
3200	on	on	off	on
6400	off	on	off	on
12800	on	off	off	on
25600	off	off	off	on
1000	on	on	on	off
2000	off	on	on	off
4000	on	off	on	off
5000	off	off	on	off
8000	on	on	off	off
10000	off	on	off	off
20000	on	off	off	off
25000	off	off	off	off

STEP (ADIM) MOTOR VE SÜRÜCÜLER

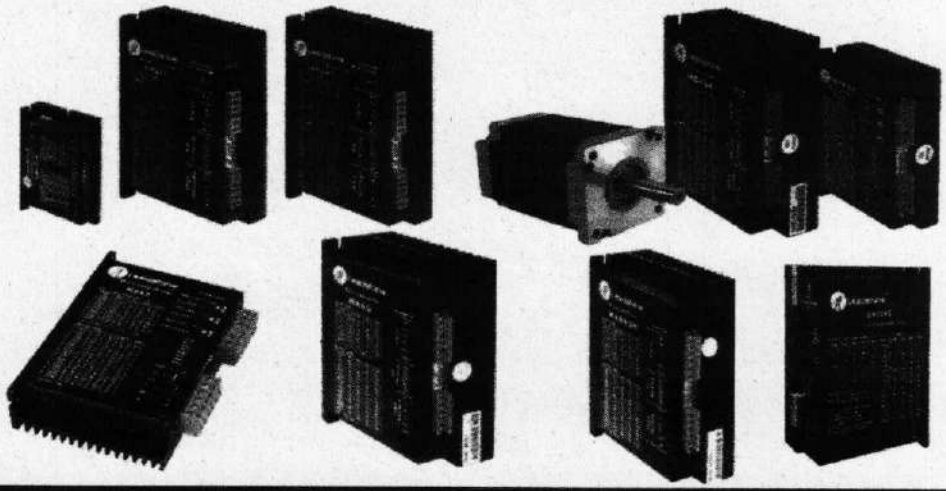
2 FAZLI HİBRİT STEP (ADIM) MOTORLAR

Ürün Kodu
57HS22
57HS30
86HS45
86HS85
86HS120



STEP (ADIM) MOTOR SÜRÜCÜLERİ

Ürün Kodu
M542
M880A
MA860
DM870
MD2278



SÜRÜCÜLER İÇİN PARÇA NUMARASI

M — M:Geleneksel Seri (3.Nesil)

A — A: AC&DC Girişli / Boş: DC Girişli

8 — Maksimum Voltaj: 8 = 80V

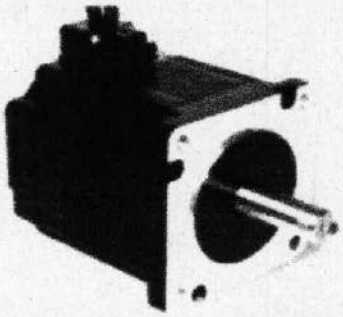
60 — Maksimum Çıkış Akımı: 60 = 6.0A

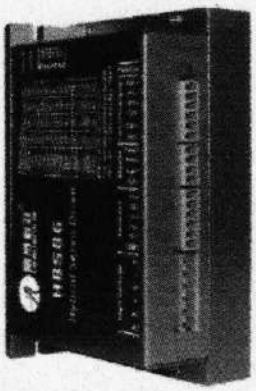
H — Özel Model Numarası: Boş: Normal Model / H: Yükek Voltaj

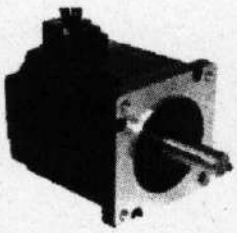
HİBRİT SERVO MOTOR VE SÜRÜCÜLER

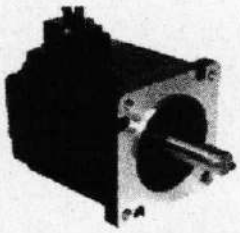
ENCODER'Lİ HİBRİT STEP SERVO MOTOR

Ürün Kodu
86HS40-EC
86HS80-EC



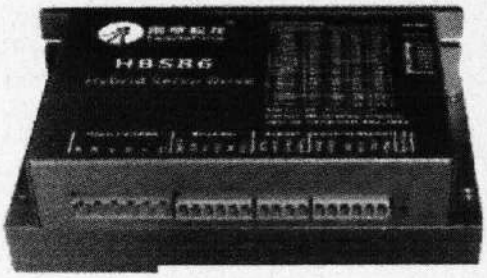




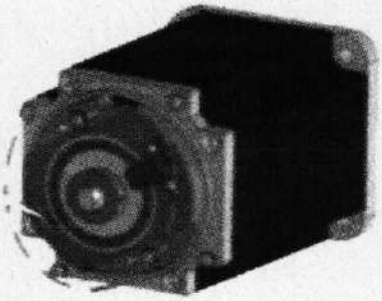


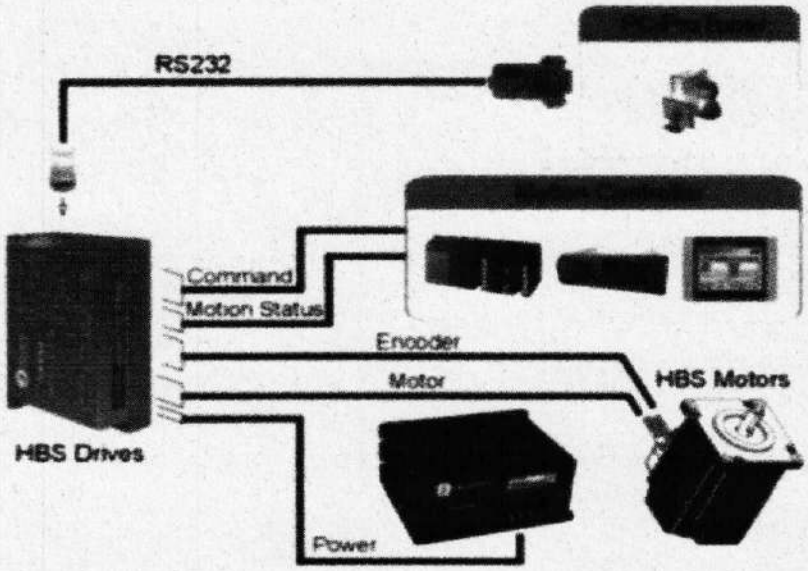
ENCODER'Lİ HİBRİT STEP SERVO MOTOR SÜRÜCÜ

Ürün Kodu
HBS86

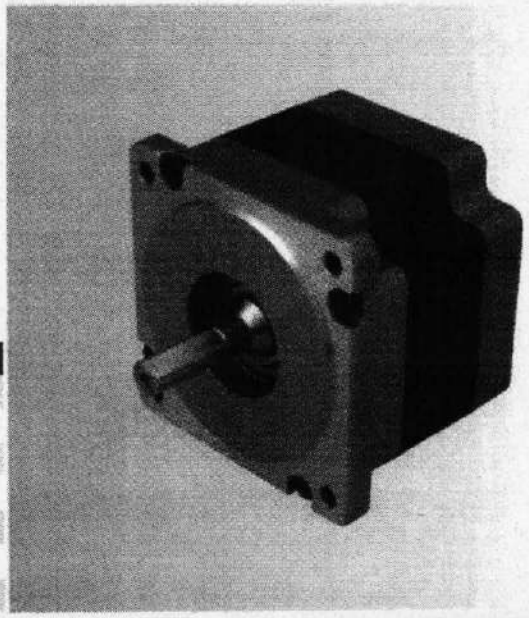


Encoder





86HSxx Series



General Specifications

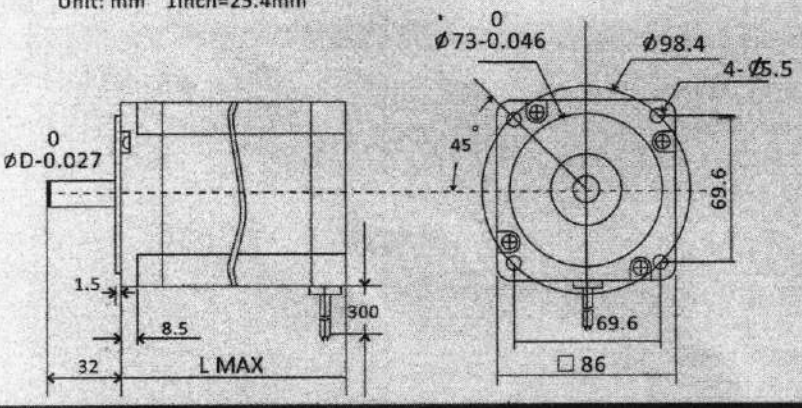
Angle Accuracy	± 5%(full step, no load)
Temperature Rise	80 °C Max
Ambient Temperature	-10 °C— +50 °C
Insulation Resistance	100MΩ min. 500VDC
Dielectric Strength	500VAC for one minute
Shaft Radial Play	0.06 Max. (450g-load)
Shaft Axial Play	0.08 Max. (450g-load)

Selection Table

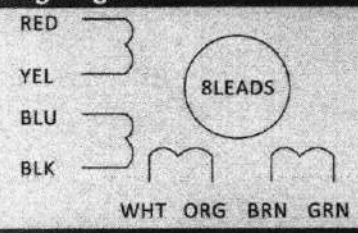
Phase	NEMA Size	Model	Step Angle (°)	# of Leads	Connection	Current/Phase (A)	Holding Torque (Nm)	Length L (mm)	Weight (kg)	Match Drives
2	34	86HS35	1.8	8	Parallel	4.0	3.5	65	1.7	EM705 / EM806 / DM870
					Series	2.0	3.5			
					Unipolar	2.8	2.5			
		86HS45	1.8	8	Parallel	6.0	4.5	80	2.3	EM705 / EM806 / DM870 / DM1182
					Series	3.0	4.5			
					Unipolar	4.2	3.2			
		86HS85	1.8	8	Parallel	6.8	8.5	118	3.8	EM806 / DM870 / DM1182 / DM2282
					Series	3.4	8.5			
					Unipolar	4.9	6.0			

Mechanical Specifications

Unit: mm 1inch=25.4mm

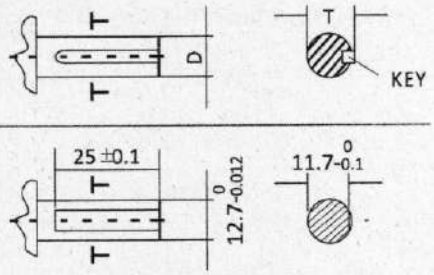


Wiring Diagram



Specifications of Motor Shafts

Model	T	KEY	D
86HS35	/	/	9.5
86HS45	/	/	12.7
86HS85	14.9	5*5*25	12.7



The Shaft of the 86HS45

* The shaft of the 86HS35 is round, no flat.

Match Drives

Model	Match Drives
86HS35	EM705 / EM806 / DM870 / DM1182
86HS45	
86HS85	EM705 / EM806 / DM870 / DM1182 / DM2282