



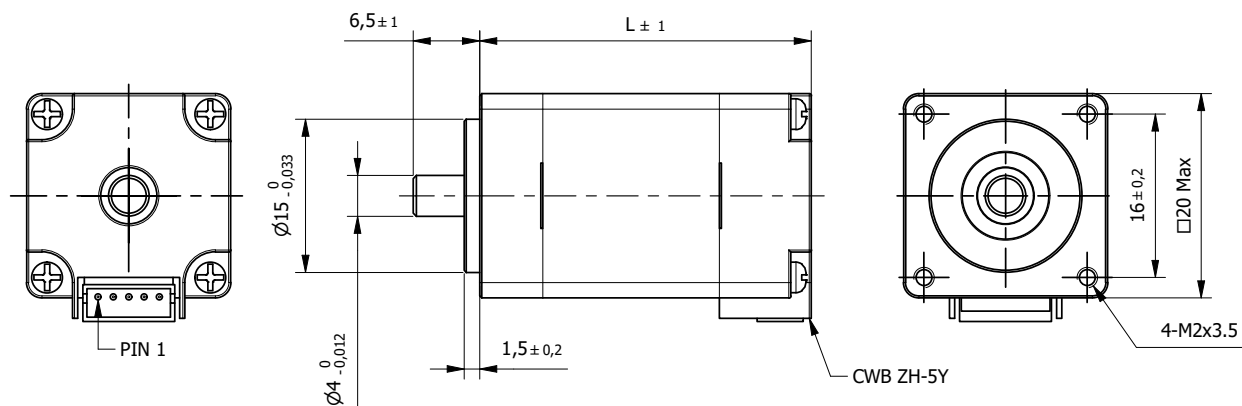
Hybrid Stepper motors
SH-series

Hybrid Stepper motors - SH series High Torque		
20SH33 - High Torque	0,018	288
20SH42 - High Torque	0,030	289
25SH23 - High Torque	0,033	290
28SH32 - High Torque	0,043...0,060	291
28SH45 - High Torque	0,075...0,095	292
28SH51 - High Torque	0,090...0,120	293
35SH26 - High Torque	0,070	294
35SH28 - High Torque	0,100	295
35SH36 - High Torque	0,140	296
39SH20 - High Torque	0,065...0,080	297
39SH34 - High Torque	0,130...0,210	298
39SH38 - High Torque	0,200...0,290	299
42SH33 - High Torque	0,158...0,220	300
42SH38 - High Torque	0,259...0,360	301
42SH47 - High Torque	0,317...0,440	302
42SH60 - High Torque	0,650...0,800	303
42SH33M - High Torque - step 0,9°	0,158...0,220	304
42SH38M - High Torque - step 0,9°	0,259...0,360	305
42SH47M - High Torque - step 0,9°	0,317...0,440	306
57SH41 - High Torque	0,390...0,550	307
57SH51 - High Torque	0,720...1,010	308
57SH56 - High Torque	0,900...1,260	309
57SH76 - High Torque	1,350...1,890	310
57SH41M - High Torque - step 0,9°	0,390...0,550	311
57SH56M - High Torque - step 0,9°	0,900...1,260	312
57SH76M - High Torque - step 0,9°	1,350...1,800	313
60SH45 - High Torque	0,780...1,100	314
60SH56 - High Torque	1,170...1,650	315
60SH65 - High Torque	1,500...2,100	316
60SH86 - High Torque	2,200...3,100	317
86SH65 - High Torque	2,600...3,400	318
86SH80 - High Torque	4,600	319
86SH96 - High Torque	7,000	320
86SH118 - High Torque	8,700	321
86SH156 - High Torque	12,100	322
110SH99 - High Torque	11,200	323
110SH150 - High Torque	21,000	324
110SH201 - High Torque	28,000	325

Hybrid Stepper Motor 20SH33

High Torque

□ 20mm

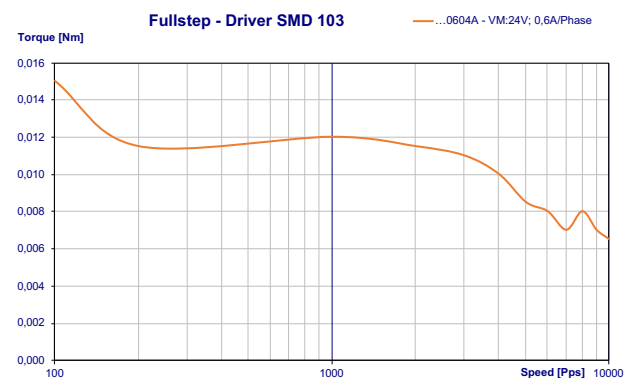


Specification			
Model	...0604A		
1	Rated Voltage	V	3,96
2	Current/Phase	A	0,6
3	Resistance/Phase	Ω	6,5
4	Inductance/Phase	mH	1,7
5	Holding Torque	Nm	0,018
6	Rotor Inertia	gcm ²	2
7	Detent Torque	Nm	0,002
8	n° of Leads		4
9	Length (L)	mm	33
10	Weight	Kg	0,06

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	2N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination	
Drive	
Aries	
Libra	
Orion	
Aquarius	
* other options on request	

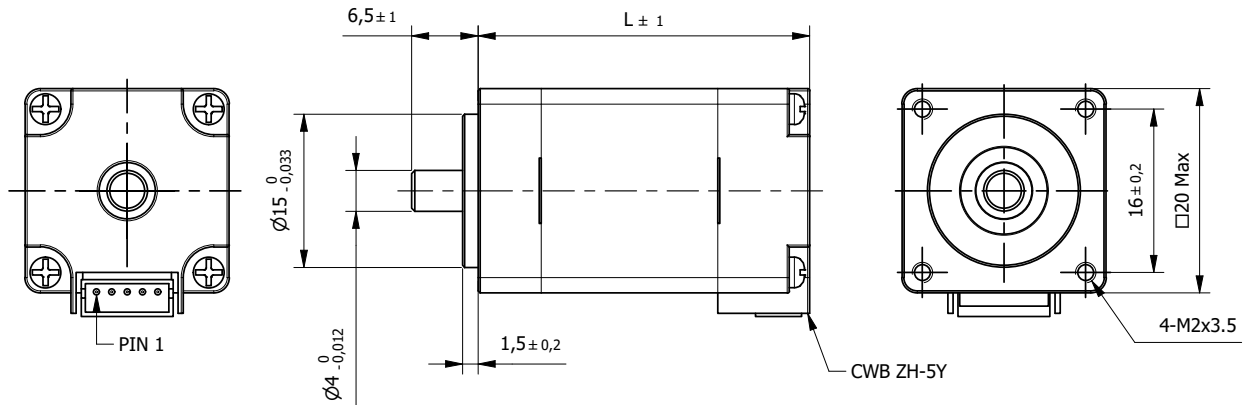
Connection			
Pin n°	Color	Gauge	Function
1	Black	UL1061 AWG28	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 20SH42

High Torque

□ 20mm

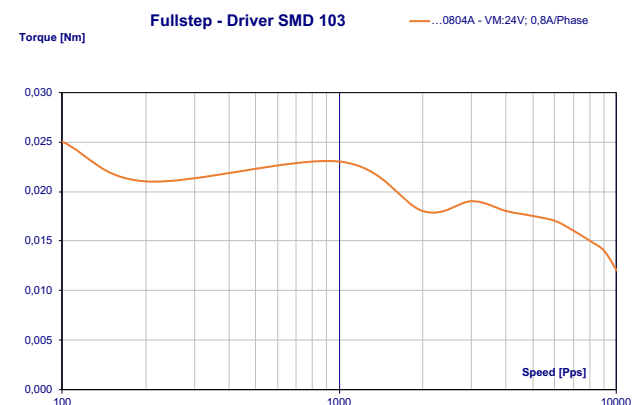


Specification			
Model	...0804A		
1	Rated Voltage	V	4,32
2	Current/Phase	A	0,8
3	Resistance/Phase	Ω	5,4
4	Inductance/Phase	mH	1,5
5	Holding Torque	Nm	0,03
6	Rotor Inertia	gcm ²	3,6
7	Detent Torque	Nm	0,002
8	n° of Leads		4
9	Length (L)	mm	42
10	Weight	Kg	0,08

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	2N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Pin n°	Color	Gauge	Function
1	Black	UL1061 AWG28	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination	
Drive	
Aries	
Libra	
Orion	
Aquarius	
* other options on request	

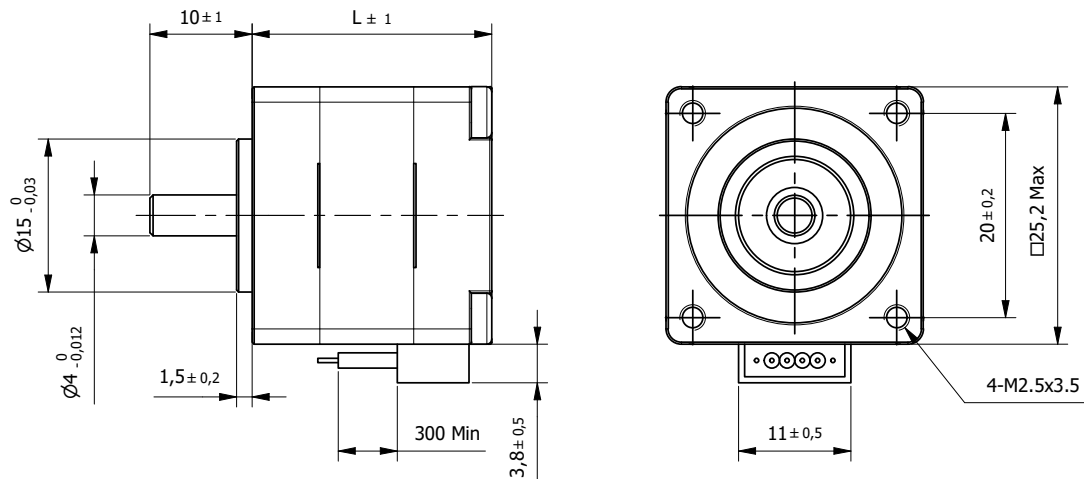


Stepper

Hybrid Stepper Motor 25SH23

High Torque

□ 25mm



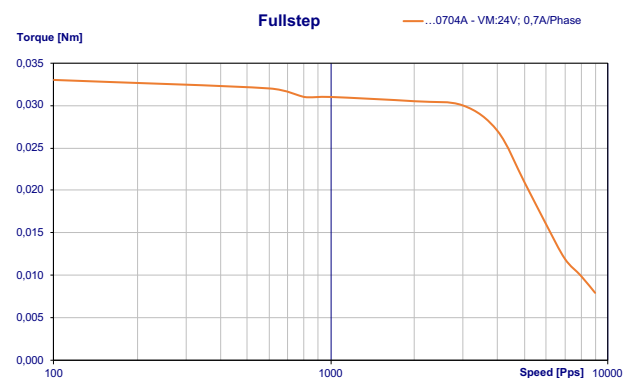
Specification			
Model		...0704A	
1	Rated Voltage	V	3
2	Current/Phase	A	0,7
3	Resistance/Phase	Ω	4,3
4	Inductance/Phase	mH	2,4
5	Holding Torque	Nm	0,033
6	Rotor Inertia	gcm ²	2
7	Detent Torque	Nm	0,003
8	n° of Leads		4
9	Length (L)	mm	23
10	Weight	Kg	0,055

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	7N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination	
Gearbox	Drive
22JMS	Aries
	Libra
	Orion
	Aquarius

* other options on request

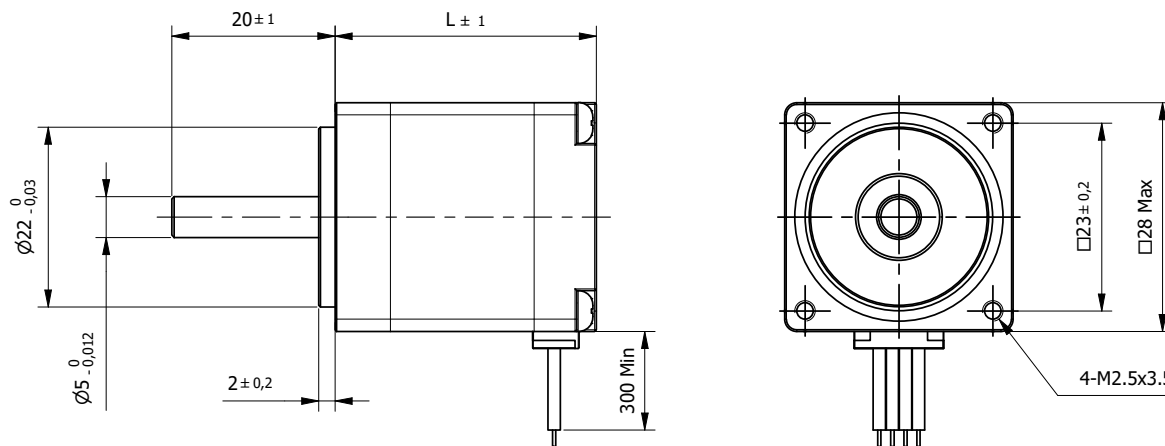
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-



Hybrid Stepper Motor 28SH32

High Torque

□ 28mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

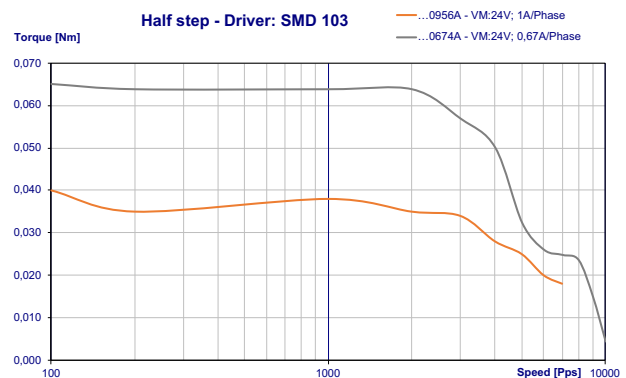
Specification				
Model		...0956A	...0674A	
1	Rated Voltage	V	2,66	3,8
2	Current/Phase	A	0,95	0,67
3	Resistance/Phase	Ω	2,8	5,6
4	Inductance/Phase	mH	0,8	3,4
5	Holding Torque	Nm	0,043	0,06
6	Rotor Inertia	gcm ²	9	9
7	Detent Torque	Nm	0,005	0,005
8	n° of Leads		6	4
9	Length (L)	mm	32	32
10	Weight	Kg	0,11	0,11

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E4	28JMS	Aries
E5	22JMS	Libra
		Orion
		Aquarius

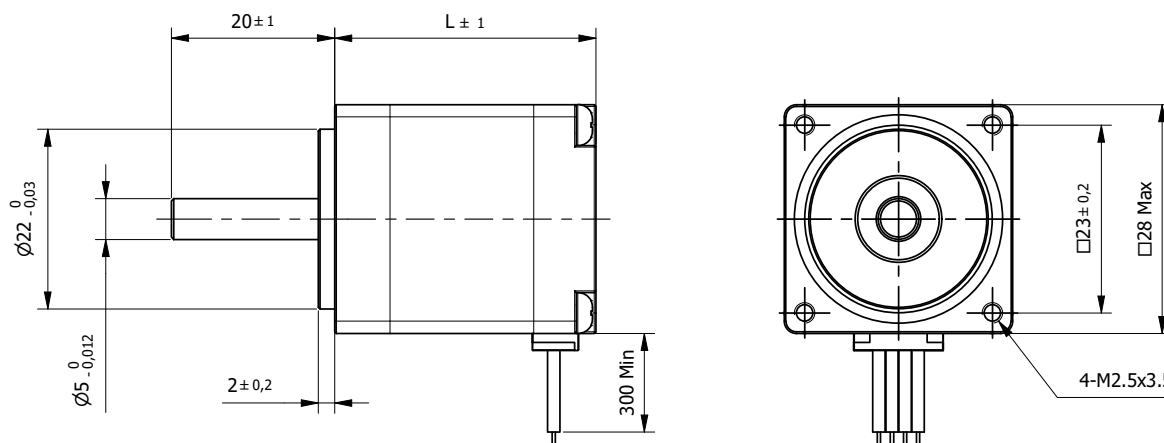
* other options on request



Hybrid Stepper Motor 28SH45

High Torque

□ 28mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

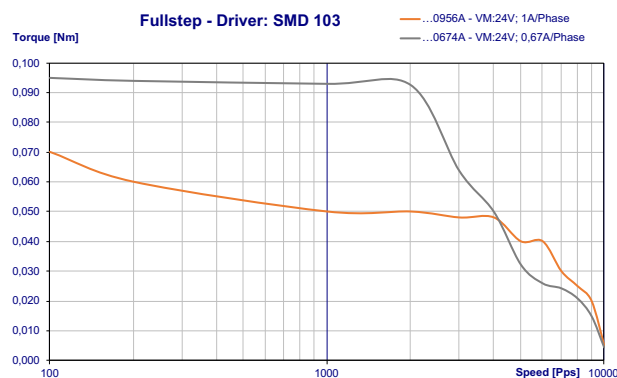
Specification			...0956A	...0674A
Model				
1	Rated Voltage	V	3,4	4,56
2	Current/Phase	A	0,95	0,67
3	Resistance/Phase	Ω	3,4	6,8
4	Inductance/Phase	mH	1,2	4,9
5	Holding Torque	Nm	0,075	0,095
6	Rotor Inertia	gcm ²	12	12
7	Detent Torque	Nm	0,006	0,006
8	n° of Leads		6	4
9	Length (L)	mm	45	45
10	Weight	Kg	0,14	0,14

Characteristics		
Item		
Step angle		1,8°
Step angle Accuracy		±5%
Insulation Class		B
Protection Class		IP30
Ambient Temperature		-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)		80°C
Max. Shaft Radial play (450g load)		0,02mm
Max. Shaft Axial play (450g load)		0,08mm
Max. Radial Force (20mm from front flange)		28N
Max Axial Force		10N
Dielectric Strength (for 1 min.)		500 VAC
Insulation Resistance (min. 500 VDC)		100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E4	28JMS	Aries
E5	22JMS	Libra
		Orion
		Aquarius

* other options on request

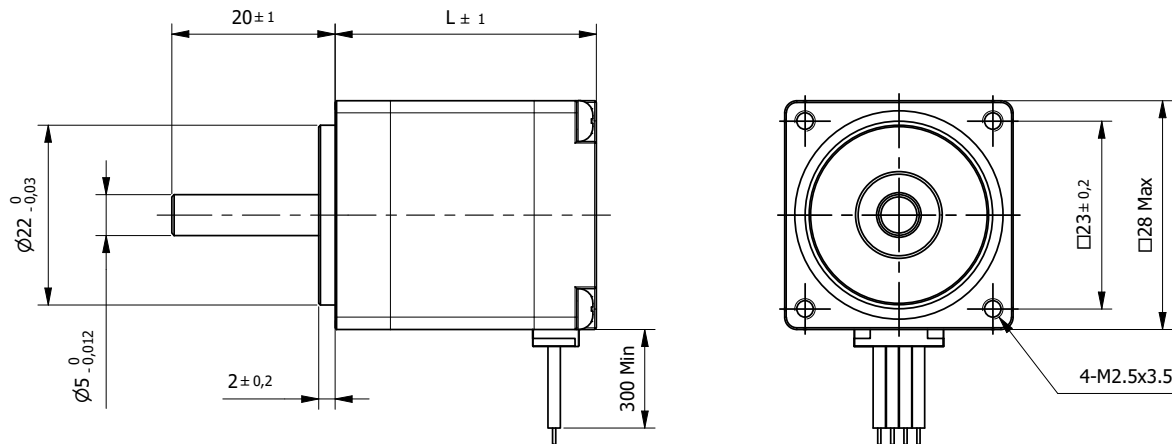
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 28SH51

High Torque

□ 28mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

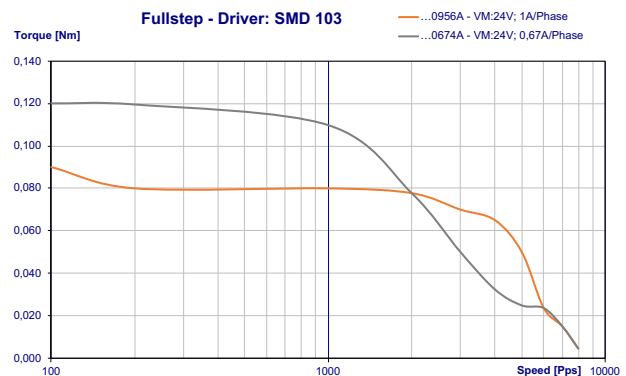
Specification			...0956A	...0674A
1	Rated Voltage	V	4,4	6,2
2	Current/Phase	A	0,95	0,67
3	Resistance/Phase	Ω	4,6	9,2
4	Inductance/Phase	mH	1,8	7,2
5	Holding Torque	Nm	0,09	0,12
6	Rotor Inertia	gcm ²	18	18
7	Detent Torque	Nm	0,008	0,008
8	n° of Leads		6	4
9	Length (L)	mm	51	51
10	Weight	Kg	0,2	0,2

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E4	28JMS	Aries
E5	22JMS	Libra
		Orion
		Aquarius

* other options on request

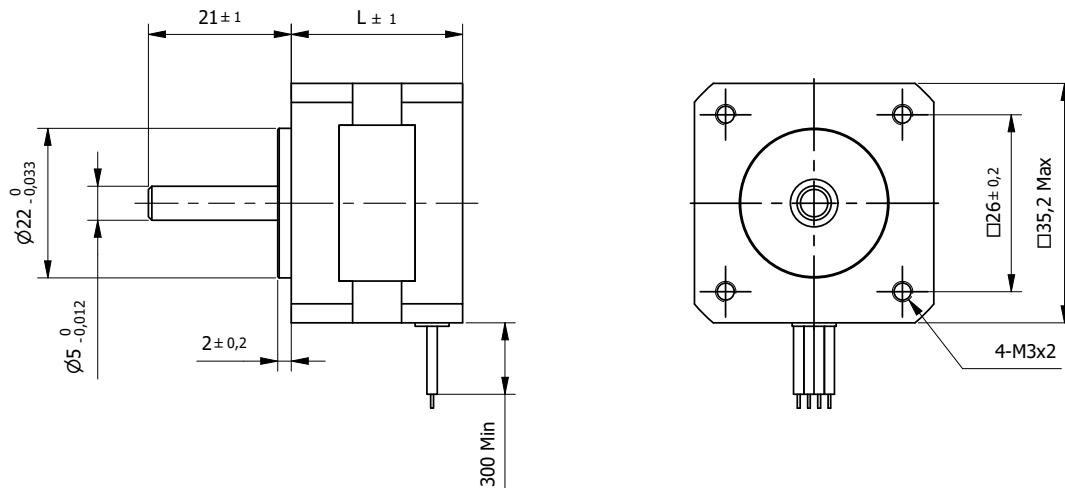
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 35SH26

High Torque

□ 35mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

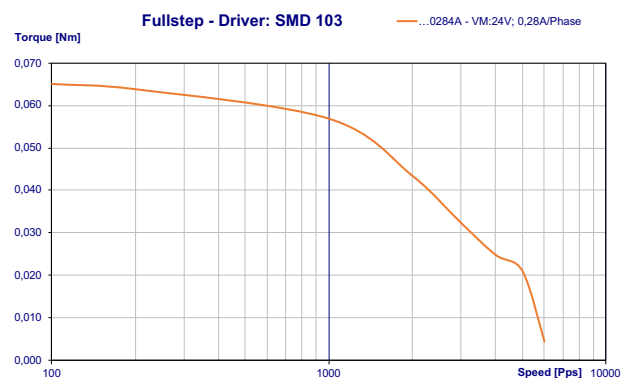
Specification			
Model	...0284A		
1	Rated Voltage	V	7,4
2	Current/Phase	A	0,28
3	Resistance/Phase	Ω	26
4	Inductance/Phase	mH	27
5	Holding Torque	Nm	0,07
6	Rotor Inertia	gcm ²	10
7	Detent Torque	Nm	0,006
8	n° of Leads		4
9	Length (L)	mm	26
10	Weight	Kg	0,13

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	28JMS	Aries
E4		Libra
E5		Orion
		Aquarius

* other options on request

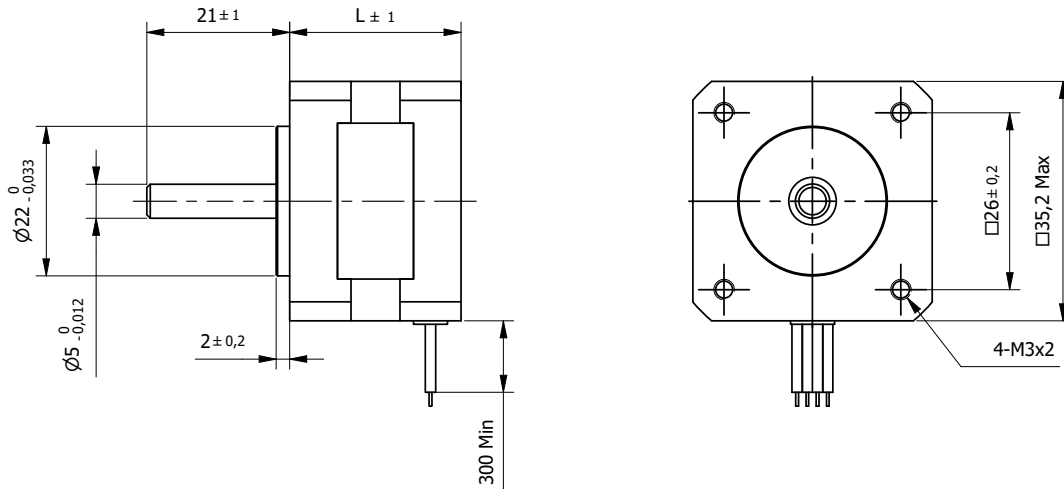
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 35SH28

High Torque

□ 35mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

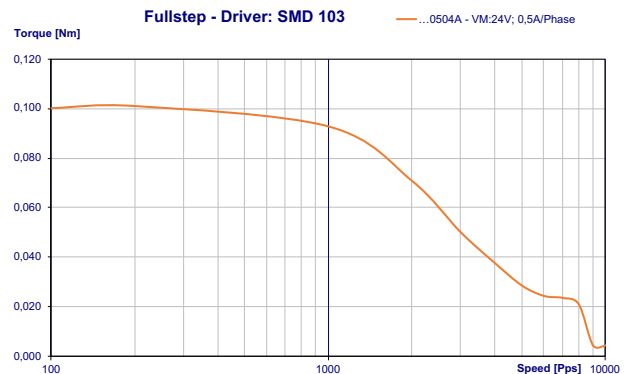
Specification			
Model	...0504A		
1	Rated Voltage	V	10
2	Current/Phase	A	0,5
3	Resistance/Phase	Ω	20
4	Inductance/Phase	mH	14
5	Holding Torque	Nm	0,1
6	Rotor Inertia	gcm ²	11
7	Detent Torque	Nm	0,008
8	n° of Leads		4
9	Length (L)	mm	28
10	Weight	Kg	0,14

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	28JMS	Aries
E4		Libra
E5		Orion
		Aquarius

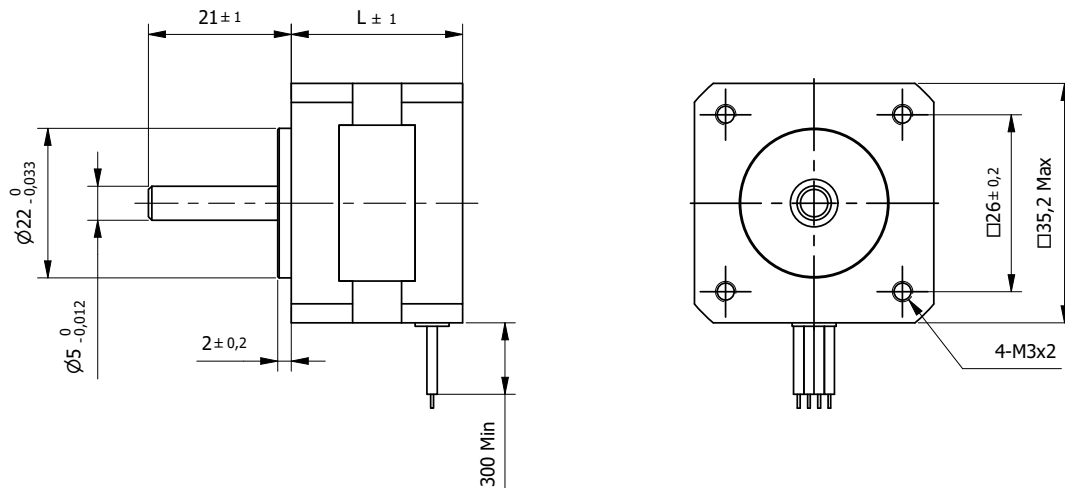
* other options on request



Hybrid Stepper Motor 35SH36

High Torque

□ 35mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

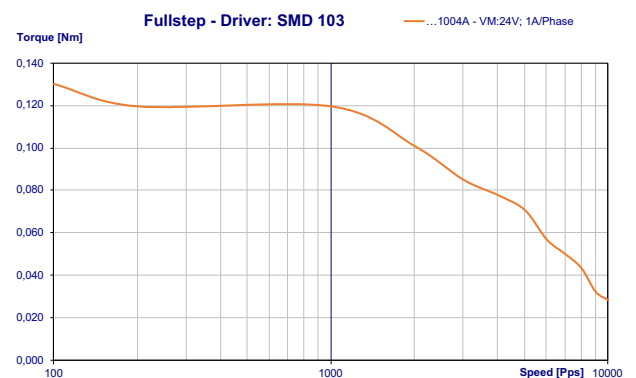
Specification			
Model	...1004A		
1	Rated Voltage	V	2,7
2	Current/Phase	A	1
3	Resistance/Phase	Ω	2,7
4	Inductance/Phase	mH	4,3
5	Holding Torque	Nm	0,14
6	Rotor Inertia	gcm ²	14
7	Detent Torque	Nm	0,01
8	n° of Leads		4
9	Length (L)	mm	36
10	Weight	Kg	0,18

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	28JMS	Aries
E4		Libra
E5		Orion
		Aquarius

* other options on request

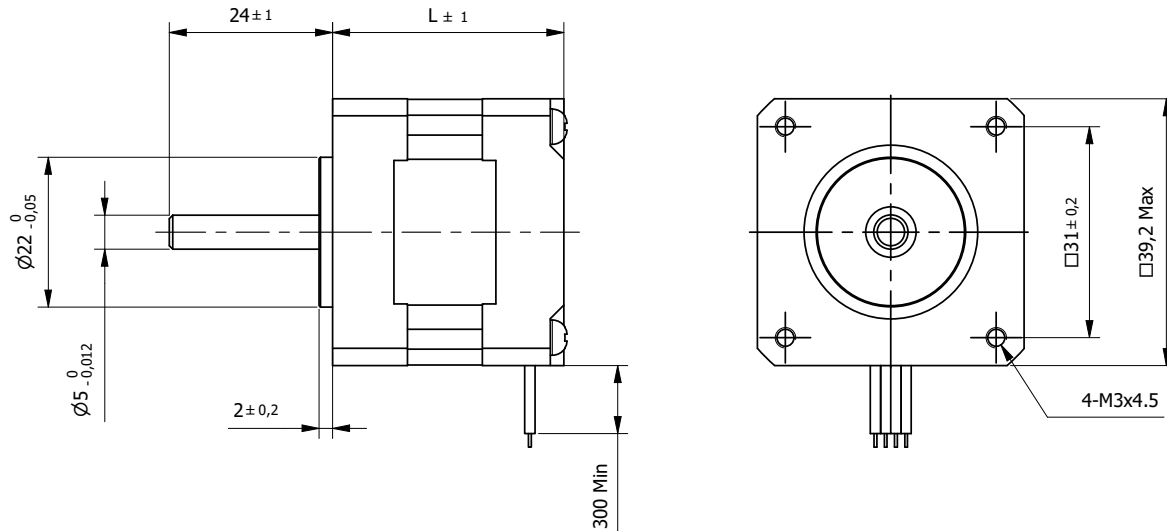
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 39SH20

High Torque

□ 39mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

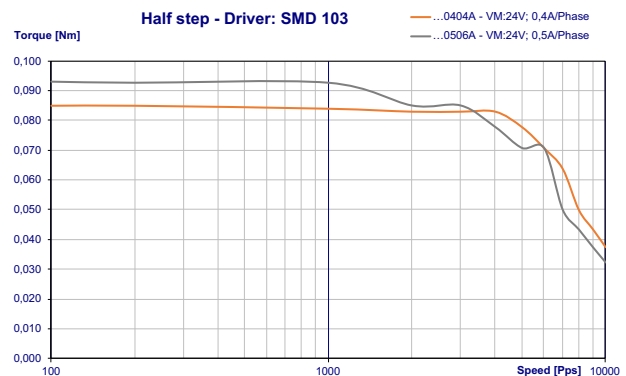
Specification				
Model		...0404A	...0506A	
1	Rated Voltage	V	2,64	6,5
2	Current/Phase	A	0,4	0,5
3	Resistance/Phase	Ω	6,6	13
4	Inductance/Phase	mH	6	6
5	Holding Torque	Nm	0,065	0,08
6	Rotor Inertia	gcm ²	11	11
7	Detent Torque	Nm	0,005	0,005
8	n° of Leads		4	4
9	Length (L)	mm	20	20
10	Weight	Kg	0,12	0,12

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	36JMS	Aries
E4		Libra
E5		Orion
		Aquarius

* other options on request

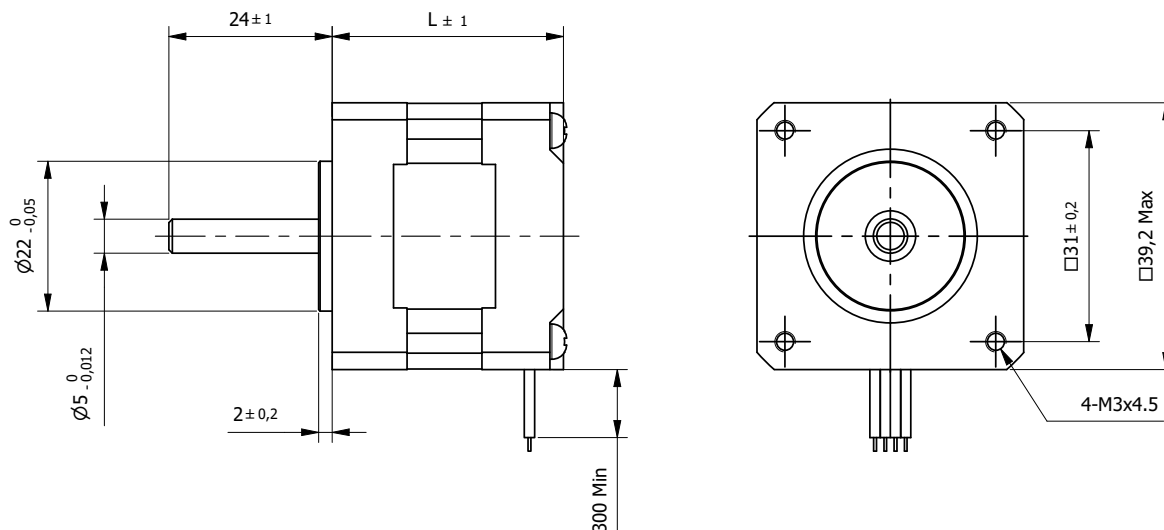
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1007 AWG28	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 39SH34

High Torque

□ 39mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

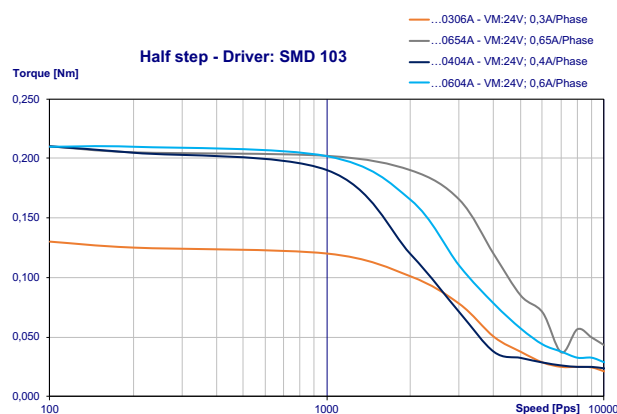
Specification			...0306A	...0654A	...0404A	...0604A
1	Rated Voltage	V	12	4,55	12	9
2	Current/Phase	A	0,3	0,65	0,4	0,6
3	Resistance/Phase	Ω	40	7	30	15
4	Inductance/Phase	mH	20	9,3	43	16
5	Holding Torque	Nm	0,13	0,18	0,21	0,21
6	Rotor Inertia	gcm ²	20	20	20	20
7	Detent Torque	Nm	0,012	0,012	0,012	0,012
8	n° of Leads		6	4	4	4
9	Length (L)	mm	34	34	34	34
10	Weight	Kg	0,18	0,18	0,18	0,18

Characteristics		
Item		
Step angle		1,8°
Step angle Accuracy		±5%
Insulation Class		B
Protection Class		IP30
Ambient Temperature		-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)		80°C
Max. Shaft Radial play (450g load)		0,02mm
Max. Shaft Axial play (450g load)		0,08mm
Max. Radial Force (20mm from front flange)		28N
Max Axial Force		10N
Dielectric Strength (for 1 min.)		500 VAC
Insulation Resistance (min. 500 VDC)		100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	36JMS	Aries
E4		Libra
E5		Orion
		Aquarius

* other options on request

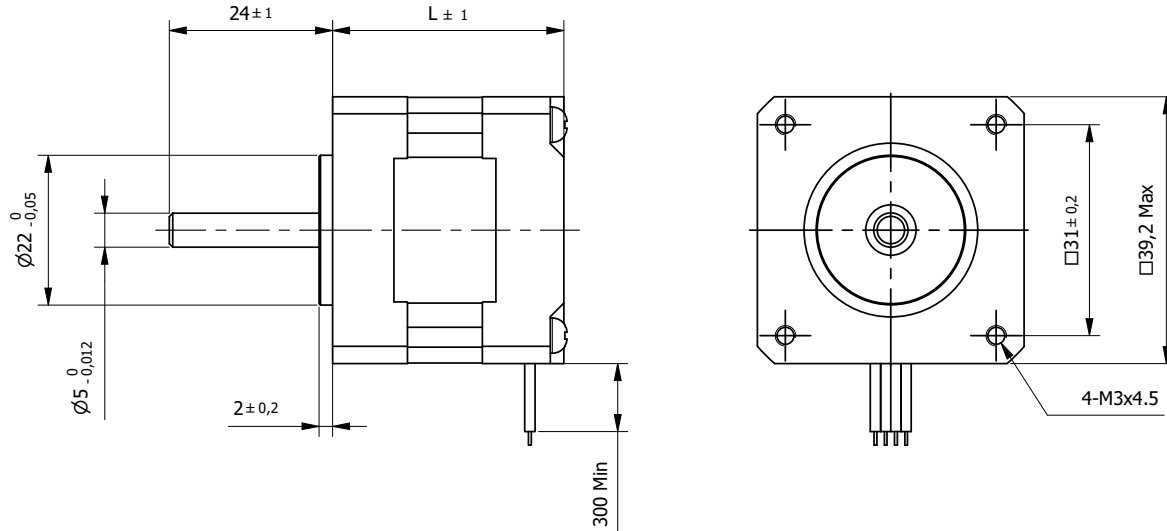
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1430 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 39SH38

High Torque

□ 39mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19,05mm

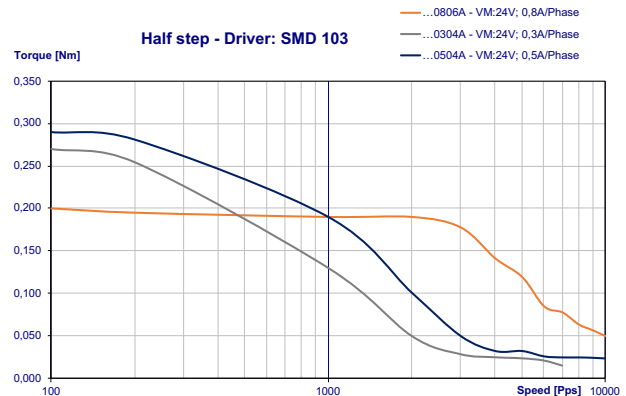
Specification			...0806A	...0304A	...0504A
1	Rated Voltage	V	6	12	11
2	Current/Phase	A	0,8	0,3	0,5
3	Resistance/Phase	Ω	7,5	40	22
4	Inductance/Phase	mH	8	100	40
5	Holding Torque	Nm	0,2	0,28	0,29
6	Rotor Inertia	gcm ²	24	24	24
7	Detent Torque	Nm	0,018	0,018	0,018
8	n° of Leads		6	4	4
9	Length (L)	mm	38	38	38
10	Weight	Kg	0,2	0,2	0,2

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1430 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	36JMS	Aries
E4		Libra
E5		Orion
		Aquarius

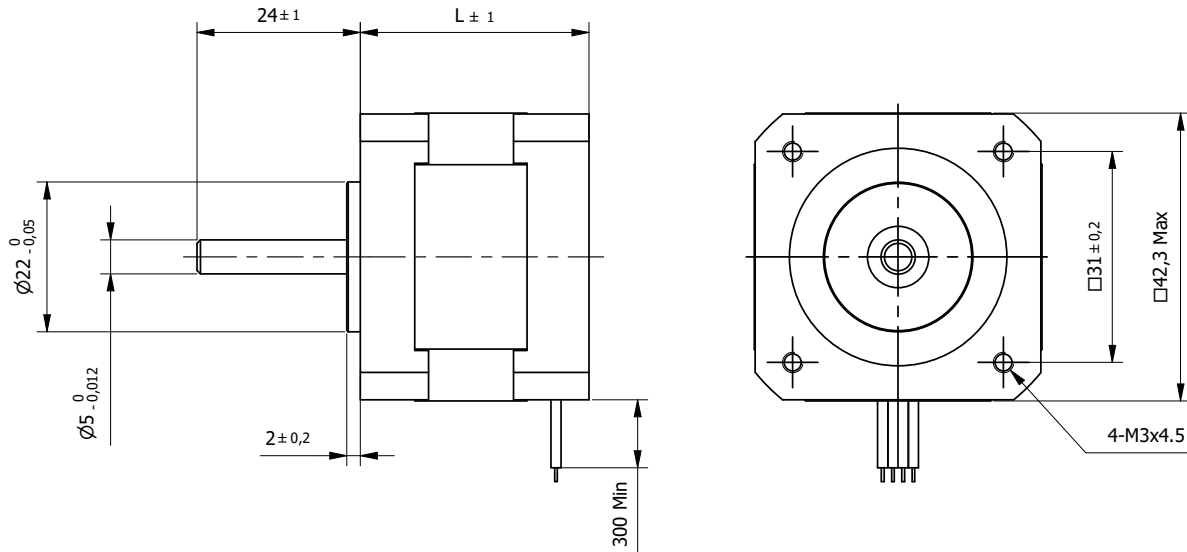
* other options on request



Hybrid Stepper Motor 42SH33

High Torque

□ 42mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19.05mm

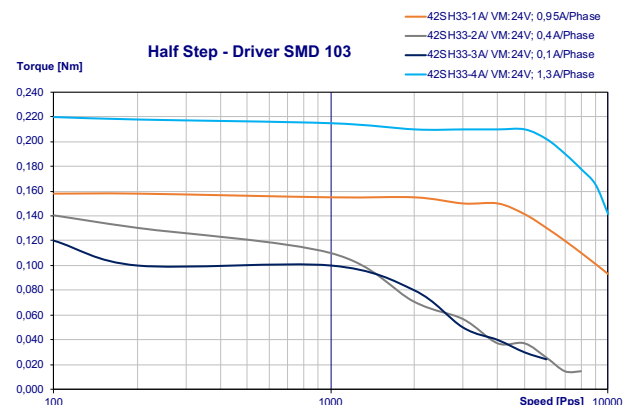
Specification		42SH33-1A	42SH33-2A	42SH33-3A	42SH33-4A	
1	Rated Voltage	V	4	9,6	12	2,8
2	Current/Phase	A	0,95	0,4	0,31	1,33
3	Resistance/Phase	Ω	4,2	24	38,5	2,1
4	Inductance/Phase	mH	2,5	15	21	2,5
5	Holding Torque	Nm	0,158	0,158	0,158	0,22
6	Rotor Inertia	gcm ²	35	35	35	35
7	Detent Torque	Nm	0,012	0,012	0,012	0,012
8	n° of Leads		6	6	6	4
9	Length (L)	mm	33,5	33,5	33,5	33,5
10	Weight	Kg	0,22	0,22	0,22	0,22

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP42	Aries
E4	42JMS	Libra
E5		Orion
		Aquarius

* other options on request

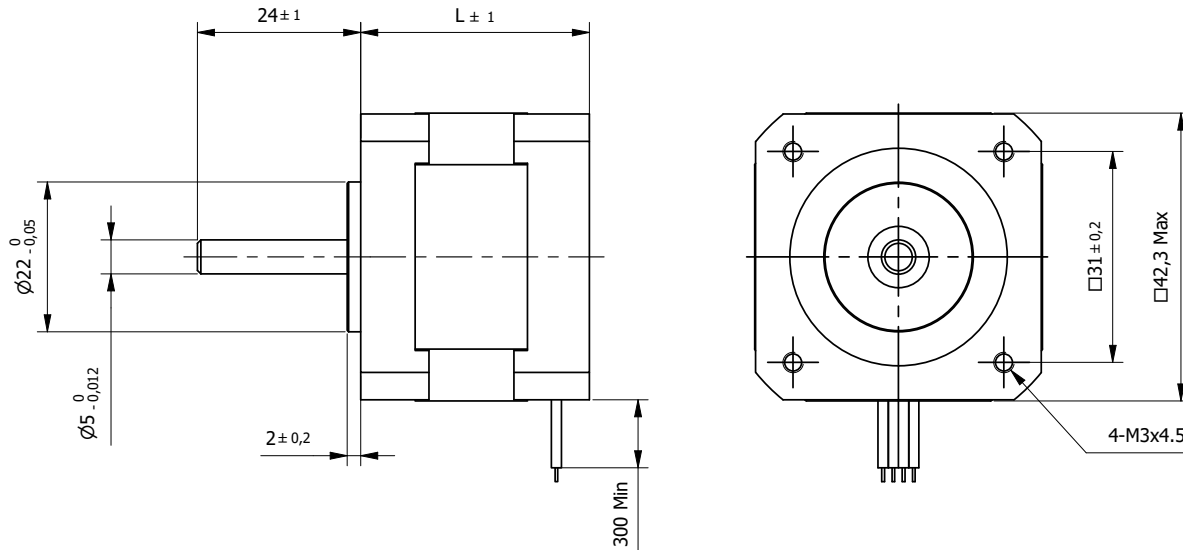
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 42SH38

High Torque

□ 42mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19.05mm

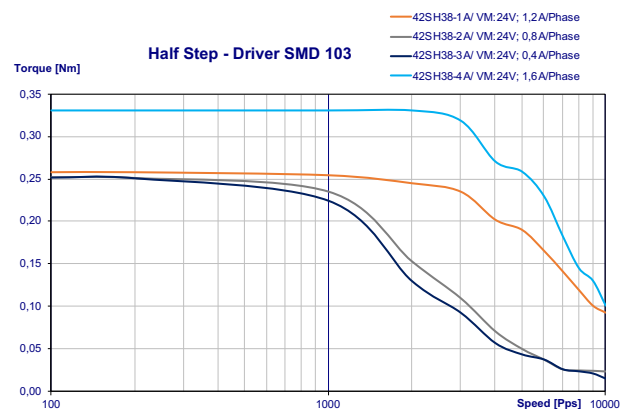
Specification		42SH38-1A	42SH38-2A	42SH38-3A	42SH38-4A	
1	Rated Voltage	V	4	6	12	2,8
2	Current/Phase	A	1,2	0,8	0,4	1,68
3	Resistance/Phase	Ω	3,3	7,5	30	1,65
4	Inductance/Phase	mH	3,2	6,7	25	3,2
5	Holding Torque	Nm	0,259	0,259	0,259	0,36
6	Rotor Inertia	gcm ²	54	54	54	54
7	Detent Torque	Nm	0,015	0,015	0,015	0,015
8	n° of Leads		6	6	6	4
9	Length (L)	mm	39,5	39,5	39,5	39,5
10	Weight	Kg	0,28	0,28	0,28	0,28

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP42	Aries
E4	42JMS	Libra
E5		Orion
		Aquarius

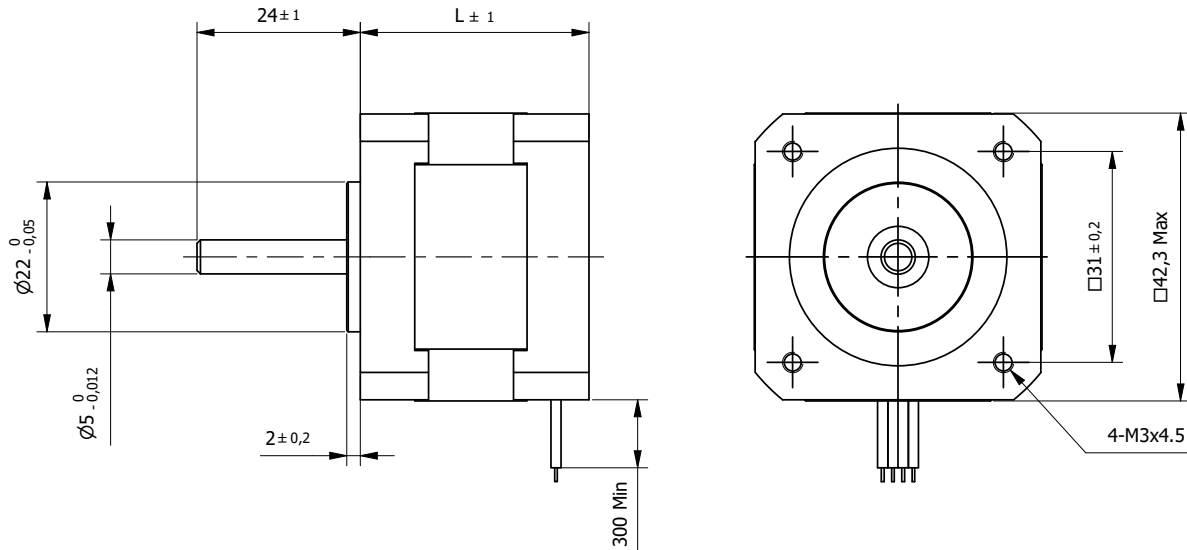
* other options on request



Hybrid Stepper Motor 42SH47

High Torque

□ 42mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19.05mm

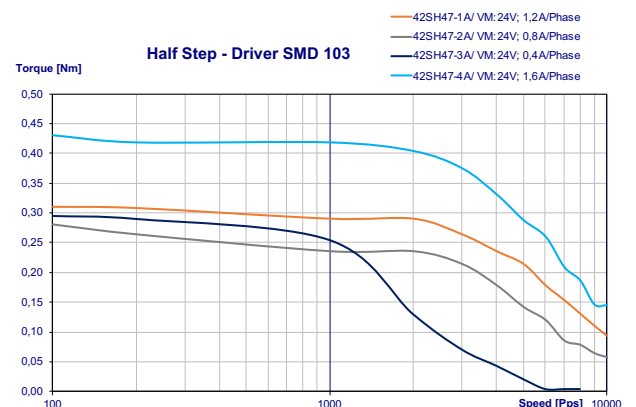
Specification		42SH47-1A	42SH47-2A	42SH47-3A	42SH47-4A	
1	Rated Voltage	V	4	6	12	2,8
2	Current/Phase	A	1,2	0,8	0,4	1,68
3	Resistance/Phase	Ω	3,3	7,5	30	1,65
4	Inductance/Phase	mH	2,8	6,3	25	2,8
5	Holding Torque	Nm	0,317	0,317	0,317	0,44
6	Rotor Inertia	gcm ²	68	68	68	68
7	Detent Torque	Nm	0,02	0,02	0,02	0,02
8	n° of Leads		6	6	6	4
9	Length (L)	mm	47,5	47,5	47,5	47,5
10	Weight	Kg	0,35	0,35	0,35	0,35

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP42	Aries
E4	42JMS	Libra
E5		Orion
		Aquarius

* other options on request

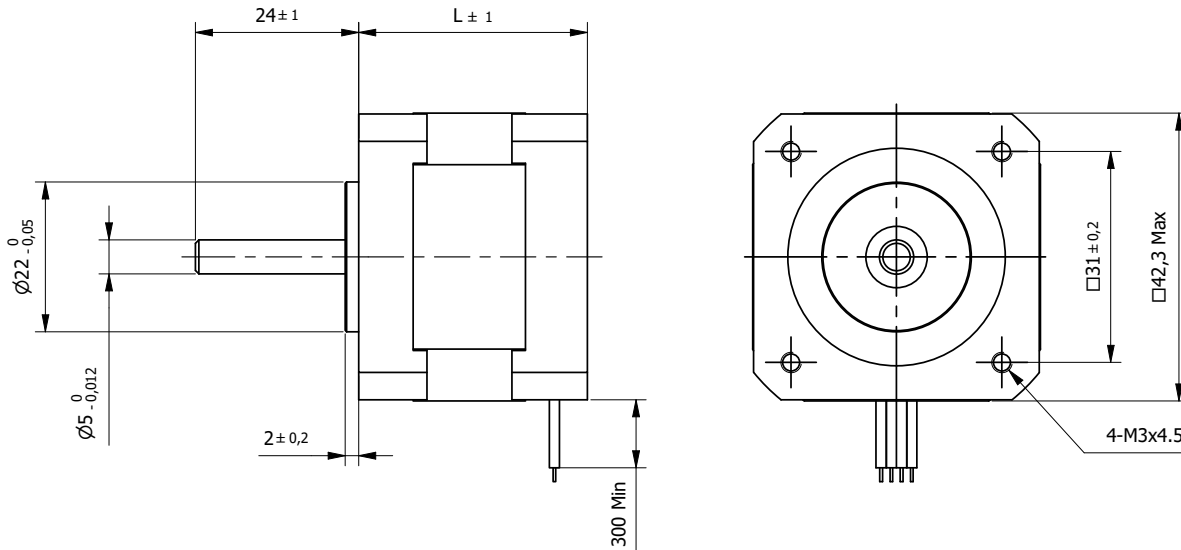
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 42SH60

High Torque

□ 42mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19.05mm

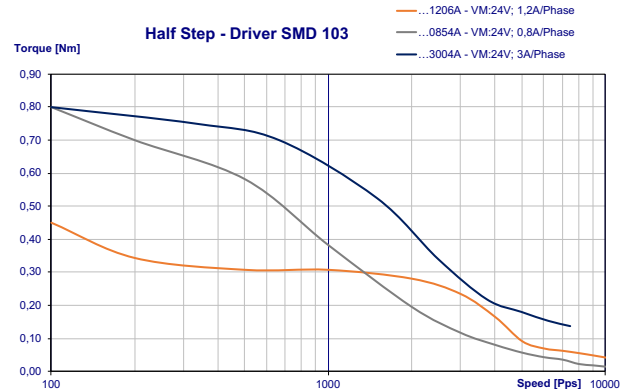
Specification			...1206A	...0854A	...3004A
1	Rated Voltage	V	7,2	10,2	3,3
2	Current/Phase	A	1,2	0,85	3
3	Resistance/Phase	Ω	6	12	1,1
4	Inductance/Phase	mH	7	29	2,7
5	Holding Torque	Nm	0,65	0,8	0,8
6	Rotor Inertia	gcm ²	102	102	102
7	Detent Torque	Nm	0,028	0,028	0,028
8	n° of Leads		6	4	4
9	Length (L)	mm	60	60	60
10	Weight	Kg	0,5	0,5	0,5

Characteristics		
Item		
Step angle		1,8°
Step angle Accuracy		±5%
Insulation Class		B
Protection Class		IP30
Ambient Temperature		-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)		80°C
Max. Shaft Radial play (450g load)		0,02mm
Max. Shaft Axial play (450g load)		0,08mm
Max. Radial Force (20mm from front flange)		28N
Max Axial Force		10N
Dielectric Strength (for 1 min.)		500 VAC
Insulation Resistance (min. 500 VDC)		100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP42	Aries
E4	42JMS	Libra
E5		Orion
		Aquarius

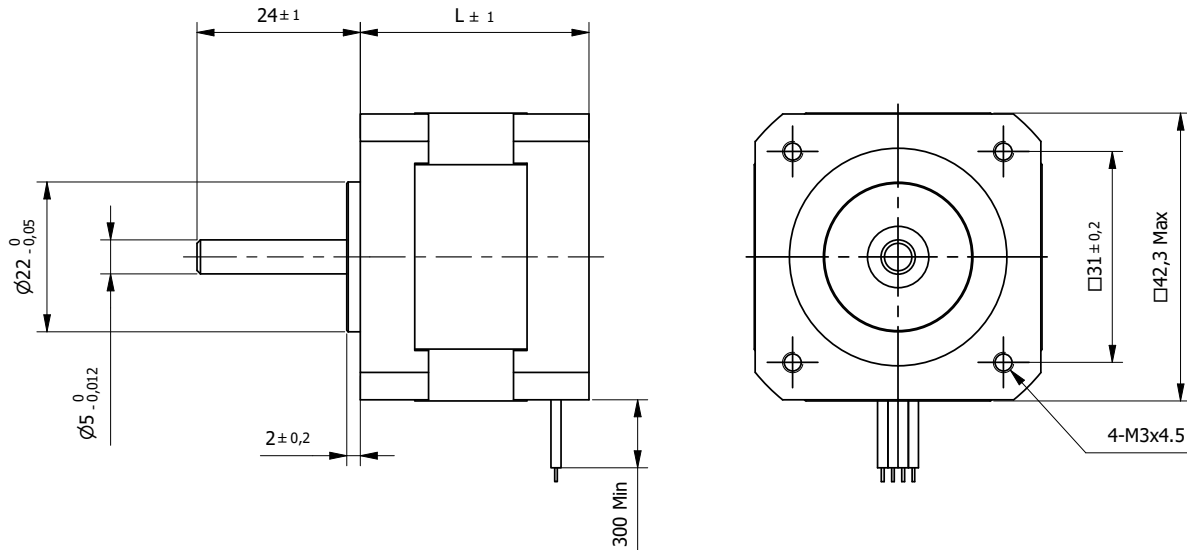
* other options on request



Hybrid Stepper Motor 42SH33M

High Torque - step angle 0,9°

□ 42mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19.05mm

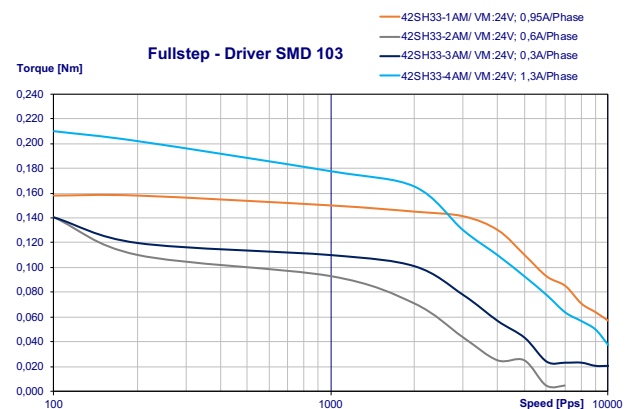
Specification		42SH33-1AM	42SH33-2AM	42SH33-3AM	42SH33-4AM	
1	Rated Voltage	V	4	6	12	2,8
2	Current/Phase	A	0,95	0,6	0,31	1,33
3	Resistance/Phase	Ω	4,2	10	38,5	2,1
4	Inductance/Phase	mH	4	11	33	4,2
5	Holding Torque	Nm	0,158	0,158	0,158	0,22
6	Rotor Inertia	gcm ²	35	35	35	35
7	Detent Torque	Nm	0,02	0,02	0,02	0,02
8	n° of Leads		6	6	6	4
9	Length (L)	mm	33,5	33,5	33,5	33,5
10	Weight	Kg	0,22	0,22	0,22	0,22

Characteristics	
Item	
Step angle	0,9°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP42	Aries
E4	42JMS	Libra
E5		Orion
		Aquarius

* other options on request

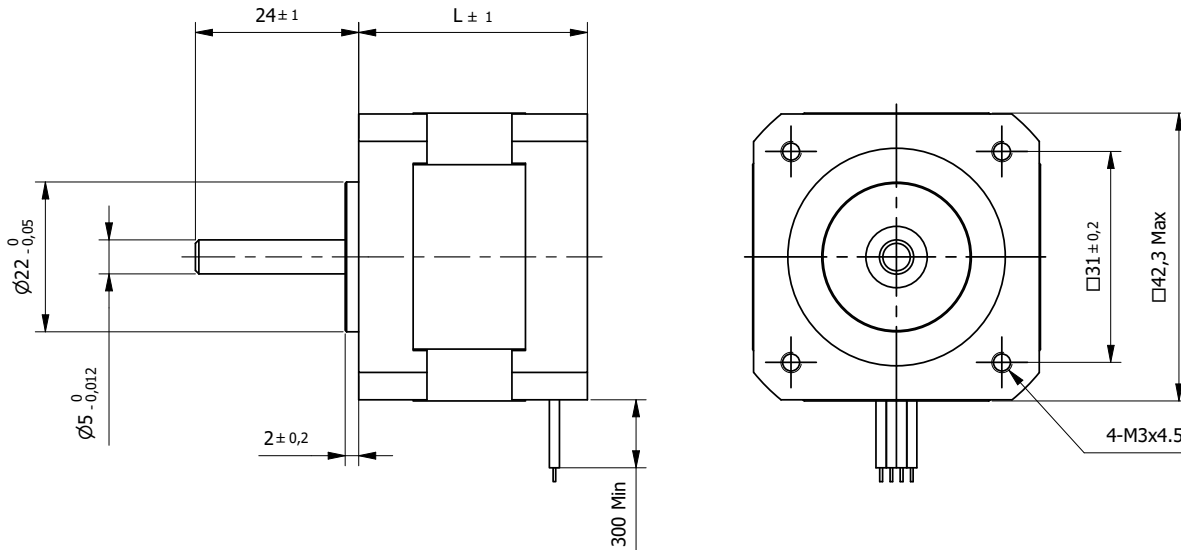
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 42SH38M

High Torque - step angle 0.9°

□ 42mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19.05mm

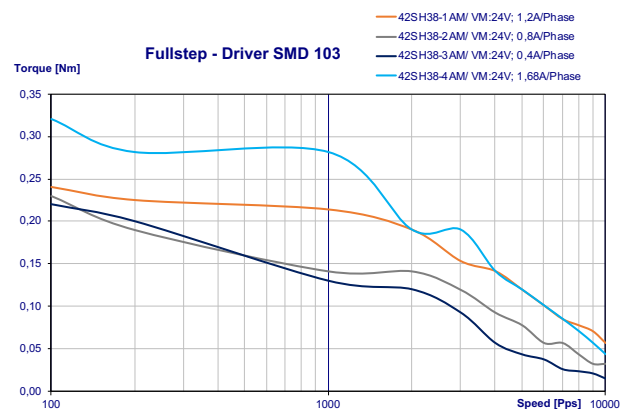
Specification		42SH38-1AM	42SH38-2AM	42SH38-3AM	42SH38-4AM	
1	Rated Voltage	V	4	6	12	2,8
2	Current/Phase	A	1,2	0,8	0,4	1,68
3	Resistance/Phase	Ω	3,3	7,5	30	1,65
4	Inductance/Phase	mH	4,1	8,3	30	4,1
5	Holding Torque	Nm	0,259	0,259	0,259	0,36
6	Rotor Inertia	gcm ²	54	54	54	54
7	Detent Torque	Nm	0,022	0,022	0,022	0,022
8	n° of Leads		6	6	6	4
9	Length (L)	mm	39,5	39,5	39,5	39,5
10	Weight	Kg	0,28	0,28	0,28	0,28

Characteristics	
Item	
Step angle	0,9°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP42	Aries
E4	42JMS	Libra
E5		Orion
		Aquarius

* other options on request

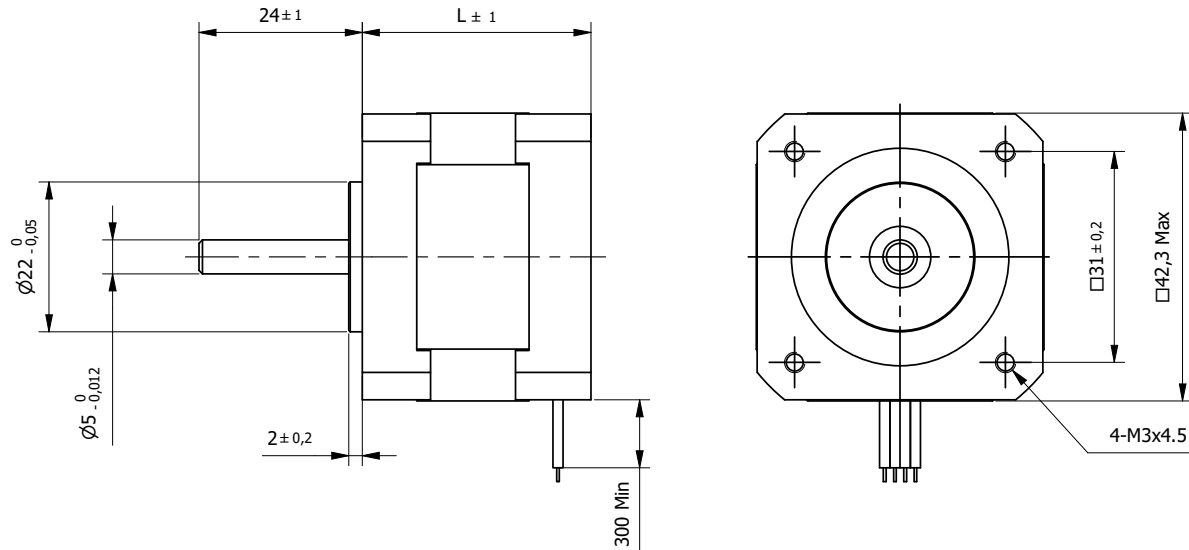
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 42SH47M

High Torque - step angle 0,9°

□ 42mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 19.05mm

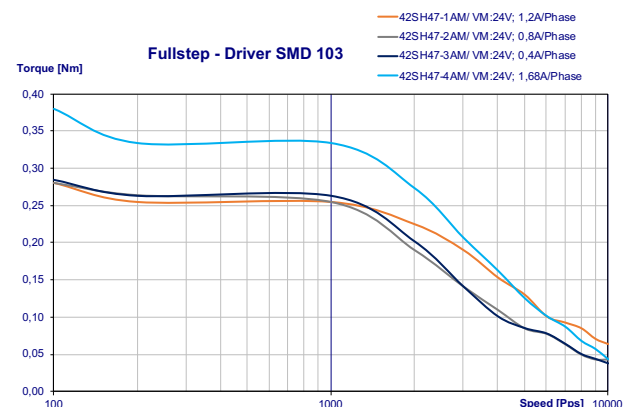
Specification			42SH47-1AM	42SH47-2AM	42SH47-3AM	42SH47-4AM
1	Rated Voltage	V	4	6	12	2,8
2	Current/Phase	A	1,2	0,8	0,4	1,68
3	Resistance/Phase	Ω	3,3	7,5	30	1,65
4	Inductance/Phase	mH	4,9	110	43	50
5	Holding Torque	Nm	0,317	0,317	0,317	0,44
6	Rotor Inertia	gcm ²	68	68	68	68
7	Detent Torque	Nm	0,02	0,02	0,02	0,02
8	n° of Leads		6	6	6	4
9	Length (L)	mm	47,5	47,5	47,5	47,5
10	Weight	Kg	0,35	0,35	0,35	0,35

Characteristics	
Item	
Step angle	0,9°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	28N
Max Axial Force	10N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP42	Aries
E4	42JMS	Libra
E5		Orion
		Aquarius

* other options on request

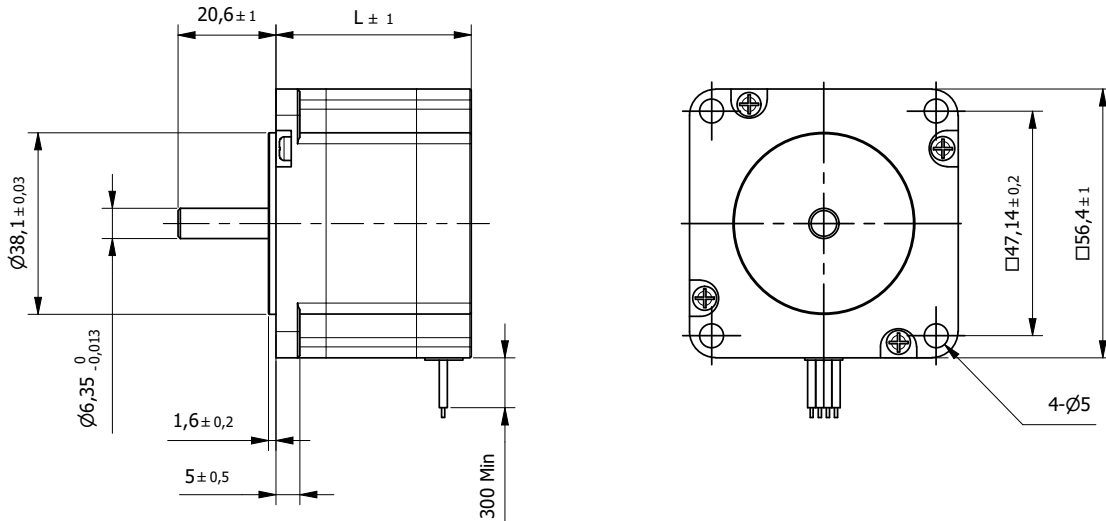
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG26	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 57SH41

High Torque

□ 57mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

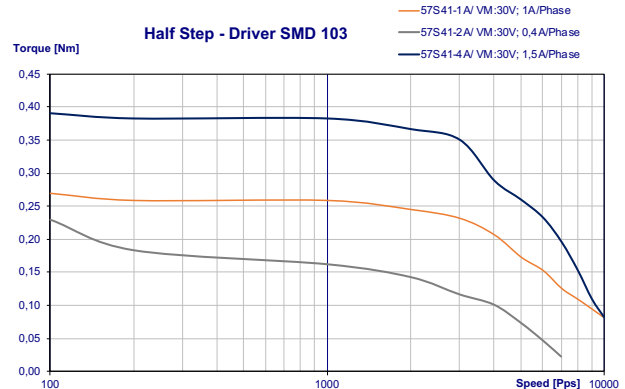
Specification		57SH41-1A	57SH41-2A	57SH41-3A	57SH41-4A	
1	Rated Voltage	V	5,7	2,8	1,9	2
2	Current/Phase	A	1	2	3	2,8
3	Resistance/Phase	Ω	5,7	1,4	0,63	0,7
4	Inductance/Phase	mH	5,4	1,4	0,6	1,4
5	Holding Torque	Nm	0,39	0,39	0,39	0,55
6	Rotor Inertia	gcm ²	120	120	120	120
7	Detent Torque	Nm	0,021	0,021	0,021	0,021
8	n° of Leads		6	6	6	4
9	Length (L)	mm	41	41	41	41
10	Weight	Kg	0,45	0,45	0,45	0,45

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG22	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

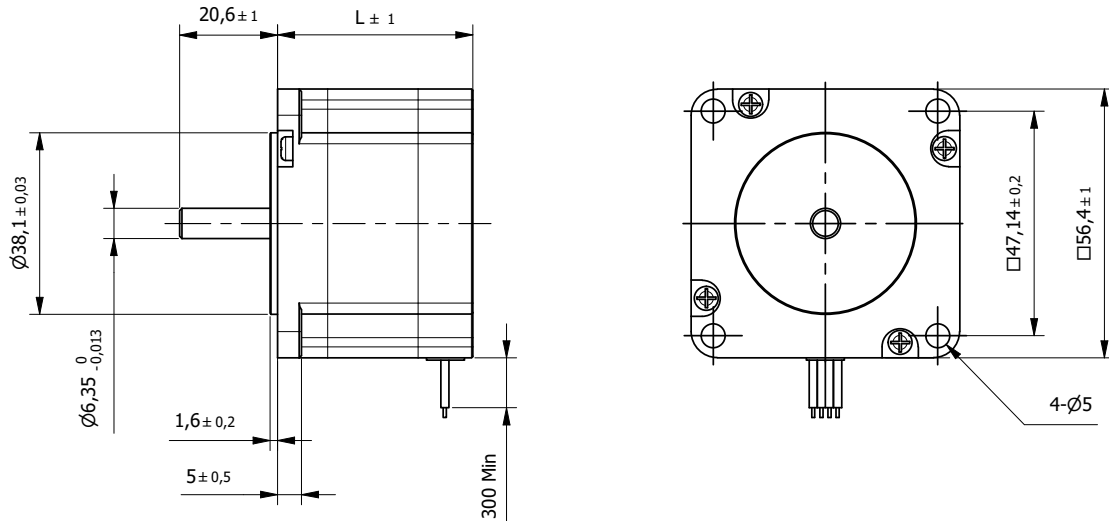
* other options on request



Hybrid Stepper Motor 57SH51

High Torque

□ 57mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

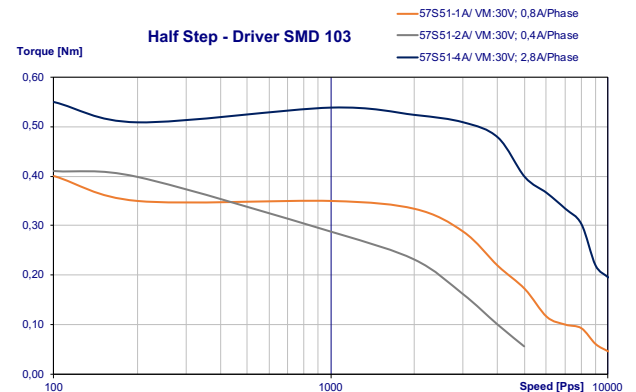
Specification		57SH51-1A	57SH51-2A	57SH51-3A	57SH51-4A	
1	Rated Voltage	V	6,6	3,3	2,2	2,3
2	Current/Phase	A	1	2	3	2,8
3	Resistance/Phase	Ω	6,6	1,65	0,74	0,83
4	Inductance/Phase	mH	8,2	2,2	0,9	2,2
5	Holding Torque	Nm	0,72	0,72	0,72	1,01
6	Rotor Inertia	gcm ²	275	275	275	275
7	Detent Torque	Nm	0,036	0,036	0,036	0,036
8	n° of Leads		6	6	6	4
9	Length (L)	mm	51	51	51	51
10	Weight	Kg	0,65	0,65	0,65	0,65

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

* other options on request

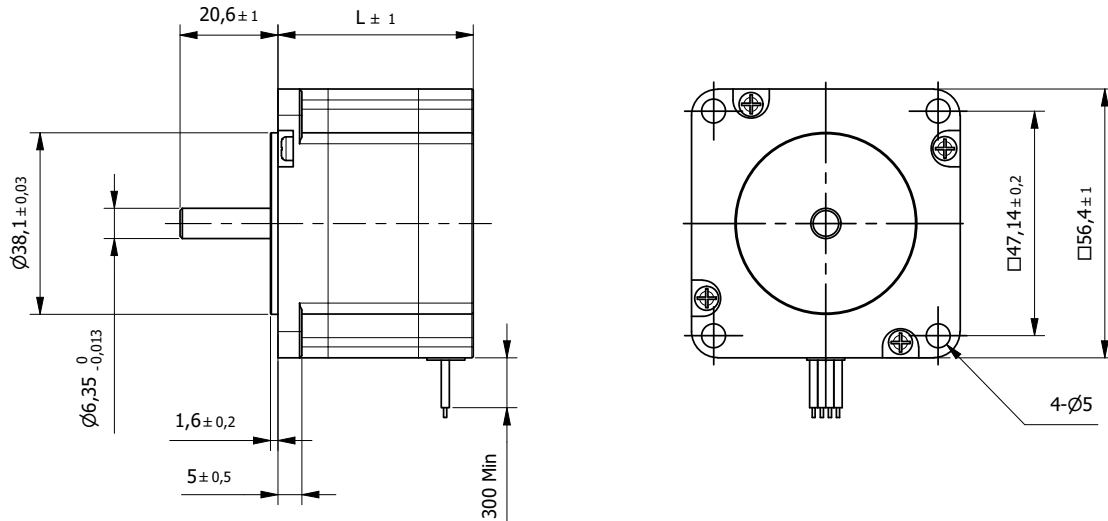
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG22	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 57SH56

High Torque

□ 57mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

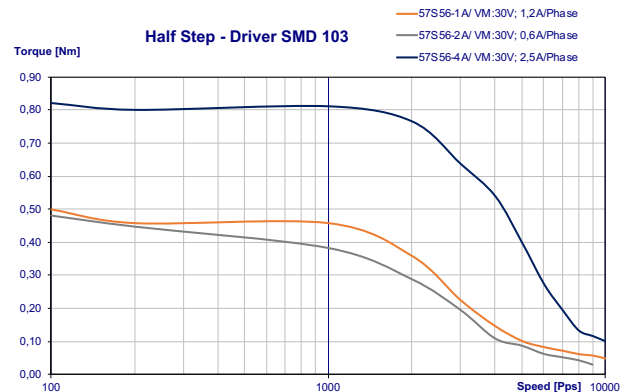
Specification		57SH56-1A	57SH56-2A	57SH56-3A	57SH56-4A	
1	Rated Voltage	V	7,4	3,6	2,3	2,5
2	Current/Phase	A	1	2	3	2,8
3	Resistance/Phase	Ω	7,4	1,8	0,75	0,9
4	Inductance/Phase	mH	10	2,5	1,1	2,5
5	Holding Torque	Nm	0,9	0,9	0,9	1,26
6	Rotor Inertia	gcm ²	300	300	300	300
7	Detent Torque	Nm	0,04	0,04	0,04	0,04
8	n° of Leads		6	6	6	4
9	Length (L)	mm	56	56	56	56
10	Weight	Kg	0,7	0,7	0,7	0,7

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG22	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

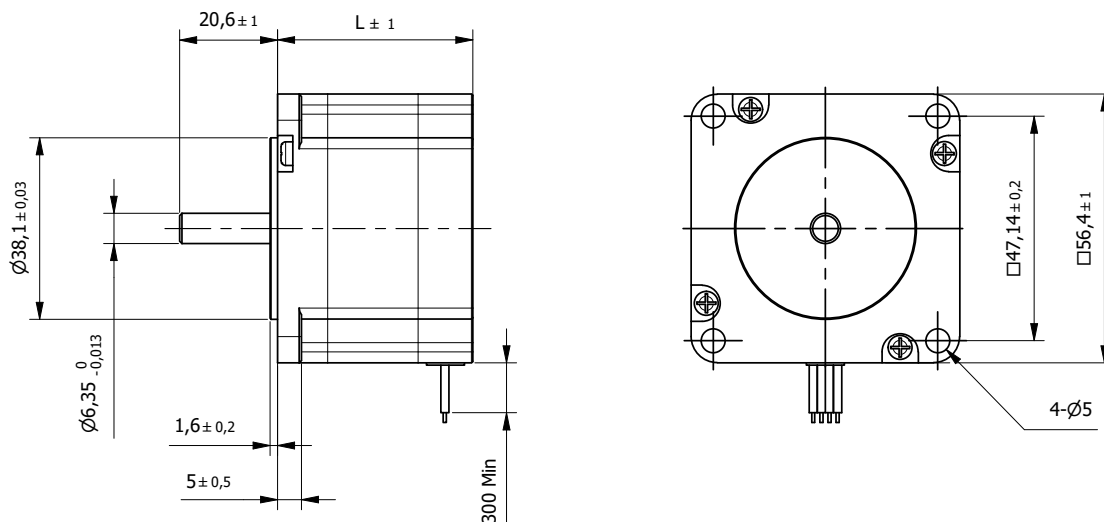
* other options on request



Hybrid Stepper Motor 57SH76

High Torque

□ 57mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

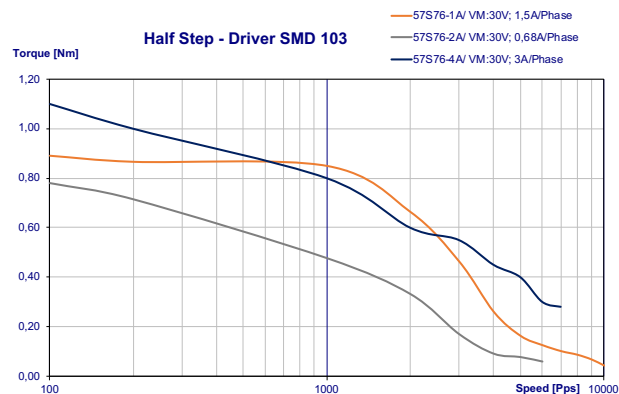
Specification		57SH76-1A	57SH76-2A	57SH76-3A	57SH76-4A	
1	Rated Voltage	V	8,6	4,5	3	3,2
2	Current/Phase	A	1	2	3	2,8
3	Resistance/Phase	Ω	8,6	2,25	1	1,13
4	Inductance/Phase	mH	14	3,6	1,6	3,6
5	Holding Torque	Nm	1,35	1,35	1,35	1,89
6	Rotor Inertia	gcm ²	480	480	480	480
7	Detent Torque	Nm	0,068	0,068	0,068	0,068
8	n° of Leads		6	6	6	4
9	Length (L)	mm	76	76	76	76
10	Weight	Kg	1	1	1	1

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

* other options on request

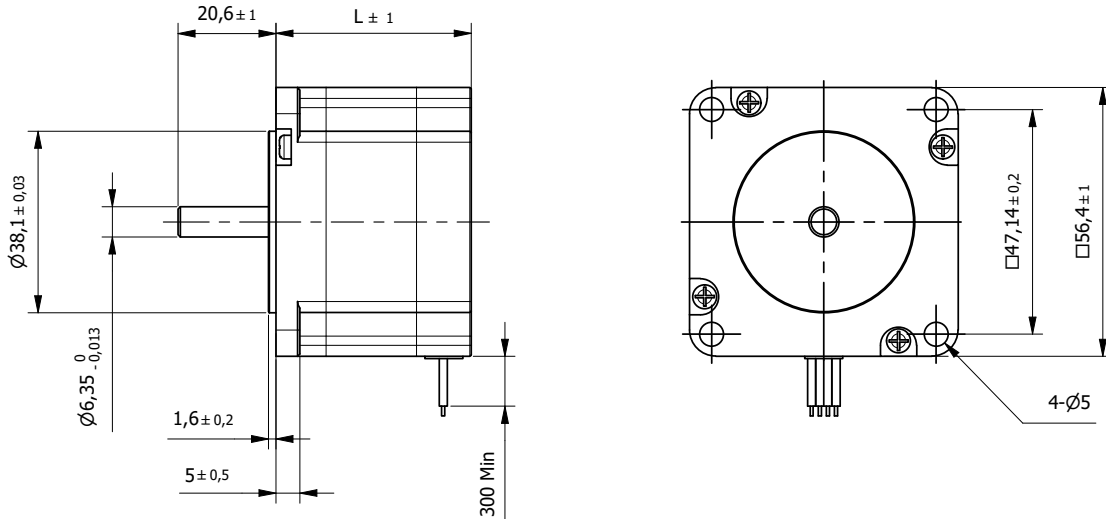
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG22	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 57SH41M

High Torque - step angle 0,9°

□ 57mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

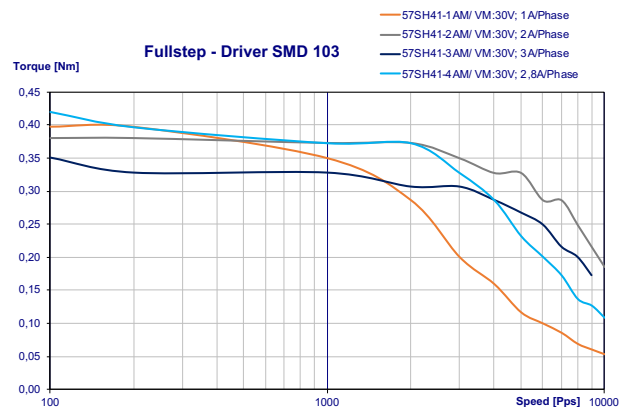
Specification		57SH41-1AM	57SH41-2AM	57SH41-3AM	57SH41-4AM	
1	Rated Voltage	V	5,7	2,8	1,9	2
2	Current/Phase	A	1	2	3	2,8
3	Resistance/Phase	Ω	5,7	1,4	0,63	0,7
4	Inductance/Phase	mH	8	2,2	1	2,2
5	Holding Torque	Nm	0,39	0,39	0,39	0,55
6	Rotor Inertia	gcm ²	120	120	120	120
7	Detent Torque	Nm	0,021	0,021	0,021	0,021
8	n° of Leads		6	6	6	4
9	Length (L)	mm	41	41	41	41
10	Weight	Kg	0,45	0,45	0,45	0,45

Characteristics	
Item	
Step angle	0,9°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG22	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

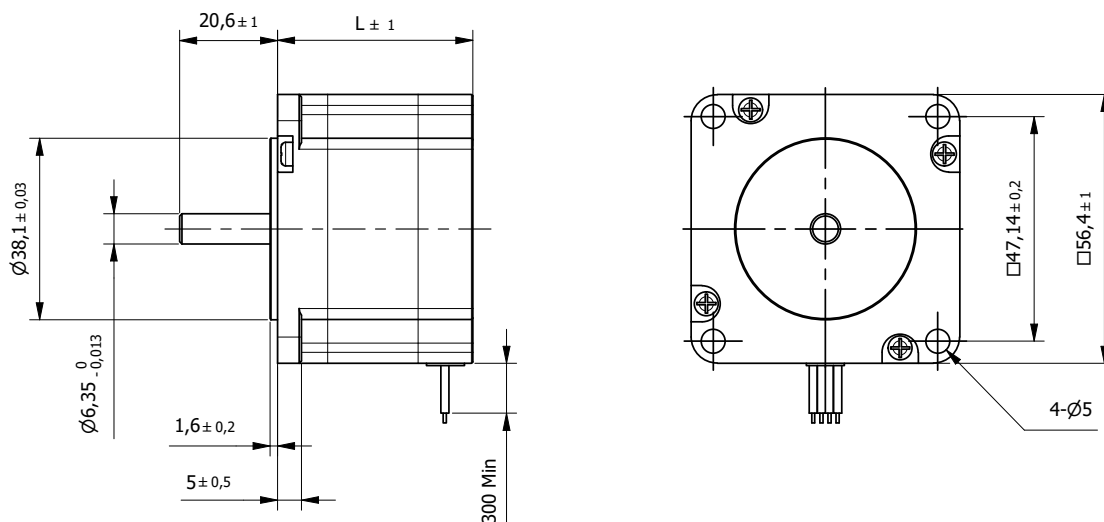
* other options on request



Hybrid Stepper Motor 57SH56M

High Torque - step angle 0,9°

□ 57mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

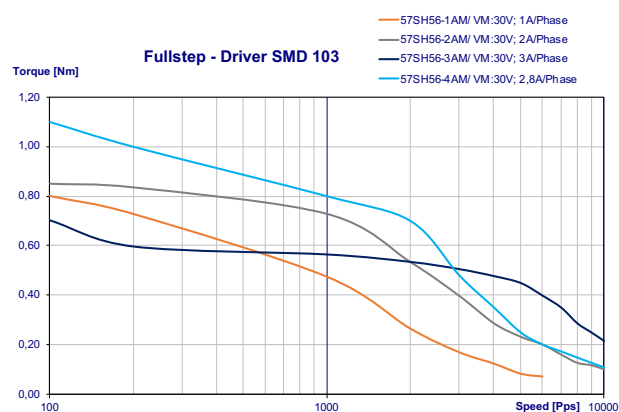
Specification		57SH56-1AM	57SH56-2AM	57SH56-3AM	57SH56-4AM	
1	Rated Voltage	V	7,4	3,6	2,3	2,5
2	Current/Phase	A	1	2	3	2,8
3	Resistance/Phase	Ω	7,4	1,8	0,75	0,9
4	Inductance/Phase	mH	17,5	4,5	1,9	4,5
5	Holding Torque	Nm	0,9	0,9	0,9	1,26
6	Rotor Inertia	gcm ²	300	300	300	300
7	Detent Torque	Nm	0,04	0,04	0,04	0,04
8	n° of Leads		6	6	6	4
9	Length (L)	mm	56	56	56	56
10	Weight	Kg	0,7	0,7	0,7	0,7

Characteristics	
Item	
Step angle	0,9°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

* other options on request

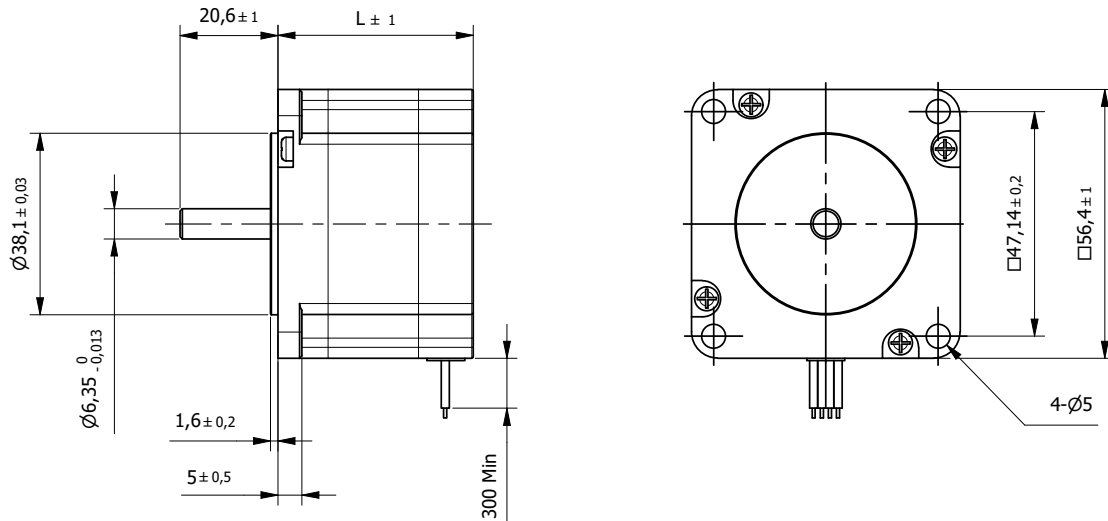
Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG22	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B



Hybrid Stepper Motor 57SH76M

High Torque - step angle 0,9°

□ 57mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

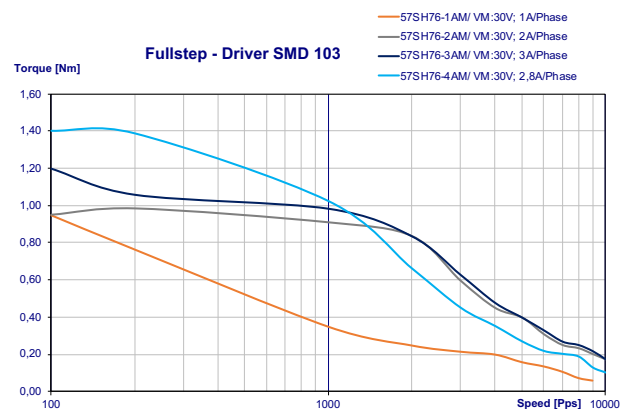
Specification		57SH76-1AM	57SH76-2AM	57SH76-3AM	57SH76-4AM	
1	Rated Voltage	V	8,6	4,5	3	3,2
2	Current/Phase	A	1	2	3	2,8
3	Resistance/Phase	Ω	8,6	2,25	1	1,13
4	Inductance/Phase	mH	23	5,6	2,6	5,6
5	Holding Torque	Nm	1,35	1,35	1,35	1,8
6	Rotor Inertia	gcm ²	480	480	480	480
7	Detent Torque	Nm	0,068	0,068	0,068	0,068
8	n° of Leads		6	6	6	4
9	Length (L)	mm	76	76	76	76
10	Weight	Kg	1	1	1	1

Characteristics	
Item	
Step angle	0,9°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Black	UL1061 AWG22	Phase A
2	Green		Phase A-
3	Red		Phase B
4	Blue		Phase B-
Unipolar motor			
5	Yellow		COM Phase A
6	White		COM Phase B

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

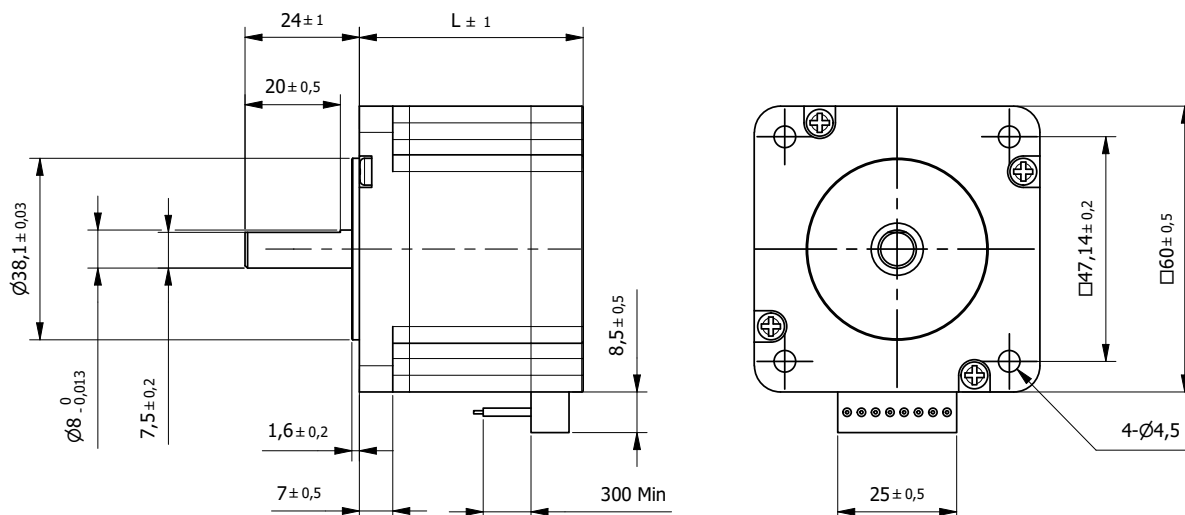
* other options on request



Hybrid Stepper Motor 60SH45

High Torque

□ 60mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

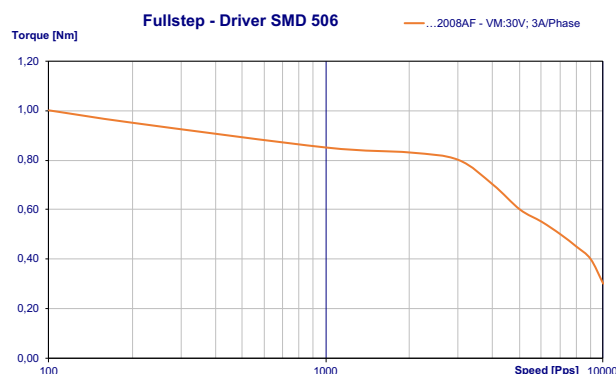
Specification		60SH45-2008AF		
Model		Unipolar	Parallel	Series
1	Rated Voltage	V	3	2,1
2	Current/Phase	A	2	2,8
3	Resistance/Phase	Ω	1,5	0,75
4	Inductance/Phase	mH	2	2
5	Holding Torque	Nm	0,78	1,1
6	Rotor Inertia	gcm ²	275	275
7	Detent Torque	Nm	0,05	0,05
8	n° of Leads		8	8
9	Length (L)	mm	45	45
10	Weight	Kg	0,6	0,6

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

* other options on request

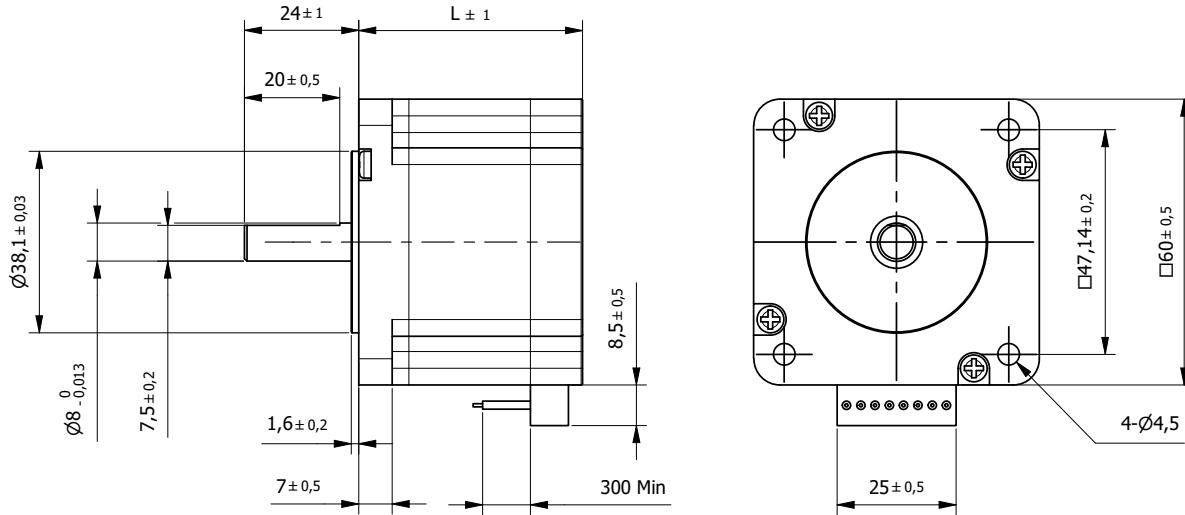
Connection			
Lead n°	Color	Gauge	Function
1	Blue/White	UL1061 AWG22	Phase A
2	Blue		Phase A-
3	Red/White		Phase C-
4	Red		Phase C
5	Green/White		Phase B
6	Green		Phase B-
7	Black/White		Phase D -
8	Black		Phase D



Hybrid Stepper Motor 60SH56

High Torque

□ 60mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

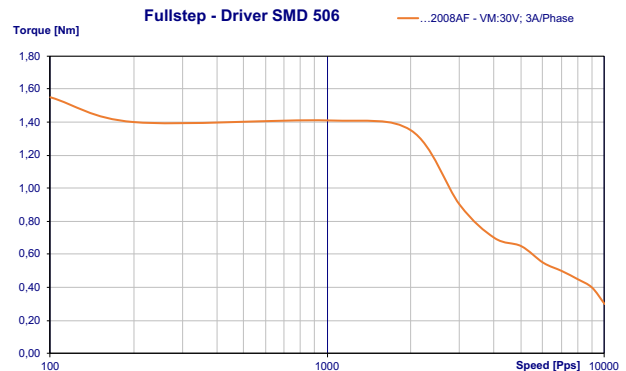
Specification		60SH56-2008AF		
Model		Unipolar	Parallel	Series
1	Rated Voltage	V	3,6	5,04
2	Current/Phase	A	2	1,4
3	Resistance/Phase	Ω	1,8	3,6
4	Inductance/Phase	mH	3,6	14,4
5	Holding Torque	Nm	1,17	1,65
6	Rotor Inertia	gcm ²	400	400
7	Detent Torque	Nm	0,07	0,07
8	n° of Leads		8	8
9	Length (L)	mm	56	56
10	Weight	Kg	0,77	0,77

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

* other options on request

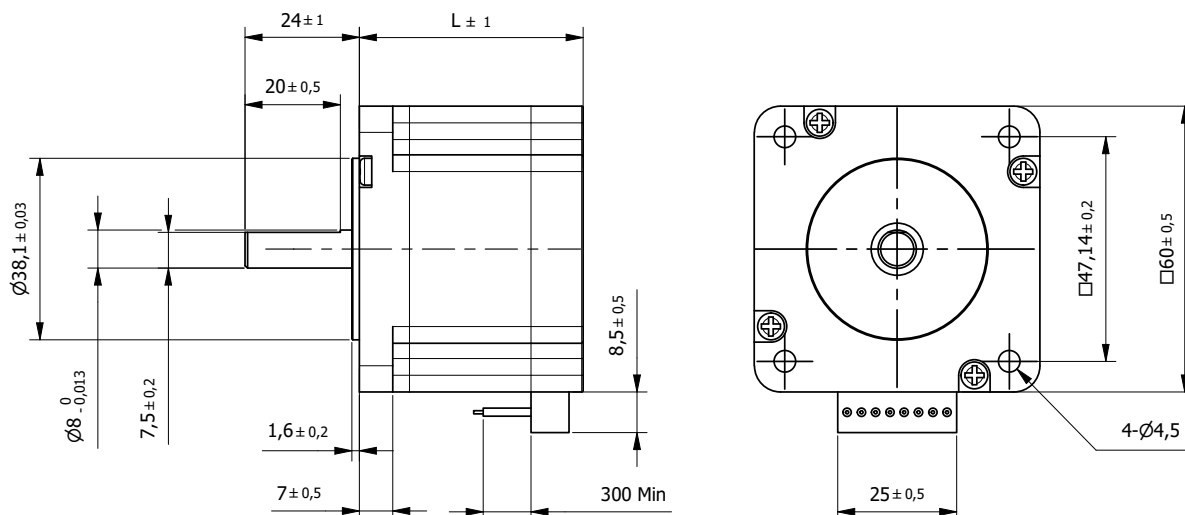
Connection			
Lead n°	Color	Gauge	Function
1	Blue/White	UL1061 AWG22	Phase A
2	Blue		Phase A-
3	Red/White		Phase C-
4	Red		Phase C
5	Green/White		Phase B
6	Green		Phase B-
7	Black/White		Phase D -
8	Black		Phase D



Hybrid Stepper Motor 60SH65

High Torque

□ 60mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

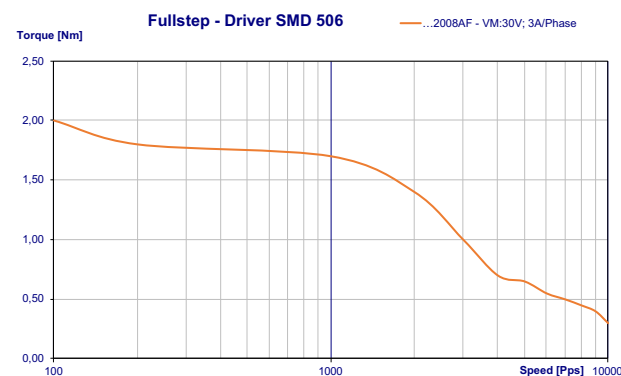
Specification		60SH65-2008AF		
Model		Unipolar	Parallel	Series
1	Rated Voltage	V	4,8	3,36
2	Current/Phase	A	2	2,8
3	Resistance/Phase	Ω	2,4	1,2
4	Inductance/Phase	mH	4,6	4,6
5	Holding Torque	Nm	1,5	2,1
6	Rotor Inertia	gcm ²	570	570
7	Detent Torque	Nm	0,09	0,09
8	n° of Leads		8	8
9	Length (L)	mm	65	65
10	Weight	Kg	1,2	1,2

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

* other options on request

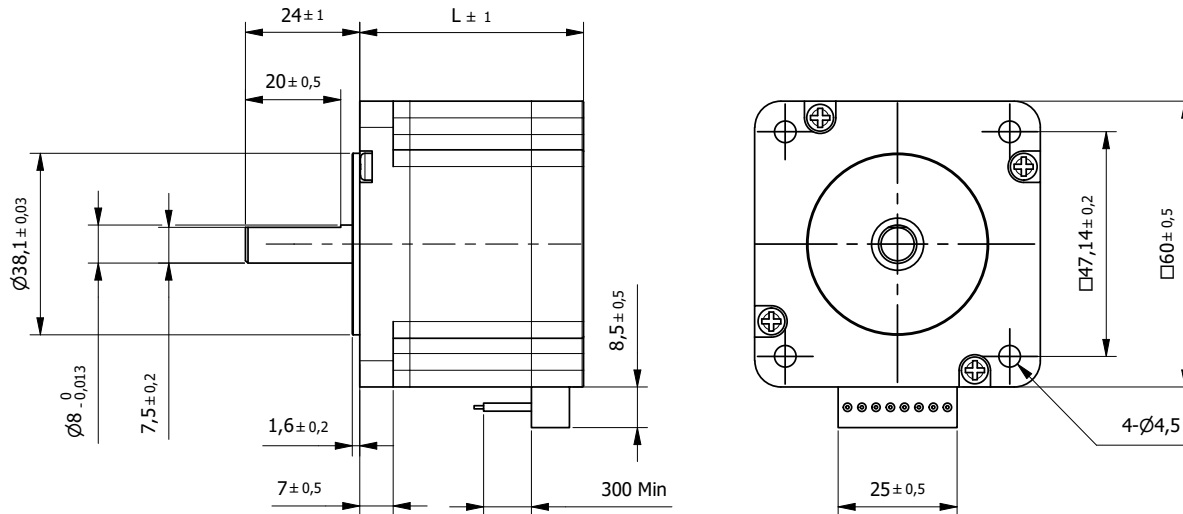
Connection			
Lead n°	Color	Gauge	Function
1	Blue/White	UL1061 AWG22	Phase A
2	Blue		Phase A-
3	Red/White		Phase C-
4	Red		Phase C
5	Green/White		Phase B
6	Green		Phase B-
7	Black/White		Phase D -
8	Black		Phase D



Hybrid Stepper Motor 60SH86

High Torque

□ 60mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

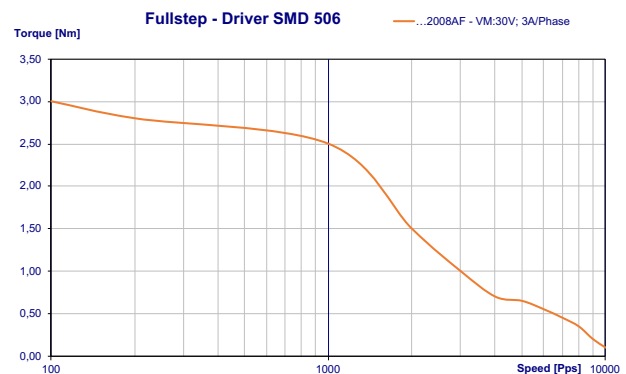
Specification		60SH86-2008AF			
Model		Unipolar	Parallel	Series	
1	Rated Voltage	V	6	4,17	8,4
2	Current/Phase	A	2	2,8	1,4
3	Resistance/Phase	Ω	3	1,5	6
4	Inductance/Phase	mH	6,8	6,8	27,2
5	Holding Torque	Nm	2,2	3,1	3,1
6	Rotor Inertia	gcm ²	840	840	840
7	Detent Torque	Nm	0,1	0,1	0,1
8	n° of Leads		8	8	8
9	Length (L)	mm	86	86	86
10	Weight	Kg	1,4	1,4	1,4

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	75N
Max Axial Force	15N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Blue/White	UL1061 AWG22	Phase A
2	Blue		Phase A-
3	Red/White		Phase C-
4	Red		Phase C
5	Green/White		Phase B
6	Green		Phase B-
7	Black/White		Phase D -
8	Black		Phase D

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP56	Aries
E4	56JMS	Libra
E5		Orion
		Aquarius

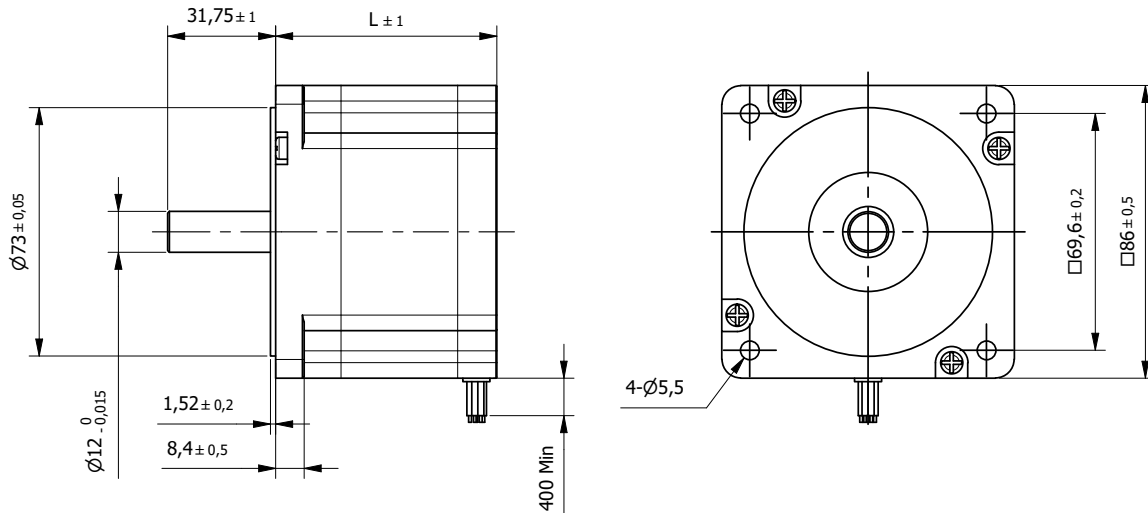
* other options on request



Hybrid Stepper Motor 86SH65

High Torque

□ 86mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

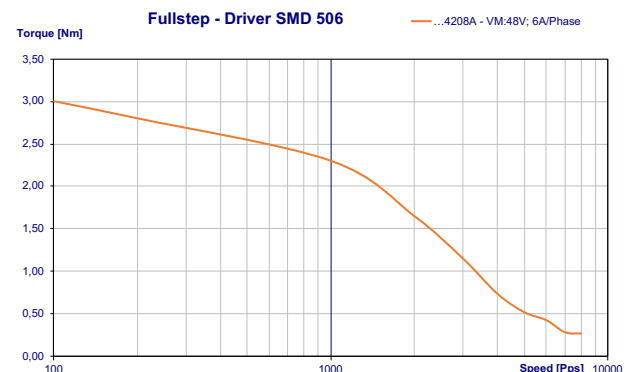
Specification		86SH65-4208A		
Model		Unipolar	Parallel	Series
1	Rated Voltage	V	2,39	3,42
2	Current/Phase	A	4,2	3
3	Resistance/Phase	Ω	0,57	1,14
4	Inductance/Phase	mH	1,7	6,8
5	Holding Torque	Nm	2,6	3,4
6	Rotor Inertia	gcm ²	1000	1000
7	Detent Torque	Nm	0,08	0,08
8	n° of Leads		8	8
9	Length (L)	mm	65	65
10	Weight	Kg	1,7	1,7

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	220N
Max Axial Force	60N
Dielectric Strength (for 1 min.)	500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Libra
E4		Sagittarius
E5		Aquarius
		Andromeda

* other options on request

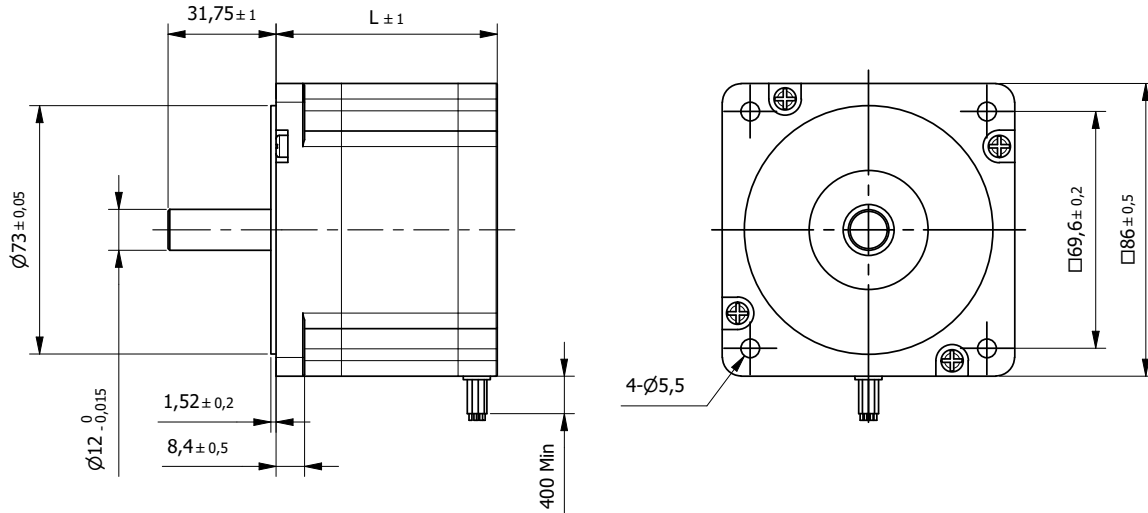
Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1061 AWG20	Phase A
2	Yellow		Phase A-
3	Blue		Phase C-
4	Black		Phase C
5	White		Phase B
6	Orange		Phase B-
7	Brown		Phase D -
8	Green		Phase D



Hybrid Stepper Motor 86SH80

High Torque

□ 86mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

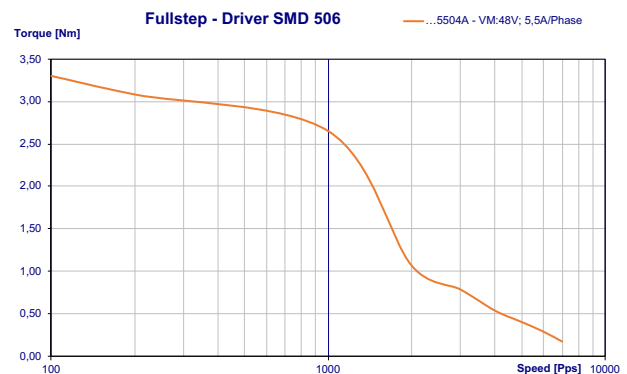
Specification			
Model	...5504A		
1	Rated Voltage	V	2,3
2	Current/Phase	A	5,5
3	Resistance/Phase	Ω	0,42
4	Inductance/Phase	mH	3,5
5	Holding Torque	Nm	4,6
6	Rotor Inertia	gcm ²	1400
7	Detent Torque	Nm	0,12
8	n° of Leads		4
9	Length (L)	mm	80
10	Weight	Kg	2,3

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	220N
Max Axial Force	60N
Dielectric Strength (for 1 min.)	750 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1061 AWG20	Phase A
2	White		Phase A-
3	Yellow		Phase B
4	Green		Phase B-

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Libra
E4		Sagittarius
E5		Aquarius
		Andromeda

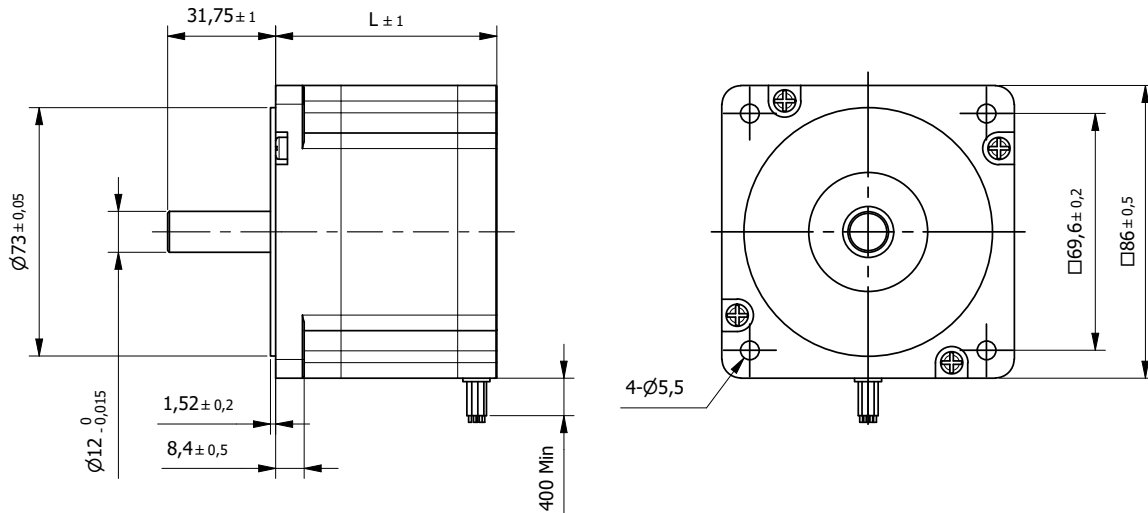
* other options on request



Hybrid Stepper Motor 86SH96

High Torque

□ 86mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

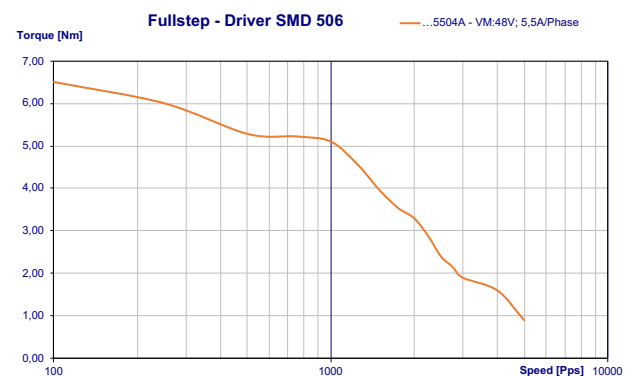
Specification			
Model	...5504A		
1	Rated Voltage	V	2,56
2	Current/Phase	A	5,5
3	Resistance/Phase	Ω	0,465
4	Inductance/Phase	mH	4,5
5	Holding Torque	Nm	7
6	Rotor Inertia	gcm ²	2700
7	Detent Torque	Nm	0,12
8	n° of Leads		4
9	Length (L)	mm	96
10	Weight	Kg	2,8

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	220N
Max Axial Force	60N
Dielectric Strength (for 1 min.)	750 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Libra
E4		Sagittarius
E5		Aquarius
		Andromeda

* other options on request

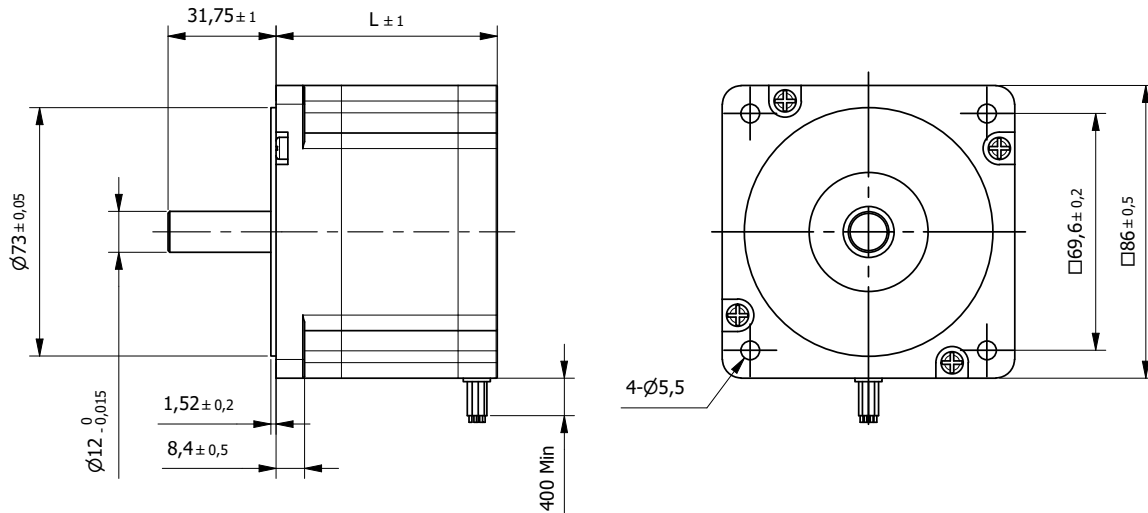
Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1061 AWG20	Phase A
2	White		Phase A-
3	Yellow		Phase B
4	Green		Phase B-



Hybrid Stepper Motor 86SH118

High Torque

□ 86mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

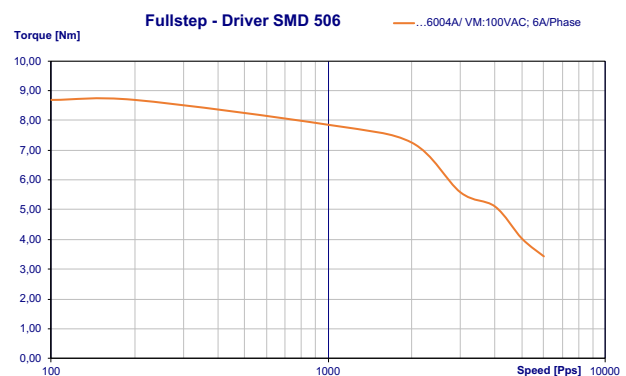
Specification			
Model	...6004A		
1	Rated Voltage	V	2,7
2	Current/Phase	A	6
3	Resistance/Phase	Ω	0,45
4	Inductance/Phase	mH	5,1
5	Holding Torque	Nm	8,7
6	Rotor Inertia	gcm ²	2700
7	Detent Torque	Nm	0,24
8	n° of Leads		4
9	Length (L)	mm	118
10	Weight	Kg	3,8

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	220N
Max Axial Force	60N
Dielectric Strength (for 1 min.)	750 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1061 AWG20	Phase A
2	White		Phase A-
3	Yellow		Phase B
4	Green		Phase B-

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Libra
E4		Sagittarius
E5		Aquarius
		Andromeda

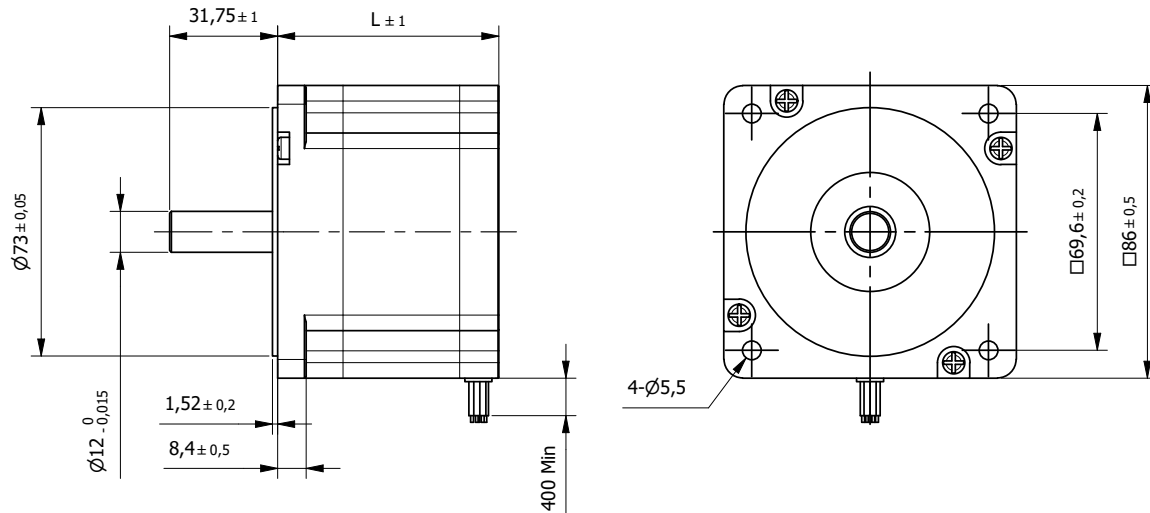
* other options on request



Hybrid Stepper Motor 86SH156

High Torque

□ 86mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

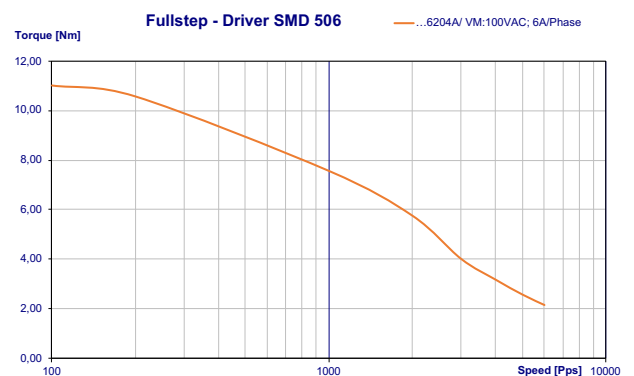
Specification			
Model	...6204A		
1	Rated Voltage	V	4,5
2	Current/Phase	A	6,2
3	Resistance/Phase	Ω	0,72
4	Inductance/Phase	mH	9
5	Holding Torque	Nm	12,1
6	Rotor Inertia	gcm ²	4000
7	Detent Torque	Nm	0,36
8	n° of Leads		4
9	Length (L)	mm	156
10	Weight	Kg	5,4

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	220N
Max Axial Force	60N
Dielectric Strength (for 1 min.)	750 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Libra
E4		Sagittarius
E5		Aquarius
		Andromeda

* other options on request

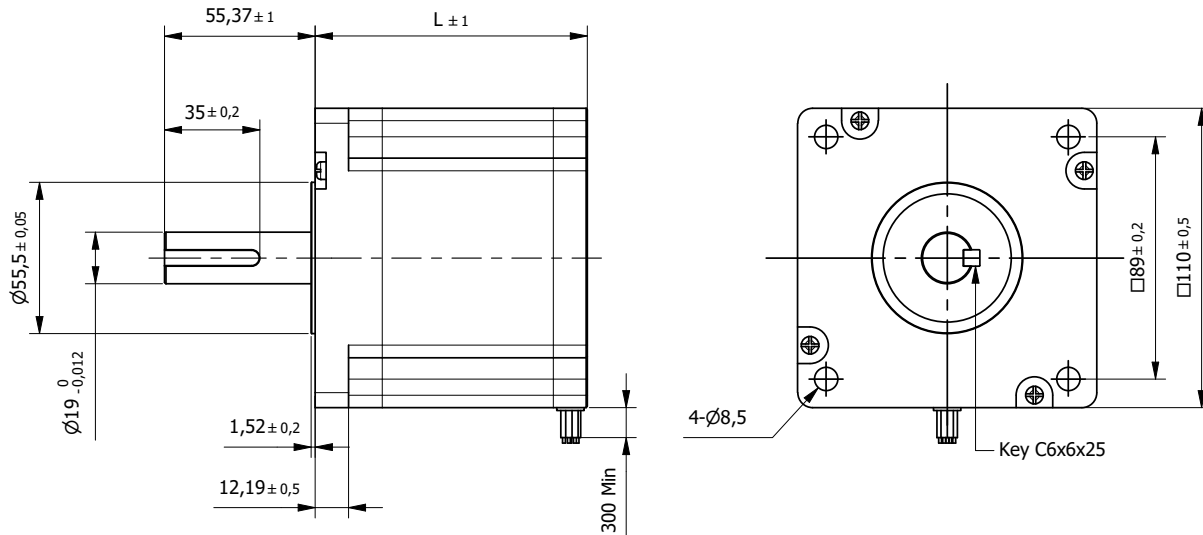
Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1061 AWG20	Phase A
2	White		Phase A-
3	Yellow		Phase B
4	Green		Phase B-



Hybrid Stepper Motor 110SH99

High Torque

□ 110mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

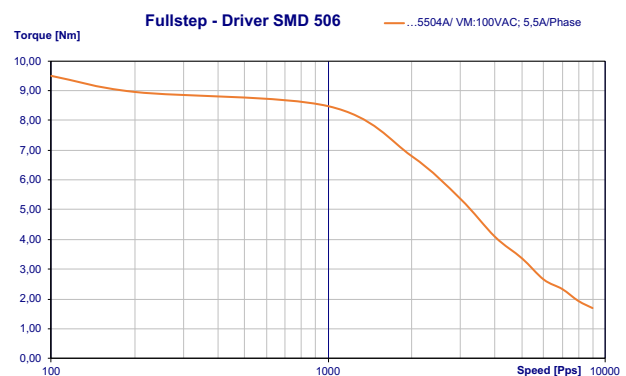
Specification			
Model	...5504A		
1	Rated Voltage	V	4,95
2	Current/Phase	A	5,5
3	Resistance/Phase	Ω	0,7
4	Inductance/Phase	mH	9,8
5	Holding Torque	Nm	11,2
6	Rotor Inertia	gcm ²	5500
7	Detent Torque	Nm	0,3
8	n° of Leads		4
9	Length (L)	mm	99
10	Weight	Kg	5

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	330N
Max Axial Force	100N
Dielectric Strength (for 1 min.)	1500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1430 AWG18	Phase A
2	White		Phase A-
3	Yellow		Phase B
4	Green		Phase B-

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Libra
E4		Sagittarius
E5		Aquarius
		Andromeda

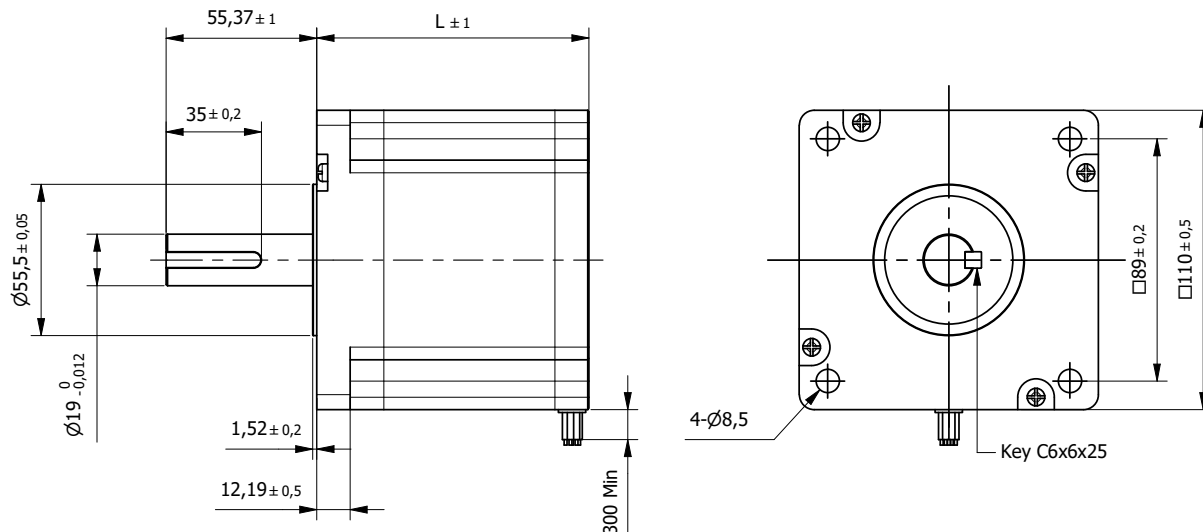
* other options on request



Hybrid Stepper Motor 110SH150

High Torque

□ 110mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

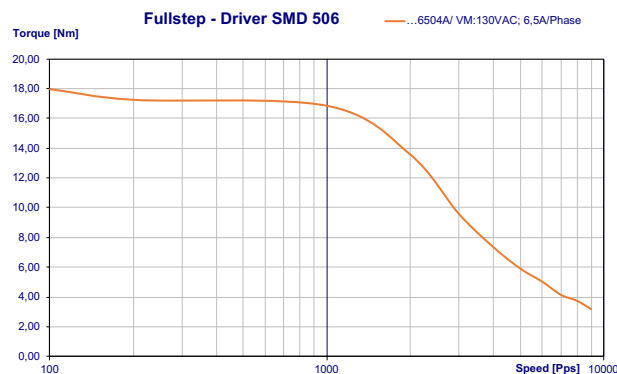
Specification			
Model	...6504A		
1	Rated Voltage	V	5,2
2	Current/Phase	A	6,5
3	Resistance/Phase	Ω	0,72
4	Inductance/Phase	mH	11,5
5	Holding Torque	Nm	21
6	Rotor Inertia	gcm ²	10'900
7	Detent Torque	Nm	0,59
8	n° of Leads		4
9	Length (L)	mm	150
10	Weight	Kg	8,4

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	330N
Max Axial Force	100N
Dielectric Strength (for 1 min.)	1500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Libra
E4		Sagittarius
E5		Aquarius
		Andromeda

* other options on request

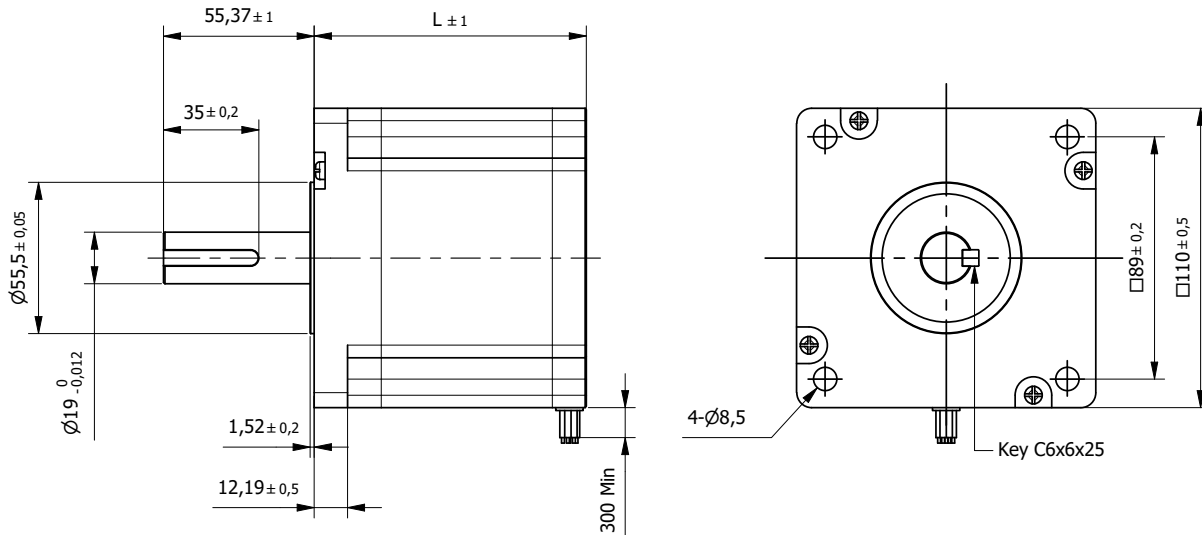
Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1430 AWG18	Phase A
2	White		Phase A-
3	Yellow		Phase B
4	Green		Phase B-



Hybrid Stepper Motor 110SH201

High Torque

□ 110mm



BE Version: Rear shaft 13mm - 2x M2.5 on diameter 46mm

Specification			
Model	...8004A		
1	Rated Voltage	V	5,36
2	Current/Phase	A	8
3	Resistance/Phase	Ω	0,67
4	Inductance/Phase	mH	12
5	Holding Torque	Nm	28
6	Rotor Inertia	gcm ²	16'200
7	Detent Torque	Nm	0,75
8	n° of Leads		4
9	Length (L)	mm	201
10	Weight	Kg	11,7

Characteristics	
Item	
Step angle	1,8°
Step angle Accuracy	±5%
Insulation Class	B
Protection Class	IP30
Ambient Temperature	-20°C to +50°C
Max. Temp. Rise (rated current, 2-phase on)	80°C
Max. Shaft Radial play (450g load)	0,02mm
Max. Shaft Axial play (450g load)	0,08mm
Max. Radial Force (20mm from front flange)	330N
Max Axial Force	100N
Dielectric Strength (for 1 min.)	1500 VAC
Insulation Resistance (min. 500 VDC)	100 Mohm

Standard Combination		
Encoder	Gearbox	Drive
E3	GYP80	Andromeda
E4		
E5		
* other options on request		

Connection			
Lead n°	Color	Gauge	Function
1	Red	UL1430 AWG18	Phase A
2	White		Phase A-
3	Yellow		Phase B
4	Green		Phase B-

