

## **HYBRID STEPPING MOTORS** | Step Angle 1.8° With Cable

### **SHW IP65 SERIES**

We offer a broad range of high quality stepping motors in standard and customized configurations. Our customer-centric approach makes us the ideal supplier for your project, especially to instrument and apparatus builders. In addition, we offer immediate delivery, thanks to always having a high number of motors in stock.

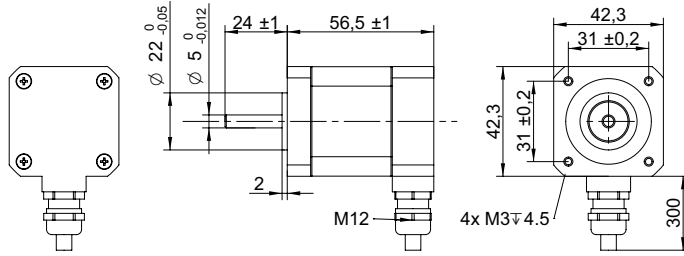
#### **Customizations include:**

- ✓ Customized harness
- ✓ Winding configuration
- ✓ Shaft configuration
- ✓ And more...

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MODEL	FLANGE MM	LENGTH mm	HOLDING TORQUE Nm	CURRENT   PHASE A	PAGE
SHW4257-18-170-IP65	42	56.5	0.43	1.7	<a href="#">1</a>
SHW5747-18-280-IP65	57	47	0.55	2.8	<a href="#">2</a>
SHW5761-18-280-IP65	57	61	1.2	2.8	<a href="#">2</a>
SHW5782-18-280-IP65	57	82	1.9	2.8	<a href="#">2</a>
SHW6095-18-280-IP65	60	95	3.0	2.8	<a href="#">3</a>
SHW8698-18-600-IP65	86	97.6	6.0	6.0	<a href="#">4</a>

## DRAWING (mm)



## MODEL NO. DESIGNATION

SHW42 LENGTH - STEP ANGLE - CURRENT - IP65

Example: SHW4257-18-170-IP65

## PHOTO



## ACCESSORIES

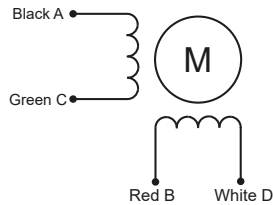


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

STEPPING MOTOR DATA		C
Step angle <sup>1</sup>	°	1.8
Step angle accuracy	%	5
Shaft material		SUS303 ●
Bearing type		Ball bearing ●
Radial play <sup>2</sup>	mm	0.02
Axial play <sup>2</sup>	mm	0.08
Max. radial force <sup>3</sup>	N	28
Max. axial force	N	10
Dielectric strength <sup>4</sup>	V	500
Insulation resistance <sup>5</sup>	MΩ	100
Operating temperature	°C	-20 to 50 ●
Storage temperature	°C	-20 to 85
Relative humidity <sup>6</sup>	%	85
Insulation class		B
IP rating		IP65 ●
Harness		UL2464 AWG22 ●
Harness length	mm	300

MODEL-SPECIFIC STEPPING MOTOR DATA		C
Model		SHW4257-18-170-IP65
Graph		A
Holding torque	Nm	0.43
Rotor inertia	gcm <sup>2</sup>	68
Number of phases		2
Voltage per phase	V	2.8
Current per phase	A	1.7
Resistance per phase <sup>7</sup>	Ω	1.7
Inductance per phase <sup>8</sup>	mH	2.8
Length	mm	56.5
Weight	kg	0.4

## EXCITATION SEQUENCE TABLE



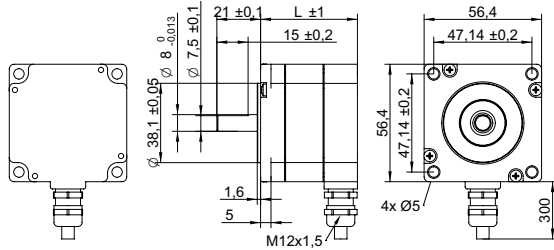
CW	A	C	B	D
1	●		●	
2		●	●	
3		●		●
4	●			●
1	●		●	

● = +Polarity

## NOTES

- Full step.
- Max. 4 N.
- 20 mm from flange.
- AC, 60 seconds.
- Measured at 500 V.
- No condensation.
- Measured at 20 °C.
- Measured at 1 kHz.

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION



Example: SHW5747-18-280-IP65

ACCESSORIES

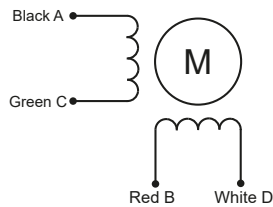


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STEPPING MOTOR DATA		C
Step angle <sup>1</sup>	°	1.8
Step angle accuracy	%	5
Shaft material		SUS303 ●
Bearing type		Ball bearing ●
Radial play <sup>2</sup>	mm	0.02
Axial play <sup>2</sup>	mm	0.08
Max. radial force <sup>3</sup>	N	75
Max. axial force	N	15
Dielectric strength <sup>4</sup>	V	500
Insulation resistance <sup>5</sup>	MΩ	100
Operating temperature	°C	-20 to 50 ●
Storage temperature	°C	-20 to 85
Relative humidity <sup>6</sup>	%	85
Insulation class		B
IP rating		IP65 ●
Harness		UL2464 AWG22 ●
Harness length	mm	300

MODEL-SPECIFIC STEPPING MOTOR DATA				C
Model		SHW5747-18-280-IP65	SHW5761-18-280-IP65	SHW5782-18-280-IP65
Graph		A	B	C
Holding torque	Nm	0.55	1.2	1.9
Rotor inertia	gcm <sup>2</sup>	120	300	480
Number of phases		2	2	2
Voltage per phase	V	2.0	2.3	3.2
Current per phase	A	2.8	2.8	2.8
Resistance per phase <sup>7</sup>	Ω	0.7	0.83	1.1
Inductance per phase <sup>8</sup>	mH	1.4	2.8	3.8
Length	mm	46.5	60.5	81.5
Weight	kg	0.45	0.8	1.2

EXCITATION SEQUENCE TABLE



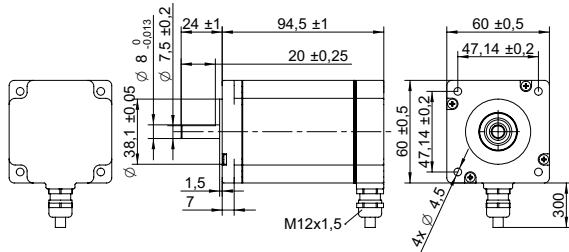
CW	A	C	B	D
1	●		●	
2		●	●	
3		●		●
4	●			●
1	●		●	

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NOTES

- Full step.
- Max. 4 N.
- 20 mm from flange.
- AC, 60 seconds.
- Measured at 500 V.
- No condensation.
- Measured at 20 °C.
- Measured at 1 kHz.

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION



Example: SHW6095-18-280-IP65

ACCESSORIES

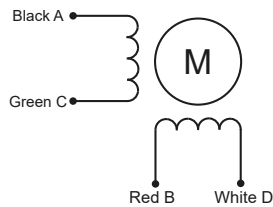


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STEPPING MOTOR DATA		C
Step angle <sup>1</sup>	°	1.8
Step angle accuracy	%	5
Shaft material		SUS303 ●
Bearing type		Ball bearing ●
Radial play <sup>2</sup>	mm	0.02
Axial play <sup>2</sup>	mm	0.08
Max. radial force <sup>3</sup>	N	75
Max. axial force	N	15
Dielectric strength <sup>4</sup>	V	500
Insulation resistance <sup>5</sup>	MΩ	100
Operating temperature	°C	-20 to 50 ●
Storage temperature	°C	-20 to 85
Relative humidity <sup>6</sup>	%	85
Insulation class		B
IP rating		IP65 ●
Harness		UL2464 AWG22 ●
Harness length	mm	300

MODEL-SPECIFIC STEPPING MOTOR DATA		C
Model		SHW6095-18-280-IP65
Graph		A
Holding torque	Nm	3.0
Rotor inertia	gcm <sup>2</sup>	840
Number of phases		2
Voltage per phase	V	4.2
Current per phase	A	2.8
Resistance per phase <sup>7</sup>	Ω	1.5
Inductance per phase <sup>8</sup>	mH	6.8
Length	mm	94.5
Weight	kg	1.4

EXCITATION SEQUENCE TABLE



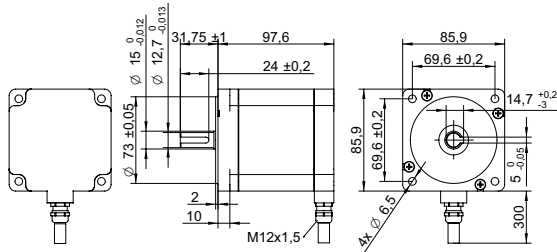
CW	A	C	B	D
1	●		●	
2		●	●	
3		●		●
4	●			●
1	●		●	

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NOTES

- Full step.
- Max. 4 N.
- 20 mm from flange.
- AC, 60 seconds.
- Measured at 500 V.
- No condensation.
- Measured at 20 °C.
- Measured at 1 kHz.

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION



Example: SHW8698-18-600-IP65

ACCESSORIES

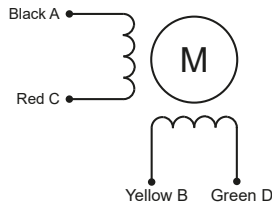


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STEPPING MOTOR DATA		C
Step angle <sup>1</sup>	°	1.8
Step angle accuracy	%	5
Shaft material		SUS303 ●
Bearing type		Ball bearing ●
Radial play <sup>2</sup>	mm	0.02
Axial play <sup>2</sup>	mm	0.08
Max. radial force <sup>3</sup>	N	130
Max. axial force	N	36
Dielectric strength <sup>4</sup>	V	750
Insulation resistance <sup>5</sup>	MΩ	100
Operating temperature	°C	-25 to 50 ●
Storage temperature	°C	-20 to 85
Relative humidity <sup>6</sup>	%	85
Insulation class		B
IP rating		IP65 ●
Harness		YGZF-S 4x0.75 ●
Harness length	mm	300

MODEL-SPECIFIC STEPPING MOTOR DATA		C
Model		SHW8698-18-600-IP65
Graph		A
Holding torque	Nm	6.0
Rotor inertia	gcm <sup>2</sup>	1900
Number of phases		2
Voltage per phase	V	3.0
Current per phase	A	6.0
Resistance per phase <sup>7</sup>	Ω	0.5
Inductance per phase <sup>8</sup>	mH	3.7
Length	mm	97.6
Weight	kg	4

EXCITATION SEQUENCE TABLE



CW	A	C	B	D
1	●		●	
2		●	●	
3		●		●
4	●			●
1	●		●	

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NOTES

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3. 20 mm from flange.
4. AC, 60 seconds.
5. Measured at 500 V.
6. No condensation.
7. Measured at 20 °C.
8. Measured at 1 kHz.