

HW23-601

IP65 Rated, NEMA 23 High Torque Step Motor



Product Features

- *2-phase hybrid step motor*
- *Rated IP65 for wet and dusty environments*
- *High torque design*
- *Standard NEMA 23 dimensions*
- *Integral 10 ft shielded cable w/ cable gland*
- *Sealed laminations*
- *Front shaft seal*
- *Single shaft version standard*
- *Double shaft version with encoder available*



Product Description:

The HW23-601 two-phase stepper motor is suitable for a wide range of motion control applications including wet factory environments and outdoor use. The IP65 rating means the motor is dust proof and resistant to lower pressure water jets. Key features of this rating include an integral 10 ft shielded cable, a nickel plated brass cable gland, sealed laminations and a front shaft contact seal. This motor also has an internal corrosion-resistant film coating, further protecting it in wet and humid environments.

A double-shaft version with encoder is available, part number HW23-601D-ZAC.

IP65 specifies a product that is dust tight (no ingress of dust; complete protection against contact) and protected against water jets (water projected by a nozzle from any direction shall have no harmful effects). To see our motor design operating in a rain simulation chamber check out this [video](#).











Please note: This motor has features which do not conform to standard NEMA for gearhead ordering purposes. Stated lead time for a gearhead ordered with this motor may be longer than shown. Please call for delivery on a gearhead being ordered with this motor.

Specifications

Part Number:	HW23-601
Frame Size:	NEMA 23
Motor Type:	High torque
Part Number w/Encoder & Cover:	HW23-601D-ZAC
Motor Length:	3.21 inches
Number of Lead Wires:	8
Lead Wire Configuration:	shielded cable, no connector
Lead Wire/Cable Length:	10 feet inches
Lead Wire Gauge:	22 AWG
Unipolar Holding Torque:	191 oz-in
Bipolar Holding Torque:	269 oz-in
Step Angle:	1.8 deg
Bipolar Series Current:	2.12 A/phase
Bipolar Series Resistance:	2.2 Ohms/phase
Bipolar Series Inductance:	6.8 mH/phase
Bipolar Parallel Current:	4.24 A/phase
Bipolar Parallel Resistance:	0.7 Ohms/phase
Bipolar Parallel Inductance:	1.7 mH/phase
Unipolar Current:	3.00 A/phase
Unipolar Resistance:	1.1 Ohms/phase
Unipolar Inductance:	1.7 mH/phase
Rotor Inertia:	6.51E-03 oz-in-sec ²
Integral Gearhead:	No
Weight:	2.2 lbs
Storage Temperature:	-30 to 70 °C
Operating Temperature:	-20 to 50 °C

Insulation Class:	Class B (130 °C)
Shaft Run Out:	0.002 inch T.I.R. max
Radial Play:	0.0008 inch max w/ 1.1 lb load
End Play:	0.003 inch max w/ 2.2 lb load
Perpendicularity:	0.004 inches
Concentricity:	0.002 inches

Downloads

Family Datasheet:	 HW-099-Errata.pdf  StepMotorWiring-8-lead-cabled-striped.pdf  Stepper Motor Life data-110817.pdf
Datasheet:	http://s3.amazonaws.com/applied-motion-pdf/HW23-601.pdf
2D Drawing:	 HW23-601_RevF.pdf  HW23-601D-ZAC_RevC.pdf  HW23-601D_3D.pdf  HW23-601D-ZAC_3D.pdf
3D Drawing:	 HW23-601.igs  HW23-601D-ZAC.igs
Speed-Torque Curves:	 StepMtrAppData_HW23-601_RevA.pdf

Products in the Series *Cabled Step Motors*

Part Number	Frame Size	Length	Holding Torque	Series Current	Parallel Current	Rotor Inertia
HT23-552	NEMA 23	1.71	84.4	0.71	1.41	1.70E-03
HT23-553	NEMA 23	2.17	167	0.71	1.41	4.25E-03
HT23-554	NEMA 23	3.05	255	0.71	1.41	6.80E-03
HT23-598C	NEMA 23	2.35	158	2.12	4.24	0.0036
HT23-601C	NEMA 23	3.20	269	2.12	4.24	6.51E-03
HT34-495	NEMA 34	3.11	555	2.15	4.30	2.27E-02
HT34-496	NEMA 34	4.63	1110	2.05	4.10	4.53E-02
HT34-497	NEMA 34	6.14	1694	2.55	5.10	6.80E-02
HT34-506C	NEMA 34	4.94	1260	2.8	5.6	0.0387
HT34-696	NEMA 34	4.59	1110	2.05	4.1	3.87E-02
HW23-598	NEMA 23	2.34	158	2.12	4.24	3.68E-03
HW23-601	NEMA 23	3.21	269	2.12	4.24	6.51E-03
HW23-753	NEMA 23	2.19	153	0.71	1.41	3.12E-03
HW23-754	NEMA 23	3.23	227	0.71	1.41	6.51E-03
HW24-108	NEMA 24	3.72	354	NA	4.0	1.27E-02
HW34-506	NEMA 34	5.0	1260	2.8	5.6	3.87E-02
HW34-696	NEMA 34	4.59	1062	2.03	4.06	3.87E-02

Products in the Series *IP65 Rated Step Motors*

Part Number	Frame Size	Length	Holding Torque	Series Current	Parallel Current	Rotor Inertia
HW23-598	NEMA 23	2.34	158	2.12	4.24	3.68E-03
HW23-601	NEMA 23	3.21	269	2.12	4.24	6.51E-03
HW23-753	NEMA 23	2.19	153	0.71	1.41	3.12E-03
HW23-754	NEMA 23	3.23	227	0.71	1.41	6.51E-03
HW24-108	NEMA 24	3.72	354	NA	4.0	1.27E-02
HW34-506	NEMA 34	5.0	1260	2.8	5.6	3.87E-02
HW34-696	NEMA 34	4.59	1062	2.03	4.06	3.87E-02