

HT23-601C

NEMA 23 Step Motor with 10 Foot Shielded Cable



Product Features

- 2-phase hybrid step motor
- High torque design
- Standard NEMA 23 dimensions



Product Description:

The HT23-601 two-phase stepper motor is designed for use with DC powered drives like the ST5 and STR4 stepper drives, and is suitable for a wide range of motion control applications. The motor comes with an integral 10 ft shielded cable and is terminated with 8 motor leads plus 1 ground lead.

Available Part Numbers

Part No.	Details
HT23-601C	Base, single shaft motor.
HT23-601DC	Double shaft motor.
HT23-601DC-ZAA	Motor with ZAA type optical encoder mounted to rear shaft and end bell of motor. Recommended for use with Applied Motion stepper drives to perform Stall Detection and Stall Prevention functions. 2,000 CPR (8,000 counts quadrature); A, B, and Z (index) channels; differential, line driver outputs. • Mating cable for use with Applied Motion drives (D-sub connector): 3004-195-10 • Mating cable with flying leads: 3004-257
HT23-601DC-ZAC	Motor with ZAA type optical encoder (see above) mounted to rear shaft and end bell of motor. A metal cover with integral shielded cable is mounted over the encoder to protect the encoder from dust and debris.
HT23-601DC-CAA	Motor with CAA type capacitive encoder mounted to rear shaft and end bell of motor. Recommended for use with Applied Motion stepper drives to perform Stall Detection and Stall Prevention functions. 2,000 CPR (8,000 counts quadrature); A, B, and Z (index) channels; differential, line driver outputs. • Mating cable for use with Applied Motion drives (D-sub connector): 3004-329-10 • Mating cable with flying leads: 3004-349-03

Specifications

Part Number:	HT23-601C
Frame Size:	NEMA 23
Motor Type:	High torque
Part Number w/Double Shaft:	HT23-601DC
Part Number w/Encoder:	HT23-601DC-ZAA or HT23-601DC-CAA
Part Number w/Encoder & Cover:	HT23-601DC-ZAC
Motor Length:	3.20 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 +70 °C
Operating Temperature:	-20 +50 °C
Insulation Class:	B
Shaft Run Out:	0.002 inch T.I.R. max
Radial Play:	0.001 inch max w/ 1.1 lb load
End Play:	0.003 inch max w/ 1.1 lb load
Perpendicularity:	0.004 inches
Concentricity:	0.002 inches

Downloads

Product PDF - S3 Link:

<http://s3.amazonaws.com/applied-motion-pdf/HT23-601C.pdf>

2D Drawing:

-  [HT23-601C_RevC.pdf](#)
-  [HT23-601DC_RevC.pdf](#)
-  [HT23-601DC-ZAA_RevA.pdf](#)
-  [HT23-601DC-ZAC_RevA.pdf](#)
-  [HT23-601DC-CAA_RevB.pdf](#)

3D Drawing:

-  [HT23-601C.igs](#)
-  [HT23-601DC.igs](#)
-  [HT23-601DC-ZAA.igs](#)
-  [HT23-601DC-ZAC.igs](#)

Speed-Torque Curves:

-  [ST_speed-torque.pdf](#)
-  [STR_speed-torque.pdf](#)
-  [STR2_speed-torque.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