

**SPECIFICATIONS:**

STEPS PER REVOLUTION: 200	ROTOR INERTIA: 480 G-CM <sup>2</sup> (2.62 OZ-IN <sup>2</sup> )NOM
STEP ANGLE: 1.8°	HOLDING TORQUE: 13.5KG-CM (187 OZ-IN)MIN <sup>1</sup>
STEP TO STEP ACCURACY: ± 5 % <sup>1</sup> , <sup>2</sup>	DETENT TORQUE: 600 G-CM (8.32 OZ-IN)MIN
POSITIONAL ACCURACY: ± 5 % <sup>1</sup> , <sup>3</sup>	
HYSTERESIS: %	INSULATION CLASS: B
WINDING RESISTANCE: 2.25 OHM ±10% AT 25° <sup>7</sup>	BEARINGS: ABEC 3, DOUBLE SHIELDED
WINDING INDUCTANCE: 3.6 mH ± 20% <sup>8</sup>	WEIGHT: 1.0 KG (2.2 LB)
PHASE VOLTAGE: 4.5 VDC	TEMP. RISE: 80 °C MAX. <sup>9</sup>
PHASE CURRENT: 2.0 AMP [(RATED) UNIPOLAR]	OPERATING TEMP. RANGE: -20 TO +50°C
	STORAGE TEMP. RANGE: -40 TO 70°C
	RELATIVE HUMIDITY RANGE: 5 TO 95 %
SHAFT RUNOUT: 0.05 T.I.R.	
RADIAL PLAY: 0.025 MAX W/A .5KG RADIAL LOAD.	
END PLAY: 0.075 MAX W/A 1KG AXIAL LOAD.	

HT23-400

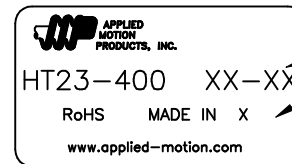
**REVISIONS**

ECO NO.	REV	DESCRIPTION	DATE	APPROVED
3987	A	INITIAL RELEASE	8/16/96	K. Kordik
5007	B	ADD "23HT76D" IF DBL SHFT		
5235	C	ADD EU COMPLIANCE NOTES	8/25/05	R. Hagelwood
6006	D	ADD ENV DRAWING/ ENC HOLES	10/20/09	J KORDIK
6082	E	ADD #4 HOLES	3/3/10	
6113	F	DETENT TORQUE CORRECTED	7/29/10	J KORDIK
6675	G	CORRECT NOTE CALLOUTS	3/1/13	J KORDIK

NOTES, UNLESS OTHERWISE SPECIFIED:

- <sup>1</sup> MEASUREMENTS MADE AT RATED CURRENT IN EACH PHASE.
- <sup>2</sup> BETWEEN ANY TWO ADJACENT STEP POSITIONS.
- <sup>3</sup> MAXIMUM ERROR IN 360°.
- 4. HIPOT 500 VAC, 60 Hz FOR ONE MINUTE.
- <sup>5</sup> LEADS: 8 AWG 22,7 STRAND MIN., UL AND CSA APPROVED, UL 3265.
- 6. INSULATION RESISTANCE: 100 MEGOHMS MIN AT 500 VDC.
- <sup>7</sup> AS MEASURED ACROSS ANY WINDING. RESISTANCE IS DOUBLED WITH BOTH WINDINGS IN SERIES.
- <sup>8</sup> AS MEASURED ACROSS ANY WINDING USING AN A.C. INDUCTANCE BRIDGE, AT 1KHz. INDUCTANCE IS FOUR TIMES VALUE WITH WINDINGS IN SERIES.
- <sup>9</sup> AS MEASURED BY THE CHANGE IN RESISTANCE METHOD, WITH RATED VOLTAGE APPLIED TO 2 PHASES; WITH MOTOR AT REST.
- 10. HIGH TORQUE MOTOR DESIGN, MICROSTEP LAMINATION.
- 11. ROTOR & STATOR LAMINATION MATERIAL: 0.5mm thk, SEE AMP STD SPEC #1500-062.
- <sup>12</sup> SHAFT OPTION: IF DOUBLE SHAFT REQUIRED ADD "D" TO END OF PART NUMBER. DOUBLE SHAFT REQUIRES ADDED HOLES FOR ENCODER OPTIONS.
- 13. THIS MOTOR TO BE MANUFACTURED IN COMPLIANCE WITH EU DIRECTIVE "ROHS 2002/95/EC".
- <sup>14</sup> MOTOR LABEL TO INCLUDE "ROHS" COMPLIANT, 'MADE IN (COUNTRY OF ORIGIN)' AND DATE CODE.

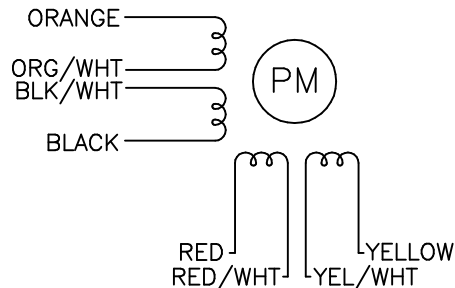
LABEL DETAIL



<sup>14</sup>

SWITCHING SEQUENCE FOR CW ROTATION  
FACING MOUNTING END

STEP	ORANGE	BLACK	RED	YELLOW
0	+	-	+	-
1	-	+	+	-
2	-	+	-	+
3	+	-	-	+
4	+	-	+	-



CONTRACT NO. CAT TS3653N3E8		APPLIED MOTION PRODUCTS, INC.			
APPROVALS	DATE	<b>STEP MOTOR OUTLINE</b>			
DRAWN <i>R. BARRICK</i>	8/15/96				
CHECKED <i>B. Conser</i>	8/16/96	<b>B</b>	COMPUTER DATA BASE DRAWING	DWG NO. HT23-400	REV <b>G</b>
APPROVED <i>K. Kordik</i>	8/16/96		SCALE: 1=1	SHEET 1 OF 2	



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