

**SPECIFICATIONS:**

STEPS PER REVOLUTION: 200	ROTOR INERTIA: 460 G-CM <sup>2</sup> (2.51 OZ-IN <sup>2</sup> ) NOM
STEP ANGLE: 1.8°	DETENT TORQUE: 714 G-CM (9.91 OZ-IN) MIN
STEP TO STEP ACCURACY: ±5 % [1], [2]	INSULATION CLASS: B
POSITIONAL ACCURACY: ±5 % [1], [3]	BEARINGS: ABEC 3, DOUBLE SHIELDED
HYSTERESIS: - %	WEIGHT: 1.0 KG (2.2 LB)
SHAFT RUNOUT: 0.05 T.I.R.	TEMP. RISE: 80 °C MAX. [8]
RADIAL PLAY: 0.02 MAX W/A .5KG RADIAL LOAD	OPERATING TEMP. RANGE: -20 TO +50 °C
END PLAY: 0.08 MAX W/A .5KG AXIAL LOAD	STORAGE TEMP. RANGE: -30 TO +70 °C
	RELATIVE HUMIDITY RANGE: 15 TO 85 %

HT23-599D-ZAA

**REVISIONS**

ECO NO.	REV	DESCRIPTION	DATE	APPROVED
6941	A	INITIAL RELEASE	6/16/14	J KORDIK
8034	B	CHG REAR SHAFT LENGTH/TYPO	8/28/18	M.Maroney

[7]

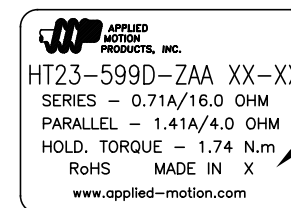
SPECIFICATION CONNECTION	NUMBER OF PHASE	RESISTANCE PER PHASE OHM ±10%	INDUCTANCE PER PHASE mH ±20%	RATED CURRENT Amp	RATED VOLTAGE V	HOLDING TORQUE Nm Min
BI-POLAR SERIES	2	16.0	61.6	0.71	11.4	1.74
BI-POLAR PARALLEL	2	4.0	15.4	1.41	5.6	1.74
UNI-POLAR	4	8.0	15.4	1.00	8.0	1.23

[1]

NOTES, UNLESS OTHERWISE SPECIFIED:

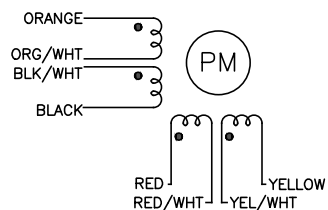
- [1] MEASUREMENTS MADE AT RATED CURRENT IN EACH PHASE.
- [2] BETWEEN ANY TWO ADJACENT STEP POSITIONS.
- [3] MAXIMUM ERROR IN 360°.
- 4. HIPOT 500 VAC, 60 Hz FOR ONE MINUTE.
- 5. LEADS: 8, 22AWG, 7 STRAND MIN., UL AND CSA APPROVED, UL 1430 OR UL 3265.
- 6. INSULATION RESISTANCE: 100 MEGOHMS MIN AT 500 VDC.
- [7] AS MEASURED USING AN A.C. INDUCTANCE BRIDGE, AT 1KHz.
- [8] AS MEASURED BY THE CHANGE IN RESISTANCE METHOD, WITH RATED VOLTAGE APPLIED TO 2 PHASES; WITH MOTOR AT REST.
- [9] ENCODER 970-1001 INSTALLED PER AMP ASSEMBLY PRACTICES. ENCODER CABLE SOLD SEPARATELY..
- 10. THIS MOTOR TO BE MANUFACTURED IN COMPLIANCE WITH EU DIRECTIVE "ROHS 2002/95/EC".
- [1] MOTOR LABEL TO INCLUDE "ROHS" COMPLIANT, 'MADE IN (COUNTRY OF ORIGIN)' AND DATE CODE.

LABEL DETAIL



[1]

WIRING DIAGRAM



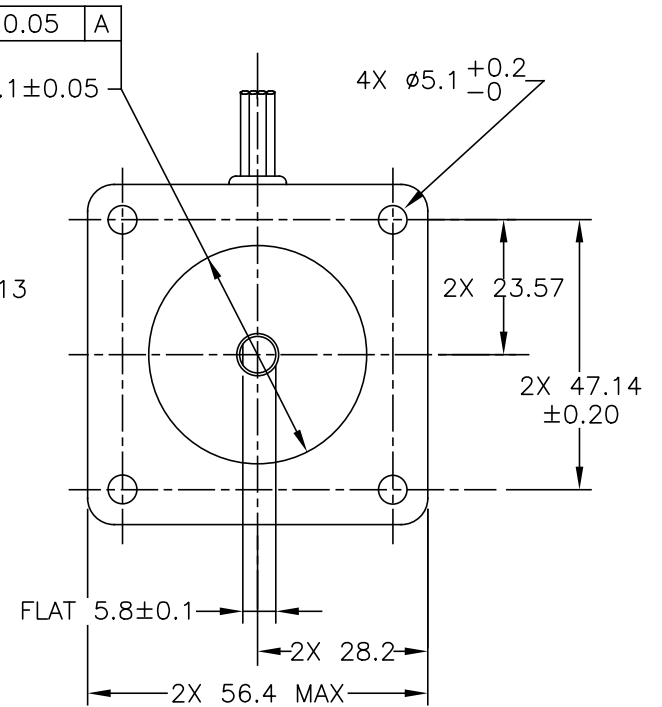
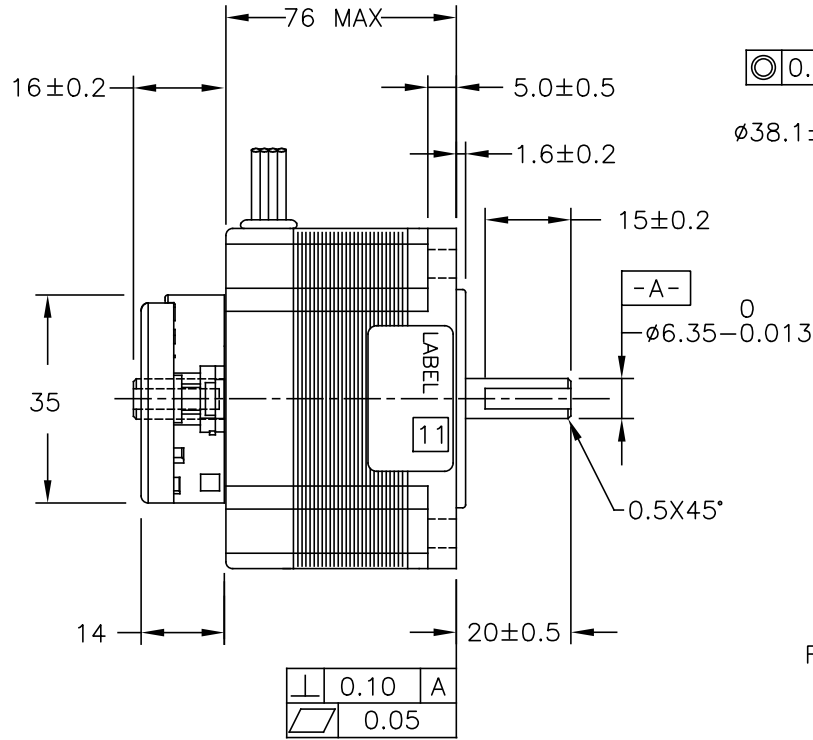
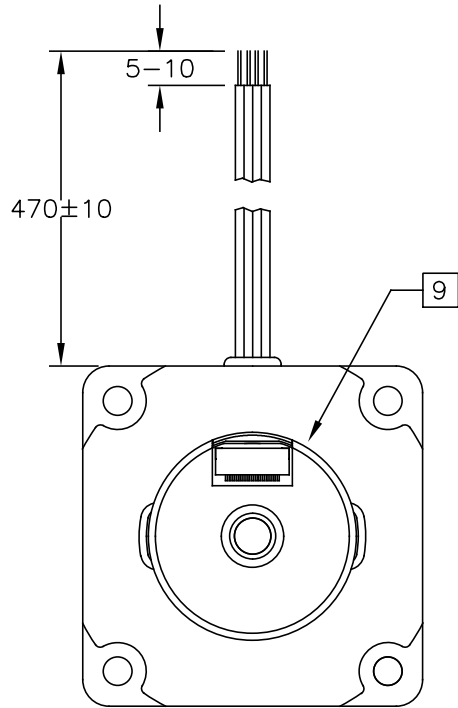
DRIVE SEQUENCE MODEL  
BI-POLAR FULL STEP

STEP	ORANGE & BLK/WHT	BLACK & ORG/WHT	RED & YEL/WHT	YELLOW & RED/WHT
1	+	-	+	-
2	-	+	+	-
3	-	+	-	+
4	+	-	-	+

CW(CLOCKWISE) AND CCW(COUNTER-CLOCKWISE) ROTATION WHEN SEEN FROM THE FLANGE SIDE OF THE MOTOR

CONTRACT NO. -					
APPROVALS	DATE				
DRAWN R.JONEZ	3/18/14	<h1>STEP MOTOR OUTLINE</h1>			
CHECKED					
APPROVED		B	COMPUTER DATA BASE DRAWING	DWG NO. HT23-599D-ZAA	REV B
APPROVED		SCALE: NONE		SHEET 1 OF 2	

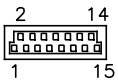
# MOTOR DRAWING



ENCODER RESOLUTION: 2000 cpr  
WITH MARKER PULSE.

## ENCODER PINOUTS

PIN	SIGNAL
1	CH A
2	CH A-
3	CH B
4	CH B-
5	INDEX
6	INDEX-
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	N/C
13	+Vcc
14	GND
15	N/C



<b>TOLERANCES</b> DECIMALS: MM (INCH) X.XXX = ± (.005) X.XX = ±0.13 (.010) X.X = ±0.25 (.020) ANGLES: MACH. = ±.5° CHAM. = ±5°		<b>THIRD ANGLE PROJECTION</b> 			
APPROVALS DRAWN <i>R.JONEZ</i> CHECKED		DATE 3/18/14		<b>STEP MOTOR OUTLINE</b>	
COMPUTER DATA BASE DRAWING		APPROVED		B	DWG NO. HT23-599D-ZAA
				SCALE: NONE	REV B SHEET 2 OF 2