

**SPECIFICATIONS:**

|   |  |
|---|--|
| STEPS PER REVOLUTION: 200                     | ROTOR INERTIA: 35.0 G-CM <sup>2</sup> (0.19 OZ-IN <sup>2</sup> ) REF |
| STEP ANGLE: 1.8°                              | HOLDING TORQUE: 1.6KG-CM (22.2 OZ-IN)MIN [1]                         |
| STEP TO STEP ACCURACY: ±5 % [1], [2]          | DETENT TORQUE: 36 G-CM (0.5 OZ-IN) MIN                               |
| POSITIONAL ACCURACY: ±5 % [1], [3]            |  |
| HYSTERESIS: - %                               | INSULATION CLASS: B  |
| WINDING RESISTANCE: 4.2 OHM ±10% AT 25° [7]   | BEARINGS: ABEC 3, DOUBLE SHIELDED                                    |
| WINDING INDUCTANCE: 2.8 mH ± 20% [8]          | WIEGHT: 200 G (7.0 OZ) APPROXIMATE                                   |
| PHASE VOLTAGE: 4.0 VDC                        | TEMP. RISE: 80°C MAX. [9]  |
| PHASE CURRENT: .95 AMP (RATED)                | OPERATING TEMP. RANGE: -10 TO 40 °C                                  |
|   | STORAGE TEMP. RANGE: -40 TO 70 °C                                    |
|   | RELATIVE HUMIDITY RANGE: 5 TO 95 %                                   |
| SHAFT RUNOUT: 0.013 T.I.R.                    |  |
| RADIAL PLAY: 0.025 MAX WITH .5KG RADIAL LOAD. |  |
| END PLAY: 0.075 MAX WITH 1.0KG AXIAL LOAD.    |  |

HT17-068

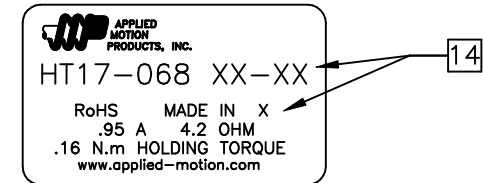
**REVISIONS**

| ECO NO. | REV | DESCRIPTION              | DATE     | APPROVED     |
|---------|-----|--------------------------|----------|--------------|
| 3847    | A   | INITIAL RELEASE          | 2-16-94  | K. Kordik    |
| 3930    | B   | ADD HT17-068P NOTE       | 5-25-95  | K. Kordik    |
| 5000    | C   | ADD "17HT33D" NOTATION   |          |              |
| 5235    | D   | ADD EU COMPLIANCE NOTES  | 8/25/05  | B. Hazelwood |
| 5251    | E   | Chg HT17-068P to 17HT33P | 22/11/05 | B. Hazelwood |
| 6018    | F   | ADD MECH DATA            | 10/29/09 | J. Kordik    |
| 6042    | G   | REVISE ENCODER HOLES     | 12/23/09 | J. Kordik    |
| 6082    | H   | ADD ENCODER HOLES        | 3/3/10   | J. Kordik    |
| 7446    | J   | REVISE NOTE 13           | 6/6/16   | J. Kordik    |
|         |     |                          |          |              |
|         |     |                          |          |              |

NOTES, UNLESS OTHERWISE SPECIFIED:

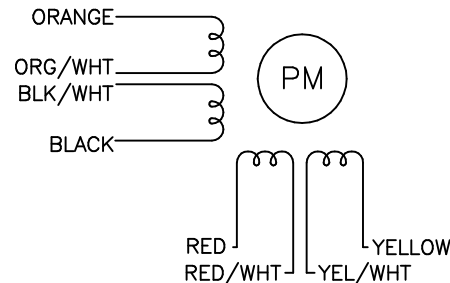
- [1] MEASURMENTS MADE AT RATED CURRENT IN EACH PHASE.
- [2] BETWEEN ANY TWO ADJACENT STEP POSITIONS.
- [3] MAXIMUM ERROR IN 360°.
- 4. HIPOT 500 VAC FOR ONE MINUTE.
- [5] LEADS: 8 ,AWG 26,7 STRAND MIN.,UL AND CSA APPROVED, UL 3265.
- 6. INSULATION RESISTANCE: 100 MEGOHMS MIN AT 500 VDC.
- [7] AS MEASURED ACROSS ANY WINDING.
- [8] AS MEASURED ACROSS ANY WINDING USING AN A.C. INDUCTANCE BRIDGE (1 KHz).
- [9] AS MEASURED BY THE CHANGE IN RESISTANCE METHOD, WITH RATED VOLTAGE APPLIED TO 2 PHASES; WITH MOTOR AT REST.
- 10. HIGH TORQUE MOTOR DESIGN.
- 11. ROTOR & STATOR LAMINATION MATERIAL: 0.5mm thk, SEE AMP STD SPEC #1500-062.
- [12] IF DOUBLE SHAFT IS REQUIRED, ADD "D" TO END OF PART NUMBER.
- 13. THIS MOTOR IS MANUFACTURED IN COMPLIANCE WITH THE CURRENT EU RoHS DIRECTIVE.
- [14] MOTOR LABEL TO INCLUDE "ROHS" COMPLIANT, 'MADE IN (COUNTRY OF ORIGIN)' AND DATE CODE.

LABEL DETAIL



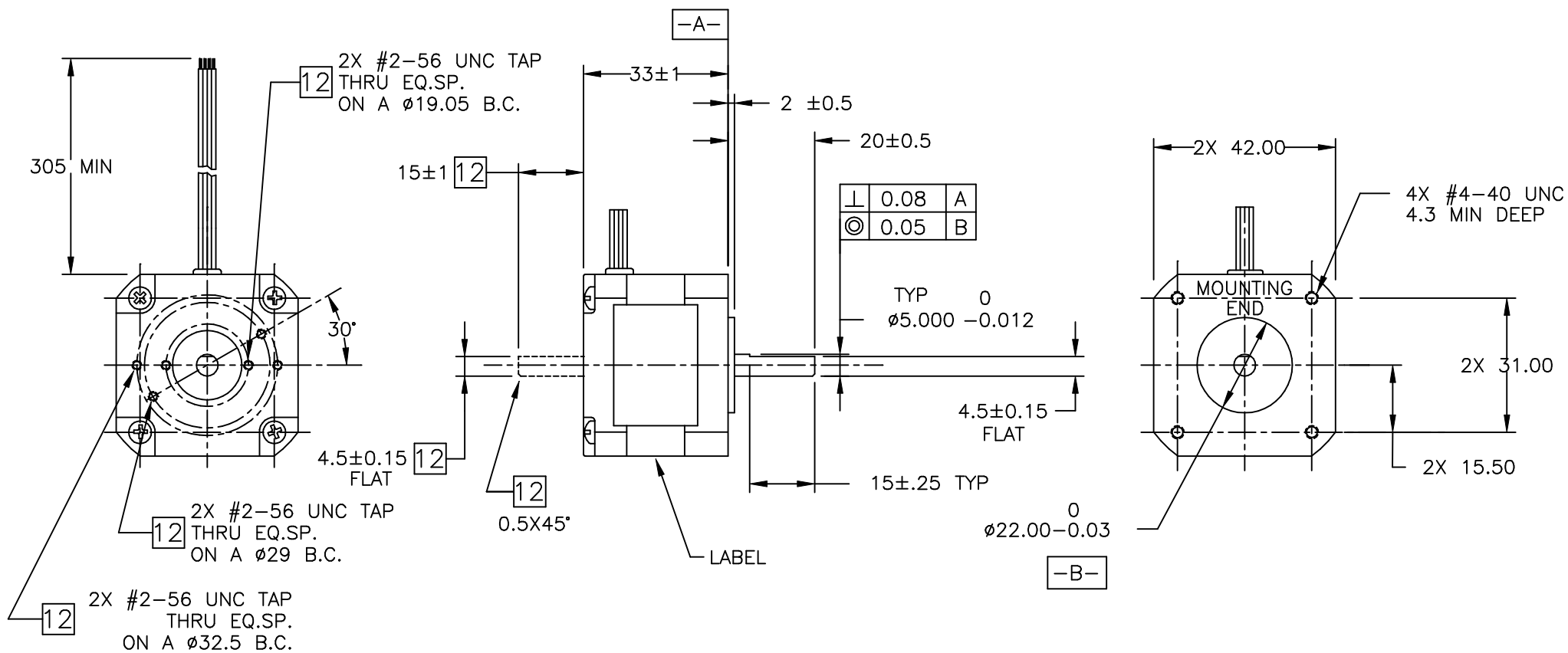
SWITCHING SEQUENCE FOR CW ROTATION  
FACING MOUNTING END

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



|                              |         |                             |                               |                     |          |
|------------------------------|---------|-----------------------------|-------------------------------|---------------------|----------|
| CONTRACT NO. CAT             |         |                             |                               |                     |          |
| APPROVALS                    | DATE    | <h2>STEP MOTOR OUTLINE</h2> |                               |                     |          |
| DRAWN<br><i>R. BARRICK</i>   | 1/10/94 |                             |                               |                     |          |
| CHECKED<br><i>B. Corser</i>  | 2/16/94 | <h1>B</h1>                  | COMPUTER DATA<br>BASE DRAWING | DWG NO.<br>HT17-068 | REV<br>J |
| APPROVED<br><i>K. Kordik</i> | 2/16/94 |                             | SCALE: FULL                   | SHEET 1 OF 2        |          |

# MOTOR DRAWING



| TOLERANCES               |  | THIRD ANGLE PROJECTION     |          | APPLIED MOTION PRODUCTS, INC. |                  |              |
|--------------------------|--|----------------------------|----------|-------------------------------|------------------|--------------|
| DECIMALS: MM (INCH)      |  |                            |          |                               |                  |              |
| X.XXX = $\pm$ (.005)     |  |                            |          |                               |                  |              |
| X.XX = $\pm 0.13$ (.010) |  | APPROVALS                  | DATE     | <h2>STEP MOTOR OUTLINE</h2>   |                  |              |
| X.X = $\pm 0.25$ (.020)  |  | DRAWN<br><i>R. JONEZ</i>   | 10/22/09 |                               |                  |              |
| ANGLES:                  |  | CHECKED                    |          | B                             | DWG NO. HT17-068 | REV J        |
| MACH. = $\pm 5^\circ$    |  | APPROVED                   |          | SCALE: NONE                   |                  | SHEET 2 OF 2 |
| CHAM. = $\pm 5^\circ$    |  | COMPUTER DATA BASE DRAWING |          |                               |                  |              |

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