

SPECIFICATIONS:

| | |
|---|---|
| NUMBER OF PHASES: 2 | ROTOR INERTIA: 38 g-cm ² (0.21 oz-in ²) NOM |
| STEPS PER REVOLUTION: 400 | DETENT TORQUE: 12 mNm (1.7 oz-in) MIN |
| STEP ANGLE: 0.9° | BEARINGS: 625ZZ |
| STEP TO STEP ACCURACY: ±0.045° | INSULATION CLASS: B |
| POSITIONAL ACCURACY: ±5% | HYSTERESIS: N/A% |
| SHAFT RUNOUT: 0.03 mm T.I.R. MAX | TEMP. RISE: 80 °C MAX. |
| RADIAL PLAY: 0.02 mm MAX (.5KG RADIAL LOAD) | OPERATING TEMP. RANGE: -20 TO +50 °C |
| END PLAY: 0.08 mm MAX (.5KG AXIAL LOAD) | STORAGE TEMP. RANGE: -30 TO +70 °C |
| MAXIMUM RADIAL LOAD: 21N (4.72lb) | RELATIVE HUMIDITY RANGE: 15 TO 85 % |
| MAXIMUM AXIAL LOAD: 10N (2.25lb) | WEIGHT: 0.23 kg (0.51 lb) |

| | [7] | [8] | [1] | [1] |
|-----------------|---------------------------------|--------------------------------|---------------------|-------------------------|
| CONNECTION | RESISTANCE PER PHASE (ohm ±10%) | INDUCTANCE PER PHASE (mH ±20%) | RATED CURRENT (amp) | HOLDING TORQUE (Nm MIN) |
| BI-POLAR SERIES | 20 | 23 | 0.5 | 0.22 |

NOTES, UNLESS OTHERWISE SPECIFIED:

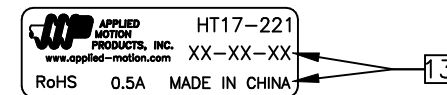
- [1] MEASUREMENTS MADE AT RATED CURRENT IN EACH PHASE.
- [2] BETWEEN ANY TWO ADJACENT FULL STEP POSITIONS.
- [3] MAXIMUM ERROR IN 360°.
4. HIPOT 500 VAC, 60 Hz FOR ONE MINUTE.
5. LEADS: 4, AWG 26, 7 STRAND MIN., UL AND CSA APPROVED, UL 1007
6. INSULATION RESISTANCE: 100 MEGOHMS MIN AT 500 VDC.
- [7] AS MEASURED ACROSS EACH PHASE.
- [8] AS MEASURED ACROSS EACH PHASE USING AN A.C. INDUCTANCE BRIDGE AT 1 kHz.
- [9] AS MEASURED BY THE CHANGE IN RESISTANCE METHOD, WITH RATED CURRENT APPLIED TO 2 PHASES; WITH MOTOR AT REST.
- [10] ADD "D" TO END OF PART NUMBER IF DOUBLE SHAFT IS REQUIRED. ENCODER HOLES INCLUDED WITH REAR SHAFT VERSION ONLY.
11. ROTOR & STATOR LAMINATED CONSTRUCTION.
12. THIS MOTOR TO BE MANUFACTURED IN COMPLIANCE WITH EU DIRECTIVE "ROHS 2002/95/EC".
- [13] MOTOR LABEL TO INCLUDE "ROHS" COMPLIANT, AMP P/N, 'MADE IN (COUNTRY OF ORIGIN)', AND DATE CODE.
14. HIGH TORQUE MOTOR DESIGN

HT17-221

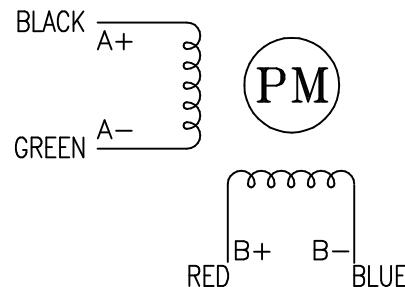
REVISIONS

| ECO NO. | REV | DESCRIPTION | DATE | APPROVED |
|---------|-----|---------------------|---------|-----------|
| 6947 | A | PRELIMINARY RELEASE | 4/11/14 | D.MACLEOD |
| 7048 | B | ERROR CORRECTION | 8/11/14 | D.MACLEOD |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |

LABEL DETAIL



PHASE DETAIL



FULL STEP SWITCHING SEQUENCE
BI-POLAR, FACING MOUNTING END

| STEP | A+ | A- | B+ | B- |
|------|----|----|----|----|
| 0 | + | - | + | - |
| 1 | - | + | + | - |
| 2 | - | + | - | + |
| 3 | + | - | - | + |
| 4 | + | - | + | - |

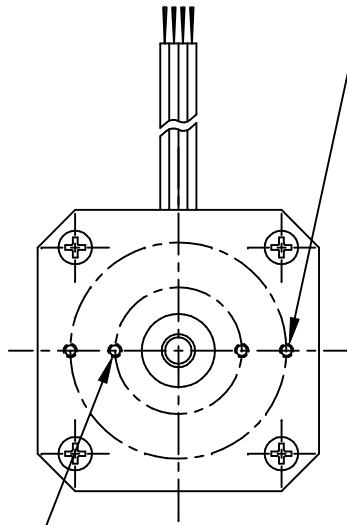
CCW ↑

↓ CW

| | | | | | |
|-------------------|--|-------------------------------|--|-----------------------------|-------------------------------|
| CONTRACT NO. - | | APPLIED MOTION PRODUCTS, INC. | | | |
| APPROVALS | | DATE | | <h1>STEP MOTOR OUTLINE</h1> | |
| DRAWN K.KESLER | | 8/11/14 | | | |
| CHECKED - | | - | | | |
| APPROVED - | | - | | | |
| APPROVED - | | - | | B | COMPUTER DATA BASE DRAWING |
| | | | | DWG NO. HT17-221 | REV B |
| | | SCALE: NONE | | SHEET 1 OF 2 | |

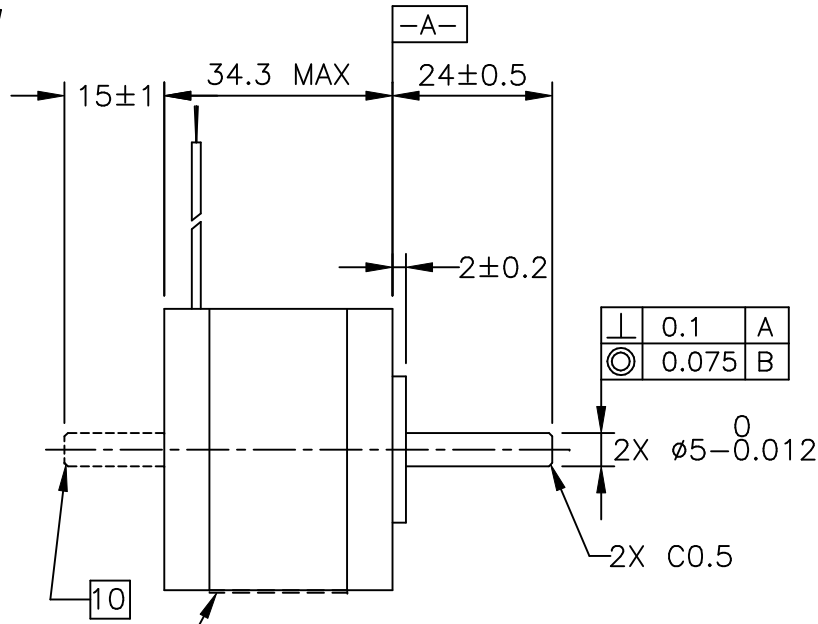
2X #2-56 UNC
TAP THRU EQ.SP.
ON A $\phi 32.5$ B.C.

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2X #2-56 UNC
TAP THRU EQ.SP.
ON A $\phi 19.05$ B.C.

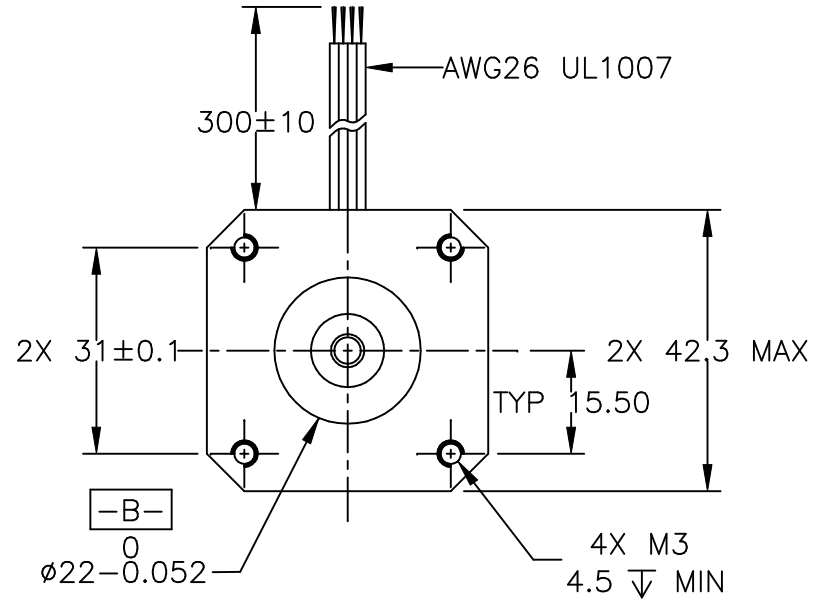
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LABEL 13

| | | |
|---------|-------|---|
| \perp | 0.1 | A |
| \odot | 0.075 | B |



-B-



APPLIED
MOTION
PRODUCTS, INC.

STEP MOTOR OUTLINE

| | | | | | |
|--|--|---------------------------|--|---------------------|--|
| TOLERANCES | | THIRD ANGLE PROJECTION | | | |
| <p>*ALL DIMENSIONS IN MM DECIMALS: MM X.XX = ± 0.13 X.X = ± 0.25 ANGLES: MACH. = $\pm 0.5^\circ$ CHAM. = $\pm 5^\circ$</p> | | <p>APPROVALS</p> | | | |
| <p>COMPUTER DATA BASE DRAWING</p> | | <p>DRAWN K.KESLER</p> | | <p>8/11/14</p> | |
| <p>APPROVED</p> | | <p>CHECKED</p> | | <p>SCALE: NONE</p> | |
| <p>APPROVED</p> | | <p>CHECKED</p> | | <p>SHEET 2 OF 2</p> | |

B DWG NO. HT17-221 REV B