

## SPECIFICATIONS:

|   |   |
|---|---|
| NUMBER OF PHASES: 4                           | ROTOR INERTIA: $460 \text{ g-cm}^2$ (2.51 oz-in $^2$ ) NOM  |
| STEPS PER REVOLUTION: 200                     | DETENT TORQUE: $714 \text{ g-cm}$ (9.91 oz-in) MIN  |
| STEP ANGLE: $1.8^\circ$                       | INSULATION CLASS: B   |
| STEP TO STEP ACCURACY: $0.09^\circ$           | BEARINGS: ABEC 3, DOUBLE SHIELDED   |
| POSITION ACCURACY: $0.09^\circ$               | TEMP. RISE: $80^\circ\text{C}$ MAX. <span style="border: 1px solid black; padding: 2px;">9</span> |
| HYSERESIS: N/A%                               | OPERATING TEMP. RANGE: -20 TO $+50^\circ\text{C}$   |
| SHAFT RUNOUT: 0.03 mm T.I.R. MAX              | STORAGE TEMP. RANGE: -30 TO $+70^\circ\text{C}$   |
| RADIAL PLAY: 0.02 mm MAX (0.5 kg RADIAL LOAD) | RELATIVE HUMIDITY RANGE 15 TO 85%   |
| END PLAY: 0.08 mm MAX (0.5 kg AXIAL LOAD)     | WEIGHT: 1.0 kg (2.2 lb) APPROXIMATE   |

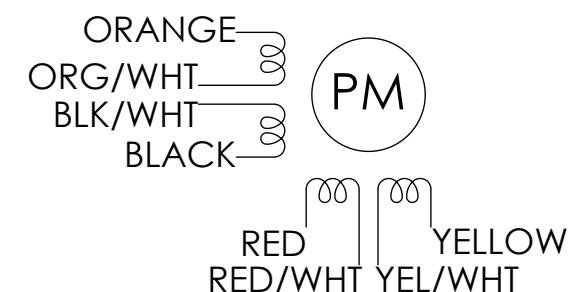
| CONNECTION        | RESISTANCE PER PHASE <span style="border: 1px solid black; padding: 2px;">7</span> (ohm $\pm 10\%$ ) | INDUCTANCE PER PHASE <span style="border: 1px solid black; padding: 2px;">8</span> (mH $\pm 20\%$ ) | RATED CURRENT (Amp) | HOLDING TORQUE <span style="border: 1px solid black; padding: 2px;">1</span> (Nm MIN) | HOLDING TORQUE <span style="border: 1px solid black; padding: 2px;">1</span> (oz-in MIN) |
|-------------------|--|---|---------------------|---|--|
| BI-POLAR SERIES   | 16.0   | 61.6  | 0.71                | 1.74  | 246  |
| BI-POLAR PARALLEL | 4.0  | 15.4  | 1.41                | 1.74  | 246  |
| UNI-POLAR         | 8.0  | 15.4  | 1.00                | 1.23  | 174  |

## 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  $360^\circ$ .
4. HIPOT 500 VAC, 60Hz FOR ONE MINUTE.
- 5 LEADS: 8, 22 AWG, UL 1430
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 1KHz.
- 9 AS MEASURED BY THE CHANGE IN RESISTANCE METHOD, WITH RATED CURRENT APPLIED TO 2 PHASES: WITH MOTOR AT REST.
10. ROTOR AND STATOR LAMINATED CONSTRUCTION.
11. THIS MOTOR IS MANUFACTURED IN COMPLIANCE WITH CURRENT EU RoHS DIRECTIVE.
- 12 MOTOR LABEL TO INCLUDE AMP LOGO, AMP WEBSITE ADDRESS, "RoHS" COMPLIANCE LOGO, AMP P/N, "MADE IN (COUNTRY)", AND DATE CODE.

| REVISIONS |      |   |          |          |
|-----------|------|---|----------|----------|
| ECO #     | REV. | DESCRIPTION                                       | DATE     | APPROVED |
| 5976      | A    | FIRST RELEASE OF SEPARATE DUAL SHAFT DRAWING      | 08/28/09 | J.KORDIK |
| 6090      | B    | STANDARDIZE ENCODER HOLES                         | 03/29/10 | J.KORDIK |
| 6807      | C    | REVISE FLANGE THICKNESS                           | 09/09/13 | J.KORDIK |
| 7445      | D    | REVISE NOTE 10                                    | 06/06/16 | J.KORDIK |
| 9032      | E    | CHANGE TO SW & SPLIT SINGLE & DUAL SHAFT DRAWINGS | 12/20/23 | L.LIU    |

## WIRING DIAGRAM

DRIVE SEQUENCE MODEL  
BI-POLAR FULL STEP

| STEP | (A+) ORG & BLK/WHT | (A-) BLK & ORG/WHT | (B+) RED & YEL/WHT | (B-) YEL & RED/WHT |
|------|--------------------|--------------------|--------------------|--------------------|
| 1    | +                  | -                  | +                  | -                  |
| 2    | -                  | +                  | +                  | -                  |
| 3    | -                  | +                  | -                  | +                  |
| 4    | +                  | -                  | -                  | +                  |
| 1    | +                  | -                  | +                  | -                  |

CW (CLOCKWISE) AND CCW (COUNTER-CLOCKWISE) ROTATION  
WHEN SEEN FROM THE MOUNTING FACE END OF THE MOTOR

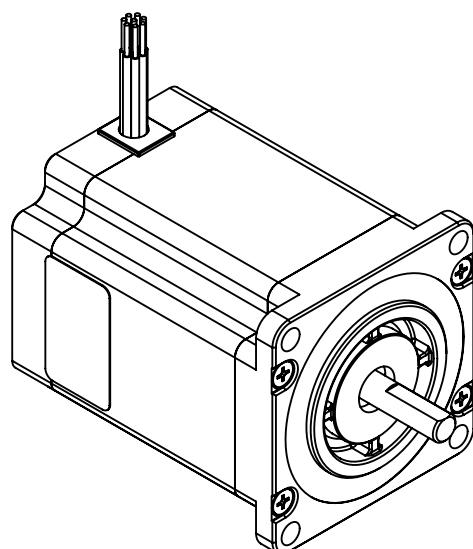
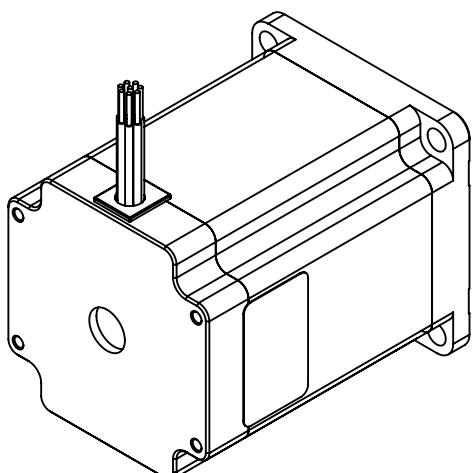
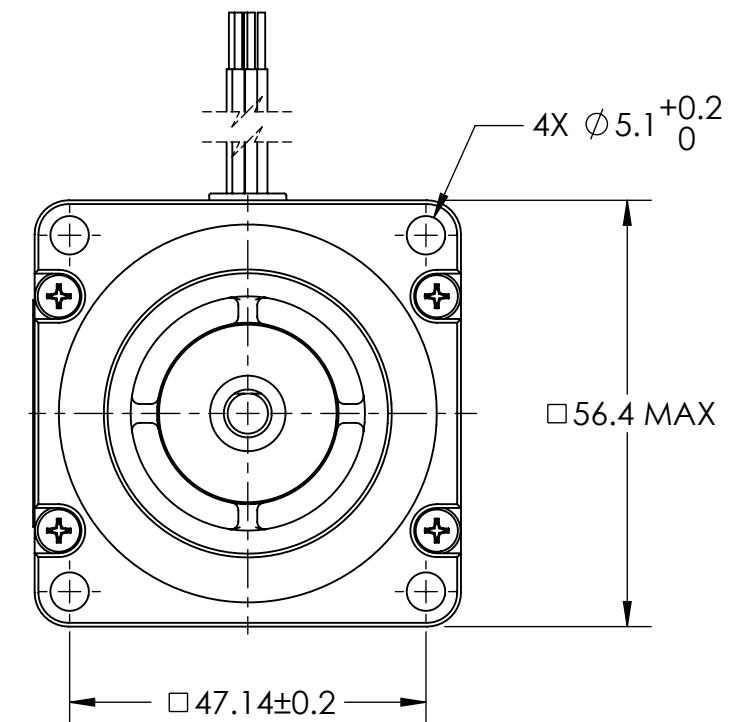
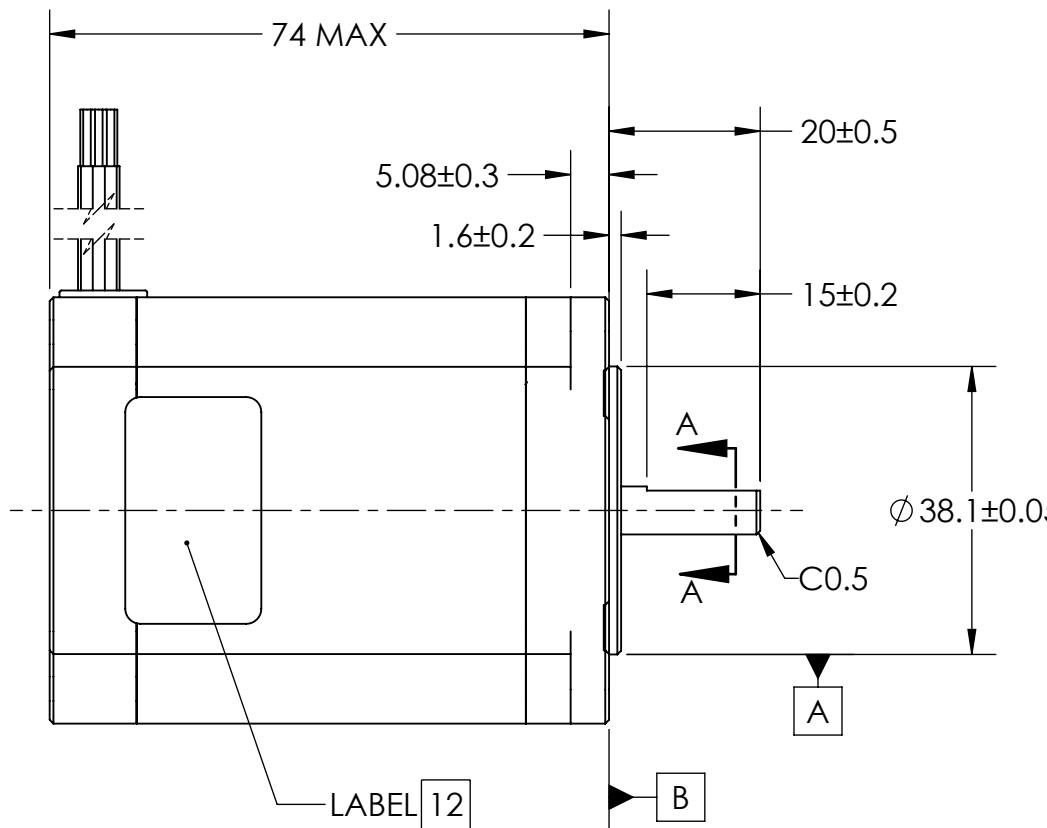
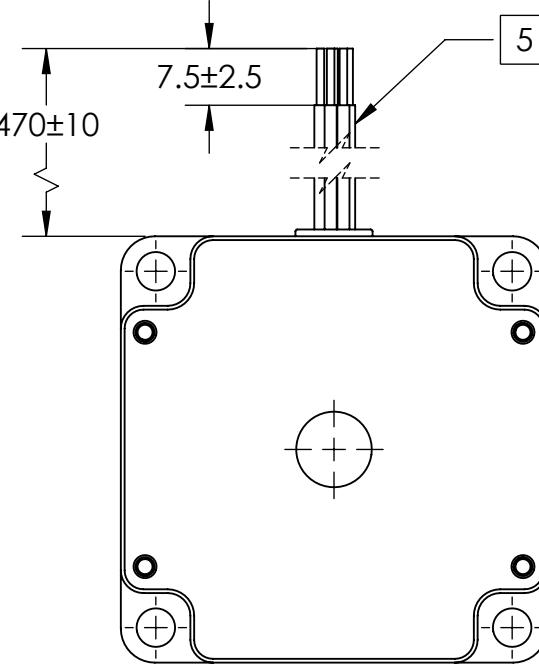
| STEP MOTOR   |                             |                                  | SIZE                   | DWG. NO.      | REV      |
|--|-----------------------------|----------------------------------|------------------------|---------------|----------|
|  |                             |                                  |                        |               |          |
|   | Applied Motion Products     | A MOONS' COMPANY                 | THIRD ANGLE PROJECTION |               |          |
| PROPRIETARY AND CONFIDENTIAL   | UNLESS OTHERWISE SPECIFIED: | DIMENSIONS ARE IN MILLIMETERS    | DRAWN                  | C.BREUNINGER  | 12/18/23 |
| THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APPLIED MOTION PRODUCTS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF APPLIED MOTION PRODUCTS IS PROHIBITED. | TOLERANCES:                 | - ANGULAR: $\pm 0.5$             | PRE.CHECK              | -             | -        |
|  |                             | - ONE DECIMAL PLACE: $\pm 0.25$  | PRE.APPROVAL           | -             | -        |
|  |                             | - TWO DECIMAL PLACES: $\pm 0.13$ | FIN.CHECK              | E.MERINO      | 12/19/23 |
|  | MATERIAL                    | -                                | SAP:                   | 4611110007681 |          |
|  | FINISH                      | -                                | ALT DWG. NO.:          | -             |          |
|  | DO NOT SCALE DRAWING        |                                  | ALT SAP:               | -             |          |
|  |                             |                                  | SCALE: 1:1             | SHEET 1 OF 2  |          |

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THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN MILLIMETERS

TOLERANCES:

- ANGULAR: ± 0.5

- ONE DECIMAL PLACE: ± 0.25

- TWO DECIMAL PLACES: ± 0.13

MATERIAL

-

FINISH

-

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

PRE.CHECK

PRE.APPROVAL

FIN.CHECK

-

-

-

ALT SAP: -

TITLE:

STEP MOTOR

SIZE

B

DWG. NO.

HT23-599

REV

E

SCALE: 1:1

SHEET 2 OF 2

4

3

2

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