

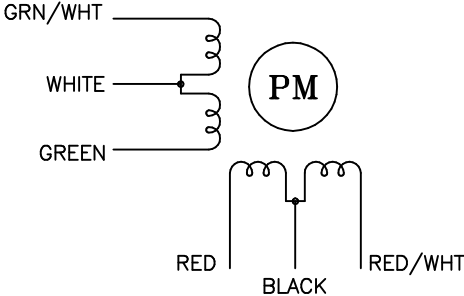
| SPECIFICATIONS:                               |  |
|---|--|
| STEPS PER REVOLUTION: 200                     | ROTOR INERTIA: 234 G-CM <sup>2</sup> (1.28 OZ-IN <sup>2</sup> )REF |
| STEP ANGLE: 1.8°                              | HOLDING TORQUE: 7.2 KG-CM (100 OZ-IN)MIN1                          |
| STEP TO STEP ACCURACY: ± 5 %                  | 1, 2DETENT TORQUE: 144 G-CM (2.0 OZ-IN)MIN                         |
| POSITIONAL ACCURACY: ± 5 %                    | 1, 3PULLOUT TORQUE: 4.68KG(65 OZ-IN) AT 10 PPS                     |
| HYSTERESIS: %                                 | INSULATION CLASS: B  |
| WINDING RESISTANCE: .40 OHM ±10% AT 25°       | 7BEARINGS: ABEC 3 , DOUBLE SHIELDED                                |
| WINDING INDUCTANCE: 0.5 mH ± 20%              | 8WEIGHT: 1 KG (2.0 LB)   |
| PHASE VOLTAGE: 1.7 VDC                        | TEMP. RISE: 80°C MAX.9   |
| PHASE CURRENT: 4.7 AMP (RATED)                | OPERATING TEMP. RANGE: -10 TO 40 °C                                |
|   | STORAGE TEMP. RANGE: -40 TO 70 °C                                  |
| SHAFT RUNOUT: .025 T.I.R.                     | RELATIVE HUMIDITY RANGE: 5 TO 95 %                                 |
| RADIAL PLAY: .025 MAX WITH .45KG RADIAL LOAD. |  |
| END PLAY: .025 MAX WITH 4.1 KG AXIAL LOAD.    |  |
| MAX OVERHANG LOAD: 6.8 KG                     |  |
| MAX THRUST LOAD: 11.32 KG                     |  |

NOTES, UNLESS OTHERWISE SPECIFIED:

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- MEASURMENTS MADE AT RATED CURRENT IN EACH PHASE.
- BETWEEN ANY TWO ADJACENT STEP POSITIONS.
- MAXIMUM ERROR IN 360°.
- HIPOT 500 VAC FOR ONE MINUTE.
- LEADS: 6 ,AWG 22,7 STRAND MIN.,UL AND CSA APPROVED, 105°C, LENGTH = 457 MIN.
- INSULATION RESISTANCE: 100 MEGOHMS MIN AT 500 VDC.
- AS MEASURED ACROSS ANY WINDING.
- AS MEASURED ACROSS ANY WINDING USING AN A.C. INDUCTANCE BRIDGE (1 KHz).
- AS MEASURED BY THE CHANGE IN RESISTANCE METHOD, WITH RATED VOLTAGE APPLIED TO 2 PHASES; WITH MOTOR AT REST.
- SHAFT OPTION: IF REAR SHAFT IS REQUIRED ADD "D" TO END OF PART NO.
- MATERIAL: ALUMINUM END BELLS. 303 STAINLESS STEEL SHAFT. STEEL HOUSING.  
LAMINATION MATERIAL: 0.5mm thk, SEE AMP STD SPEC #1500-062.
- FINISH: PAINT SEMIGLOSS BLACK.
- THIS MOTOR TO BE MANUFACTURED IN COMPLIANCE WITH EU DIRECTIVE "ROHS 2002/95/EC".
- MOTOR LABEL TO INCLUDE "ROHS" COMPLIANT.

SWITCHING SEQUENCE FOR CW ROTATION  
FACING MOUNTING END


| STEP | RED | RED/WHT | GREEN | GRN/WHT |
|------|-----|---------|-------|---------|
| 0    | ON  | OFF     | ON    | OFF     |
| 1    | OFF | ON      | ON    | OFF     |
| 2    | OFF | ON      | OFF   | ON      |
| 3    | ON  | OFF     | OFF   | ON      |
| 4    | ON  | OFF     | ON    | OFF     |



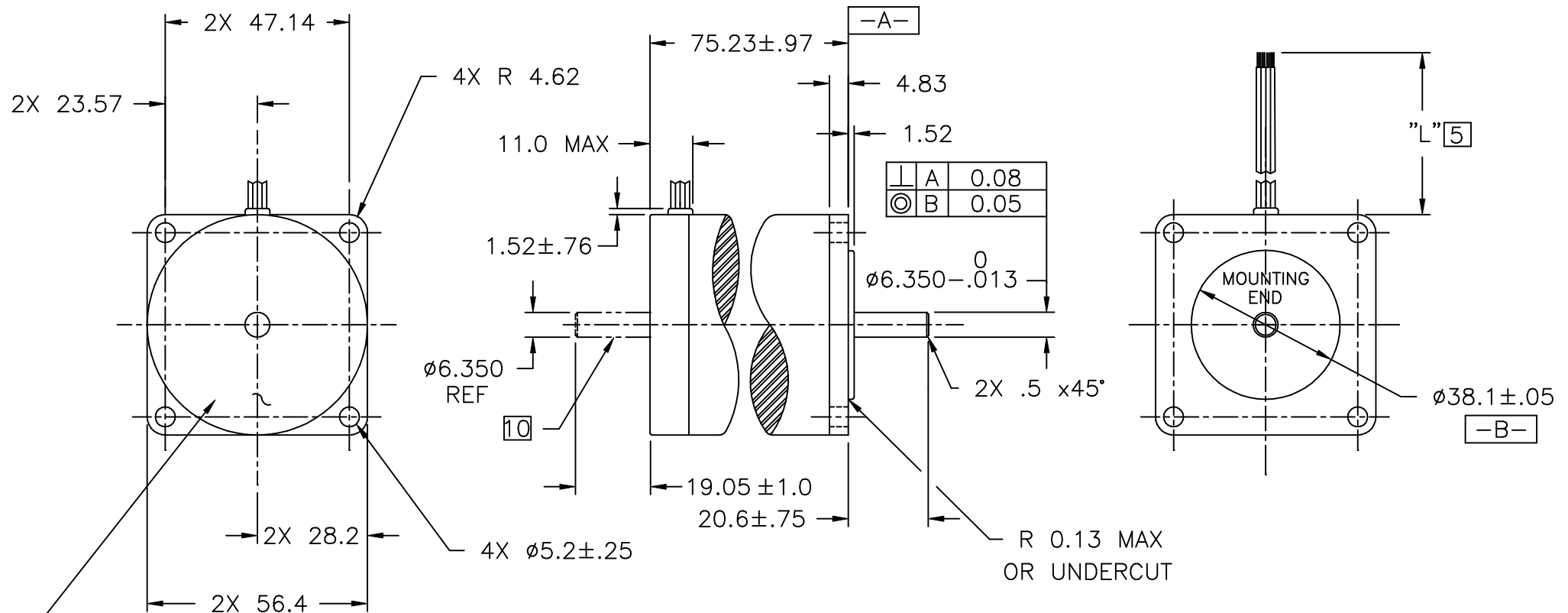
4023-828

| REVISIONS |     |                          |          |              |
|-----------|-----|--------------------------|----------|--------------|
| ECO NO.   | REV | DESCRIPTION              | DATE     | APPROVED     |
|           | A   | INITIAL RELEASE          | 9/9/78   | GRS          |
| 3317      | B   | REDRAWN NEW FORMAT       | 3-16-88  | KK           |
| 3688      | C   | SEE ECO, DATA BASE DWG   | 1-7-92   | K. Kordik    |
| 3733      | D   | SEE ECO                  | 6-22-92  | K. Kordik    |
| 3763      | E   | CHNG'D RESISTANCE WAS.37 | 11/10/92 | B. Corser    |
| 3804      | F   | CHNG'D INDUCTANCE WAS .6 | 5/13/93  | K. Kordik    |
| 3938      | G   | ADD PINION DWG NO.       |          |              |
| 5235      | H   | ADD EU COMPLIANCE NOTES  | 8/25/05  | R. Hagelwood |
| 5972      | J   | DOC CLEANUP              | 5/20/10  | J Kordik     |
|           |     |                          |          |              |
|           |     |                          |          |              |


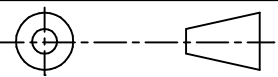
IF PINION REQUIRED THIS SPEC IS NOT COMPLETE  
WITHOUT DWG NO. 4023-828P  
**THIS SPEC NOT COMPLETE WITHOUT DWG NO. 231876**

|                       |         |   |                               |                  |          |
|-----------------------|---------|---|-------------------------------|------------------|----------|
| CONTRACT NO. CAT      |         |  APPLIED<br>MOTION<br>PRODUCTS, INC. |                               |                  |          |
| APPROVALS             | DATE    | STEP MOTOR OUTLINE  |                               |                  |          |
| DRAWN<br>R. BARRICK   | 3/15/88 |   |                               |                  |          |
| CHECKED<br>B. Corser  | 6/22/92 | B   | COMPUTER DATA<br>BASE DRAWING | DWG NO. 4023-828 | REV<br>J |
| APPROVED<br>K. Kordik | 3/16/88 |   |                               |                  |          |
| APPROVED<br>B. Corser | 1/3/92  |   |                               |                  |          |

| REVISIONS |                          |         |              |
|-----------|--------------------------|---------|--------------|
| REV       | DESCRIPTION              | DATE    | APPROVED     |
| A         | INITIAL RELEASE          | 5/30/89 | M.SALTER     |
| B         | SEE ECO NO. 3500         | 1/12/90 | B. CORSER    |
| C         | SEE ECO NO. 3544         | 3/15/90 | B. CORSER    |
| D         | CH'G BODY L'NTH TOL 3621 | 3/20/91 | K. Kordik    |
| E         | REVISE NOTE - ECO 5270   | 2/1/06  | R. Hagelwood |
| F         | REVISE NOTE - ECO 7387   | 2/11/16 | J KORDIK     |



REFER TO AMP ELECTRICAL SPECIFICATION

| TOLERANCES  |  | THIRD ANGLE PROJECTION  |         |  APPLIED<br>MOTION<br>PRODUCTS, INC. |                   |          |
|---|--|---|---------|---|-------------------|----------|
| DECIMALS: MM (INCH)<br>X.XXX= ±0.01 (.005)<br>X.XX = ±0.10 (.010)<br>X.X = ±0.20 (.020)<br>ANGLES:<br>MACH. = ±.5°<br>CHAM. = ±5° |  |  |         | STEP MOTOR OUTLINE  |                   |          |
|   |  | APPROVALS   | DATE    |   |                   |          |
|   |  | DRAWN<br>R. BARRICK   | 5/4/89  | B   | DWG NO.<br>231876 | REV<br>F |
|   |  | CHECKED<br>B. Corser  | 3/20/91 |   |                   |          |
| COMPUTER DATA<br>BASE DRAWING   |  | APPROVED<br>M. SALTER   | 5/5/89  | SCALE: FULL   |                   | SHEET 1  |