

4

3

2

1

SPECIFICATIONS:

NUMBER OF PHASES: 4	ROTOR INERTIA: 750 g-cm <sup>2</sup> (4.09 oz-in <sup>2</sup> ) NOM				
STEPS PER REVOLUTION: 200	DETENT TORQUE: 120 mN-m (16.99 oz-in) MIN				
STEP ANGLE: 1.8°	INSULATION CLASS: B				
STEP TO STEP ACCURACY: 0.09°	1	,	2	BEARINGS: ABEC 3, DOUBLE SHIELDED	
POSITION ACCURACY: 0.09°	1	,	3	TEMP. RISE: 80°C MAX.	9
HYSTERESIS: N/A%	OPERATING TEMP. RANGE: -20 TO +50°C				
SHAFT RUNOUT: 0.03 mm T.I.R. MAX	STORAGE TEMP. RANGE: -30 TO +70°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: 1500 G (3.3 LB ) APPROXIMATE				

CONNECTION	RESISTANCE PER PHASE (ohm ±10%)	INDUCTANCE PER PHASE (mH ±20%)	RATED CURRENT (Amp)	HOLDING TORQUE (Nm MIN)	HOLDING TORQUE (oz-in)
BI-POLAR SERIES	2.0	8.8	2.5	2.5	354
BI-POLAR PARALLEL	0.5	2.2	5.0	2.5	354
UNI-POLAR	1.0	2.2	3.5	1.86	264

NOTES, UNLESS OTHER WISE 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, 60Hz FOR ONE MINUTE.

5

LEADS: 8, 22 AWG, 7 STRAND MIN. UL AND CSA APPROVED. UL 1430 OR UL 3265

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

ENCODER 970-1028 INSTALLED PER AMP ASSEMBLY PRACTICES.

ENCODER CABLE SOLD SEPARATELY.

11.

ROTOR AND STATOR LAMINATED CONSTRUCTION.

12.

THIS MOTOR IS MANUFACTURED IN COMPLIANCE WITH CURRENT EU RoHS DIRECTIVE.

13

MOTOR LABEL TO INCLUDE AMP LOGO, AMP WEBSITE ADDRESS, "RoHS" COMPLIANCE LOGO, AMP P/N, "MADE IN (COUNTRY)", AND DATE CODE.

14.

OTHER TAPPED HOLES MAY BE PRESENT ON REAR OF MOTOR.

REVISIONS

ECO #	REV.	DESCRIPTION	DATE	APPROVED
7710	A	INITIAL RELEASE	9/27/17	J. KORDIK
8705	B	FRONT END BELL THICKNESS FROM 5+/-0.5 TO 4.8+/-0.3	8/23/21	L. LIU
8787	C	REVISED MODEL & UPDATED SHEET FORMAT	5/20/22	L. LIU

WIRING DIAGRAM

ORANGE

ORG/WHT

BLK/WHT

BLACK

PM

RED

RED/WHT

YELLOW

YEL/WHT

DRIVE SEQUENCE MODEL

BI-POLAR PARALLEL FULL STEP

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

CW

CCW

CW (CLOCKWISE) AND CCW (COUNTER-CLOCKWISE) ROTATION

WHEN SEEN FROM THE MOUNTING FACE END OF THE MOTOR

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A MOONS' COMPANY

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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

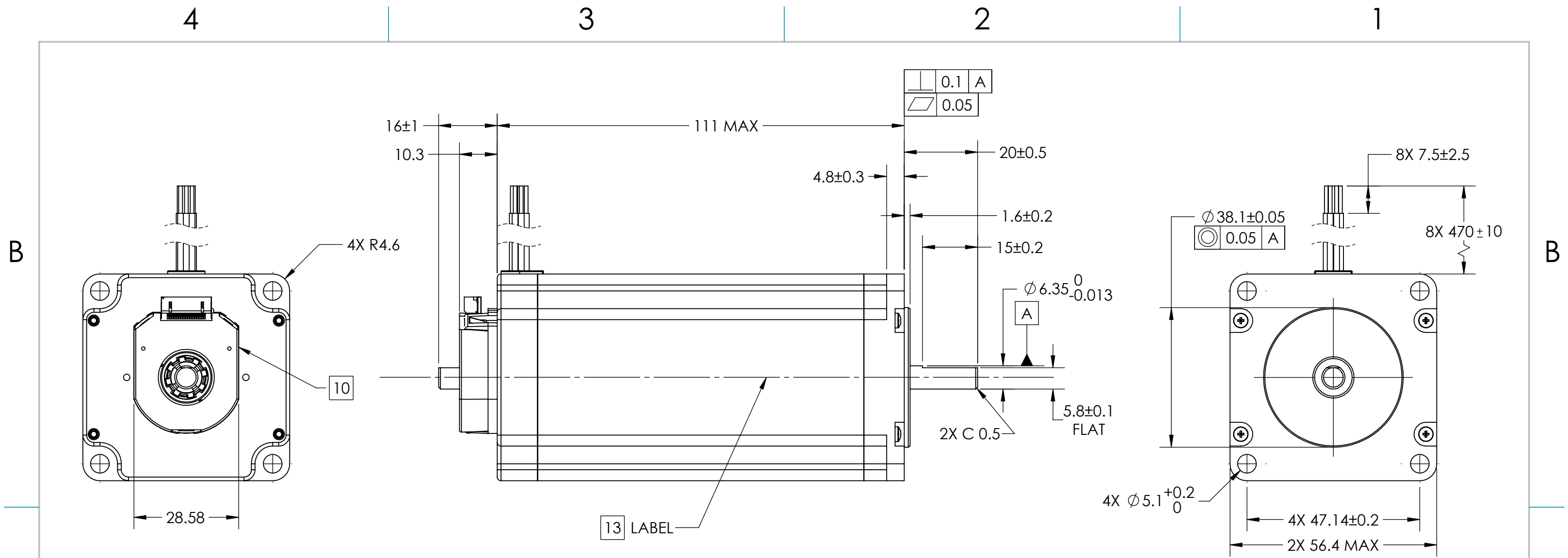
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	Y. LAPNET	5/20/22
PRE.CHECK		
PRE.APPROVAL		
FIN.CHECK	C. BREUNINGER	5/20/22
SAP: 4611110060913		
ALT DWG. NO.:		
ALT SAP:		

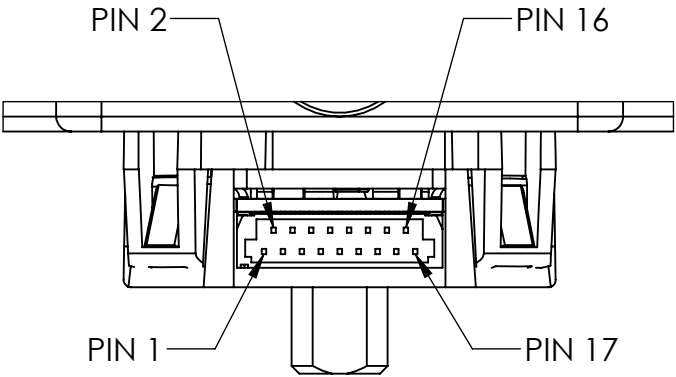
TITLE:

STEPPER MOTOR


SIZE	DWG. NO.	REV
B	HT23-603D-CAA	C
SCALE: 1:1		SHEET 1 OF 2



ENCODER CONNECTIONS	
PIN NO:	SIGNAL
1	TX ENC+
2	RX ENC+
3	N/A
4	GND
5	N/A
6	+5 V
7	N/A
8	B+
9	B-
10	A+
11	A-
12	Z+
13	Z-
14	MCLR B
15	N/A
16	N/A
17	N/A



SCALE 2 : 1

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			PRE.CHECK					
			PRE.APPROVAL					
			MATERIAL	FIN.CHECK	C. BREUNINGER	5/20/22		
	SAP: 4611110060913				SIZE	DWG. NO.		REV
FINISH	ALT DWG. NO.:				B	HT23-603D-CAA		C
DO NOT SCALE DRAWING	ALT SAP:					SCALE: 1:2		SHEET 2 OF 2

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