

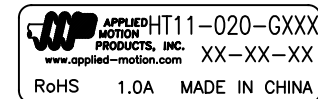
MOTOR SPECIFICATIONS:	GEARMOTOR SPECIFICATIONS:
NUMBER OF PHASES: 2	TEMP. RISE: 80°C MAX. [6]
STEPS PER REVOLUTION: 200	OPERATING AMB. TEMP. RANGE: -20 TO +50 °C
STEP ANGLE: 1.8°	STORAGE TEMP. RANGE: -20 TO +70 °C
RATED CURRENT: 1.0 A	RELATIVE HUMIDITY: 85% MAX NON-CONDENSING
RESISTANCE PER PHASE: 1.4 Ohms [4]	
INDUCTANCE PER PHASE: 1.3 mH [5]	
ROTOR INERTIA: 9 g-cm <sup>2</sup> ( 0.05 oz-in <sup>2</sup> )NOM	
HOLDING TORQUE 0.05 Nm ( 7.08 oz-in)NOM	
INSULATION CLASS: B (130°C)	
BEARINGS: ABEC 3, DOUBLE SHIELDED, NS7 GREASE	

REVISIONS				
ECO NO.	REV	DESCRIPTION	DATE	APPROVED
7935	A	INITIAL RELEASE	7/2/18	J.KORDIK
8429	B	TYPO CORRECTION	3/3/20	J.KORDIK
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NOTES, UNLESS OTHERWISE SPECIFIED:

- HIPOT 500 VAC, 60 Hz FOR ONE MINUTE.
- LEADS: 4, AWG 26, 7 STRAND MIN., UL AND CSA APPROVED, UL 1007
- INSULATION RESISTANCE: 100 MEGOHMS MIN AT 500 VDC.
- [4] AS MEASURED ACROSS EACH PHASE.
- [5] AS MEASURED ACROSS EACH PHASE USING AN A.C. INDUCTANCE BRIDGE AT 1 KHz.
- [6] AS MEASURED BY THE CHANGE IN RESISTANCE METHOD, WITH RATED CURRENT APPLIED TO 2 PHASES; WITH MOTOR AT REST.
- THIS MOTOR IS MANUFACTURED IN COMPLIANCE WITH THE CURRENT EU RoHS DIRECTIVE.
- [8] MOTOR LABEL TO INCLUDE "ROHS" COMPLIANT, AMP P/N, 'MADE IN (COUNTRY OF ORIGIN)', AND DATE CODE.
- ALL MOTOR SPECIFICATIONS AND OPERATING INSTRUCTIONS CAN BE FOUND AT APPLIED-MOTION.COM.
- [10] SHAFT OPTION: IF DOUBLE SHAFT REQUIRED ADD "D" TO END OF PART NUMBER. DOUBLE SHAFT REQUIRES ADDED HOLES FOR ENCODER OPTION.

LABEL DETAIL

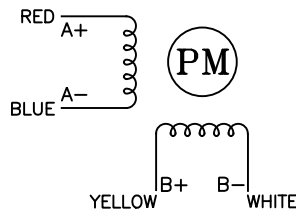



[8]

SWITCHING SEQUENCE FOR CW ROTATION  
FACING MOUNTING END

STEP	RED	BLUE	YELLOW	WHITE
0	+	-	+	-
1	-	+	+	-
2	-	+	-	+
3	+	-	-	+
4	+	-	+	-

CW  
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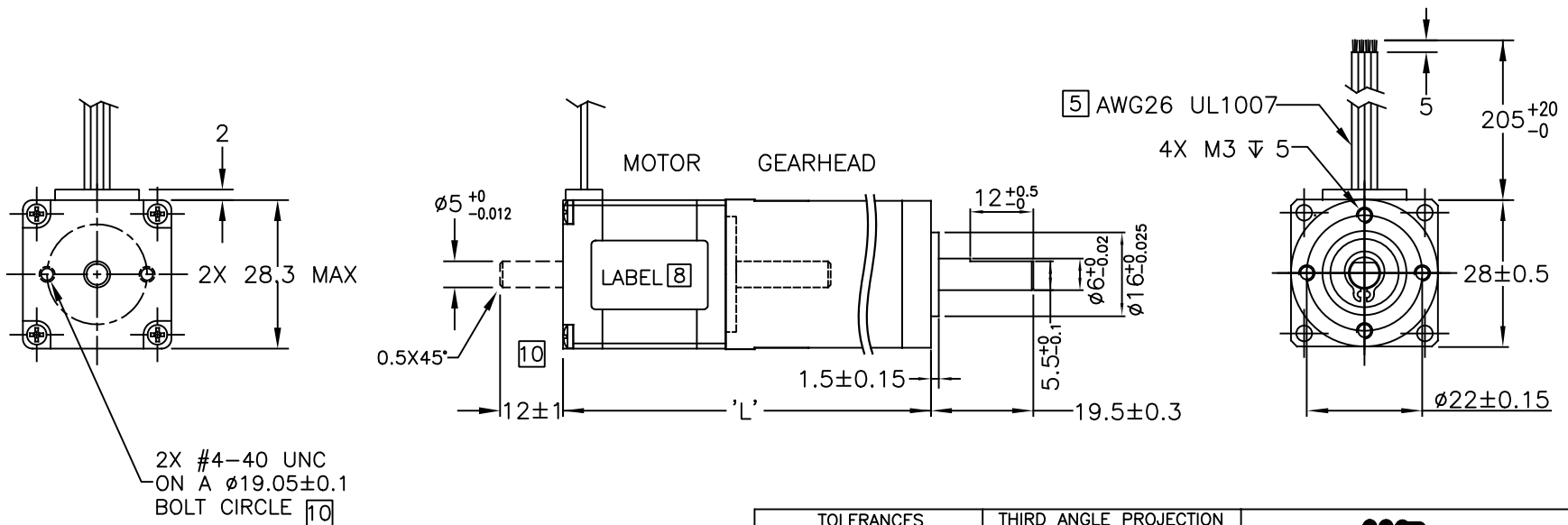
CONTRACT NO. —		 APPLIED MOTION PRODUCTS, INC.		
APPROVALS	DATE	<b>STEP MOTOR WITH GEARHEAD ASSEMBLY - SPECIFICATIONS</b>		
DRAWN R.JONEZ	06/21/18			
CHECKED —	—	B	COMPUTER DATA BASE DRAWING	DWG NO. <b>HT11-020-GXXX</b>
APPROVED —	—		REV B	
APPROVED —	—	SCALE: NONE	SHEET 1 OF 2	

GEARMOTOR TECHNICAL DETAILS:

ASSEMBLY P/N	HT11-020-G004	HT11-020-G005	HT11-020-G012	HT11-020-G014	HT11-020-G022
TOTAL WEIGHT-MOTOR & GEARHEAD	150 g ( 0.33 lbs)	150 g ( 0.33 lbs)	165 g ( 0.36 lbs)	165 g ( 0.36 lbs)	165 g ( 0.36 lbs)
ASSEMBLY LENGTH - TOTAL 'L'	70.6 mm ( 2.78 in)	72.8 mm ( 2.87 in)	73.1mm ( 2.88 in)	73.1mm ( 2.88 in)	80.6 mm ( * in)

GEARHEAD TECHNICAL DETAILS:

GEARHEAD P/N	28PH004.00-L1	28PH005.50-L1	28PH012.76-L1	28PH014.29-L1	28PH022.00-L1
RATIO	4:1	5.5:1	12.76:1	14.29:1	22.01:1
MAX TORQUE CONTINUOUS	0.5 Nm ( 70.80 oz-in)	0.5 Nm ( 70.80 oz-in)	2.0 Nm ( 283.22 oz-in)	2.0 Nm ( 283.22 oz-in)	2.0 Nm ( 283.22 oz-in)
MAX TORQUE	0.8 Nm ( 113.3 oz-in)	0.8 Nm ( 113.3 oz-in)	4.0 Nm ( 566.45 oz-in)	4.0 Nm ( 566.45 oz-in)	4.0 Nm ( 566.45 oz-in)
MAX RADIAL LOAD	≤ 20 N ( 4.5 lbs)	≤ 10 N ( 2.25 lbs)	≤ 20 N ( 4.5 lbs)	≤ 20 N ( 4.5 lbs)	≤ 2.0 N ( 4.5 lbs)
MAX AXIAL LOAD	≤ 20 N ( 4.5 lbs)	≤ 10 N ( 2.25 lbs)	≤ 20 N ( 4.5 lbs)	≤ 20 N ( 4.5 lbs)	≤ 2.0 N ( 4.5 lbs)
INERTIA	1.0 g-cm <sup>2</sup> ( 0.005oz-in <sup>2</sup> )	1.0 g-cm <sup>2</sup> ( 0.005oz-in <sup>2</sup> )	0.6 g-cm <sup>2</sup> ( 0.003oz-in <sup>2</sup> )	0.6 g-cm <sup>2</sup> ( 0.003oz-in <sup>2</sup> )	0.6 g-cm <sup>2</sup> ( 0.003oz-in <sup>2</sup> )
BACKLASH	≤ 1.2 °	≤ 1.2 °	≤ 1.8 °	≤ 1.8 °	≤ 1.8 °
EFFICIENCY	90 %	90 %	81 %	81 %	81 %



MATERIAL SPECIFICATIONS	
GEARTRAIN	Y15 (1213) STEEL
HOUSING	304 STAINLESS STEEL
INPUT/OUTPUT FLANGE	LY12 ALUMINUM
OUTPUT SHAFT	40Cr STEEL
PINION	Y15 (1213) STEEL

TOLERANCES		THIRD ANGLE PROJECTION	
*ALL DIMENSIONS IN MM			
DECIMALS: MM			
X.XX = ±0.13			
X.X = ±0.25			
ANGLES:			
MACH. = ±0.5°			
CHAM. = ±5°			
COMPUTER DATA BASE DRAWING			
APPROVALS	DATE		
DRAWN R. JONEZ	6/21/18		
CHECKED	-		
APPROVED	-		

**APPLIED MOTION PRODUCTS, INC.**

**STEP MOTOR WITH GEARHEAD ASSEMBLY - OUTLINE DRAWING**

B	DWG NO.	HT11-020-GXXX	REV
			B

SCALE: NONE      SHEET 2 OF 2