

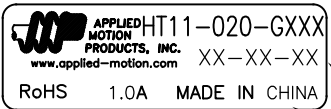
MOTOR SPECIFICATIONS:	GEARMOTOR SPECIFICATIONS:
NUMBER OF PHASES: 2	TEMP. RISE: 80°C MAX. 6
STEPS PER REVOLUTION: 200	OPERATING AMB. TEMP. RANGE: -20 TO +50 °C
STEP ANGLE: 1.8°	STORAGE TEMP. RANGE: -20 TO +70 °C
RATED CURRENT: 1.0 A	RELATIVE HUMIDITY: 85% MAX NON-CONDENSING
RESISTANCE PER PHASE: 1.4 Ohms 4	
INDUCTANCE PER PHASE: 1.3 mH 5	
ROTOR INERTIA: 9 g-cm ² (0.05 oz-in ²)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
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NOTES, UNLESS OTHERWISE SPECIFIED:

1. HIPOT 500 VAC, 60 Hz FOR ONE MINUTE.
2. LEADS: 4, AWG 26, 7 STRAND MIN., UL AND CSA APPROVED, UL 1007
3. 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.
7. 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.
9. 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.

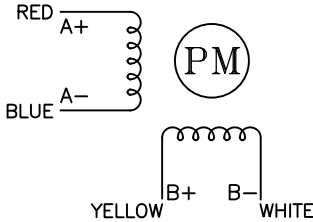
LABEL DETAIL



SWITCHING SEQUENCE FOR CW ROTATION
FACING MOUNTING END

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

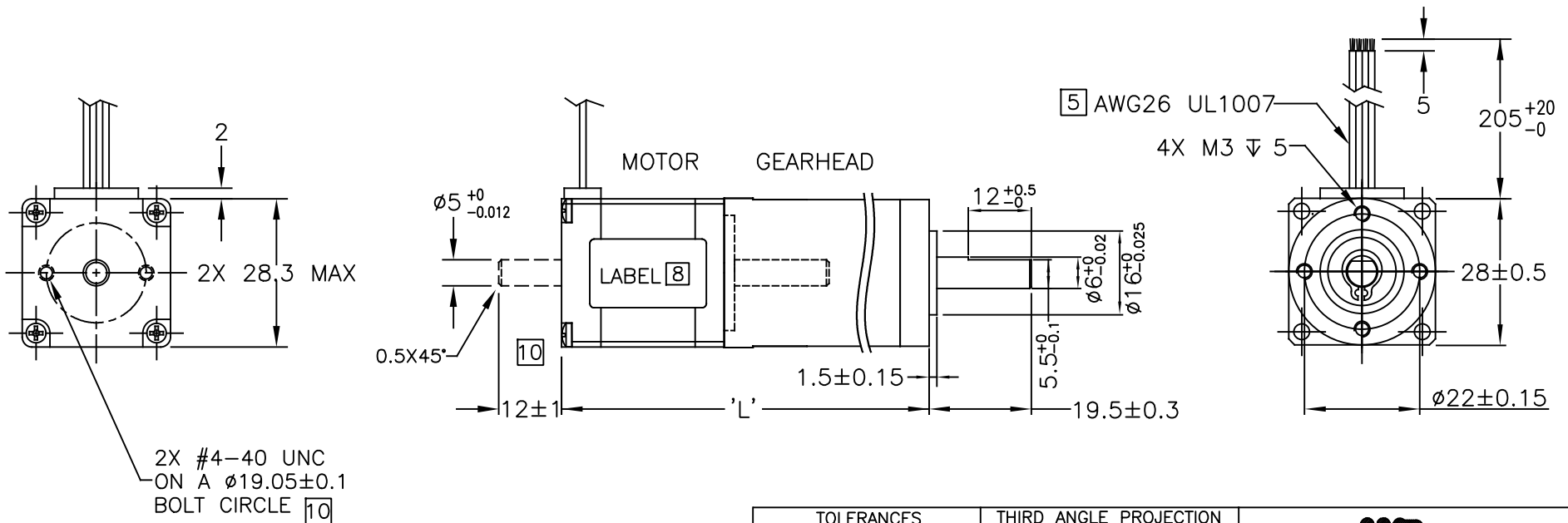
CW
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CONTRACT NO. -		APPLIED MOTION PRODUCTS, INC.			
APPROVALS	DATE	STEP MOTOR WITH GEARHEAD ASSEMBLY - SPECIFICATIONS			
DRAWN R.JONEZ	06/21/18				
CHECKED -	-	B	COMPUTER DATA BASE DRAWING	DWG NO. HT11-020-GXXX	REV A
APPROVED -	-		SCALE: NONE	SHEET 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	5.5:1	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 (113.3oz-in)	0.8 Nm (113.3oz-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 ² (0.005oz-in ²)	1.0 g-cm ² (0.005oz-in ²)	0.6 g-cm ² (0.003oz-in ²)	0.6 g-cm ² (0.003oz-in ²)	0.6 g-cm ² (0.003oz-in ²)
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 A
SCALE: NONE		SHEET 2 OF 2