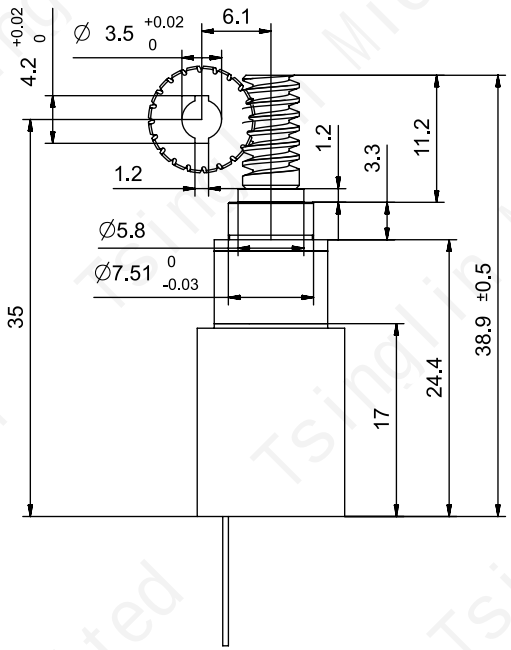
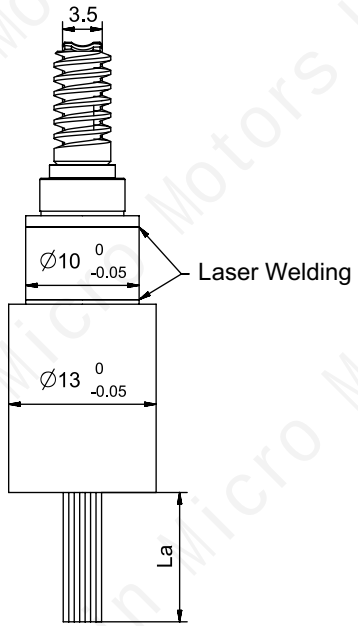
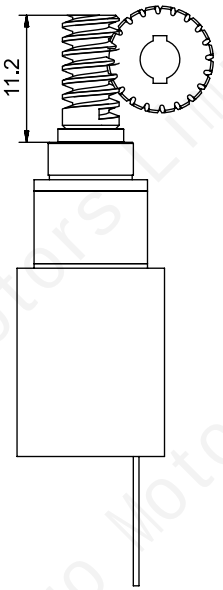
Worm and Worm Gear Parameter Table		
	Worm	Worm Gear
Module	0.4	
Number of Starts/ Number of Teeth	1	20
Pressure Angle	20°	20°
Tip Diameter	5	8.8
Reference Diameter	4.2	8
Lead Angle	Right-hand 5.44°	
Worm Lead	1.257	-
Worm Pitch	1.257	-
Addendum Coefficient	1	1
Clearance Coefficient	0.25	0.25
Modification Coefficient	-	-
Transmission Center Distance	6.1	
Material	SUS416	20crmnti
Accuracy Class	GB/T 10095-2001 - Grade 8	







FPC Harness Length La: 70mm

Coreless Brushless Motor:
FPC: 0.5mm-12P
Pin Assignment: PIN1-12
pin1-HALL A
pin2-HALL B
pin3-HALL Z
pin4-3.3V
pin5-GND
pin6+7-Motor U
pin8+9-Motor V
pin10+11-Motor W
pin12-Temp. Ctrl.

Motor Performance Parameters:

1. Motor Type: Coreless Brushless Motor
2. Operating Voltage: 12V
3. No-load Speed: 30000 ±10% RPM
4. No-load Current: ≤0.4A
5. Rated Speed: 23000 ±10% RPM
6. Rated Torque: ≥3mN.m
7. Rated Current: ≤1.5A
8. Pole Pairs: 2 Pole Pairs
9. Operating Temperature: -40-85°C
10. Noise: ≤45 DB
11. Motor Maximum Efficiency: 75%

Gearmotor Performance Parameters:

1. Operating Voltage: 12V
2. No-load Speed: 50 ±10% RPM
3. No-load Current: ≤0.4A
4. Rated Speed: 40 ±10% RPM
5. Rated Torque: ≥0.75NM
6. Rated Current: ≤1.5A
7. Peak Torque (2s): 1.5 N.m
8. Peak Current: ≤2.5A
9. Operating Temperature: -40-80°C
10. Reduction Ratio: 1:560
    (Planetary Stage 1:28, Worm and Worm Gear Stage 1:20)
11. Worm and Worm Gear Self-locking Torque: ≥3 NM
12.. Noise: ≤55 DB
13. Gearbox Material: Pure Steel (Machined)

Design	
Reviewed	
Approved	
Date	2026.01.20

First Angle Projection

General tolerances for untoleranced linear and angular dimensions: GB/T 1804-m eqv ISO 2768-1:m

10mm Planetary Gearbox+13mm Coreless Brushless Motor+Worm and Worm Gear Reducer Gearbox (Product Type)

PG10K28-KW1317+LG04M20Z (Actuator 3) (Product Model)

Tsinglin Micro Motors Limited