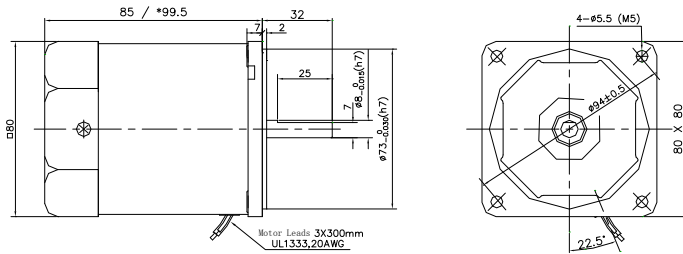


# Torque Motors

## Frame Size: □80mm (□3.15 in.)

● Motor Dimensions:

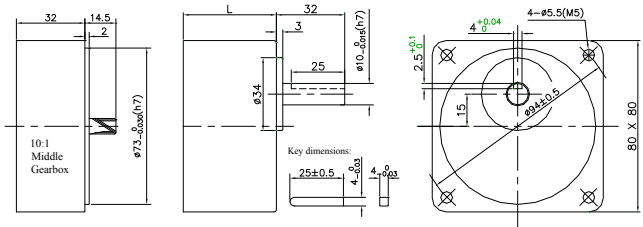


● Torque motor specifications (leads wire type)

Model		Rating	Voltage	Freq.	Starting Torque	Max. output power	At Max. output power		Capacitor
Pinion Shaft	Round Shaft						Speed	Torque	
4TK10GN-A	4TK10A-A	5MIN	110	50	235	10	750	127	10.0/250
		Cont	60		74	3		46	
		5MIN	110	60	25	10	900	127	
		Cont	60		69	3		38	
4TK10GN-C	4TK10A-C	5MIN	220	50	265	10	750	127	2.5/450
		Cont	140		98	3		46	
		5MIN	220	60	225	10	900	127	
		Cont	140		90	3		38	

● These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

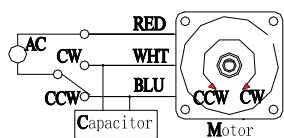
● Gearhead dimensions:



Item	Ratio	Eff. %	L mm	Weight	
				Kg	lb
Gearhead (4GNxxK)	3,3,6,5,6,7,5,9,12,5,15,18	81	32	0.43	0.95
	25,30,36	73	42	0.57	1.25
	50,60,75,90,100,120,150,180,200	66	42	0.61	1.34
10:1 middle gearbox		90	32	0.4	0.88
Motor			85	1.64	3.61

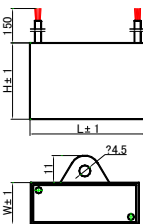
● Connection Diagrams:

● Lead Wire Single Phase

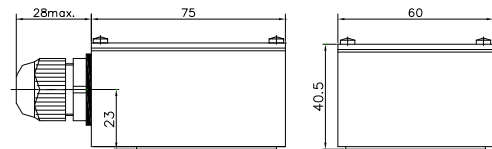


● Capacitor:

Value	Dimensions	Value		
		uF	V	Dimensions
2.0 - 2.5	250	L	H	W
0.5 - 1.5	450	37	14	28
3.5 - 4.0	250	37	18	28
1.8 - 2.5	450	37	18	28



● Terminal Boxes:



● General specifications for AC motors (motor operated under normal ambient temperature and humidity conditions):

Item	Specifications
Insulation Resistance	100 MΩ or more when 500VDC is applied between the windings and the frame
Dielectric Strength	Sufficient to withstand 1.5 kV at 50/60Hz applied between the windings and the frame for 1 minute
Temperature Rise	Temperature rise of windings should be lower than 80°C (60°C with fan)
Insulation Class	Class B (130°C)
Overheat Protection	Build in thermal protector (automatic return); Class B (O: 120±5°C, C: 75±15°C)
Ambient Temperature	14°F-104°F (-10°C~+40°C) [three-Phase: 14°F-122°F (-10~+50°C)] (Nonfreezing)
Ambient Humidity	85% or less (Noncondensing)
Degree of Protection	Lead wire type: IP20; Terminal Box Type: IP54

● Permissible load for round shaft motors & Permissible Load Inertia at the Motor Shaft

Frame Size	Shaft Dia.	Permissible overhung load (from end of shaft)			Permissible Load Inertia at the Motor Shaft	
		10 mm	20 mm	140 N	J (×10 kg. m²)	GD (kg. m²)
4TK25	8 mm	20.2 lb	90 N	31.5 lb	0.31	1.2

Permissible thrust load: Avoid thrust load as much as possible or keep it to no more than half the motor weight

● Permissible load for gearheads

Frame Size	Gear Ratio	Maximum Permissible torque	Permissible overhung load (from end of shaft)				Permissible thrust load		
			10 mm	20 mm	150 N	300 N	11 lb	50 N	
4GNxxK	3 - 18	71 lb-in	8 Nm	22.5 lb	100 N	33.7 lb	150 N	11 lb	50 N
	25 - 200			44.9 lb	200 N	67.4 lb	300 N		