

Specifications

Specifications	Units	PTM-24F	PTM-24FG (gearhead)								
Rated Voltage	V	24/100/117/200/220 ±10%									
Frequency	Hz	50/60									
Rated Current	mA	35/45									
Revolutions @ 50Hz	rpm	250/300	1	2	3	5	10	20	30	60	
Rotating Direction		Dual Direction (CC/CCW)									
Torque @ 60 Hz	mN·m	35/30	1000	1000	1000	1000	650	360	240	120	
Temperature Rise	°K	50									
Operating Temp. Range	°C	-10 to +50									
Dielectric Strength	V	1500Vac for 10 seconds	1500Vac for 10 seconds								
Weight	g	300	500								
Capacitor	μF	6.8	0.47/0.11								

Magnet type: Anisotropic

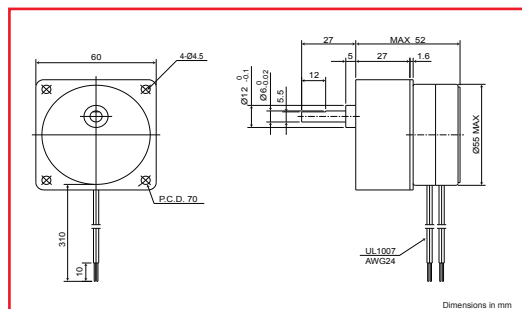
Torque Characteristics

Model	PTM-24FG			
Speed	Torque (mN·m)		Gear Ratio	
rpm	50Hz	60Hz	50Hz	60Hz
60	93	95	6/25	1/5
30	185	190	3/25	1/10
20	280	285	2/25	1/15
10	445	460	1/25	1/30
5	700*	700*	1/50	1/60
4	895	920	2/125	1/75
3	1000*	1000*	3/250	1/100
2	1000*	1000*	1/125	1/150
1	1000*	1000*	1/250	1/300

* - Values regulated by normal gear strength. Do not apply any load exceeding the normal gear strength.

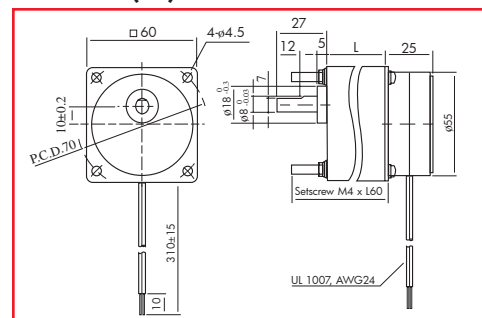
Model	PTM-24FG(BB)			
Speed	Torque (mN·m)		Gear Ratio	
rpm	50Hz	60Hz	50Hz	60Hz
60	--	96	--	1/5
30	--	190	--	1/10
20	280	285	2/25	1/15
10	445	460	1/25	1/30
5	895	920	1/50	1/60
4	--	970	--	1/75
3	1150	1200	3/250	1/100
2	1750	1800	1/125	1/150
1	--	--	--	--

Geared Models

PTM-24FG

Gear Ratio	L
1/3 ~ 1/8	32
1/20 ~ 1/180	42

PTM-24FG (BB)



Reduction Ratio	L
1/3 - 1/8	32
1/20 to 1/180	42

Dual Direction Synchronous Motors

PTM(C) - 24 F 3 4 G 1/2

1 - Series Designation

PTM: Flying lead joint type
PTMC: Connector joint type

2 - Number of Poles

12: Speed is 500 rpm w/50Hz
Speed is 600 rpm w/60Hz
24: Speed is 250 rpm w/50Hz
Speed is 300 rpm w/60Hz

3 - Outer Diameter (Type)

P: 22mm, M: 35mm, T: 35mm
(thin), H: 42mm, S: 42mm
(thin), F: 55mm, R: 55mm (w/ con-
nector)

4 - Coil Specification

Blank: Standard Coil
(continuous for 24, 100, 200 Vac)
1-18: Coil # for specific rating

5 - Magnet Type

Blank: Anisotropic
3: Isotropic
4: Neodymium
5: Plastic

6 - Gear Head

Blank: No Gear Head
G: Gear Head Integrated

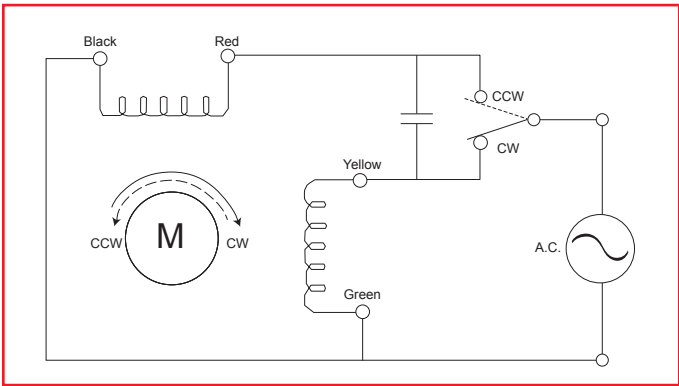
7 - Gear Ratio

see chart below

Gear Ratio	rpm w/12 poles		rpm w/24 poles	
	50Hz	60Hz	50Hz	60 Hz
Motor only	500	600	250	300
1/10	50	60	25	30
1/50	10	12	5	6
1/100	5	6	2.5	3

Dual Direction Synchronous Motors

Motors that move in two directions are capacitor-based phase advancing motors. Because the rotor is moved by shifting the phase current by 90° it is essential for the circuit to have a capacitor. The proper wiring is below.



As viewed from the output shaft of the motor

About Synchronous Motors

No Power or Load Fluctuation Effect

Synchronous motors rotate in synch with supplied power frequency. If power frequency is constant, the motor will rotate at a constant speed (synchronized speed).

Impedance Protected

Unless otherwise stated, these motors provide high electrical resistance, which prevents overcurrent from flowing to the motor, which would in turn burn the coils.

No Control Circuit Required

Because these motors are AC motors, they start rotating when a power connection is made.

Excellent Response

The type of magnet used in these motors ensures excellent response and also ensures the motor will start and stop immediately when power is supplied or removed.