

Specifications

Specifications	Units	PTMC-24P	PTMC-24PG (gearhead)								
Rated Voltage	V	24 ±10%									
Frequency	Hz	50/60									
Rated Current	mA	67/69									
Revolutions @ 50Hz	rpm	250/300	1	2	3	4	5	10	20	30	60
Rotating Direction		Dual Direction (CC/CCW)									
Torque @ 60 Hz	mN·m	5.3/5/5	100	100	100	100	100	60	30	20	10
Temperature Rise	°K	55									
Operating Temp. Range	°C	-10 to +50									
Dielectric Strength	V	1500Vac for 10 seconds	1500Vac for 10 seconds								
Weight	g	35	55								
Capacitor	µF	3.3									

Magnet type: Anisotropic

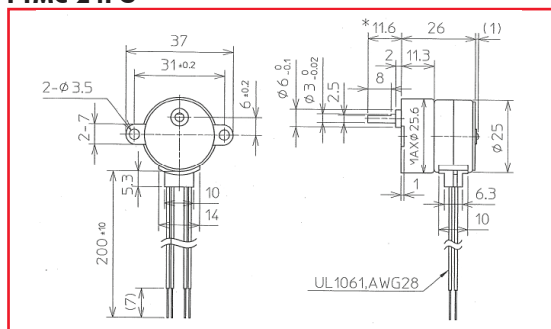
Torque Characteristics

Model	PTMC-12PG			
Speed	Torque (mN·m)		Gear Ratio	
rpm	50Hz	60Hz	50Hz	60Hz
60	14	17	6/25	1/5
30	20*	20*	3/25	1/10
20	33	42	2/25	1/15
10	54	67	1/25	1/30
5	70*	70*	1/50	1/60
4	70*	70*	2/125	1/75
3	--	100*	--	1/100
2	100*	100*	1/125	1/150
1	100*	100*	1/250	1/300

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

Geared Models

PTMC-24PG



Dual Direction Synchronous Motors

PTM(C) - 24 F 3 4 G 1/2
 1 2 3 4 5 6 7

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

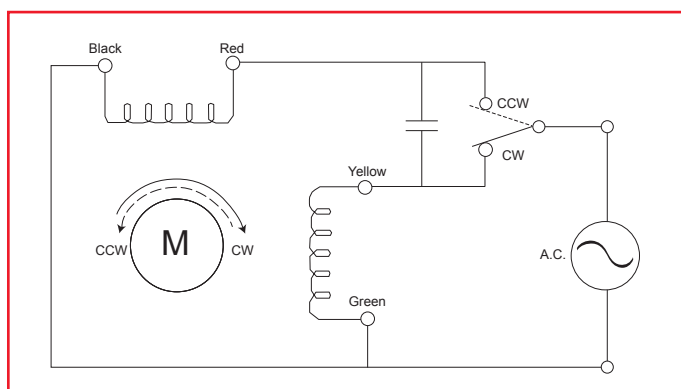
7 - Gear Ratio

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.