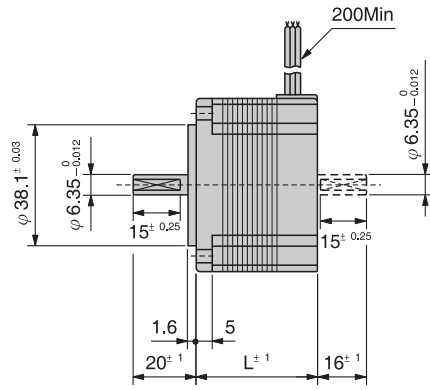
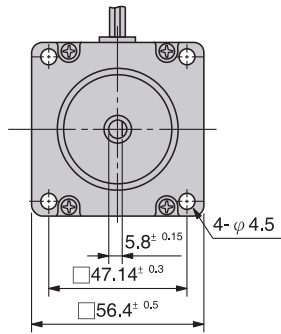
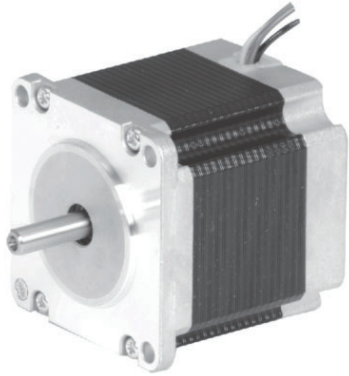


56

HB TYPE 高扭力 · 低振動

1.8°

High torque · Low vibration



| 形式 Type number | | 基本步級角 Step Angle | 額定電壓 Rated Voltage | 額定電流 Rated Current | 線圈阻抗 Winding Resistance | 線圈感抗 Inductance | 激磁最大 靜止力矩 Holding Torque | 馬達長度L Motor Length | 轉子慣量 Rotor Inertia | 質量 Mass | 結線 Winding Type |
|--------------------|--------------------|---------------------|-----------------------|-----------------------|----------------------------|--------------------|--------------------------------|-----------------------|-------------------------------------|------------|--------------------|
| 單軸 Single Shaft | 兩軸 Double Shaft | | | | | | | | | | |
| | | Deg. | V/Phase | A/Phase | Ω/Phase | mH/Phase | N·m(kgf·cm) | mm | x10 ⁻⁷ kg·m ² | kg | |
| TS3653N1E1 | TS3653N11E1 | 1.8 | 5.2 | 1 | 5.2 | 5.4 | 0.39(3.9) | 39 | 120 | 0.45 | 2 |
| TS3653N1E2 | TS3653N11E2 | 1.8 | 2.8 | 2 | 1.4 | 1.4 | 0.39(3.9) | 39 | 120 | 0.45 | 2 |
| TS3653N1E3 | TS3653N11E3 | 1.8 | 1.9 | 3 | 0.63 | 0.6 | 0.39(3.9) | 39 | 120 | 0.45 | 2 |
| TS3653N2E4 | TS3653N12E4 | 1.8 | 7.2 | 1 | 7.2 | 11 | 0.9(9) | 54 | 260 | 0.7 | 2 |
| TS3653N2E5 | TS3653N12E5 | 1.8 | 3.6 | 2 | 1.8 | 2.5 | 0.9(9) | 54 | 260 | 0.7 | 2 |
| TS3653N2E6 | TS3653N12E6 | 1.8 | 2.3 | 3 | 0.75 | 1.2 | 0.9(9) | 54 | 260 | 0.7 | 2 |
| TS3653N3E7 | TS3653N13E7 | 1.8 | 8.2 | 1 | 8.2 | 14 | 1.35(13.5) | 76 | 430 | 1 | 2 |
| TS3653N3E8 | TS3653N13E8 | 1.8 | 4.5 | 2 | 2.25 | 3.6 | 1.35(13.5) | 76 | 430 | 1 | 2 |
| TS3653N3E9 | TS3653N13E9 | 1.8 | 3 | 3 | 1 | 1.6 | 1.35(13.5) | 76 | 430 | 1 | 2 |
| TS3653N4E12 | TS3653N14E12 | 1.8 | 2.2 | 5 | 0.44 | 1.4 | 2(20) | 84 | 520 | 1.3 | 1 |
| TS3653N84 | — | 1.8 | 2.8 | 4 | 0.7 | 1.4 | 1.8(18) | 84 | 520 | 1.3 | 2 |

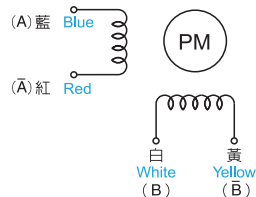
- 使用周圍溫度 ———— -20~+50°C
Operating temperature range
- 絕緣阻抗 ———— 100MΩ Min(at DC500V)
Insulation resistance
- 絕緣耐壓 ———— AC500V(1min)
Dielectric strength
- 軸心平行方向移動量 — 0.075mm Max. (With 10N(1kgf)Load)
End play

- 軸心垂直方向移動量 — 0.025mm Max. (With 5N(500gf)Load)
Radial play
- 容許溫度上昇 ———— 80deg Max(Rasistance method)
Permissible temperature rise

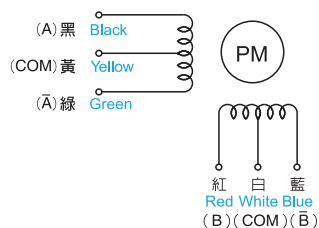
※注意:馬達表面請保持在90°C以下
※NOTE: Do not allow the surface temperature of the motor case to rise above 90°C during operation.

結線圖 WIRING DIAGRAM

TYPE 1 BIPOLAR



TYPE 2 UNIPOLAR



回轉方向: 由出力軸目視之正轉方向
CW rotation from output shaft end.

| Step | 藍 Blue | 白 White | 紅 Red | 黃 Yellow |
|------|-----------|------------|----------|-------------|
| 0 | + | - | - | + |
| 1 | + | + | - | - |
| 2 | - | + | + | - |
| 3 | - | - | + | + |
| 0 | + | - | - | + |

回轉方向: 由出力軸目視之正轉方向
CW rotation from output shaft end.

| Step | 黑 Black | 紅 Red | 綠 Green | 藍 Blue | 黃 Yellow | 白 White |
|------|------------|----------|------------|-----------|-------------|------------|
| 0 | ON | ON | | | COM | COM |
| 1 | | ON | ON | | COM | COM |
| 2 | | | ON | ON | COM | COM |
| 3 | ON | | | ON | COM | COM |
| 0 | ON | ON | | | COM | COM |