

80mm servo motor 3 pairs of poles- small inertia



General Specifications

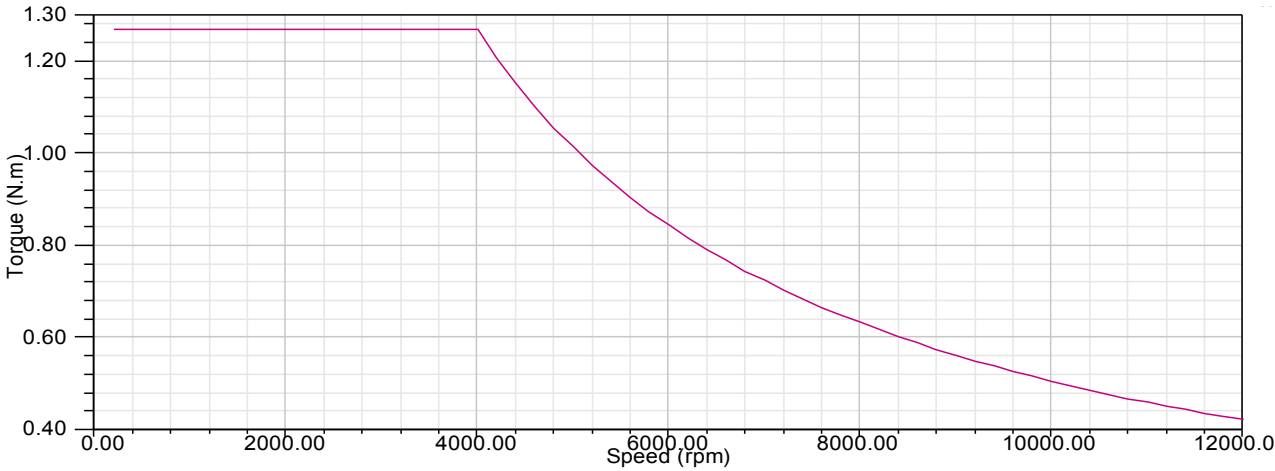
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|-----------------------|---------------------------------------------------------------------------------------------------------------------------|
| Pairs of poles | 3 |
| Numbers of Phases | 3 |
| Dielectric Strength | 600 VAC/S |
| Insulation Resistance | 100M Ω @500VDC |
| Shaft Axial Play | 0.08mmMax.@4N |
| Shaft Radial Play | 0.02mmMax.@4N |
| Distance from flange | 10mm |
| Ambient Environment | -20...+55 $^{\circ}$ C,Humidity max 85%(No condensation) |
| Storage Environment | -10...+55 $^{\circ}$ C,Humidity max 85%(No condensation) |
| IP Grade | IP 65 |
| Encoder | 2500ppr Magnetic encoder Incremental/Absolute (optical / magnetic) encoder optional,multiple resolutions are available |

Electrical Specifications

| Model | | 81100-4825S | 81100-4840S | 81100-2453S | 81100-4853S | 81100-4875S | 81100-48100S |
|-----------------|-----|-------------|-------------|-------------|-------------|-------------|--------------|
| Rated Voltage | V | DC48 | DC48 | DC24 | DC48 | DC48 | DC48 |
| No-load Current | A | 0.65 | 0.93 | 2.15 | 1.22 | 1.47 | 1.45 |
| Rated Current | A | 6.5 | 10.5 | 27.4 | 13.5 | 18.3 | 23.8 |
| Rated Power | W | 250 | 400 | 530 | 530 | 750 | 1000 |
| Rated Speed | rpm | 3000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| No-load Speed | rpm | 4580 | 5950 | 5950 | 6100 | 5736 | 5805 |
| Rated Torque | N.m | 0.7 | 0.95 | 1.27 | 1.27 | 1.79 | 2.3 |
| Peak Torque | N.m | 1.33 | 1.9 | 2.62 | 2.65 | 3.8 | 5 |

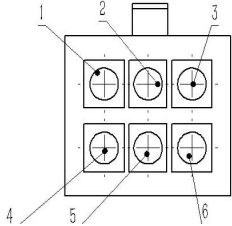
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|---------------------------|-------------------------------------|-------|-------|-------|-------|-------|-------|
| Peak Current | A | 13 | 21 | 56 | 26.4 | 40 | 51 |
| Back-EMF Constant | vs/Krpm | 9.37 | 7.2 | 3.57 | 7.1 | 7.6 | 7.72 |
| Rotor inertia | *10 ⁻⁵ kg.m ² | 1.45 | 1.81 | 2.17 | 2.17 | 3.6 | 5.07 |
| Resistance | mΩ | 236 | 103 | 21.2 | 74.3 | 48.7 | 32 |
| Inductance | mH | 0.21 | 0.57 | 0.11 | 0.45 | 0.32 | 0.23 |
| Torque Constant | Nm/A | 0.121 | 0.094 | 0.047 | 0.097 | 0.097 | 0.097 |
| Electrical time constant | ms | 0.87 | 0.94 | 0.93 | 1.02 | 1.1 | 1.22 |
| Efficiency | % | 80 | 80.5 | 81.2 | 84.3 | 85.5 | 87.8 |
| Axial force | N | 202 | 232 | 247 | 247 | 317 | 368 |
| Radial force | N | 133 | 145 | 165 | 165 | 196 | 224 |
| Motor Length | mm | 96 | 101 | 106 | 106 | 143 | 165 |
| Motor length with brake L | mm | 133 | 138 | 143 | 143 | 190 | 220 |
| Weight | Kg | 1.38 | 1.52 | 1.62 | 1.62 | 2.24 | 2.75 |
| Weight with Brake | Kg | 1.87 | 2.04 | 2.15 | 2.15 | 2.75 | 3.24 |

Speed-torque Curve



Connections

Power wire



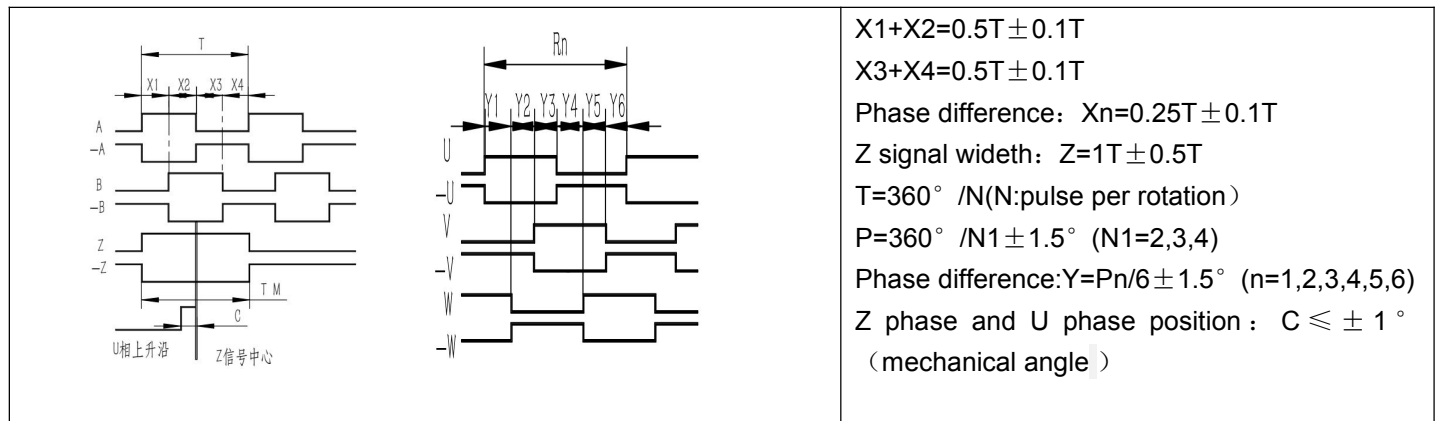
| No. | Colour | Function | leadwire |
|-----|--------------|----------|----------|
| 1 | Blue | U | 16AWG |
| 2 | Green | V | |
| 3 | Yellow | W | |
| 4 | Yellow/Green | PE | 22AWG |
| 5 | Brown | 24+ | |
| 6 | Black | GND | |

Encoder wire

| No. | Function | Colour | No. | Function | Colour | No. | Function | Colour |
|-----|----------|--------------|-----|----------|--------------|-----|----------|----------|
| 1 | +5V | Red | 6 | U- | Brown/Black | 11 | GND | Black |
| 2 | A- | Green/Black | 7 | V- | Gray/Black | 12 | AD | Shielded |
| 3 | A | Green | 8 | B- | White/Black | 13 | U+ | Brown |
| 4 | Z | Yellow | 9 | B | White | 14 | V+ | Gray |
| 5 | Z- | Yellow/Black | 10 | W- | Orange/Black | 15 | W+ | Orange |



Encoder signal format



Dimensions

