

PMSM SPECIFICATION

MODEL:180TM23015C5-CB

| Basic Parameters | | | |
|----------------------------|---|----------------------------------|-----------------------------|
| Rated Output (kW) | 3.5 | Number of Poles | 10 |
| Rated Voltage (V) | 48V DC | Vibration Class | F |
| Rated Speed (rpm) | 1500 | Max. Speed (rpm) | 2000 |
| Rated Current (Arms) | 87.1±10% | Instantaneous Max.Current (Arms) | 174.2±10% |
| Rated Torque (N.m) | 23 | Instantaneous Peak Torque (N.m) | 46 |
| Line Resistance (Ω) | ±10% (25℃) | Line Inductance (mH) | ±10% |
| Line Back EMF. (V/krpm) | 15.95±10% | Torque Coefficient (N.m/A) | 0.26±10% |
| Rotor Moment of Inertia | 60 × 10 ⁻⁴ kg • m ² ±10%; 14.1±10% (with brake) | Feedback Component | Incremental Encoder,2500PPR |
| Static Torque (N.m) | >35 | Rated Voltage (V) | DC24V±10% 2.4A |
| Insulation Resistance (MΩ) | DC500V, >20MΩ | Noise (dB) | ≤60dB, None Special Noise |
| Time Rating | Continuous | Vibration Class | V 15 |
| Ambient Temperature | -20~+40℃ | Ambient Humidity | 20~80% No Condensation |
| Excitation | Permanent Magnet | Mounting | Flange Method |
| Drive Method | Direct Drive | Weight (Kg) | 14.5kg; 32kg (with brake) |
| Enclosure | Totally Enclosed, Self-cooled, IP54 (IP65 optional) (except for shaft opening) | | |
| Rotation Direction | Counterclockwise (CCW) | | |

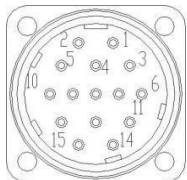
※ Rated torque is the continuous allowable torque at 40℃ with an Fe heat sink of 550×550×30.

Connectors

Power line socket

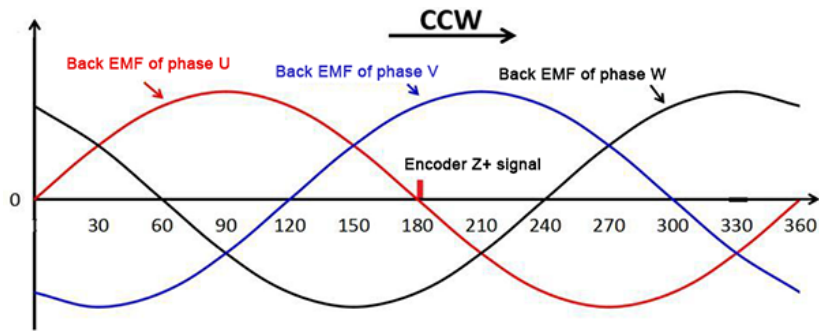
| | | | | | | |
|--------------|--------------|-----|------|-------|----------|------------|
| Signal Leads | PE | U | V | W | 24V | BRK |
| Colour | Yellow-Green | Red | Blue | Black | Thin Red | Thin Black |

Encoder socket (Aviation connector model: YD18-15)

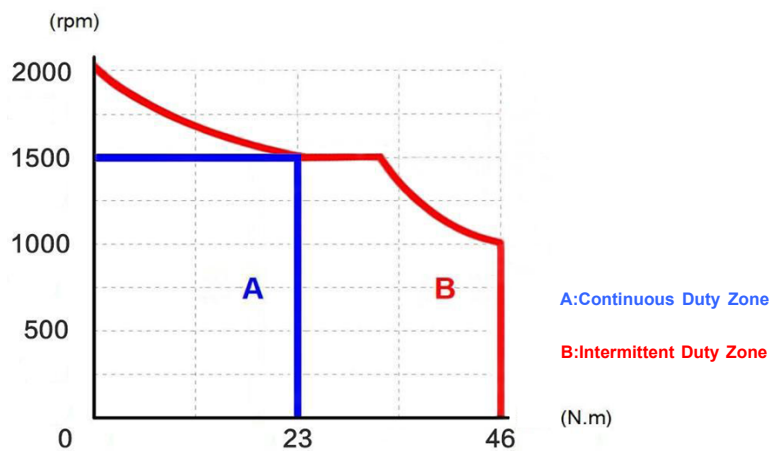


| | | | | | | | | | | | | | | | |
|----------------|----|-----|-------|------|-------|--------|----------------|-----------------|------------------|--------|------|-------|----|----|----|
| Socket Numbers | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Colour | | Red | Black | Blue | Green | Yellow | Blue and Black | Green and Black | Yellow and Black | Orange | Grey | White | | | |
| Signal Leads | PE | 5V | 0V | A+ | B+ | Z+ | A- | B- | Z- | U+ | V+ | W+ | | | |

Encoder zero point and phase relationship of the motor

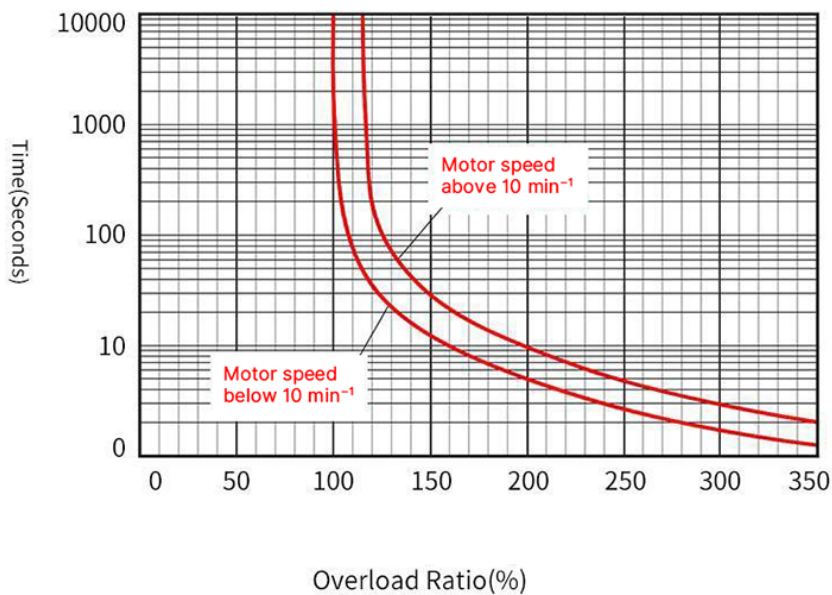


Torque-speed Characteristics



Overload Characteristics

The characteristics is measured in the warm-boot conditions at 40°C :



※1: The above characteristics do not supply 100% output for continuous running.

※2: Please make sure that the effective torque is in the range of T-N characteristics' continuous duty zone.

※3: Specification are subject to change without notice for ongoing product modification and improvement, please pay more attentions to the related information.

Motor Outline Reference Drawing

