

## PMSM SPECIFICATION

### MODEL:180TM-23015C5-C

| Basic Parameters   |   |                                  |                                 |
|--|---|----------------------------------|---------------------------------|
| Rated Output (kW)  | 2.5   | Number of Poles                  | 10                              |
| Rated Voltage (V)  | DC48  | Vibration Class                  | F                               |
| Rated Speed (rpm)  | 1500  | Max. Speed (rpm)                 | 2000                            |
| Rated Current (Arms)   | 61.5±10%  | Instantaneous Max.Current (Arms) | 123±10%                         |
| Rated Torque (N.m)   | 16  | Instantaneous Peak Torque (N.m)  | 32                              |
| Line Resistance (Ω)  | 0.031±10%(25℃)  | Line Inductance (mH)             | 0.162±10%                       |
| Line Back EMF.(V/krpm)   | 15.8±10%  | Torque Coefficient (N.m/A)       | 0.26±10%                        |
| Rotor Moment of Inertia (Kg.m <sup>2</sup> ×10 <sup>-4</sup> ) | 17±10%  | Feedback Component               | Incremental Encoder,<br>2500PPR |
| Static Torque (N.m)  | -   | Rated Voltage (V)                | -                               |
| 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)                      | 11                              |
| Enclosure  | Totally Enclosed, Self-cooled, IP54 (IP65 optional)(except for shaft opening ). |                                  |                                 |
| Rotation Direction   | Counterclockwise (CCW)  |                                  |                                 |

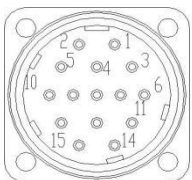
※ Rated torque is the continuous allowable torque at 40℃ with an Fe heat sink of 550×550×30.

### Connectors

#### Power Line Socket

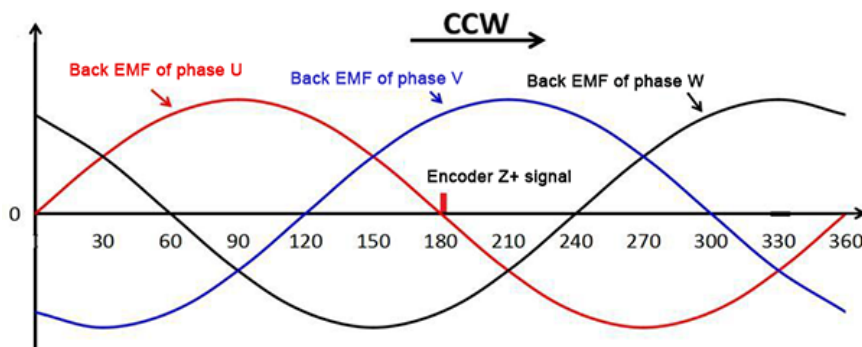
| Colour       | Yellow-green | Red | Blue | Black |
|--------------|--------------|-----|------|-------|
| Signal Leads | PE           | U   | V    | W     |

#### Encoder socket((Aviation connector model: YD18-15)

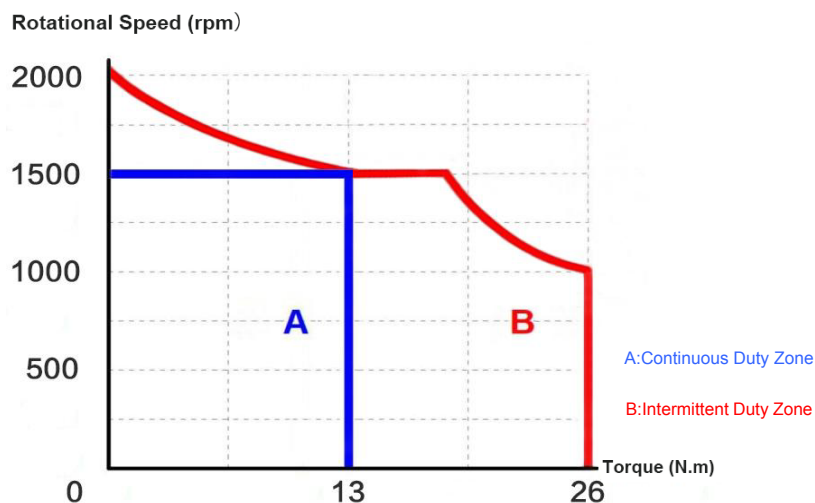


| Socket Numbers | 1  | 2   | 3     | 4    | 5     | 6      | 7              | 8               | 9                | 10    | 11   | 12    | 13 | 14 | 15 |
|----------------|----|-----|-------|------|-------|--------|----------------|-----------------|------------------|-------|------|-------|----|----|----|
| Colour         |    | Red | Black | Blue | Green | Yellow | Blue and Black | Green and Black | Yellow and Black | Brown | 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

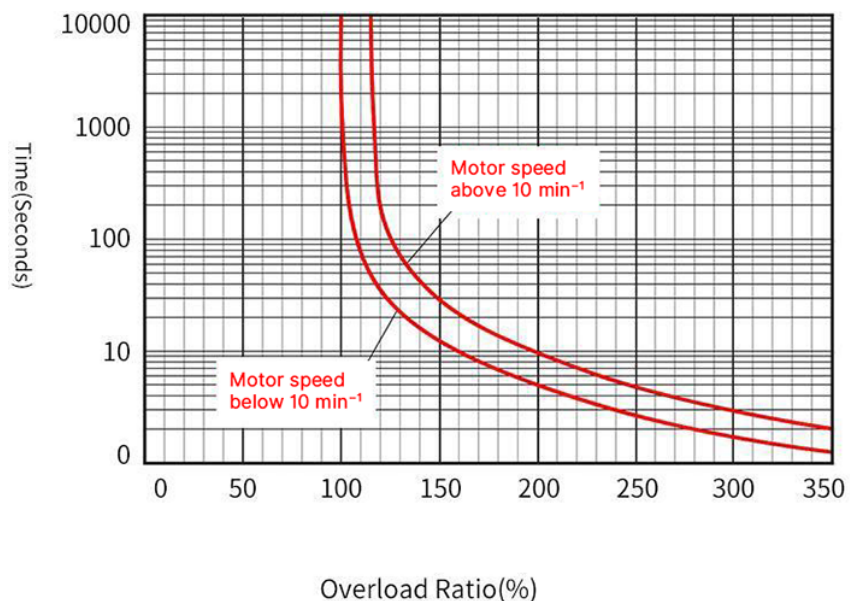


## Torque-speed Characteristics



## 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.

# ATO

## Motor Outline Reference Drawing

