

# SMC130D-0150 Servo Motor

# Kinco

## FEATURES

- 220 VAC
- 1500 W Power Rating
- Rated Torque of 7.2 Nm
- Maximum Speed of 3000 RPM
- 2500 PPR Incremental Encoder
- IP65 for Body, IP54 Shaft Seal
- 130mm Frame Size
- CE Certified



## DESCRIPTION

The SMC130D-0150 Series Servo Motor offers a solution to servo applications requiring position and speed control. This servo motor series comes standard with a 2,500 Pulses per Revolution (PPR) Incremental Encoder, runs at a rated speed of 2000 RPM, provides peak values up to 300% of the rated torque and current values, and has a rated torque of 7.2 Nm with a 1500 Watt power rating. This servo motor series enables industrial motion control applications to attain a great combination of position and speed functionality.

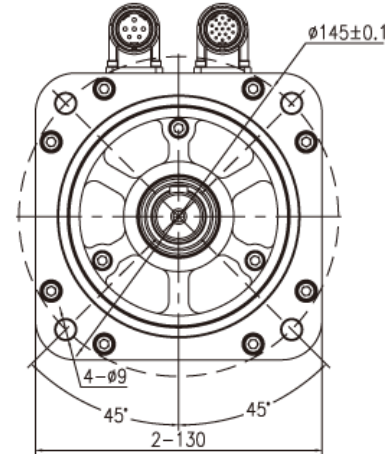
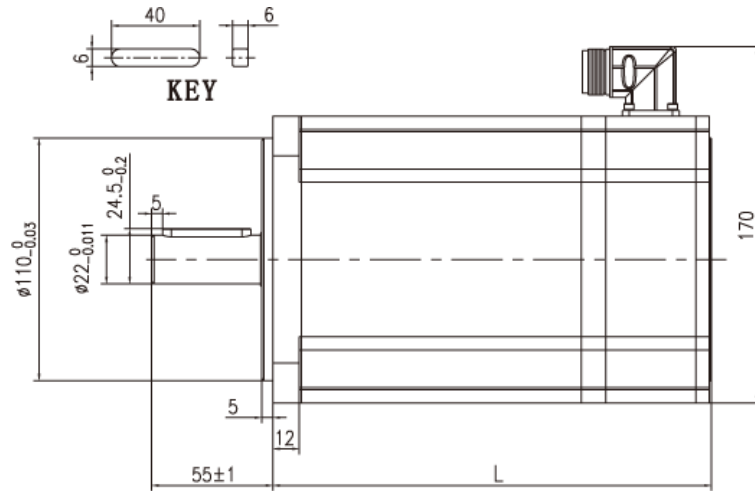
## DIMENSIONS

| Model                                            | SMC130D-0150-20AAK-4LKP<br>SMC130D-0150-20ABK-4LKP |
|--------------------------------------------------|----------------------------------------------------|
| Compatible Driver                                | FD432S-CA-000<br>FD432S-AA-000<br>FD432S-LA-000    |
| DC Link Voltage (VDC)                            | 300                                                |
| Rated Power (W)                                  | 1500                                               |
| Rated Torque (Nm)                                | 7.2                                                |
| Rated Speed (RPM)                                | 2000                                               |
| Max Speed (RPM)                                  | 3000                                               |
| Rated Current (A)                                | 6.5                                                |
| Maximum Torque (Nm)                              | 18                                                 |
| Maximum Current (A)                              | 16.2                                               |
| Rated Standstill Torque (Nm)                     | 7.92                                               |
| Rated Standstill Current (A)                     | 7.1                                                |
| Resistance Line-Line ( $\Omega$ )                | 1.53                                               |
| Inductance Line-Line (mH)                        | 13.3                                               |
| Electrical Time Constant (ms)                    | 8.69                                               |
| Mechanical Time Constant (ms)                    | 2.31                                               |
| Torque Constant Kt (Nm/A)                        | 1.17                                               |
| Rotor Moment of Inertia Jm (Kg cm <sup>2</sup> ) | 12<br>12.1 (with brake)                            |
| Pole Pair Number                                 | 4                                                  |
| Maximum Voltage Rising du/dt (KV/ $\mu$ s)       | 8                                                  |
| Insulation Class                                 | F                                                  |
| Maximum Radial Force F (N)                       | 900                                                |
| Maximum Axial Force F (N)                        | 450                                                |
| Weight (Kg)                                      | 7.5<br>9.8 (with brake)                            |

L011658 \*Note: Part Numbers with -20ABK are equipped with a brake.

## SMC130D-0150-20AAK-4LKP and SMC130D-0150-20ABK-4LKP

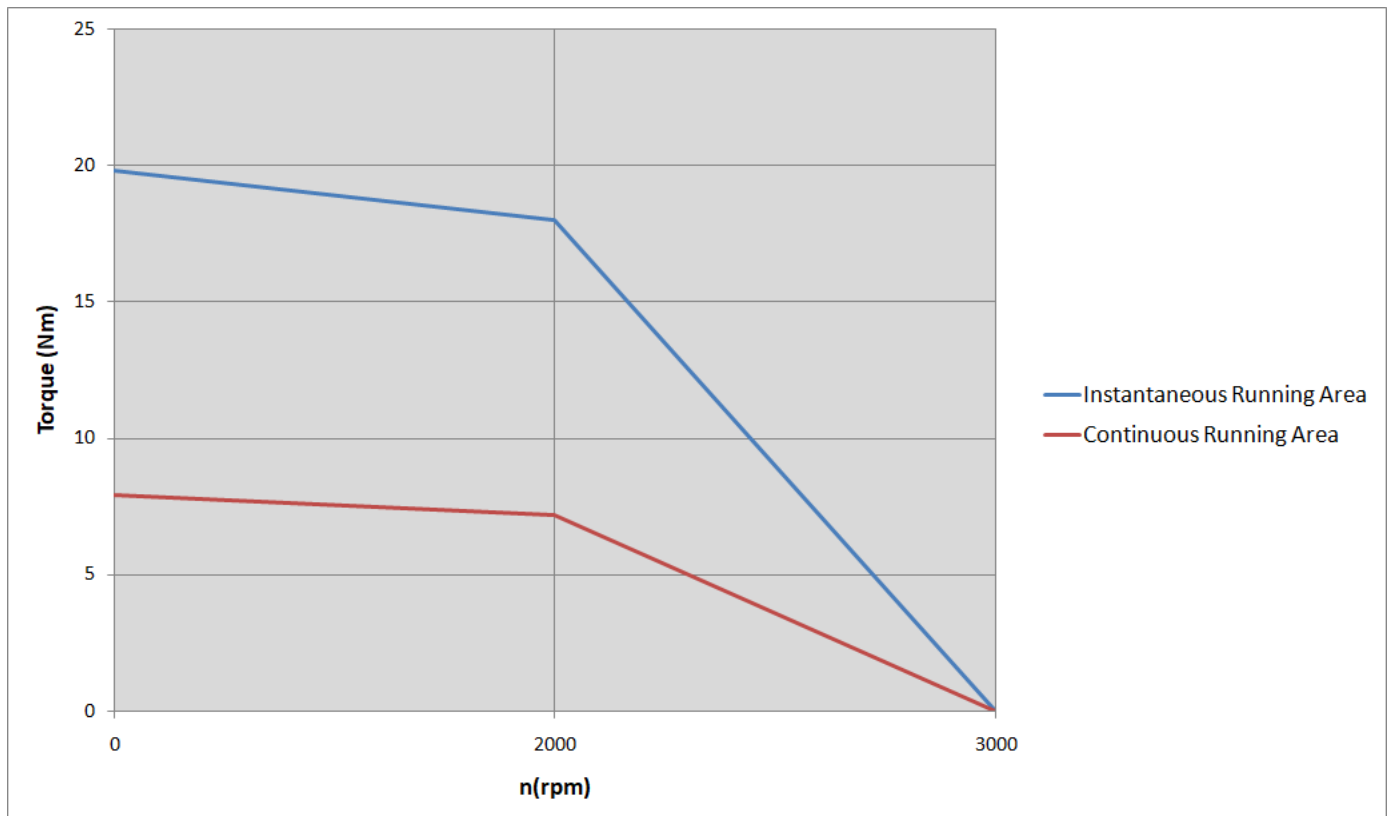
### DIMENSIONS



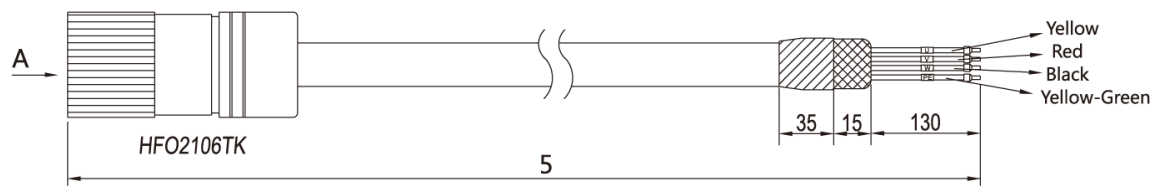
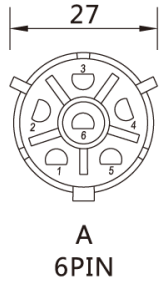
| Model                     | SMC130D-0150-20AAK-4LKP<br>SMC130D-0150-20ABK-4LKP |
|---------------------------|----------------------------------------------------|
| Length of Motor<br>L (mm) | 159 ± 1.5<br>220 ± 1.5 (with brake)                |

Dimensions are in mm

### TORQUE CURVE

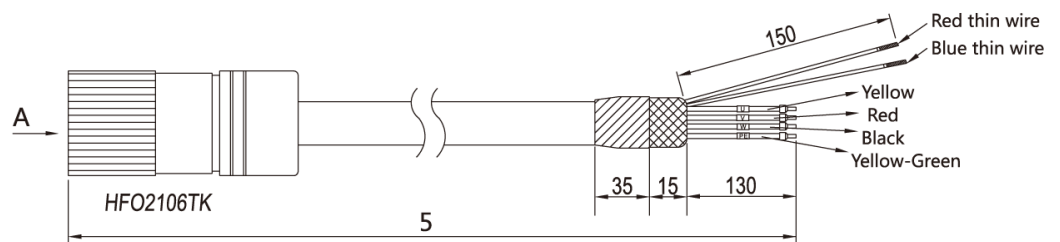
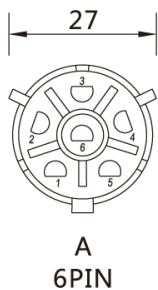


Motor Cable: MOT-008-05-KC4 for SMC130D-0150-20AAK-4LKP



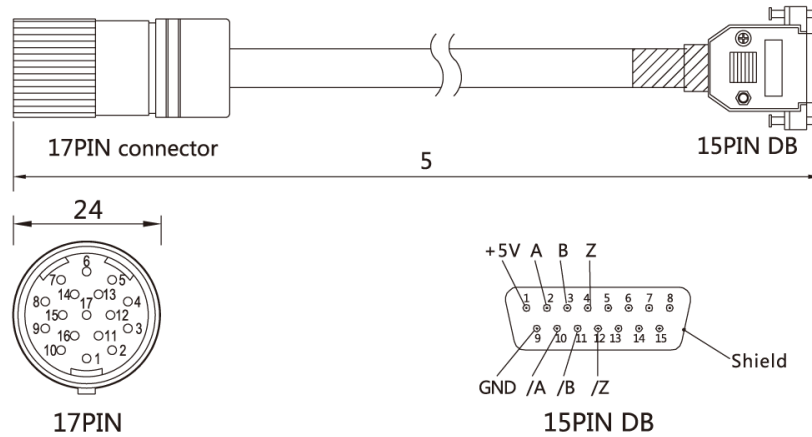
| MOT-008-05-KC4 |        |       |
|----------------|--------|-------|
| Cable Color    | Signal | PIN # |
| Yellow         | U      | PIN 2 |
| Red            | V      | PIN 3 |
| Black          | W      | PIN 4 |
| Yellow-green   | PE     | PIN 6 |

Motor / Brake Cable: MOT-008-05-KC4-B for SMC130D-0150-20ABK-4LKP



| MOT-008-05-KC4-B |         |       |
|------------------|---------|-------|
| Cable Color      | Signal  | PIN # |
| Yellow           | U       | PIN 2 |
| Red              | V       | PIN 3 |
| Black            | W       | PIN 4 |
| Yellow-green     | PE      | PIN 6 |
| Red Thin Wire    | Brake + | PIN 1 |
| Blue Thin Wire   | Brake - | PIN 5 |

Encoder Cable: ENCCF-05-FC0 for SMC130D-0150-20AAK-4LKP and SMC130D-0150-20ABK-4LKP



| ENCCF-05-FC0     |                  |        |                     |                  |
|------------------|------------------|--------|---------------------|------------------|
| 17 PIN Connector | 15 PIN DB        | Signal | External Wire Color | Motor Wire Color |
| PIN 1            | PIN 1            | +5V    | Red (thick)         | Red              |
| PIN 3            | PIN 2            | A      | Brown               | Blue-Black       |
| PIN 5            | PIN 3            | B      | Yellow              | Green            |
| PIN 14           | PIN 4            | Z      | Green               | Yellow           |
| PIN 2            | PIN 9            | GND    | Black (thick)       | Black            |
| PIN 4            | PIN 10           | /A     | Brown-white         | Blue             |
| PIN 6            | PIN 11           | /B     | Yellow-white        | Green-black      |
| PIN 15           | PIN 12           | /Z     | Green-white         | Yellow-black     |
| Other PINs Empty | Other PINs empty | n/a    | n/a                 | n/a              |
| Metal Coil       | Shell            | Shield | Shield              | Shield           |

| Model                   | Motor Cable    | Encoder Cable | Brake Cable      |
|-------------------------|----------------|---------------|------------------|
| SMC130D-0150-20AAK-4LKP | MOT-008-05-KC4 | ENCCF-05-KC0  | -                |
| SMC130D-0150-20ABK-4LKP |                |               | MOT-008-05-KC4-B |

| Model                                 |                       | SMC130D-0150-20AAK-4LKP<br>SMC130D-0150-20ABK-4LKP                                                   |
|---------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------|
| Environmental Conditions of Operation | Length of Motor L(mm) | 159 ± 1.5<br>220 ± 1.5 (with brake)                                                                  |
|                                       | Cooling Method        | Totally Enclosed, Non-Ventilated                                                                     |
|                                       | Protection Level      | IP65 for Body, Shaft Sealing IP54                                                                    |
|                                       | Temperature           | -20°C~40°C (Non-freezing)                                                                            |
|                                       | Humidity              | Below 90% RH (Non-condensing)                                                                        |
| Ambient Environment                   | Ambient Environment   | Away from active gas, combustible gas, oil drops and dust                                            |
|                                       | Altitude              | Maximum Altitude 4000m, Rated Power at 1000m or Below,<br>Above 1000m: Decreasing 1.5% per 100m Rise |