

KNC-SRV-SMH180D Servo Motor



FEATURES

- 180mm Frame Size
- Power Rating up to 4400 Watts
- Rated Torque up to 3965 oz-in
- Rated Speed of 1500 RPM
- Maximum Speed 2800 RPM
- Brake Option Available
- 2500PPR Incremental Encoder
- Totally Enclosed, Non-Ventilated
- IP65 Protection for Body, IP54 Shaft Sealing

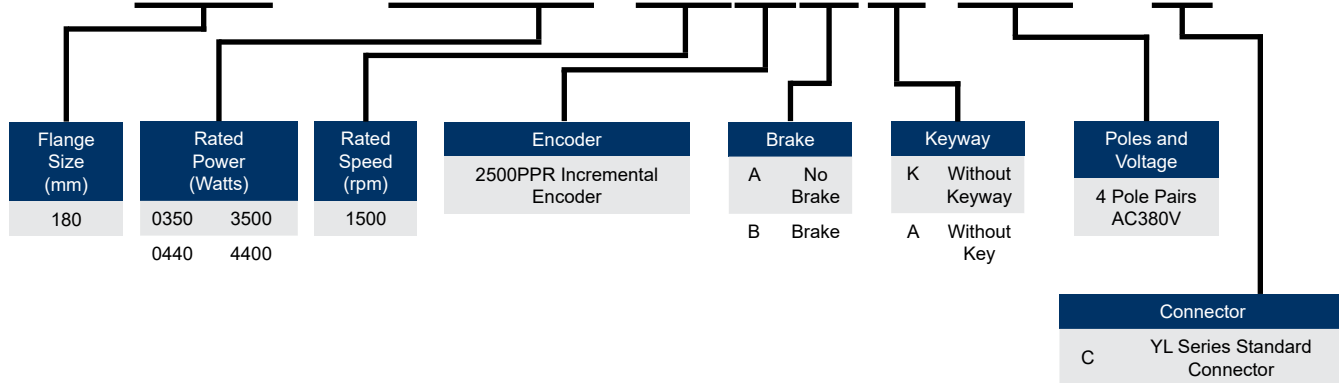


DESCRIPTION

The KNC-SRV-SMH180D 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 1500 RPM, provides peak values up to 300% of the rated torque and current values, and has a rated torque of 3115-3965 oz-in with a 3500-4400 Watt power rating. This servo motor series enables industrial motion control applications to attain a great combination of position and speed functionality.

ORDERING INFORMATION

SMH180D-0350-15AAK-4HKC



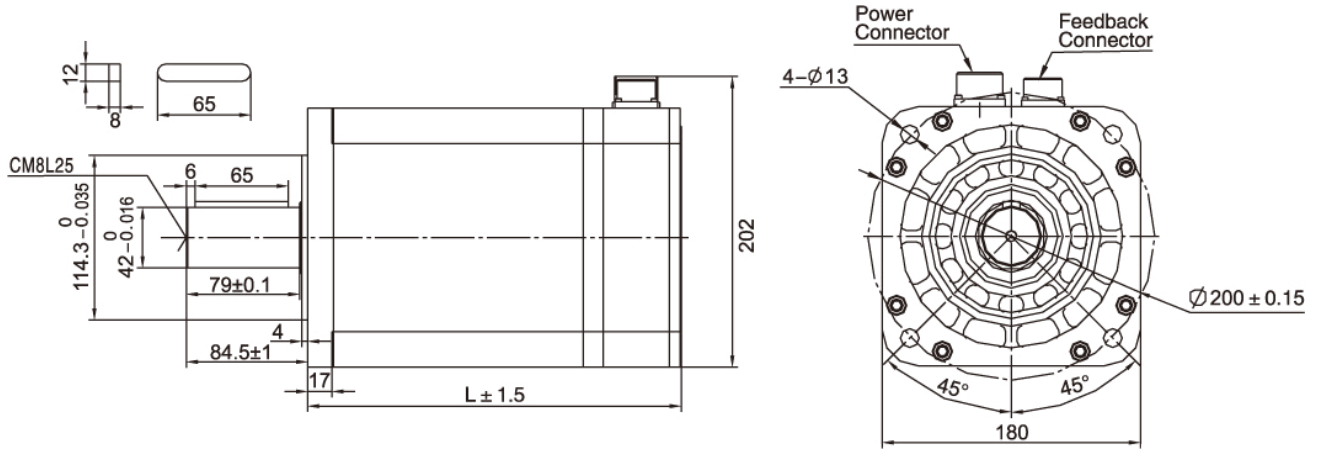
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| Model | KNC-SRV-SMH180D-0350-15AAK-4HKC KNC-SRV-SMH180D-0350-15ABK-4HKC | KNC-SRV-SMH180D-0440-15AAK-4HKC KNC-SRV-SMH180D-0440-15ABK-4HKC |
|--|--|--|
| Compatible Driver | JD630-AA/LA | JD640-AA-000 |
| DC Link Voltage (VDC) | 560 | 560 |
| Rated Power (W) | 3500 | 4400 |
| Rated Torque (oz-in) | 3115 | 3965 |
| Rated Speed (RPM) | 1500 | 1500 |
| Max Speed (RPM) | 2800 | 2500 |
| Rated Current (A) | 10.3 | 11.9 |
| Maximum Torque (oz-in) | 2800 | 2500 |
| Maximum Current (A) | 25.75 | 29.75 |
| Standstill Torque (oz-in) | 3427 | 4361 |
| Standstill Current (A) | 11.33 | 13.09 |
| Resistance Line-Line (Ω) | 1.2 | 0.65 |
| Inductance Line-Line (mH) | 12.7 | 8.5 |
| Electrical Time Constant (ms) | 10.58 | 13.08 |
| Mechanical Time Constant (ms) | 3.42 | 2.16 |
| Reverse Voltage Constant Ke (V/krpm) | 135 | 150 |
| Torque Constant Kt (oz-in/A) | 315 | 351 |
| Rotor Moment of Inertia Jm (Kg. cm ²) | 82 82.2 (with brake) | 118 118.2 (with brake) |
| Pole Pair Number | 4 | 4 |
| Maximum Voltage Rising du/dt (KV/ μ s) | 8 | 8 |
| Insulation Class | F | F |
| Maximum Radical Force F (N) | 1600 | 1600 |
| Maximum Axial Force F (N) | 800 | 800 |
| Weight (lbs) | 22.7 27.9 (with brake) | 28.6 33.8 (with brake) |

*Note: Part Numbers with -15ABK are equipped with a brake

SMH180D Dimension Drawing

Units are in mm.

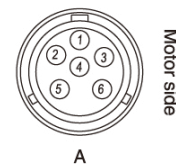
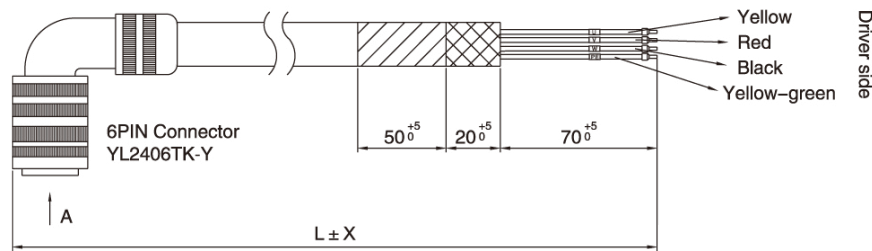


| Model | KNC-SRV-SMH180D-0350-15AAK-4HKC KNC-SRV-SMH180D-0350-15ABK-4HKC | KNC-SRV-SMH180D-0440-15AAK-4HKC KNC-SRV-SMH180D-0440-15ABK-4HKC |
|-------------------------|--|--|
| Length of Motor "L"(mm) | 260 ± 1.5 332 ± 1.5 (with brake) | 298 ± 1.5 370 ± 1.5 (with brake) |

Motor Cable: KNC-SRV-MOT-015-05-KC2 for KNC-SRV-SMH180D-0350/0440

MOT-015-05-KC2

Power cable Cableplus UL2856 4 × 14AWG(50/0.25T)

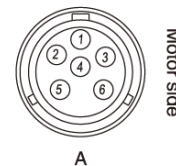
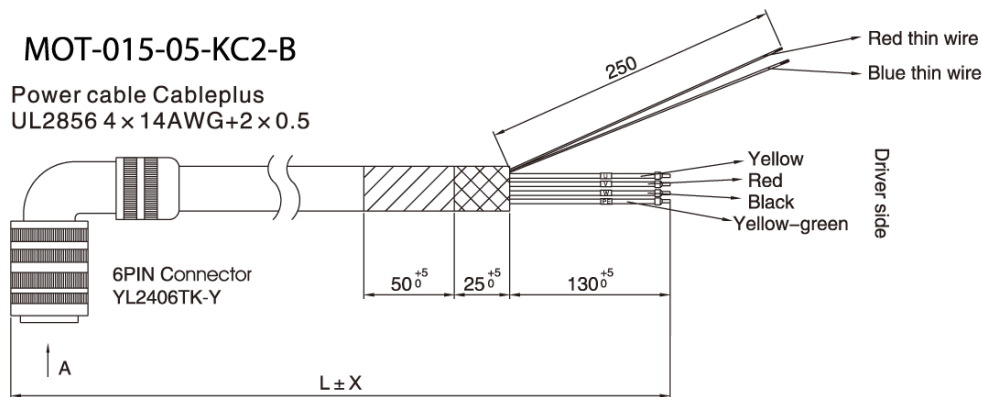


| KNC-SRV-MOT-015-05-KC2 | | |
|------------------------|--------|------------|
| Cable Color | Signal | PIN # |
| Yellow | U | PIN 1 |
| Red | V | PIN 2 |
| Black | W | PIN 3 |
| Yellow-Green | PE | PIN 4 |
| Shield | Shield | Metal Ring |

Motor Cable with Brake: KNC-SRV-MOT-015-05-KC2-B for KNC-SRV-SMH180D-0350/0440

MOT-015-05-KC2-B

Power cable Cableplus UL2856 4 × 14AWG+2 × 0.5

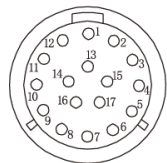
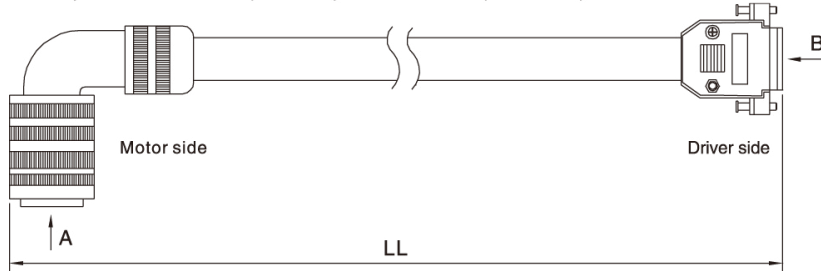


| KNC-SRV-MOT-015-05-KC2-B | | |
|--------------------------|--------|------------|
| Cable Color | Signal | PIN # |
| Yellow | U | PIN 1 |
| Red | V | PIN 2 |
| Black | W | PIN 3 |
| Yellow-Green | PE | PIN 4 |
| Red(thin) | brake+ | PIN 5 |
| Blue(thin) | Brake- | PIN 6 |
| Shield Terminal | Shield | Metal Ring |

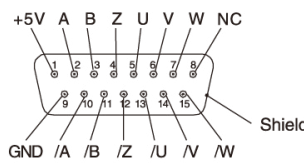
Encoder Cable: KNC-SRV-ENCCA-05-KC1 for KNC-SRV-SMH180D-0350/0440

ENCCA-05-KC1

Wire spec. 1P x 24AWG(7/0.20T)+7P x 28AWG(7/0.127T)



A
YL 2217TK



B
D-sub 15-pin male plug

| KNC-SRV-ENCCA-05-KC1 | | | | |
|----------------------|----------------|--------|---------------------|------------------|
| 17 PIN | 15 PIN DB | Signal | External Wire Color | Motor Wire Color |
| PIN 1 | PIN 1 | +5V | Red (thick) | Red |
| PIN 3 | PIN 2 | A | Orange | Blue |
| PIN 5 | PIN 3 | B | Yellow | Green |
| PIN 14 | PIN 4 | Z | Green | Yellow |
| PIN 9 | PIN 5 | U | Brown | Brown |
| PIN 11 | PIN 6 | V | Purple | Gray |
| PIN 16 | PIN 7 | W | Blue | White |
| PIN 2 | PIN 9 | GND | Black (thick) | Black |
| PIN 4 | PIN 10 | /A | Orange-White | Blue-Black |
| PIN 6 | PIN 11 | /B | Yellow-White | Green-Black |
| PIN 15 | PIN 12 | /Z | Green-White | Yellow-Black |
| PIN 10 | PIN 13 | /U | Brown-White | Brown-Black |
| PIN 12 | PIN 14 | /V | Purple-White | Gray-Black |
| PIN 17 | PIN 15 | /W | Blue-White | White-Black |
| Internal Metal Ring | DB Metal Shell | Shield | Shield | Shield |

ENCODER PINOUT

SPECIFICATIONS

| Model | Motor Cable | Motor Cable with Brake | Encoder Cable |
|--|------------------------|--------------------------|----------------------|
| KNC-SRV-SMH180D-0350-15AAK-4HKC KNC-SRV-SMH180D-0440-15AAK-4HKC | KNC-SRV-MOT-015-05-KC2 | -- | KNC-SRV-ENCCA-05-KC1 |
| KNC-SRV-SMH180D-0350-15ABK-4HKC KNC-SRV-SMH180D-0440-15ABK-4HKC | -- | KNC-SRV-MOT-015-05-KC2-B | KNC-SRV-ENCCA-05-KC1 |

| Model | KNC-SRV-SMH180D-0350-15AAK-4HKC KNC-SRV-SMH180D-0350-15ABK-4HKC | KNC-SRV-SMH180D-0440-15AAK-4HKC KNC-SRV-SMH180D-0440-15ABK-4HKC |
|---------------------------------------|--|---|
| Length of Motor L (mm) | 260 ± 1.5 332 ± 1.5 (with brake) | 298 ± 1.5 370 ± 1.5 (with brake) |
| Position Feedback Device | Incremental Encoder 2500PPR | |
| 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) | |
| Environmental Conditions of Operation | Ambient Environment | Away from active gas, combustible gas, oil drops and dust |
| | Altitude | Maximum Altitude 4000m, Rated Power at 1000m or Below, Above 1000m: Decreasing 1.5% per 100m Rise |