

# PRHD2

## Highly Dynamic Servo Motors

The PRHD2 electro-mechanical design features low speed and torque ripple, minimal temperature rise, high torque density and high overload capacity.

### Optimal servo motor solution for high performance motion applications

PRHD2 servo motors combine excellent dynamics and torque accuracy with a compact design and high power density.

- Rated output power range of 50 W to 7.5\* kW
- Rated output torque of 0.16 Nm to 48 Nm
- Torque range of up to 48 Nm (rated) and 120 Nm (peak)
- Rated speed of up to 3000 rpm
- Maximum speed of up to 6000 rpm

### Broad range of motor options

- 5 frame sizes
- Winding option for 230 VAC
- Standard feedback options include absolute 20-bit single-turn or multi-turn encoder (SERVOSENSE™). Nikon© & Tamagawa© encoders available upon request
- Medium inertia motors
- Up to IP67 protection class
- Optional holding brake
- Cable and MIL connector options
- Ambient operational temperature: -10°C...+40°C



### Key benefits

- Flange dimensions: 40 - 60 - 80 - 130 180\* mm
- 0.16 Nm to 44.6\* Nm rated torque
- 50 W to 7.5\* kW rated output power
- Maximum servo motor speed up to 6000 rpm
- Low cogging, less than 2% of nominal torque
- Low temperature rise during operation
- High motor overload capability
- Built-in 20 bit proprietary absolute magnetic encoder
- IP 67 (with oil seal)
- Optional holding brake

**Matched to Servotronics CDHD/CDHD2 servo drives for optimal performance**



Rating

| Model   | Frame Size<br>(mm) | Voltage Options<br>(VAC) | Power Range<br>(W) | Rated Torque<br>(Nm) | Peak Torque<br>(Nm) | Max Speed<br>(rpm) | Rotor Inertia<br>(kg cm <sup>2</sup> ) |
|---------|--------------------|--------------------------|--------------------|----------------------|---------------------|--------------------|----------------------------------------|
| PH2-04* | 40                 | 230                      | 50-100             | 0.16-0.32            | 0.48-0.96           | 6000               | 0.04-0.07                              |
| PH2-06  | 60                 | 230                      | 200-400            | 0.64-1.27            | 1.95-3.90           | 6000               | 0.27-0.49                              |
| PH2-08  | 80                 | 230                      | 750                | 2.39                 | 7.16                | 6000               | 1.72                                   |
| PH2-13  | 130                | 230                      | 1000-2000          | 6.37-9.55            | 19.1-28.65          | 3000               | 8.45-12.97                             |
| PH2-18* | 180                | 230                      | 2000-7500          | 9.55-47.74           | 28.65-119.36        | 3000               | 34.40-55.10                            |

\*upcoming

Ordering information

|                          |     |   |   |    |   |   |    |   |   |    |   |   |
|--------------------------|-----|---|---|----|---|---|----|---|---|----|---|---|
|                          | PH2 | - | M | 04 | A | 2 | 30 | 0 | 5 | S3 | 0 | D |
| PRHD2 Servo Motor        |     |   |   |    |   |   |    |   |   |    |   |   |
| Inertia                  |     |   |   |    |   |   |    |   |   |    |   |   |
| L – low inertia          |     |   |   |    |   |   |    |   |   |    |   |   |
| M – medium inertia       |     |   |   |    |   |   |    |   |   |    |   |   |
| H – high inertia         |     |   |   |    |   |   |    |   |   |    |   |   |
| Frame size               |     |   |   |    |   |   |    |   |   |    |   |   |
| 04 - 40mm                |     |   |   |    |   |   |    |   |   |    |   |   |
| 06 - 60mm                |     |   |   |    |   |   |    |   |   |    |   |   |
| 08 - 80 mm               |     |   |   |    |   |   |    |   |   |    |   |   |
| 10 - 100mm               |     |   |   |    |   |   |    |   |   |    |   |   |
| 13 - 130mm               |     |   |   |    |   |   |    |   |   |    |   |   |
| 18 - 180mm               |     |   |   |    |   |   |    |   |   |    |   |   |
| Length                   |     |   |   |    |   |   |    |   |   |    |   |   |
| A – Shortest             |     |   |   |    |   |   |    |   |   |    |   |   |
| B-                       |     |   |   |    |   |   |    |   |   |    |   |   |
| C -                      |     |   |   |    |   |   |    |   |   |    |   |   |
| AC bus voltage           |     |   |   |    |   |   |    |   |   |    |   |   |
| 2 – 230VAC               |     |   |   |    |   |   |    |   |   |    |   |   |
| 4 – 400VAC               |     |   |   |    |   |   |    |   |   |    |   |   |
| Rated speed              |     |   |   |    |   |   |    |   |   |    |   |   |
| 10 – 1000 RPM            |     |   |   |    |   |   |    |   |   |    |   |   |
| 15 - 1500 RPM            |     |   |   |    |   |   |    |   |   |    |   |   |
| 20 – 2000 RPM            |     |   |   |    |   |   |    |   |   |    |   |   |
| 30 – 3000 RPM            |     |   |   |    |   |   |    |   |   |    |   |   |
| Shaft & Oil seal         |     |   |   |    |   |   |    |   |   |    |   |   |
| 0 – Smooth               |     |   |   |    |   |   |    |   |   |    |   |   |
| 1 – Smooth and oil seal  |     |   |   |    |   |   |    |   |   |    |   |   |
| 2 – Keyed                |     |   |   |    |   |   |    |   |   |    |   |   |
| 3 - Keyed and oil seal   |     |   |   |    |   |   |    |   |   |    |   |   |
| IP rating                |     |   |   |    |   |   |    |   |   |    |   |   |
| 5 – IP65                 |     |   |   |    |   |   |    |   |   |    |   |   |
| Feedback device          |     |   |   |    |   |   |    |   |   |    |   |   |
| S3 – sensAR abs ST 20bit |     |   |   |    |   |   |    |   |   |    |   |   |
| M3 – sensAR abs MT 20bit |     |   |   |    |   |   |    |   |   |    |   |   |
| T1 – Tamagawa ST 17bit   |     |   |   |    |   |   |    |   |   |    |   |   |
| T2 – Tamagawa MT 17bit   |     |   |   |    |   |   |    |   |   |    |   |   |
| T3 – Tamagawa ST 23bit   |     |   |   |    |   |   |    |   |   |    |   |   |
| T4 – Tamagawa MT 23bit   |     |   |   |    |   |   |    |   |   |    |   |   |
| E0 - 2500C/T INC         |     |   |   |    |   |   |    |   |   |    |   |   |
| Brake                    |     |   |   |    |   |   |    |   |   |    |   |   |
| 0 – No brake             |     |   |   |    |   |   |    |   |   |    |   |   |
| 1 – with brake           |     |   |   |    |   |   |    |   |   |    |   |   |
| Connector                |     |   |   |    |   |   |    |   |   |    |   |   |
| D- Amp connector         |     |   |   |    |   |   |    |   |   |    |   |   |
| A – MIL connector        |     |   |   |    |   |   |    |   |   |    |   |   |

DOC-PRO2-FLR-EN V1

