Nanotec



NEW

HIGHLIGHTS

- BLDC and stepper motors
- Integrated controller & encoder
- Field-oriented control
- Easy programming
- 6 fieldbus options

PD series

Smart servos with integrated controller

The PD series combines a stepper or BLDC motor, a motor controller and a high-resolution absolute encoder in a single unit. The product family spans from the ultra-compact PD1 (NEMA 11, 28 mm) and the compact PD2 (NEMA 17, 42 mm) to the powerful new PD4 (NEMA 23/24, 56/60 mm) and the PD6 (NEMA 34, 86 mm) – one integration concept for a wide range of applications.



PD1-C



PD2-E



PD2-EB



PD4-E[3]



PD4-EB[3]



PD6-E



PD6-EB

Performance highlights

The stepper versions offer holding torques ranging from 9 Ncm (PD1-C) to 933 Ncm (PD6-E). The BLDC variants (PD2-EB, PD4-EB, PD6-EB) deliver rated torques of up to 300 Ncm, a rated power of up to 940 W and rated speeds of up to 3,000 rpm. A single-turn or multi-turn absolute encoder and IP20/IP30/IP65 protection ratings complete the feature set.

Ready for integration

PD1 and PD2 are programmable with NanoJ, while PD4 and PD6 use the Plug & Drive Studio programming environment. All motors allow standalone operation. CANopen and Modbus RTU are available across the entire family; PD2, PD4 and PD6 additionally offer EtherCAT, while PD4 and PD6 also support EtherNet/IP, Modbus TCP, PROFINET and an optional Safe Torque Off (STO) function.

Broad application range

The PD series is designed for a wide range of automation applications, including packaging, intralogistics, textile and printing machinery, assembly automation and general machine building. The PD6 is particularly well suited for dynamic, high-torque applications such as machine tools and camera positioning systems.

CANopen EtherCAT EtherNet/IP Modbus PROFINET

STEPPER MOTORS

	PD1-C281S15[1]	PD1-C281L15[1]	PD2-E[2] (all)	PD4-E56L[3]	PD4-E60L[3]	PD6-E891S95	PD6-E891M95	PD6-E891L95
Frame size	28 mm (NEMA 11)	28 mm (NEMA 11)	42 mm (NEMA 17)	56 mm (NEMA 23)	60 mm (NEMA 24)	86 mm (NEMA 34)	86 mm (NEMA 34)	86 mm (NEMA 34)
Length	54.2 – 56 mm	73.8 – 75.6 mm	74.7 – 99.5 mm	118.5 – 119 mm	133 – appr. 133.5 mm	114 mm	145 mm	175 mm
Holding torque	9 Ncm	18 Ncm	28 – 80 Ncm	230 Ncm	354 Ncm	320 Ncm	594 Ncm	933 Ncm
Voltage	12 – 30 VDC	12 – 30 VDC	12 – 57.6 VDC	12 – 48 VDC	12 – 48 VDC	12 – 57.6 VDC	12 – 57.6 VDC	12 – 57.6 VDC

BLDC MOTORS

	PD2-EB[2] (all)	PD4-EB60MD[3]	PD4-EB60LD[3]	PD6-EB80SD	PD6-EB80MD	PD6-EB80LD	PD6-EB80CD
Frame size	42 mm (NEMA 17)	60 mm	60 mm	80 mm	80 mm	80 mm	80 mm
Length	98 – 145 mm	104 – 104.5 mm	123.5 – 124 mm	134 mm	155 mm	170 mm	183 mm
Rated power	53 – 138 W	200 W	400 W	283 W	534 W	706 W	940 W
Rated torque	17 – 44 Ncm	64 Ncm	127 Ncm	90 Ncm	170 Ncm	225 Ncm	300 Ncm
Rated speed	3,000 rpm	3,000 rpm	3,000 rpm	3,000 rpm	3,000 rpm	3,000 rpm	3,000 rpm
Voltage	12 – 57.6 VDC	12 – 48 VDC	12 – 48 VDC	12 – 57.6 VDC	12 – 57.6 VDC	12 – 57.6 VDC	12 – 57.6 VDC

[1] Length ranges for the PD1-C cover both IP20 and IP65 versions.

[2] PD2 values are given as ranges across all available lengths.

[3] The PD4 is a new series, scheduled to become available in early 2027. Specifications are preliminary.

Nanotec Electronic GmbH
Kapellenstr. 6 | 85622 Feldkirchen | Germany
+49 89 900 686-0 | info@nanotec.de
www.nanotec.com

© 2026 Nanotec Electronic GmbH. All rights reserved. 11.2026 (AA)