

SUPER PREMIUM EFFICIENCY IE4 SYNCHRONOUS MOTOR DATA SHEET

- Lower operating costs thanks to high efficiency synchronous motors with permanent magnet technology
- Simple and highly flexible combination through full compatibility with the NORD modular system
- Simplified control of applications thanks to almost constant motor speed



High efficiency IE4 motors from NORD DRIVESYSTEMS are designed as permanent magnet synchronous motors (PMSM), which are especially suited for operation with gear units. Even at low speeds, these systems achieve high torques and excellent efficiency. These 4-pole motors for energy-optimised systems are exclusively designed for operation with frequency inverters.

70 Hz rated frequency

1.1 to 4.0 kW / 1.5 to 5.0 HP

70 Hz rated frequency / Smooth Body Motor (HM)

0.75 to 2.2 kW / 1.0 to 3.0 HP

100 Hz rated frequency

1.5 to 5.5 kW / 2.0 to 7.5 HP

IE4

Size	MN [Nm]	PN [kW]	nN [rpm]	I at 400V [A]	η	Mmax [Nm]	SK 180E	SK 200E*	SK 500E*
80T1/4	5.0	1.1	2,100	2.03	90.5	14.4	-111-323- -111-340-	-111-123- -111-340-	-111-323- -111-340-
80T1/4 Δ	4.8	1.5	3,000	3.44	90.4	14.4	-151-340-	-151-340-	-151-340-
90T1/4	6.8	1.5	2,100	2.82	89.9	21.0	-151-340-	-151-340-	-151-323- -151-340-
90T1/4 Δ	7.0	2.2	3,000	5.09	89.6	21.0	-221-340-	-221-340-	-221-340-
90T3/4	10.0	2.2	2,100	4.13	90.5	29.0	-221-340-	-221-340-	-221-323- -221-340-
90T3/4 Δ	9.6	3.0	3,000	6.84	92.3	29.0		-301-340-	-301-340-
100T2/4	13.6	3.0	2,100	5.40	91.4	42.0		-301-340-	-301-340-
100T2/4 Δ	12.7	4.0	3,000	8.90	92.1	42.0		-401-340-	-401-340-
100T5/4	18.2	4.0	2,100	7.10	92.1	57.0		-401-340-	-401-340-
100T5/4 Δ	17.5	5.5	3,000	11.90	92.2	57.0		-551-340-	-551-340-

* Please contact NORD for all combinations of IE4 Motors and SK 200E or SK 500E inverters.

IE4 HM

Size	MN [Nm]	PN [kW]	nN [rpm]	I at 400V [A]	η	Mmax [Nm]	SK 180E	SK 500E
80T1/4 HM	3.41	0.75	2,100	1.46	91.2	13.5	-111-323- -111-340-	-750-323- -750-340-
90T3/4 HM	5	1.1	2,100	2.08	93.0	28.3	-151-340-	-111-323- -111-340-
100T5/4 HM	10	2.2	2,100	4.16	91.2	53.5		-221-323- -221-340-

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Mounting styles

- IEC B3 metric foot mount
- IEC B14 metric face flange mount
- IEC B5 metric flange mount
- NEMA C-face flange mount
- NEMA foot mount
- Integral motor for NORD gear units

International Certifications

- CE mark in accordance with the Low Voltage Directive for European Union (EU)
- Underwriters Laboratories Recognized per UL standard 1004
- Canadian Standards Association CSA mark
- China Compulsory Certification
- Eurasian Conformity



International Certifications

- EU: IE1 – IE4 according to IEC 60034-30
- US: ee labeling acc to EISA 2007 (Dept. of Energy)
- CA: CSA energy verified acc to EER 2010
- CN: CEL acc to GB 18613
- KR: KEL acc to REELS 2010
- BR: Alto Rendimento acc to Decreto n° 4.508
- AU: MEPS acc to AS/NZS 1359.5

Inverter Duty

- Conformance with NEMA MG 1-2009 Section 31.4.4.2 Voltage Spikes
- Speed range 5:1 constant torque
- Speed range 10:1 constant torque
- Speed range 20:1 constant torque
- Speed range 1000:1 constant torque



Standard Construction Features

- Dual mode use: 50 Hz and 60 Hz
- Shaft lip seals on both ends of the motor shafts
- Stator to endbell connections sealed to exclude moisture
- Double coated magnetic wire insulation
- Moisture resistant varnish dipped windings with improved varnish materials
- Inorganic insulating components for tropical protection
- Conduit box sealed with gaskets
- Corrosion resistant alloy materials
- Threaded cable entry holes

Environmental Protection

- IP55 protection class standard
- Totally Enclosed Fan Cooled (TEFC/IC411)
- Insulation Class F standard
- Bureau Veritas certified

Options

- Motor quick connectors
- IP66 protection class
- Insulation class H
- Thermal winding protection (thermistor/thermostat)
- Protection canopies (single, double, for textile industry)
- Space heater
- Brake (IP55 and IP66)
 - Corrosion and/or dust protection
 - (Lockable) hand release lever

NORD DRIVESYSTEMS Group

- Family business from Bargteheide near Hamburg with 3,900 employees
- Drive solutions for more than 100 branches of industry
- 7 production locations worldwide
- Present in 98 countries on 5 continents
- More information: www.nord.com

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