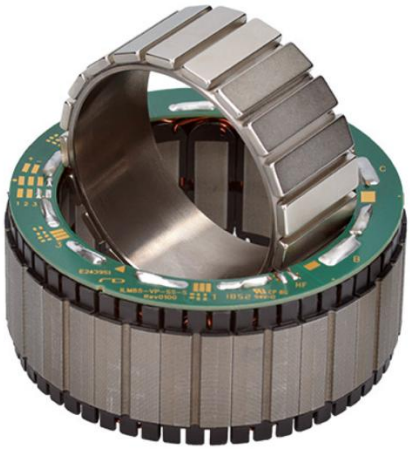
Motor Parameters ILM-E85x23



PERFORMANCE CHARACTERISTICS

(INTERCONNECTION STAR-SERIAL)

Power P	[W]	433
Rated torque T_r	[Nm]	2.58
Peak torque T_{max} @ 20% linearity deviation	[Nm]	8.31
Rated voltage U_r	[V]	48
Rotation speed n_{max}*	[rpm]	1606
Rated current I_r (phase current amplitude)	[A]	10.5
Copper losses $P_{L,r}$ @ T_r and 20°C	[W]	26.7
Torque constant k_T @ 20°C	[mNm/A]	247
Motor constant k_M @ 20°C	[Nm/√W]	0.503
Terminal resistance R_{TT} @ 20°C	[mΩ]	322
Terminal inductance L_{TT}	[µH]	938
Rotor inertia J	[kgcm²]	1.08
Number of pole pairs	-	10
Max. efficiency η	%	94
Weight m	[g]	629.8
Temperature class (DIN EN 60085)		F

* Theoretical no-load rotation speeds at rated voltage U_r. Variations can arise from operation with different inverters. Higher rotation speeds or change of the voltage level can be achieved by varying the interconnection scheme.

MAXIMAL ROTATION SPEEDS

DC link voltage [V]	48	36	24	14	12	9
Star-serial n_{max}* [rpm]	1606	1204	803	482	401	301
Delta-serial n_{max}* [rpm]	2782	2086	1391	835	695	522
Star-parallel n_{max}* [rpm]	3212	2409	1606	964	803	602

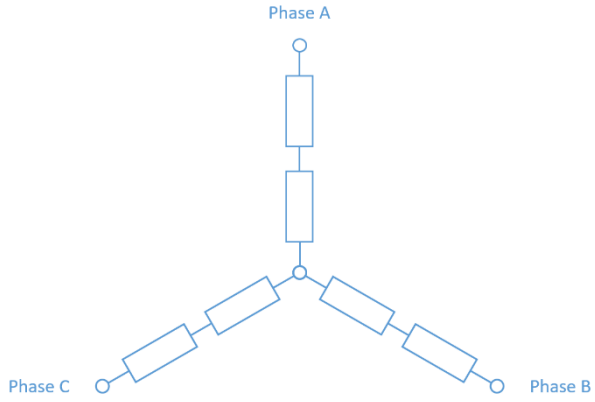
* Theoretical no-load rotation speeds at indicated voltage. Mechanical limits apply and must not be exceeded. Variations can arise from operation with different inverters.
** $n_{max, mech}$ = 7,900 rpm must not be exceeded.

CHARACTERISTICS INTERCONNECTION VARIANTS

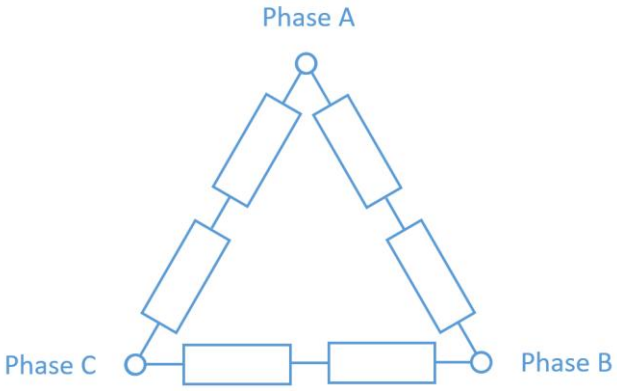
Interconnection	U_r [V]	I_r [A]	k_T [mNm/A]	R_{TT} [mΩ]	L_{TT} [µH]
Star-serial	48	10.5	247	322	938
Delta-serial	28	18.2	143	107	313
Star-parallel	24	21.0	124	81	235

AVAILABLE INTERCONNECTION VARIANTSS

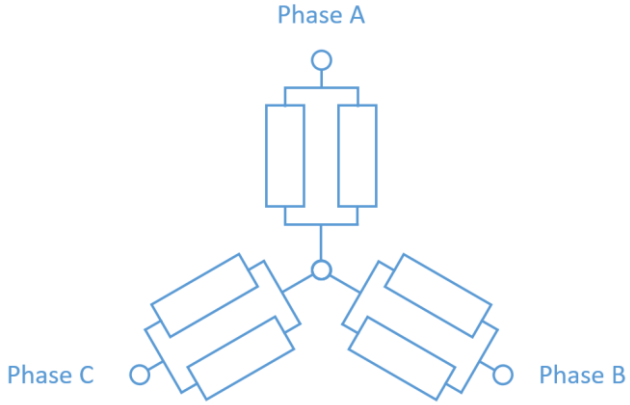
Star-serial



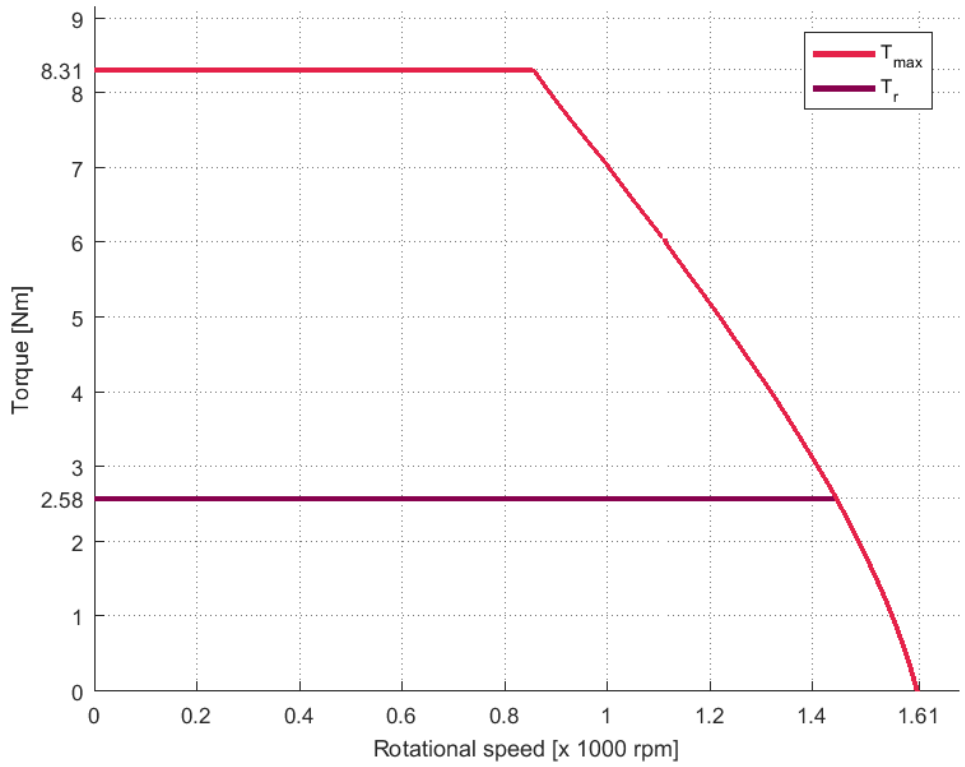
Delta-serial



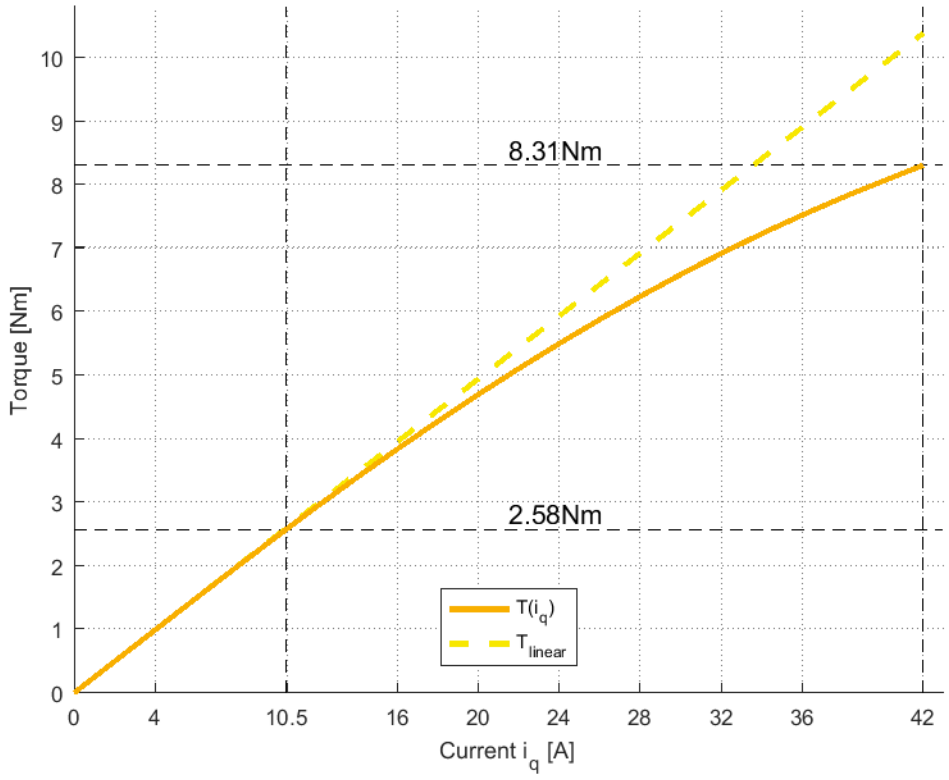
Star-parallel



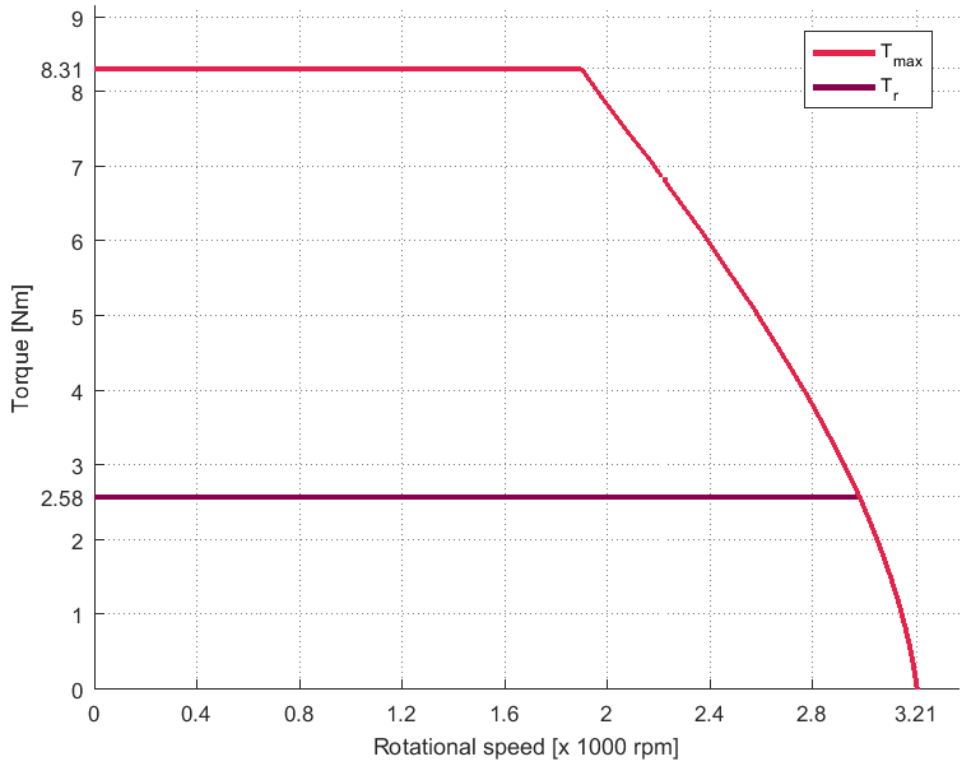
T/N-DIAGRAM ILM-E85X23 STAR-SERIAL @ 22 °C



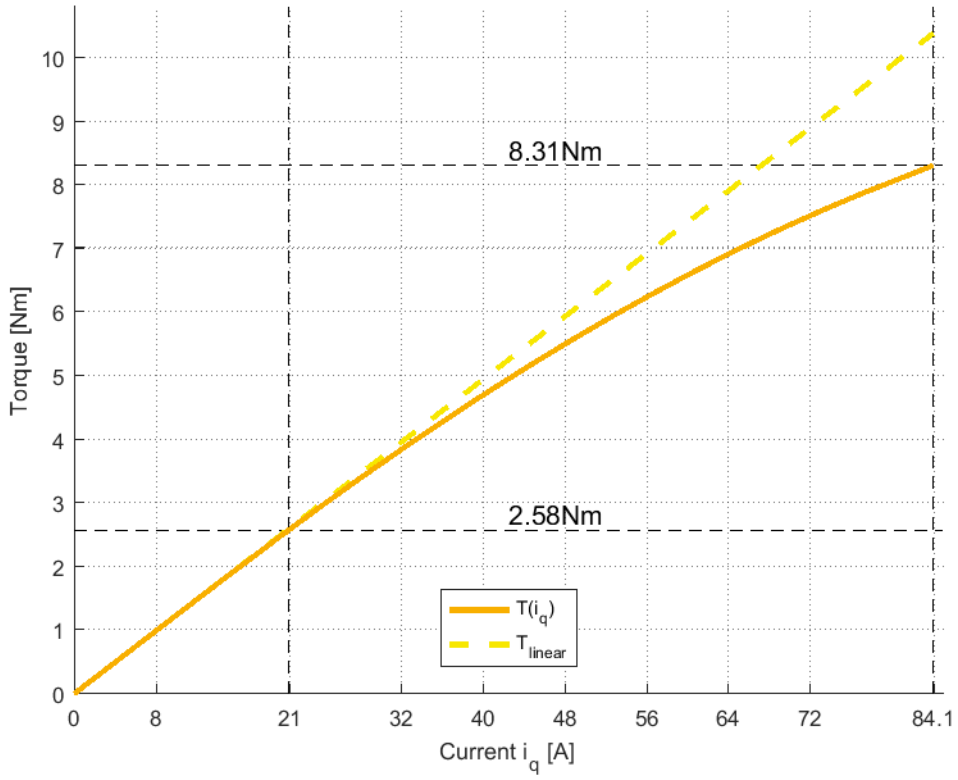
T/I-DIAGRAM ILM-E85X23 STAR-SERIAL @ 22 °C



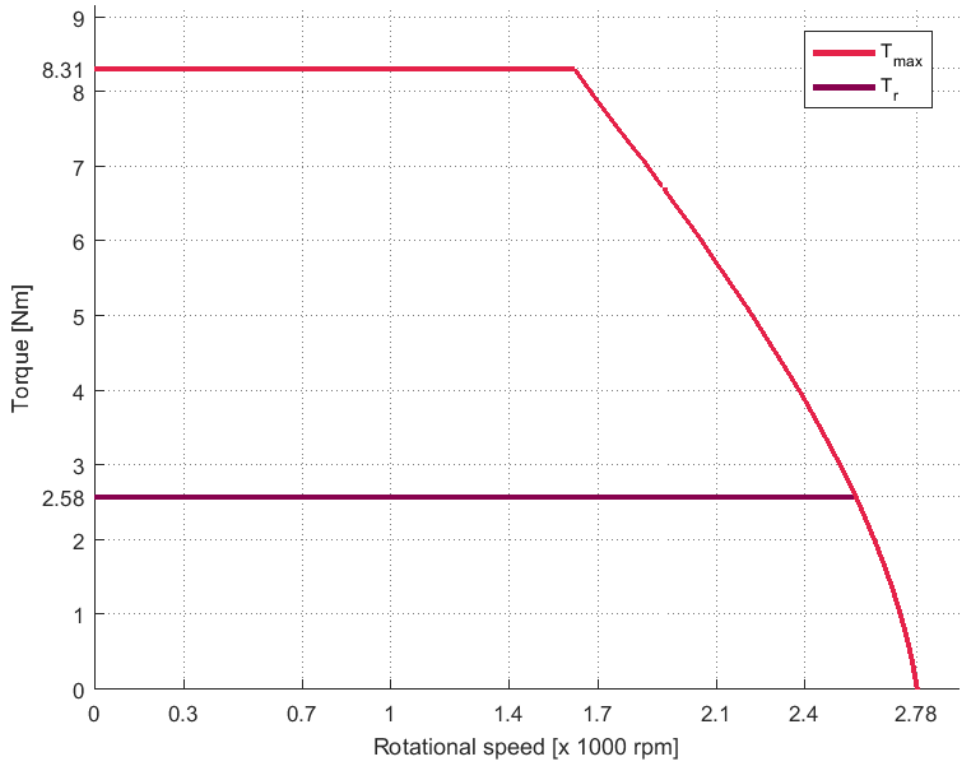
T/N-DIAGRAM ILM-E85x23 STAR-PARALLEL @ 22 °C



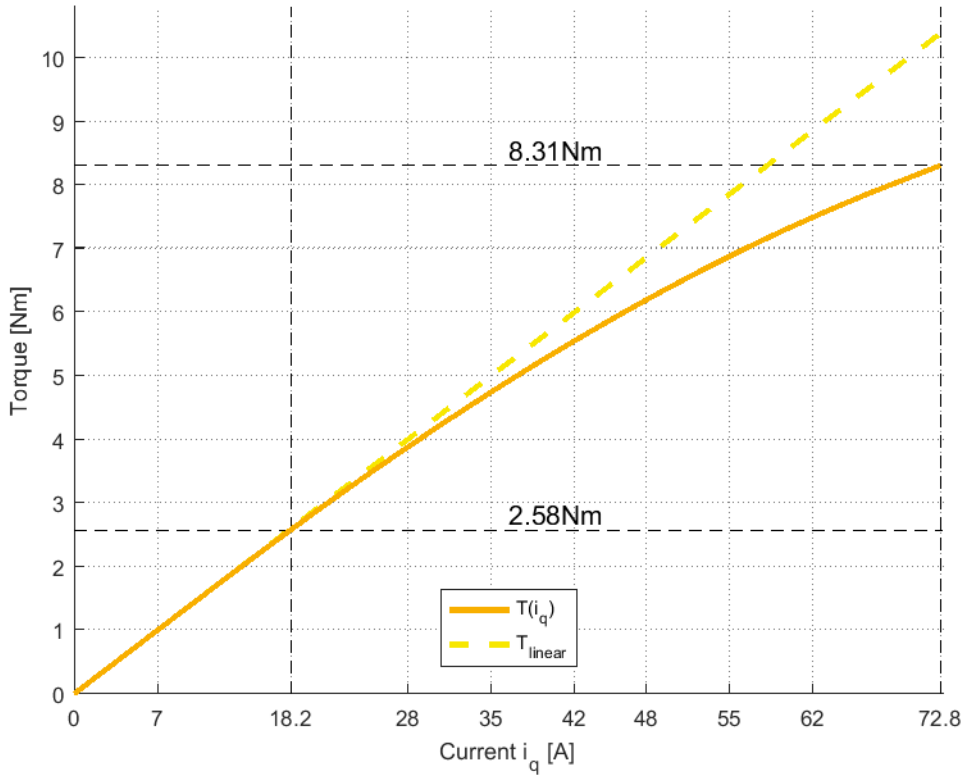
T/I-DIAGRAM ILM-E85X23 STAR-PARALLEL @ 22 °C



T/N-DIAGRAM ILM-E85x23 DELTA-SERIAL @ 22 °C



T/I-DIAGRAM ILM-E85X23 DELTA-SERIAL @ 22 °C



FOR FURTHER INQUIRIES, PLEASE CONTACT:

TQ-Systems GmbH
Gut Delling, Mühlstraße 2
82229 Seefeld
Deutschland

Tel.: +49 8153 9308-0
Fax: +49 8153 4223

E-Mail: info@tq-robodrive.com
Internet: www.tq-group.com

© TQ-Systems GmbH 2021 | All data is for information purposes only | Subject to change without notice | DRVA_DB-ILM-Kits_ILM-E85x23_Rev0011