



Motor Parameters ILM85x23



PERFORMANCE CHARACTERISTICS (INTERCONNECTION STAR-SERIAL)

Power P	[W]	460
Rated torque T_r	[Nm]	2.56
Peak torque T_{max} @ 20% linearity deviation	[Nm]	8.3
Rated voltage U_r	[V]	48
Rotation speed n_{max}^*	[rpm]	1730
Rated current I_r (phase current amplitude)	[A]	11.3
Copper losses $P_{L,r}$ @ T_r and 20°C	[W]	28.7
Torque constant k_T @ 20°C	[mNm/A]	229
Motor constant k_M @ 20°C	[Nm/√W]	0.48
Terminal resistance R_{TT} @ 20°C	[mΩ]	300
Terminal inductance L_{TT}	[μH]	930
Rotor inertia J	[kgcm ²]	0.98
Number of pole pairs	-	10
Max. efficiency η	%	92
Weight m	[g]	620

* 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]	1730	1300	870	520	430	320
delta-serial n_{max}^* [rpm]	2900	2180	1450	870	730	540
star-parallel n_{max}^* [rpm]	3460	2600	1730	1040	870	650
delta-parallel n_{max}^* [rpm]	5900	4430	2950	1770	1480	1110

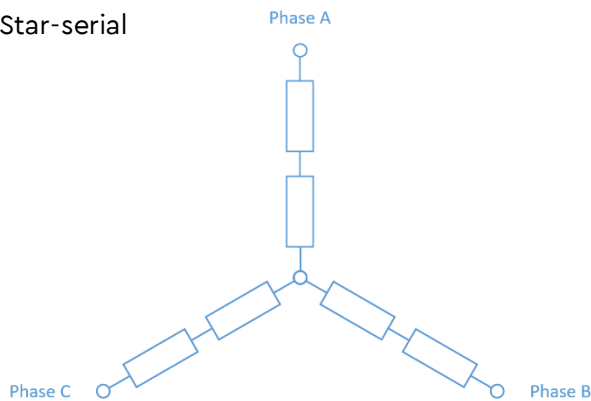
* Theoretical no-load rotation speeds at indicated voltage. Mechanical limits apply and must not be exceeded. Variations can arise from operation with different inverters.

CHARACTERISTICS INTERCONNECTION VARIANTS

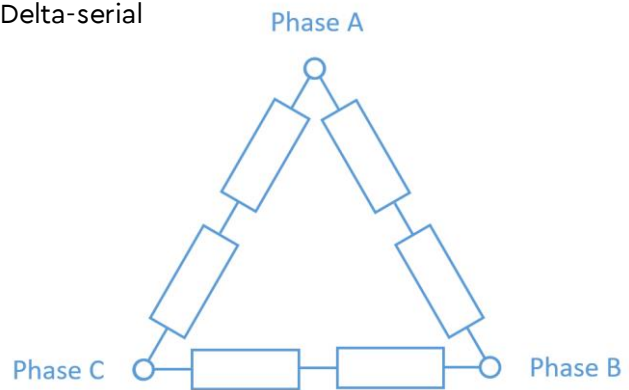
Interconnection	U_r [V]	I_r [A]	k_T [mNm/A]	R_{TT} [mΩ]	L_{TT} [μH]
star-serial	48	11.3	229	300	930
delta-serial	28	19.6	132	100	310
star-parallel	24	22.6	115	75	233
delta-parallel	14	39.1	66	25	78

AVAILABLE INTERCONNECTION VARIANTS

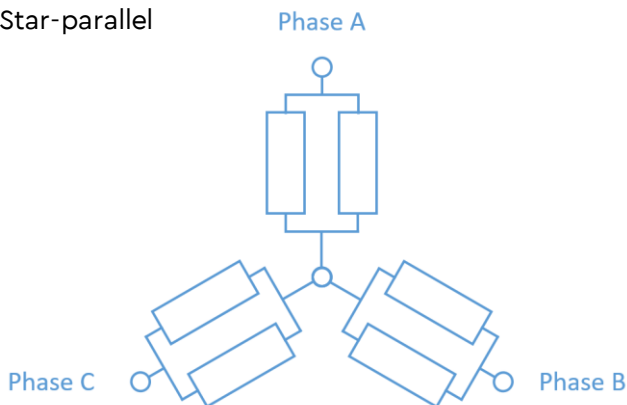
Star-serial



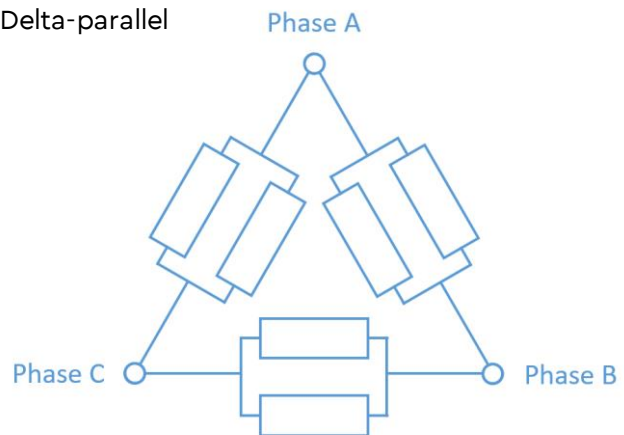
Delta-serial



Star-parallel

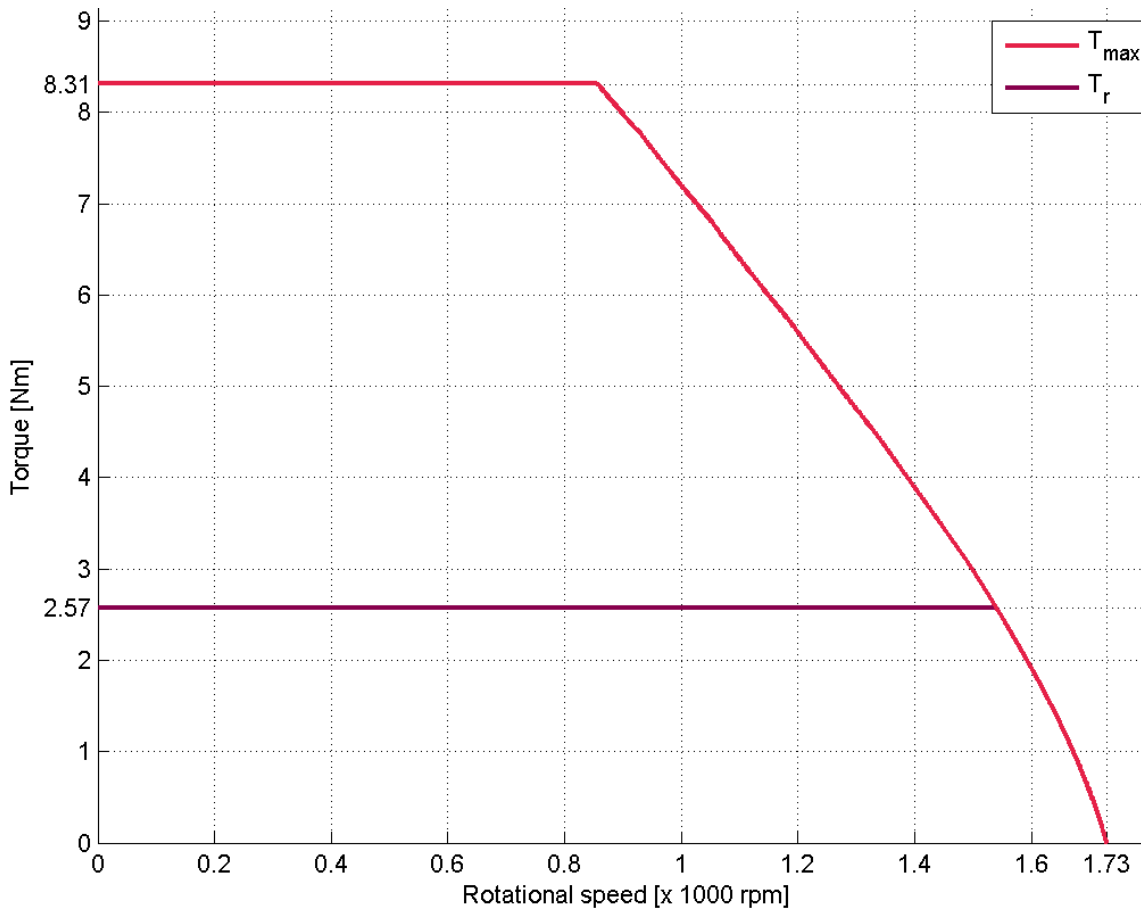


Delta-parallel

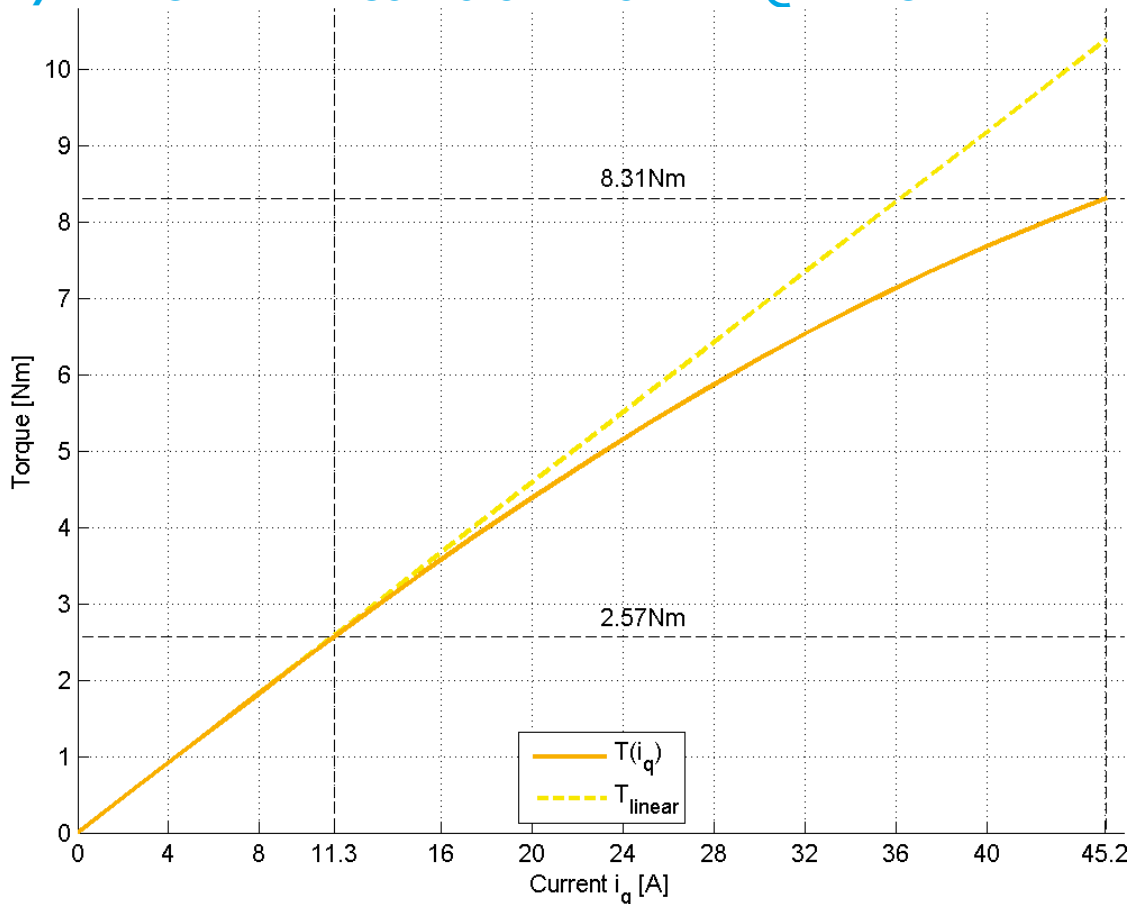


T/N-DIAGRAM ILM85X23 STAR-SERIAL @ 22 °C

Motor Parameters ILM85x23

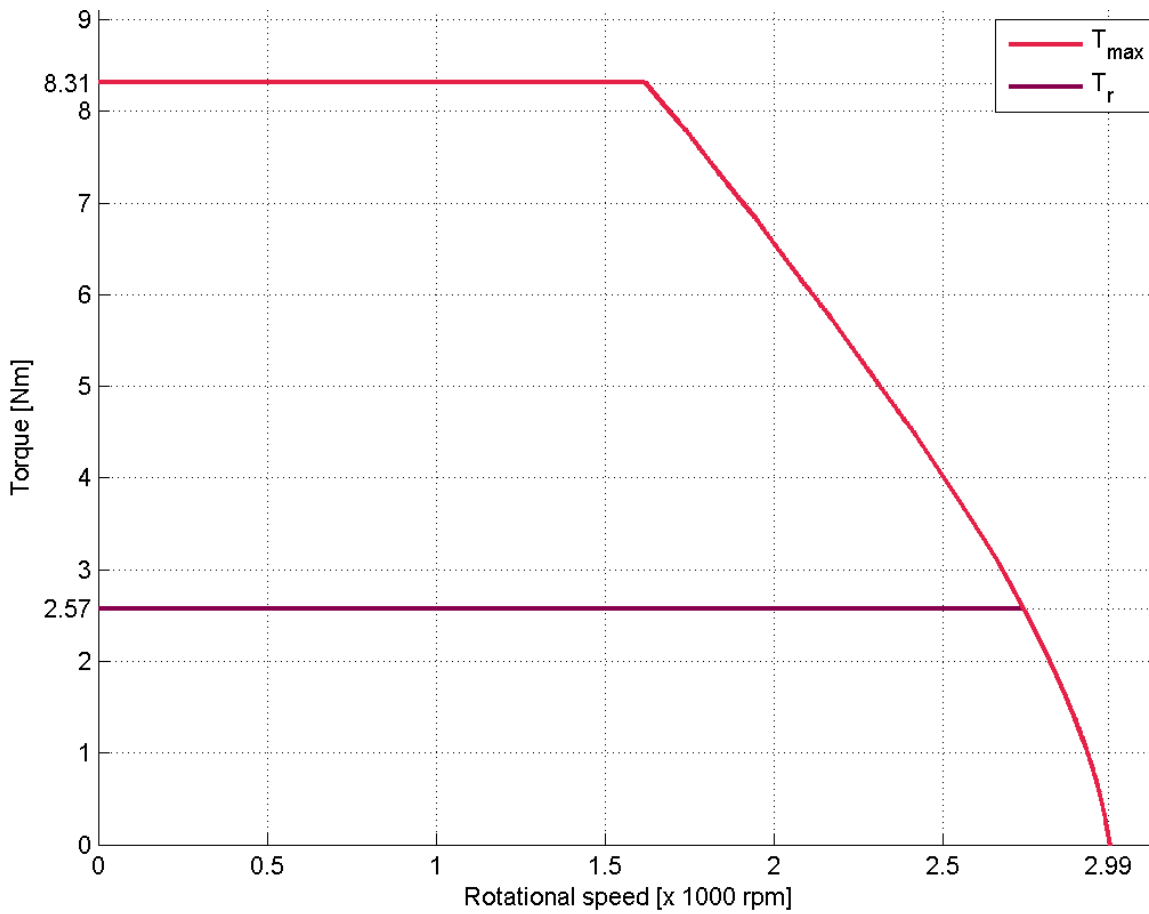


T/I-DIAGRAM ILM85X23 STAR-SERIAL @ 22 °C

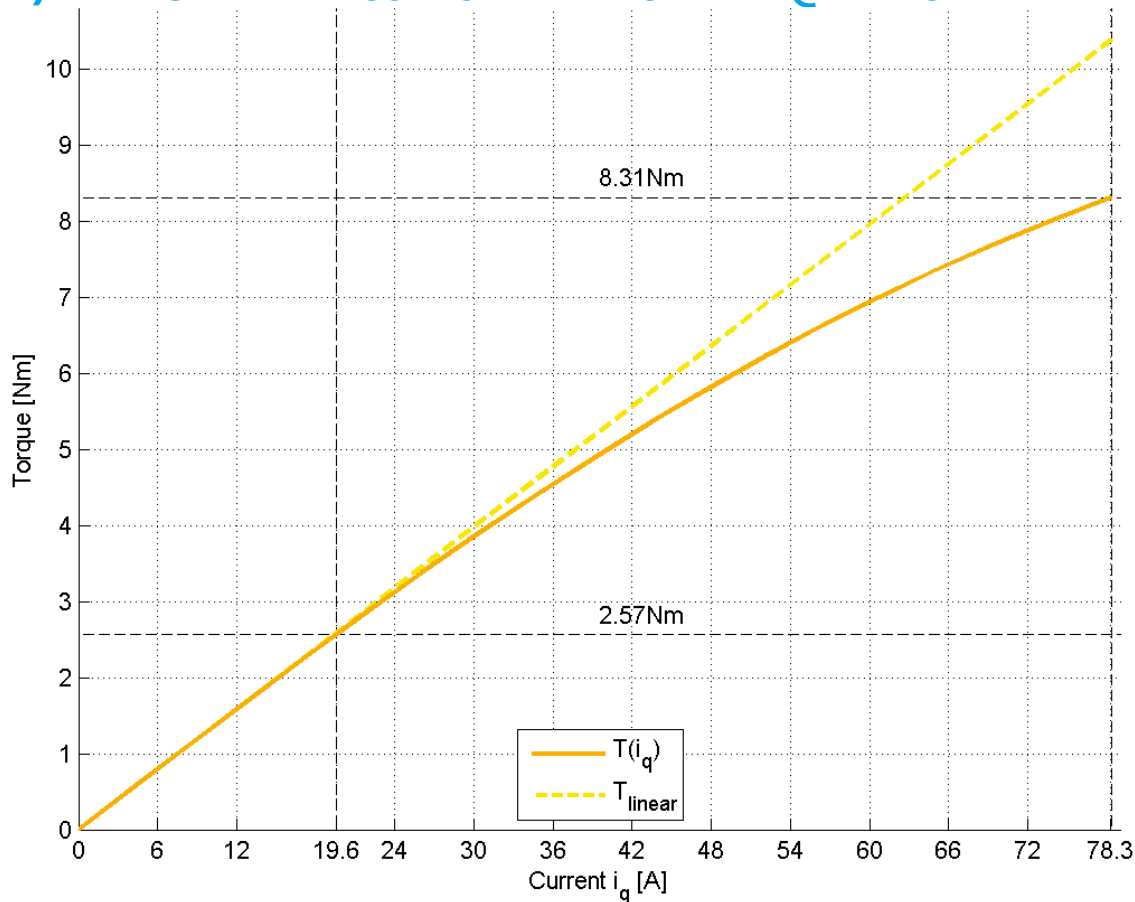


T/N-DIAGRAM ILM85X23 DELTA-SERIAL @ 22 °C

Motor Parameters ILM85x23

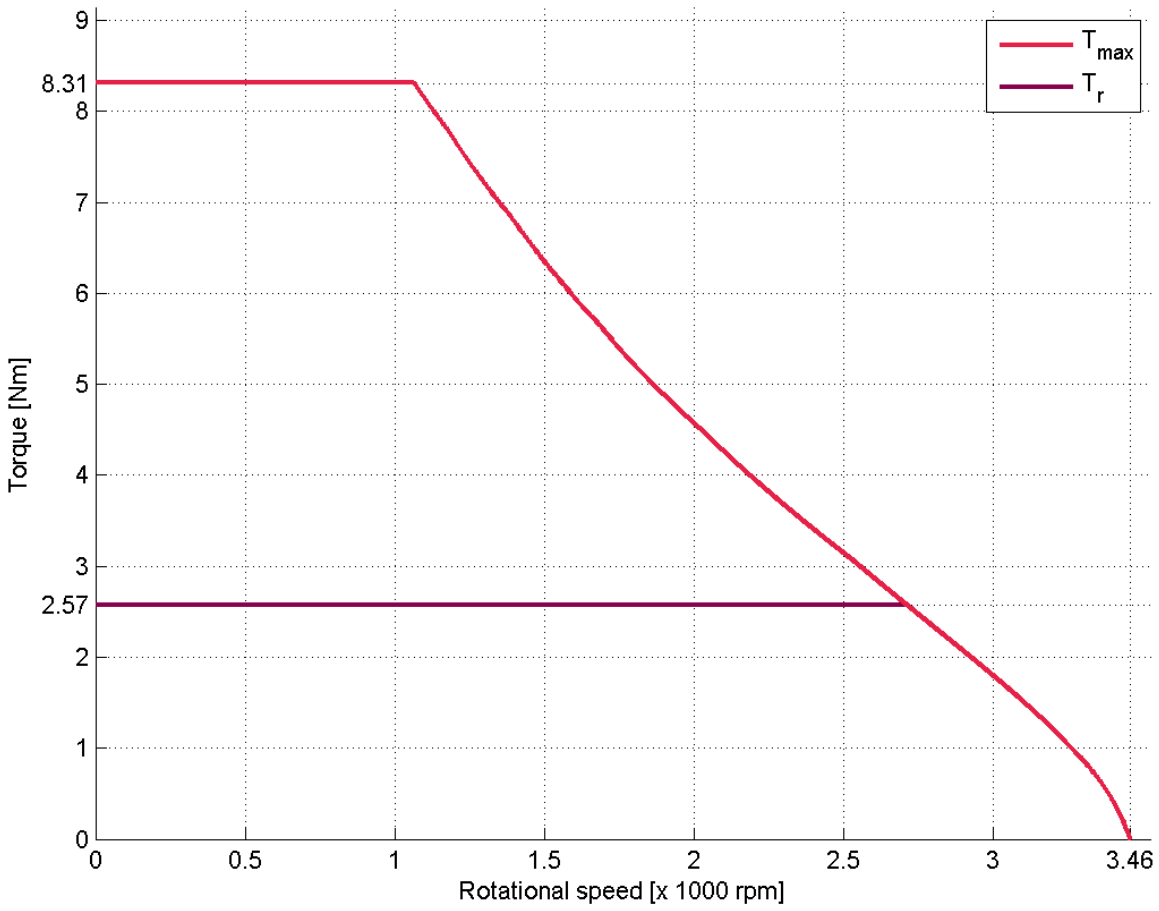


T/I-DIAGRAM ILM85X23 DELTA-SERIAL @ 22 °C

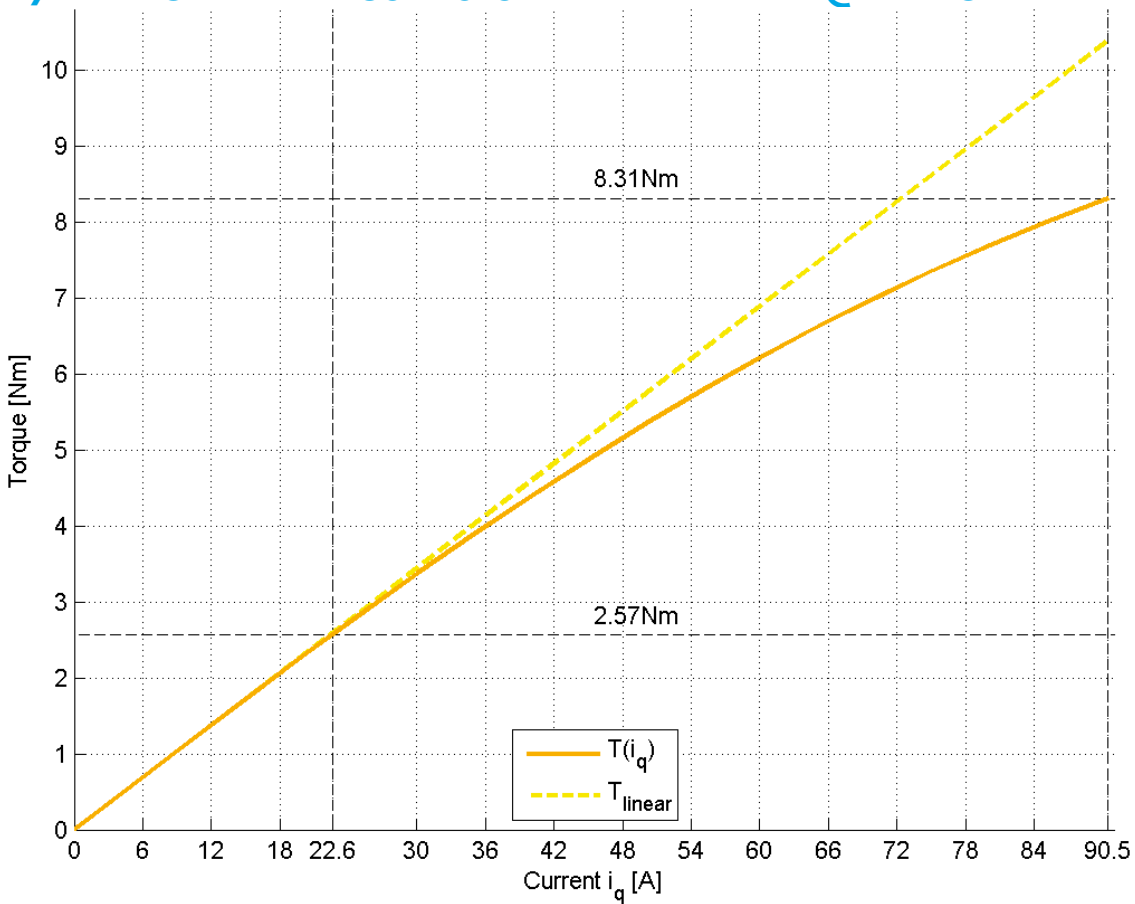


T/N-DIAGRAM ILM85X23 STAR-PARALLEL @ 22 °C

Motor Parameters ILM85x23

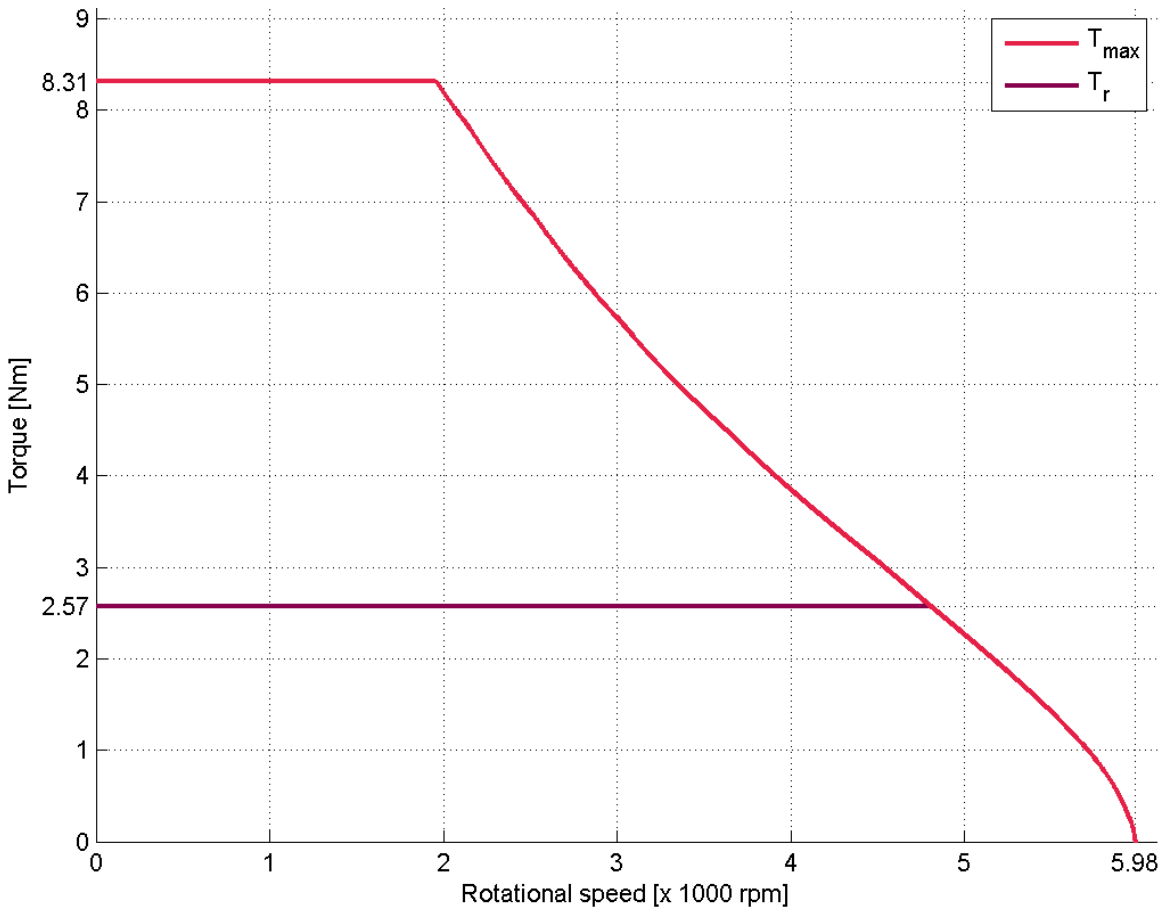


T/I-DIAGRAM ILM85X23 STAR-PARALLEL @ 22 °C

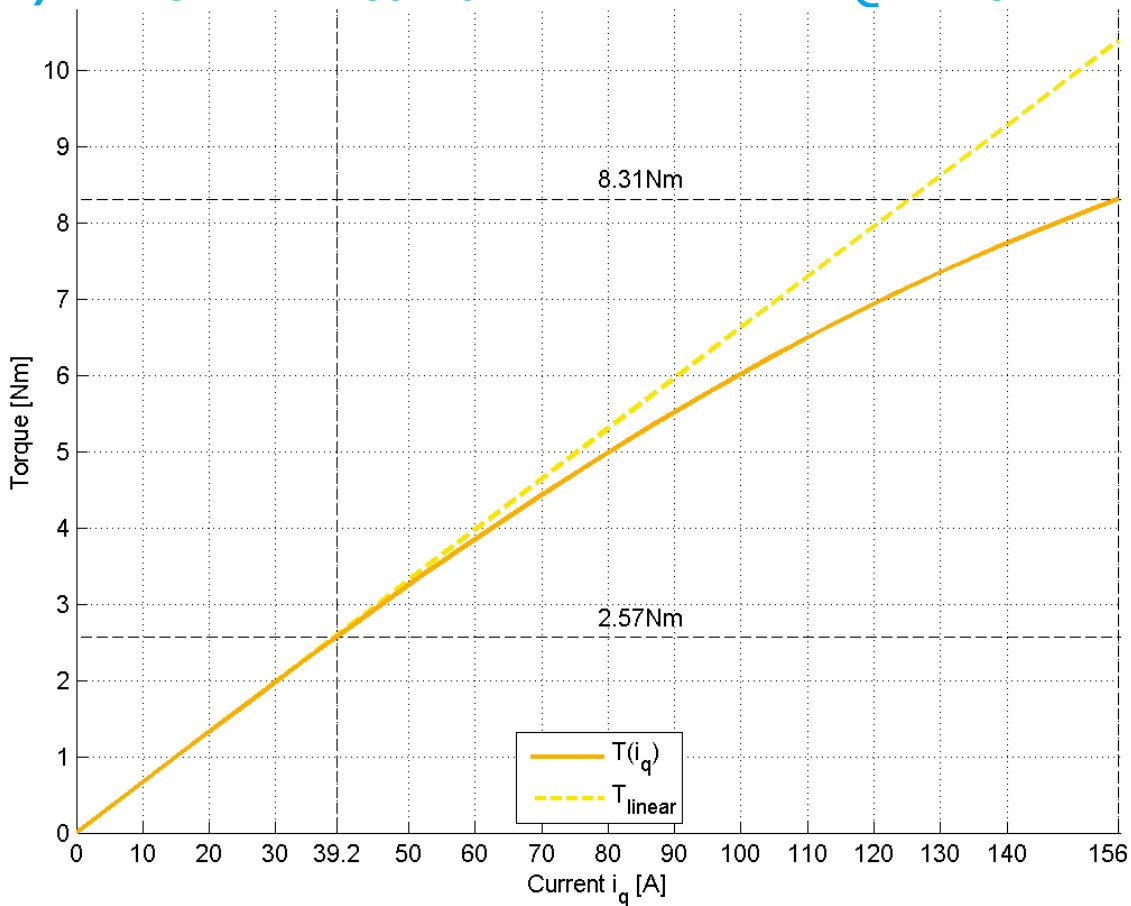


T/N-DIAGRAM ILM85X23 DELTA-PARALLEL @ 22 °C

Motor Parameters ILM85x23



T/I-DIAGRAM ILM85X23 DELTA-PARALLEL @ 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_ILM85x23_Rev200