



Motor Parameters ILM50x08



PERFORMANCE CHARACTERISTICS (INTERCONNECTION STAR-SERIAL)

Power P	[W]	210
Rated torque T_r	[Nm]	0.30
Peak torque T_{max} @ 20% linearity deviation	[Nm]	0.96
Rated voltage U_r	[V]	48
Rotation speed n_{max}^*	[rpm]	6850
Rated current I_r (phase current amplitude)	[A]	5.1
Copper losses $P_{L,r}$ @ T_r and 20°C	[W]	10.5
Torque constant k_T @ 20°C	[mNm/A]	58
Motor constant k_M @ 20°C	[Nm/ \sqrt{W}]	0.091
Terminal resistance R_{TT} @ 20°C	[m Ω]	540
Terminal inductance L_{TT}	[μ H]	490
Rotor inertia J	[kgcm ²]	0.054
Number of pole pairs	-	10
Max. efficiency η	%	88
Weight m	[g]	87

* 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]	6850	5140	3430	2060	1710	1280
delta-serial n_{max}^* [rpm]	11800	8850	5900	3540	2950	2210
star-parallel n_{max}^* [rpm]	13700**	10280	6850	4110	3430	2570
delta-parallel n_{max}^* [rpm]	23700**	17780**	11850	7110	5930	4440

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

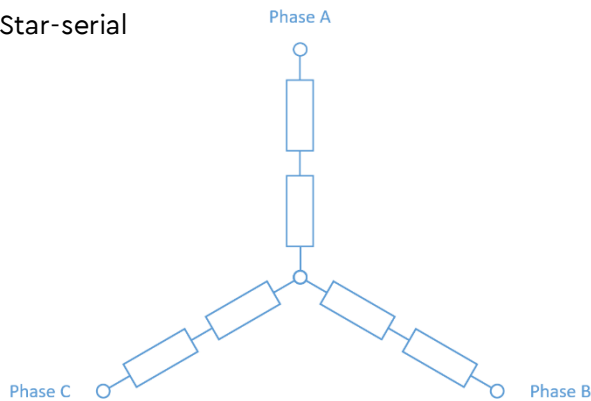
** $n_{max, mech} = 12000$ rpm must not be exceeded.

CHARACTERISTICS INTERCONNECTION VARIANTS

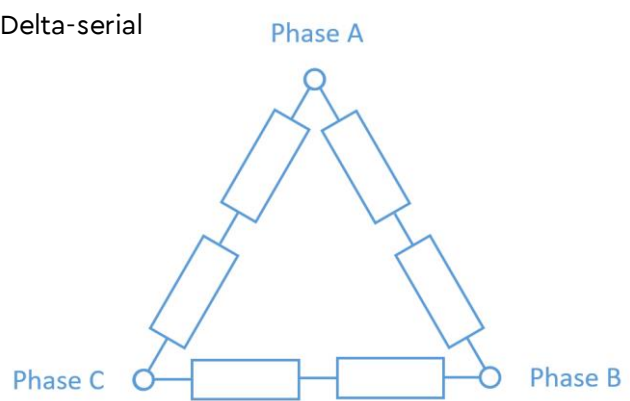
Interconnection	U_r [V]	I_r [A]	k_T [mNm/A]	R_{TT} [mΩ]	L_{TT} [μH]
star-serial	48	5.1	58	540	490
delta-serial	28	8.8	33	180	163
star-parallel	24	10.2	29	135	123
delta-parallel	14	17.7	17	45	41

AVAILABLE INTERCONNECTION VARIANTS

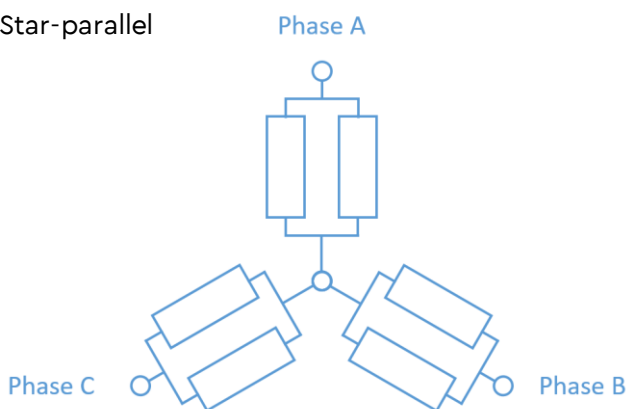
Star-serial



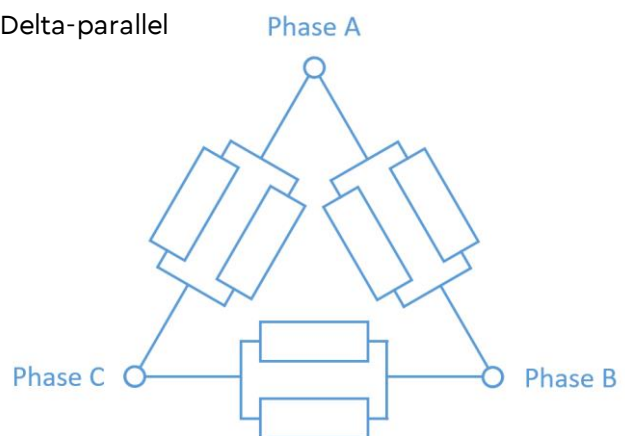
Delta-serial



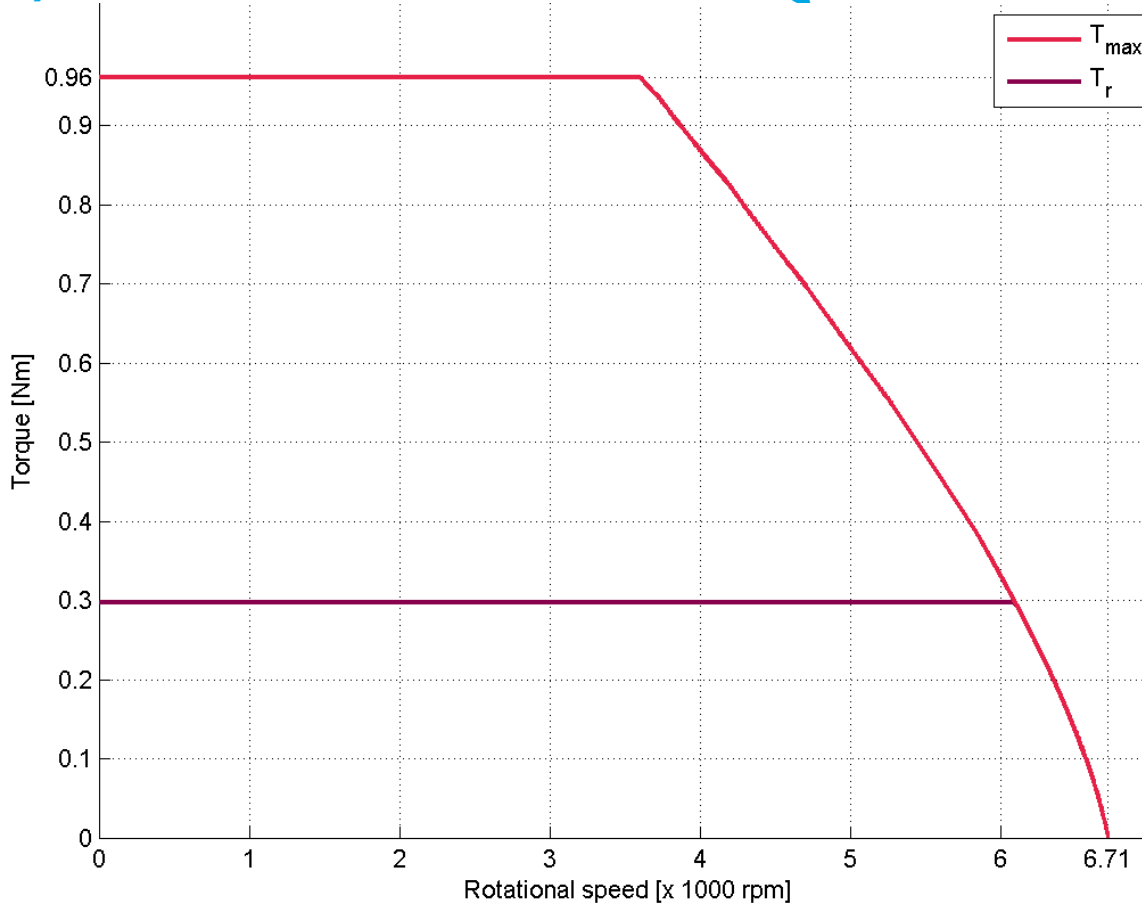
Star-parallel



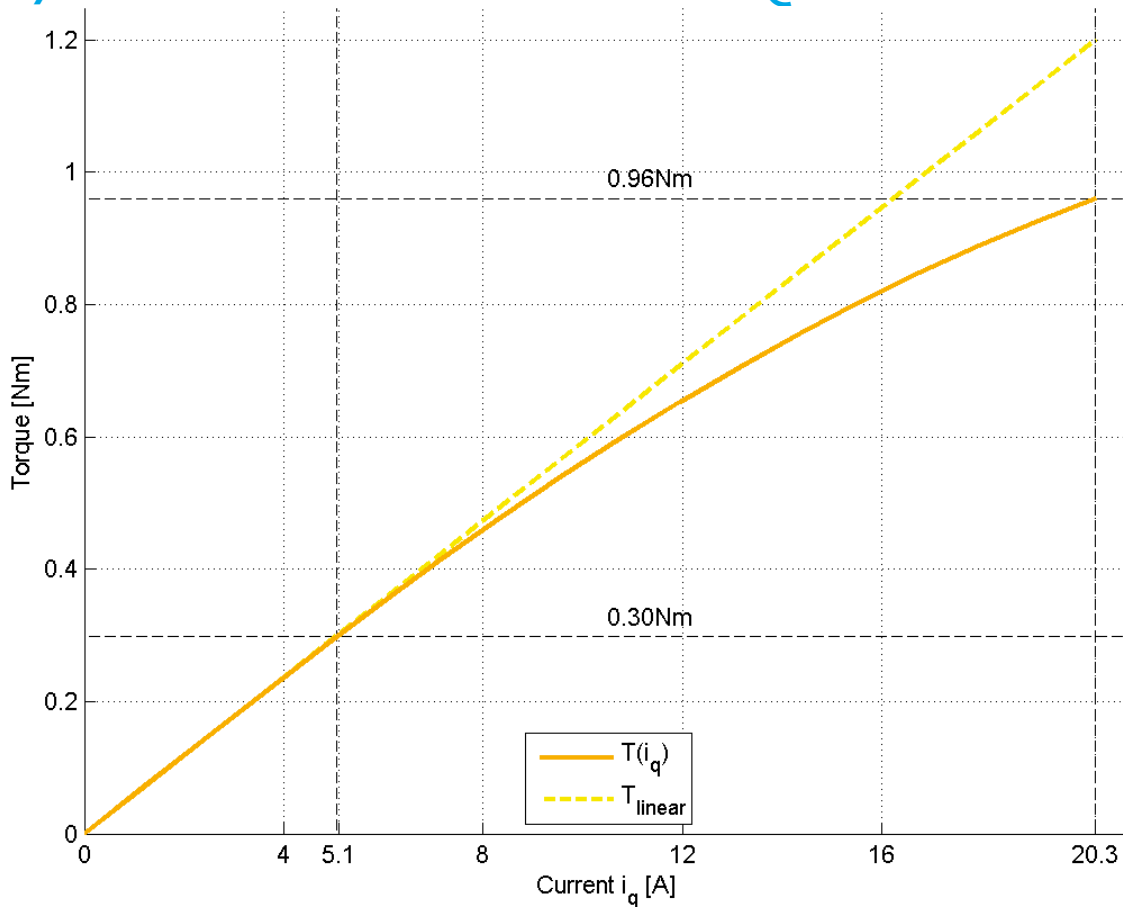
Delta-parallel



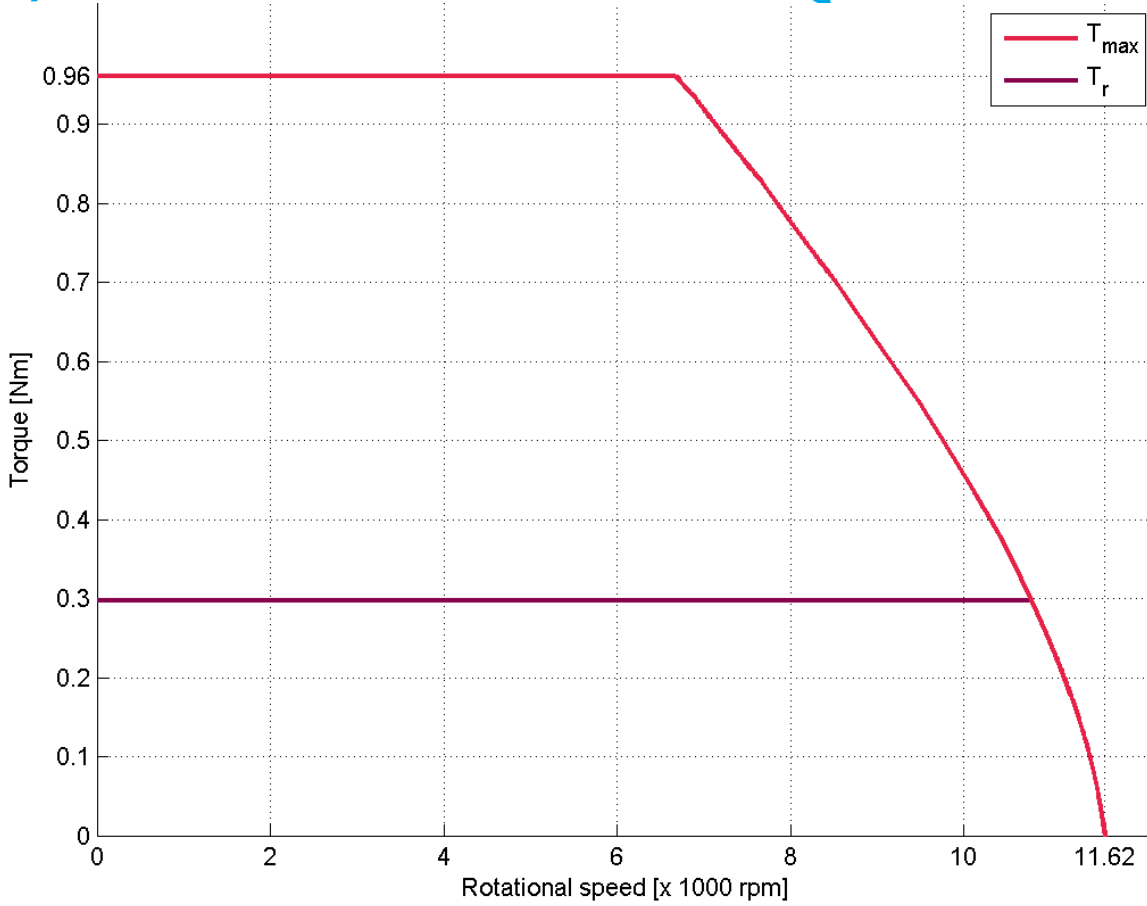
T/N-DIAGRAM ILM50X08 STAR-SERIAL @ 22 °C



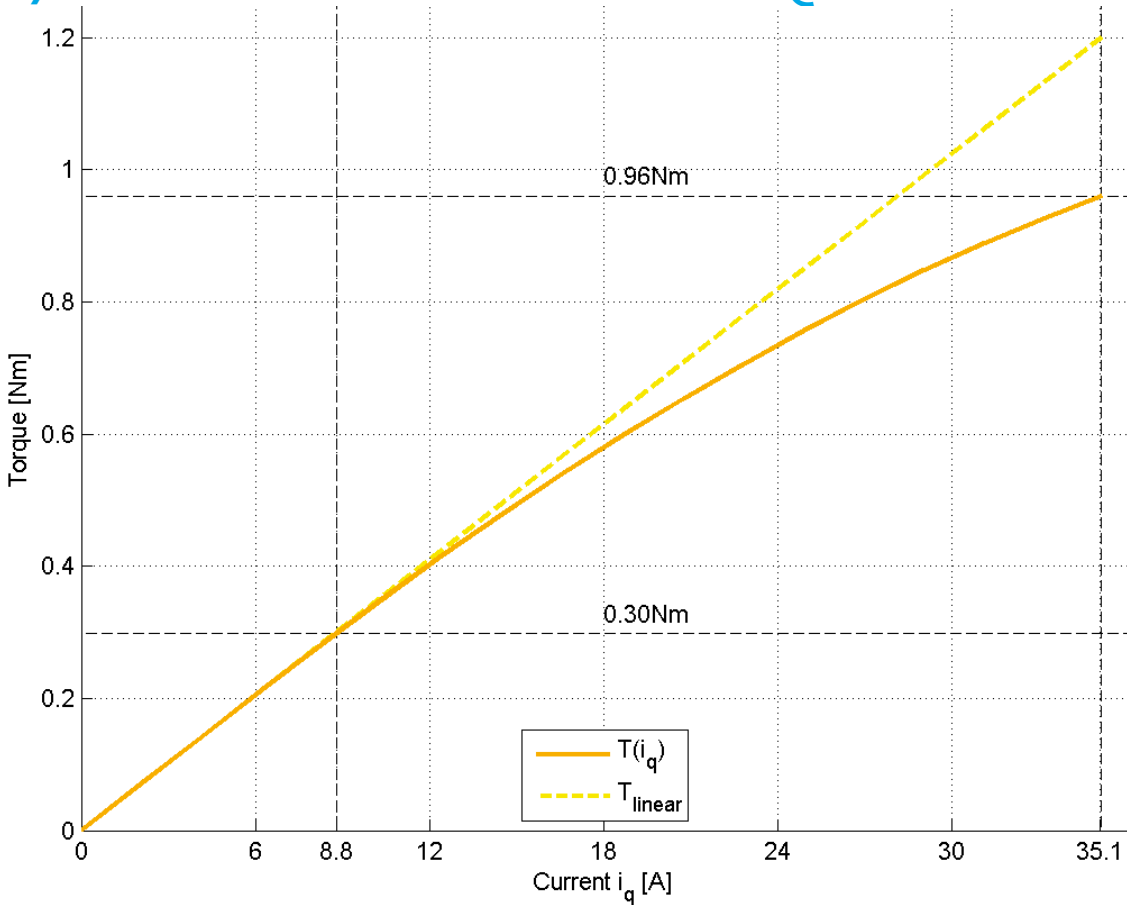
T/I-DIAGRAM ILM50X08 STAR-SERIAL @ 22 °C



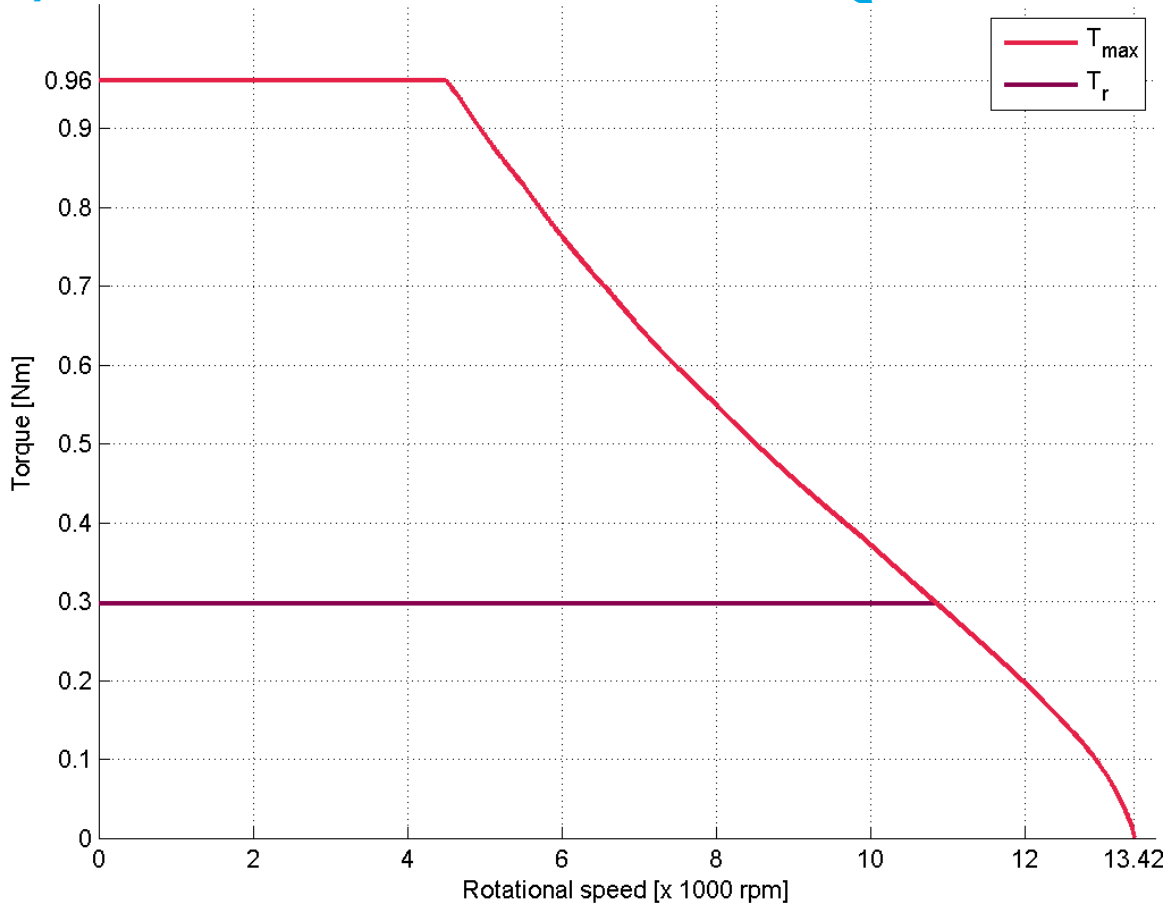
T/N-DIAGRAM ILM50X08 DELTA-SERIAL @ 22 °C



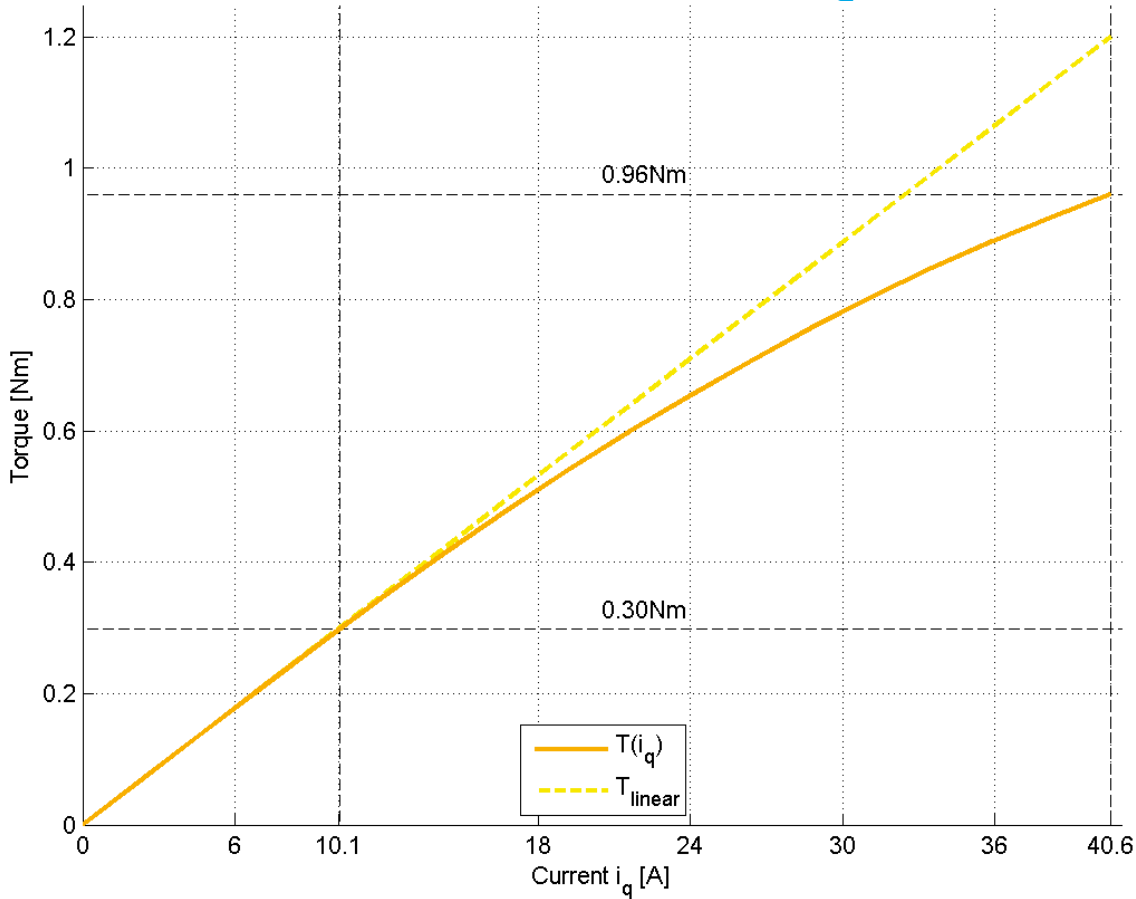
T/I-DIAGRAM ILM50X08 DELTA-SERIAL @ 22 °C



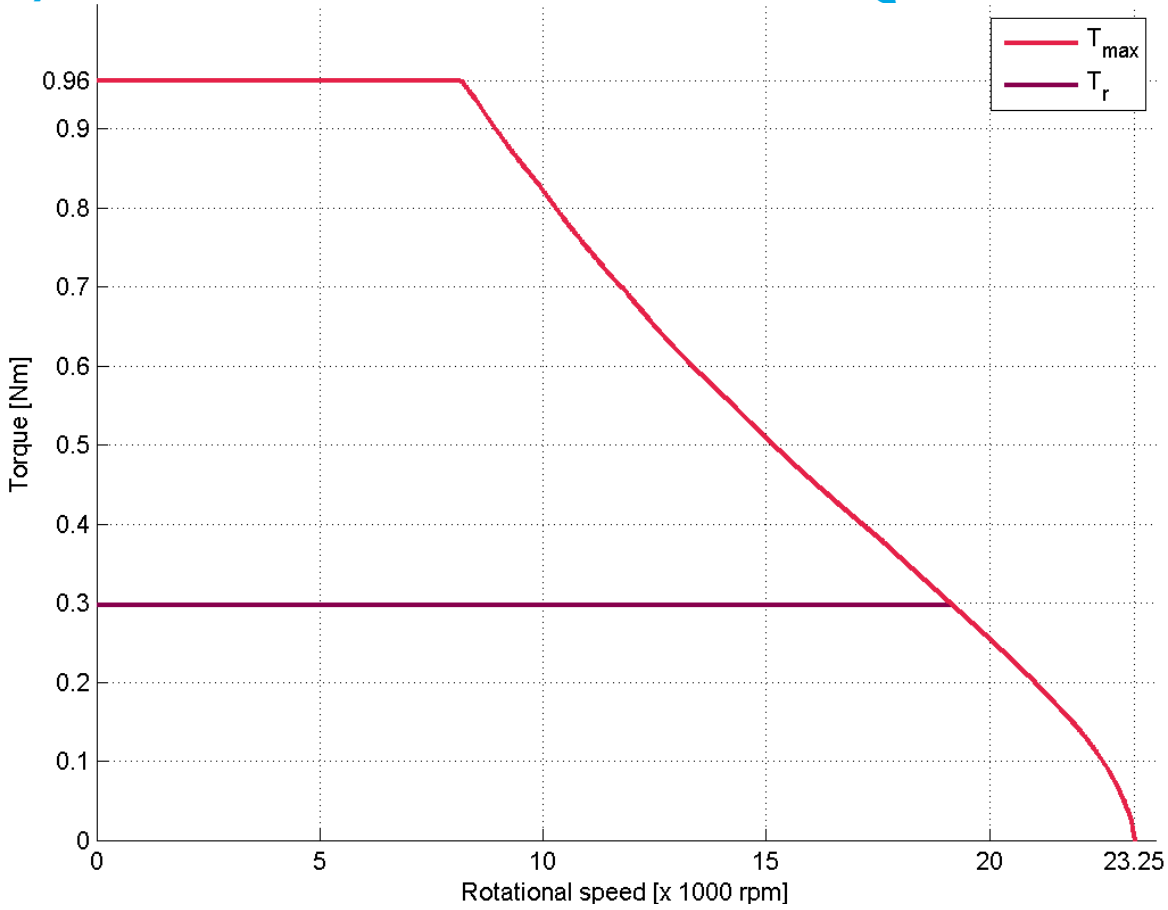
T/N-DIAGRAM ILM50X08 STAR-PARALLEL @ 22 °C



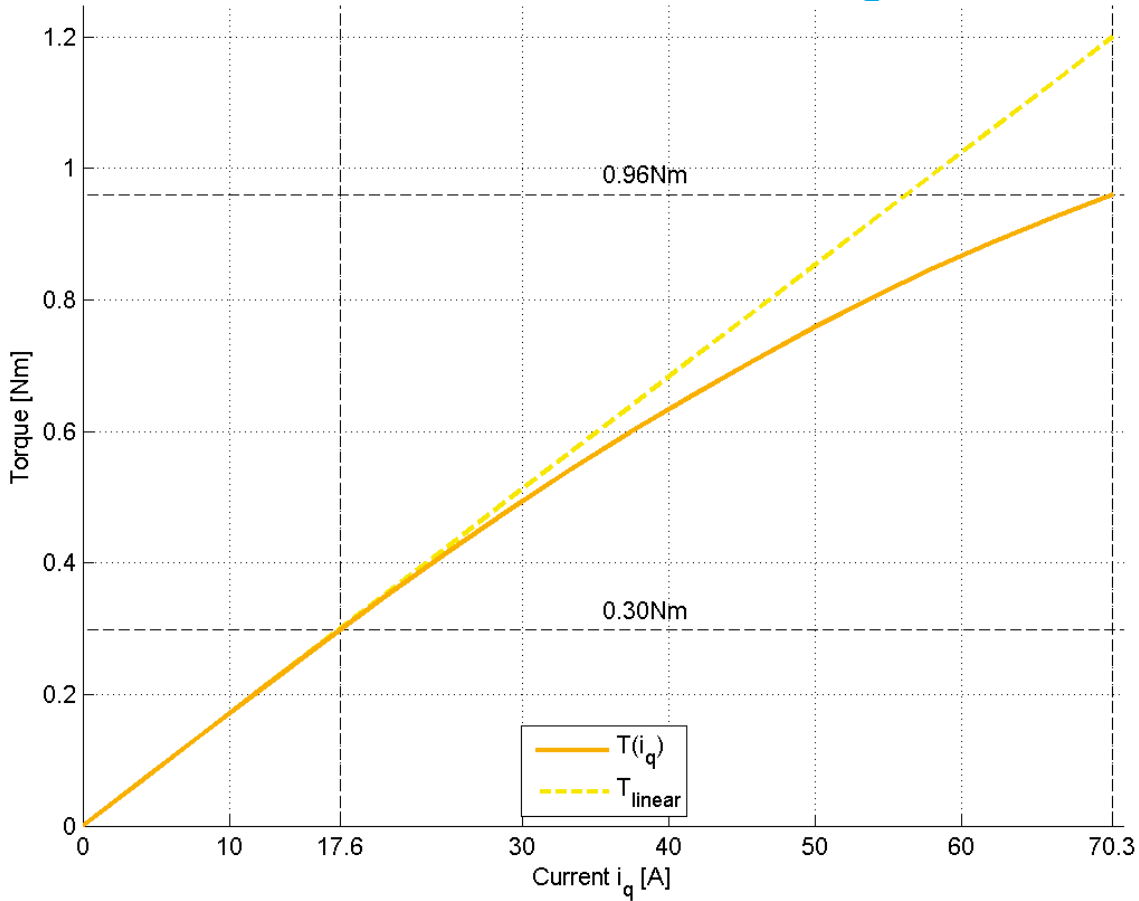
T/I-DIAGRAM ILM50X08 STAR-PARALLEL @ 22 °C



T/N-DIAGRAM ILM50X08 DELTA-PARALLEL @ 22 °C



T/I-DIAGRAM ILM50X08 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_ILM50x08_Rev200