

Motor Parameters ILM25x04



PERFORMANCE CHARACTERISTICS (INTERCONNECTION STAR-SERIAL)

Power P	[W]	77
Rated torque T_r	[Nm]	0.033
Peak torque T_{max} @ 20% linearity deviation	[Nm]	0.106
Rated voltage U_r	[V]	24
Rotation speed n_{max}^*	[rpm]	22378
Rated current I_r (phase current amplitude)	[A]	3.72
Copper losses $P_{L,r}$ @ T_r and 20°C	[W]	5.5
Torque constant k_T @ 20°C	[mNm/A]	8.8
Motor constant k_M @ 20°C	[Nm/√W]	0.0139
Terminal resistance R_{TT} @ 20°C	[mΩ]	530
Terminal inductance L_{TT}	[μH]	180
Rotor inertia J	[kgcm ²]	0.00147
Number of pole pairs	-	7
Max. efficiency η	%	87
Weight m	[g]	16

* 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]	44757**	33568**	22378	13427	11189	8392
star-parallel n_{max}^* [rpm]	89514**	67136**	44757**	26854**	22379	16784

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

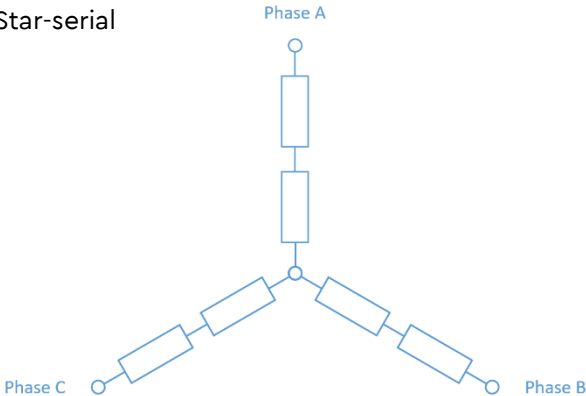
** $n_{max, mech} = 24000$ rpm must not be exceeded.

CHARACTERISTICS INTERCONNECTION VARIANTS

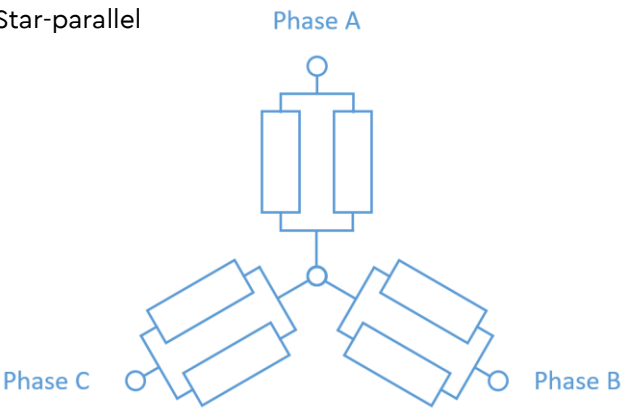
Interconnection	U_r [V]	I_r [A]	k_T [mNm/A]	R_{TT} [mΩ]	L_{TT} [μH]
star-serial	24	3.7	8.8	530	180
star-parallel	12	7.4	4.4	133	45

AVAILABLE INTERCONNECTION VARIANTS

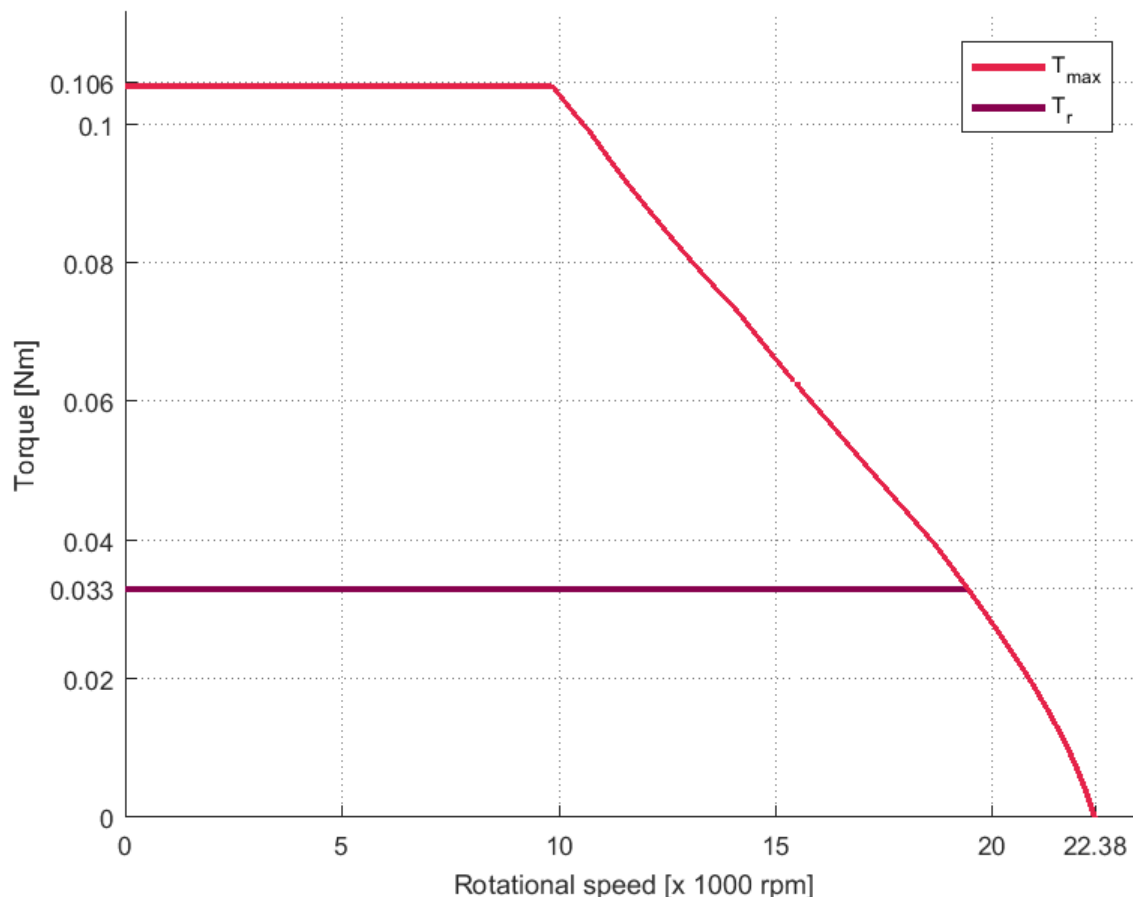
Star-serial



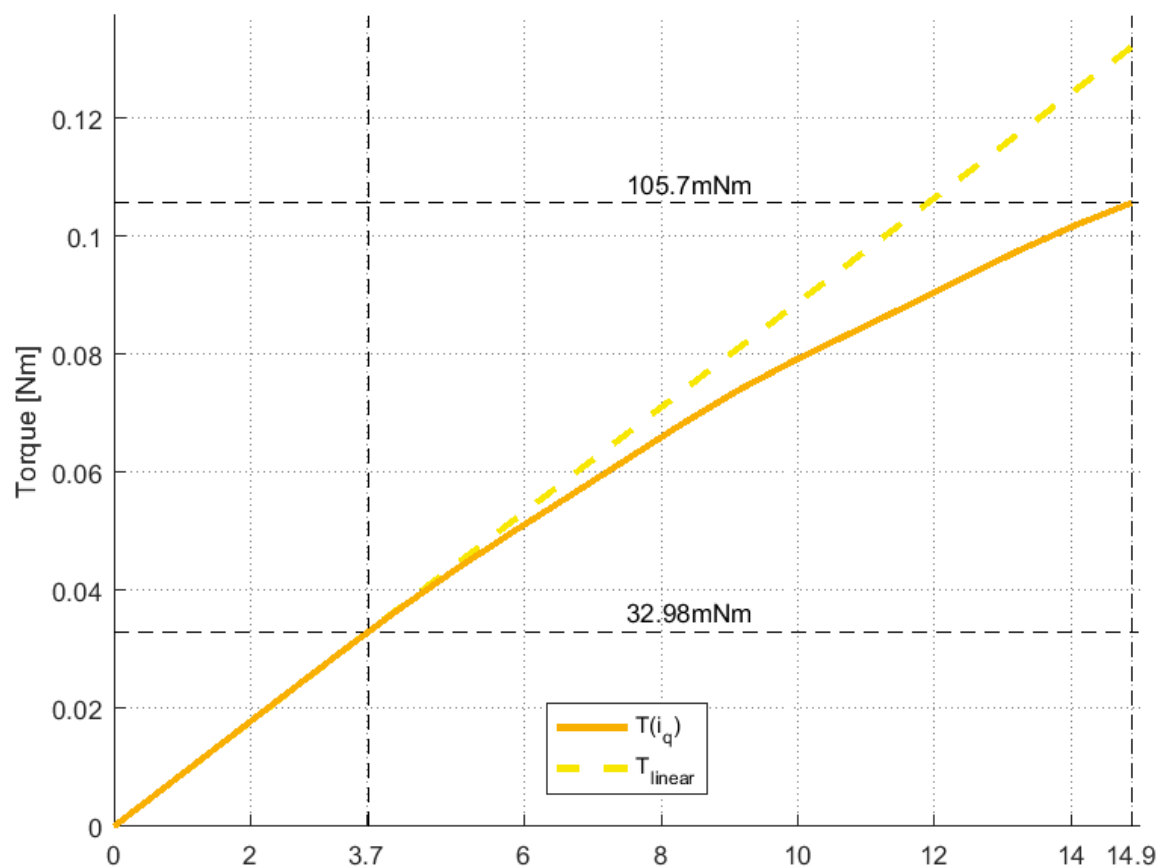
Star-parallel



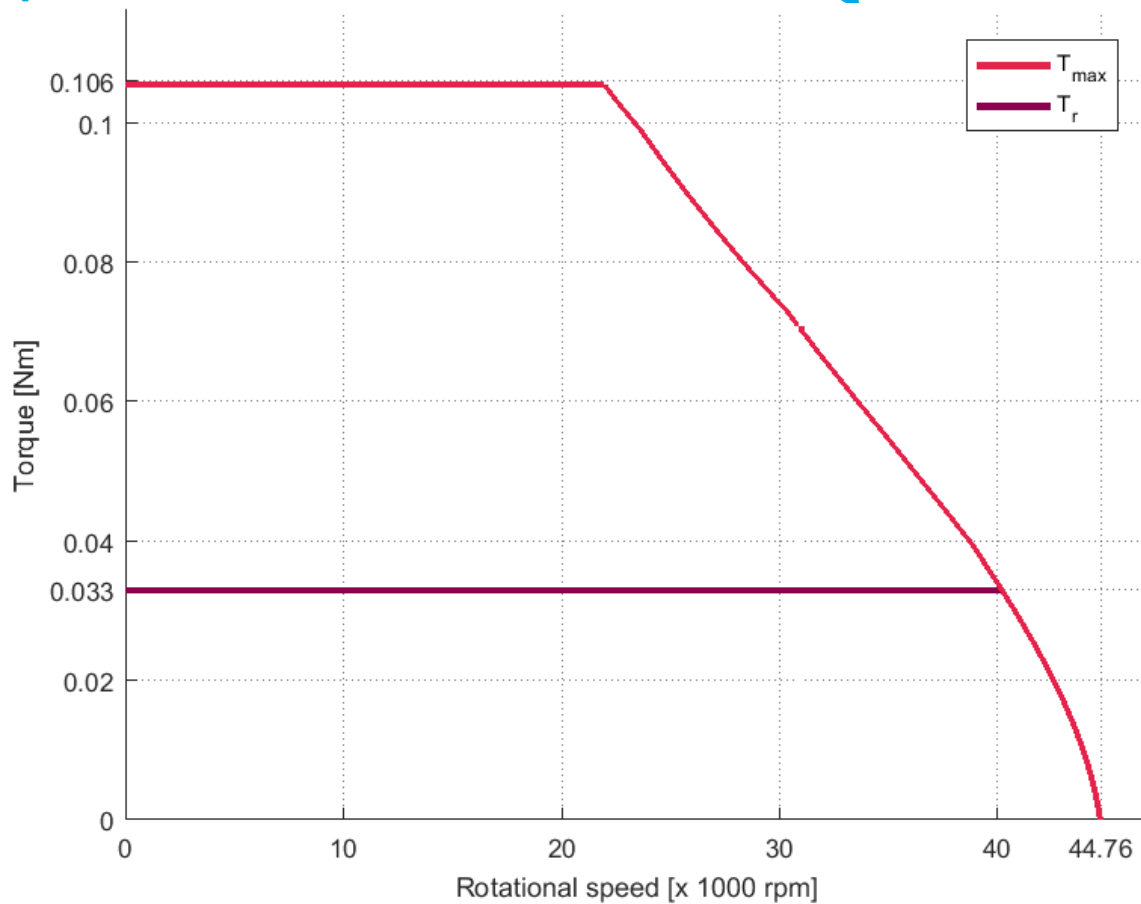
T/N-DIAGRAM ILM25X04 STAR-SERIAL @ 22 °C



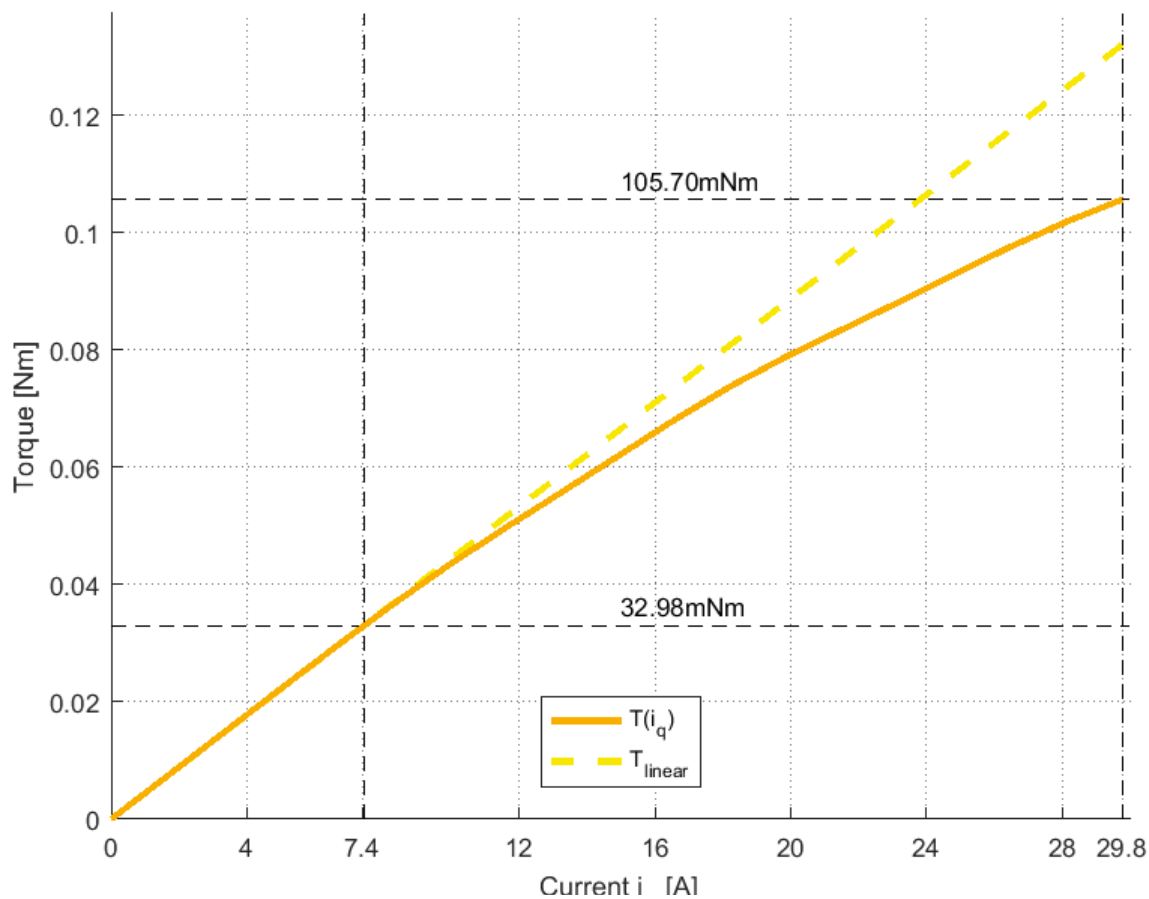
T/I-DIAGRAM ILM25X04 STAR-SERIAL @ 22 °C



T/N-DIAGRAM ILM25X04 STAR-PARALLEL @ 22 °C



T/I-DIAGRAM ILM25X04 STAR-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