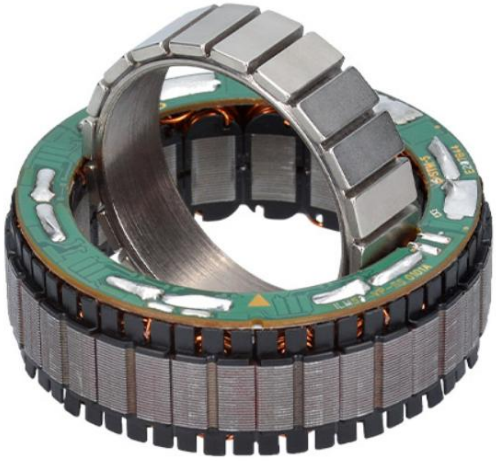
Motor Parameters ILM-E50x08



PERFORMANCE CHARACTERISTICS

(INTERCONNECTION STAR-SERIAL)

Power P	[W]	215
Rated torque T_r	[Nm]	0.32
Peak torque T_{max} @ 20% linearity deviation	[Nm]	1.03
Rated voltage U_r	[V]	48
Rotation speed n_{max}*	[rpm]	6422
Rated current I_r (phase current amplitude)	[A]	5.2
Copper losses $P_{L,r}$ @ T_r and 20°C	[W]	12.2
Torque constant k_T @ 20°C	[mNm/A]	62
Motor constant k_M @ 20°C	[Nm/√W]	0.092
Terminal resistance R_{TT} @ 20°C	[mΩ]	604
Terminal inductance L_{TT}	[µH]	477
Rotor inertia J	[kgcm²]	0.056
Number of pole pairs	-	10
Max. efficiency η	%	85
Weight m	[g]	76
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]	6422	4816	3211	1926	1605	1204
Delta-serial n_{max}* [rpm]	11123	8342	5562	3337	2781	2086
Star-parallel n_{max}* [rpm]	12844	9633	6422	3853	3211	2408

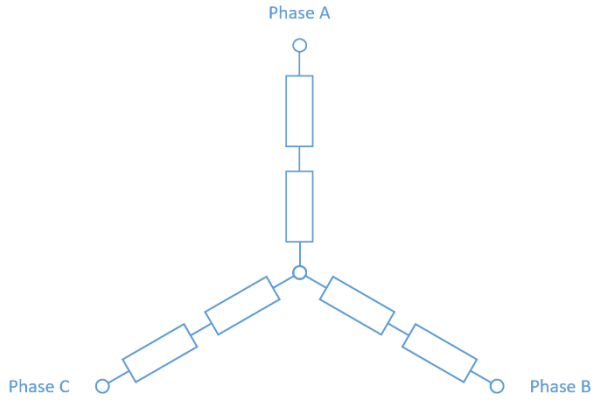
* Theoretical no-load rotation speeds at indicated voltage. Mechanical limits apply and must not be exceeded. Variations can arise from operation with different inverters.

CHARACTERISTICS INTERCONNECTION VARIANTS

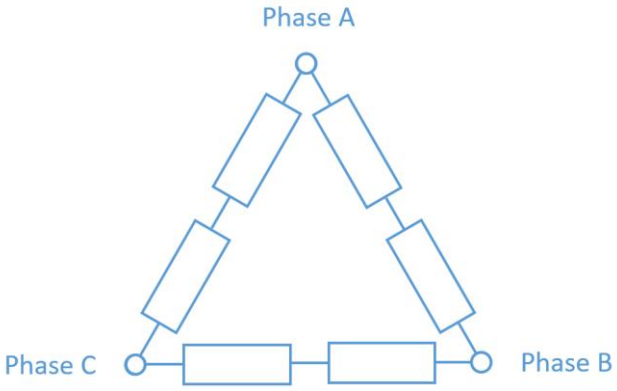
Interconnection	U_r [V]	I_r [A]	k_T [mNm/A]	R_{TT} [mΩ]	L_{TT} [µH]
Star-serial	48	5.19	62	604	477
Delta-serial	28	9.00	36	201	159
Star-parallel	24	10.4	31	151	119

AVAILABLE INTERCONNECTION VARIANTS

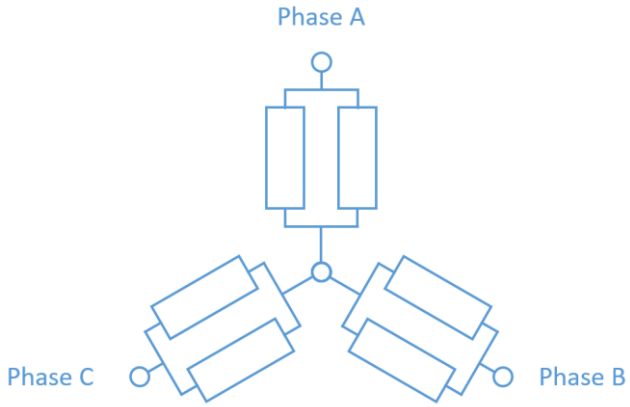
Star-serial



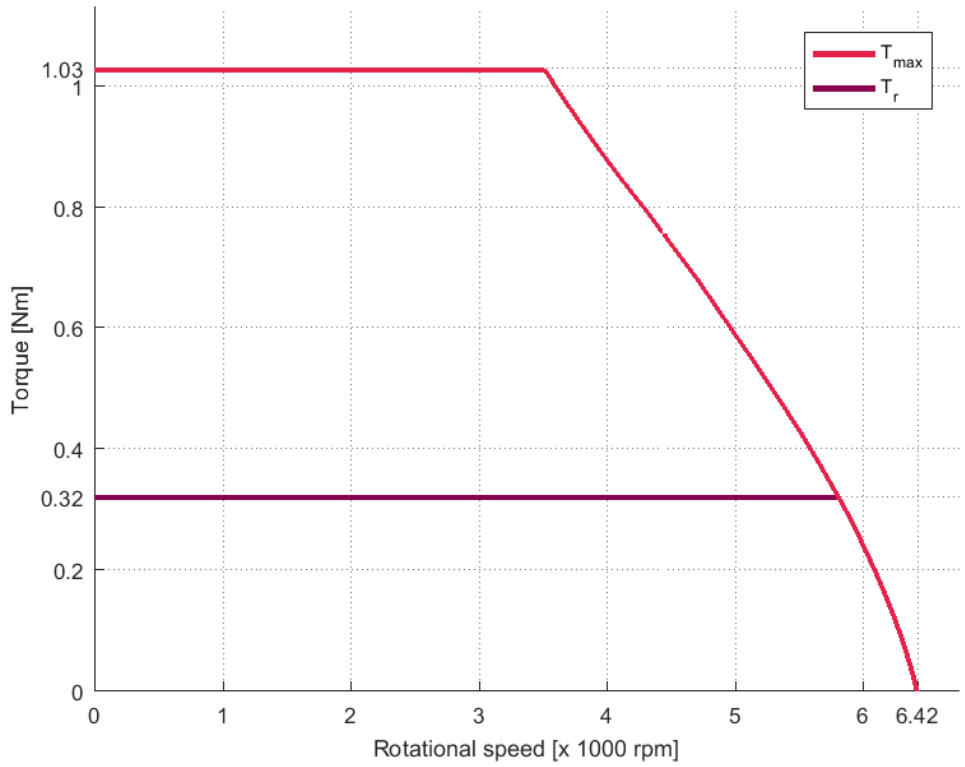
Delta-serial



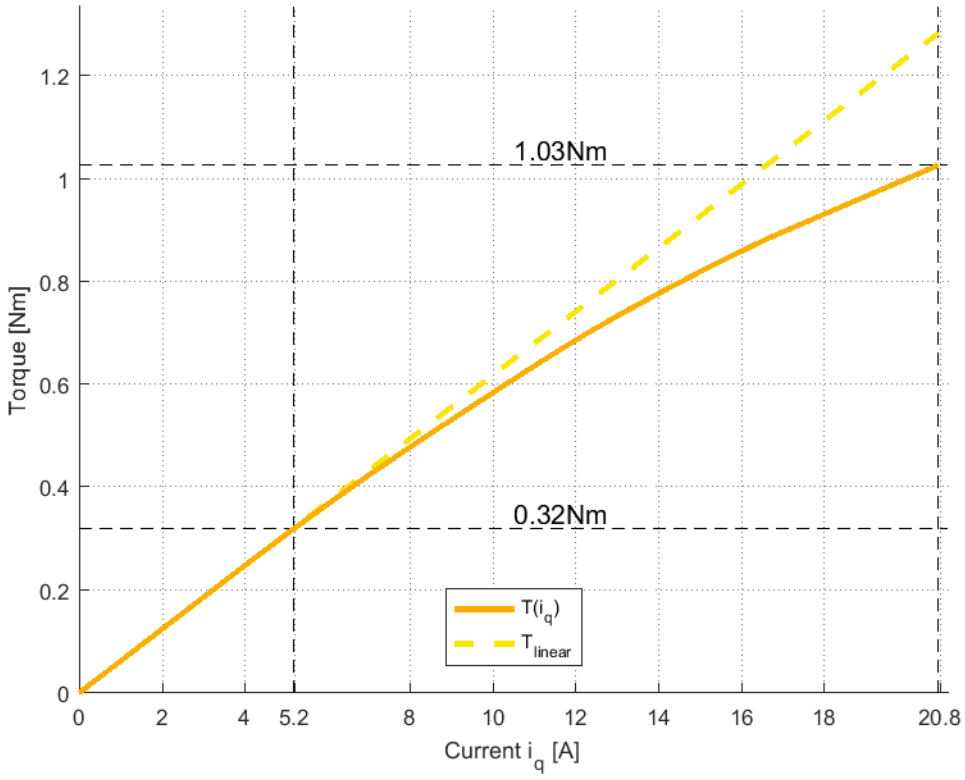
Star-parallel



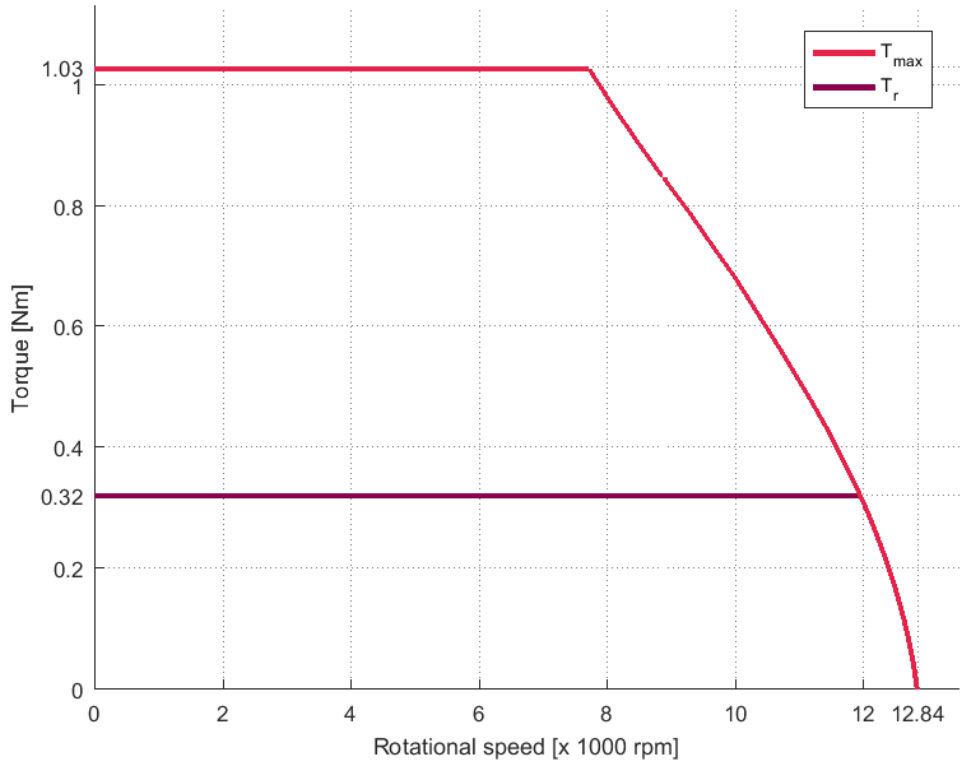
T/N-DIAGRAM ILM-E50X08 STAR-SERIAL @ 22 °C



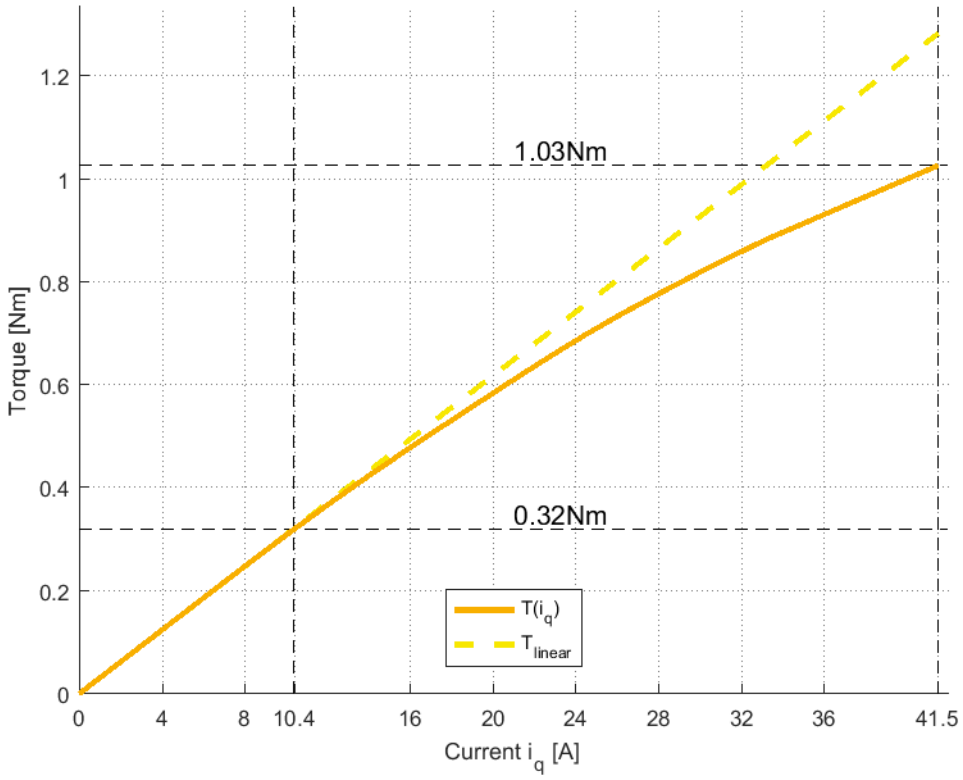
T/I-DIAGRAM ILM-E50X08 STAR-SERIAL @ 22 °C



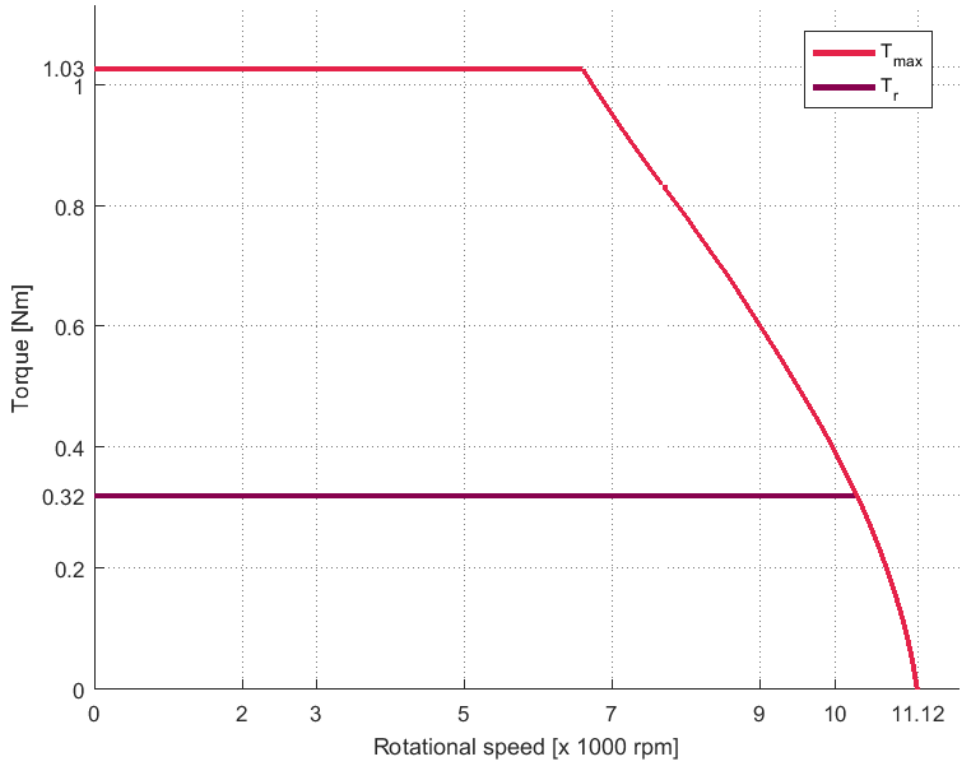
T/N-DIAGRAM ILM-E50X08 STAR-PARALLEL @ 22 °C



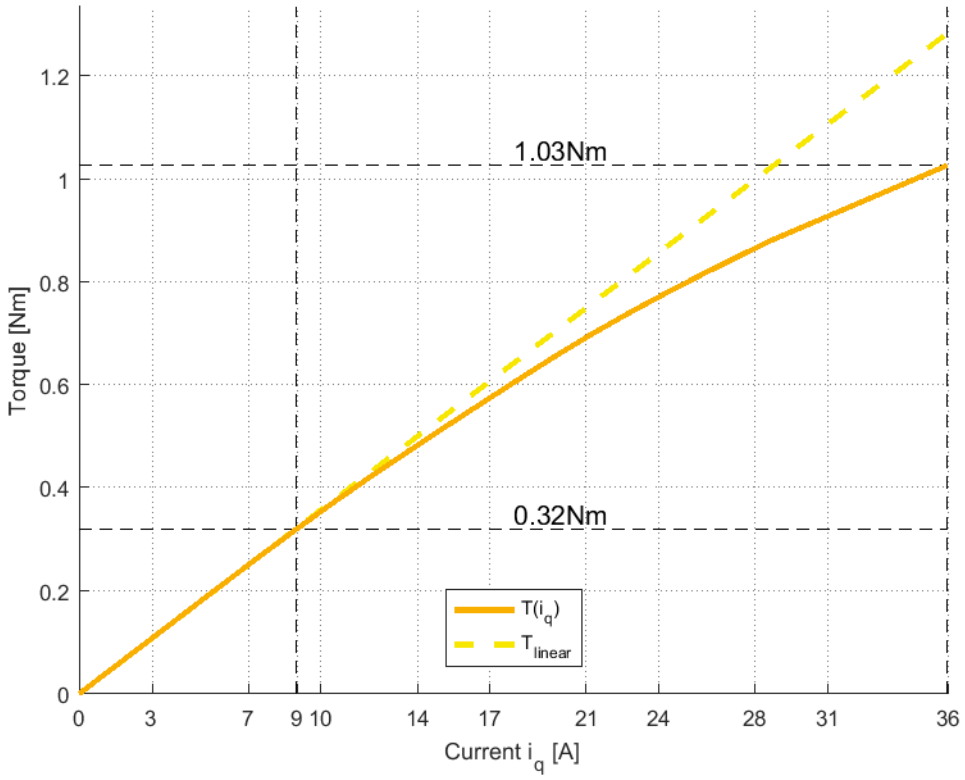
T/I-DIAGRAM ILM-E50X08 STAR-PARALLEL @ 22 °C



T/N-DIAGRAM ILM-E50X08 DELTA-SERIAL @ 22 °C



T/I-DIAGRAM ILM-E50X08 DELTA-SERIAL @ 22 °C



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