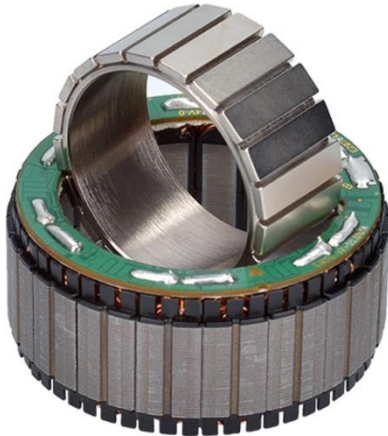




Motor Parameters ILM-E50x14



PERFORMANCE CHARACTERISTICS

(INTERCONNECTION STAR-SERIAL)

Power P	[W]	209
Rated torque T_r	[Nm]	0.53
Peak torque T_{max} @ 20% linearity deviation	[Nm]	1.72
Rated voltage U_r	[V]	48
Rotation speed n_{max} *	[rpm]	3768
Rated current I_r (phase current amplitude)	[A]	5.1
Copper losses $P_{L,r}$ @ T_r and 20°C	[W]	16.4
Torque constant k_T @ 20°C	[mNm/A]	105
Motor constant k_M @ 20°C	[Nm/√W]	0.13
Terminal resistance R_{TT} @ 20°C	[mΩ]	841
Terminal inductance L_{TT}	[μH]	802
Rotor inertia J	[kgcm ²]	0.093
Number of pole pairs	-	10
Max. efficiency η	%	-
Weight m	[g]	134.75
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]	3768	2826	1884	1130	942	707
Delta-serial n_{max}^* [rpm]	6526	4895	3263	1958	1632	1224
Star-parallel n_{max}^* [rpm]	7536	5652	3768	2261	1884	1413

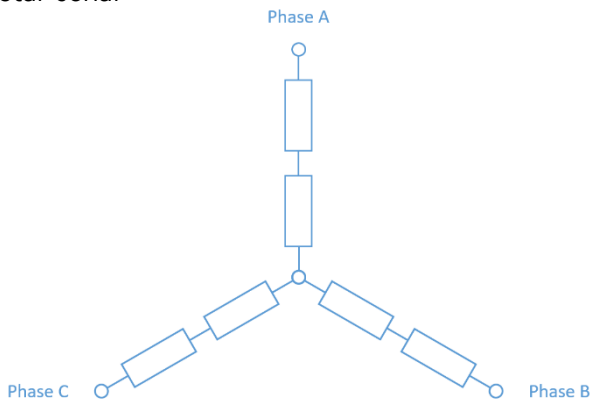
* Theoretical no-load rotation speeds at indicated voltage. Mechanical limits apply and must not be exceeded. Variations can arise from operation with different inverters.

CHARACTERISTICS INTERCONNECTION VARIANTS

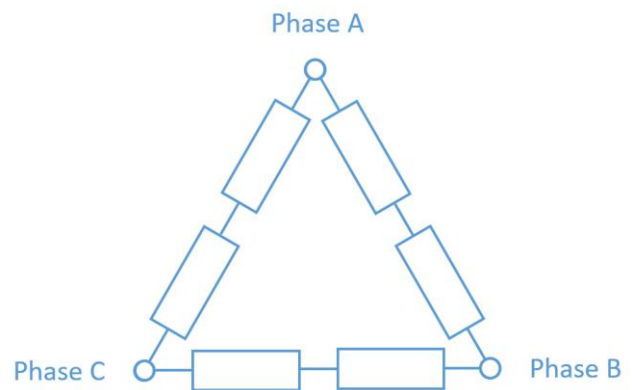
Interconnection	U_r [V]	I_r [A]	k_T [mNm/A]	R_{TT} [mΩ]	L_{TT} [μH]
Star-serial	48	5.10	105	841	802
Delta-serial	28	8.84	61	280	267
Star-parallel	24	10.2	53	210	201

AVAILABLE INTERCONNECTION VARIANTS

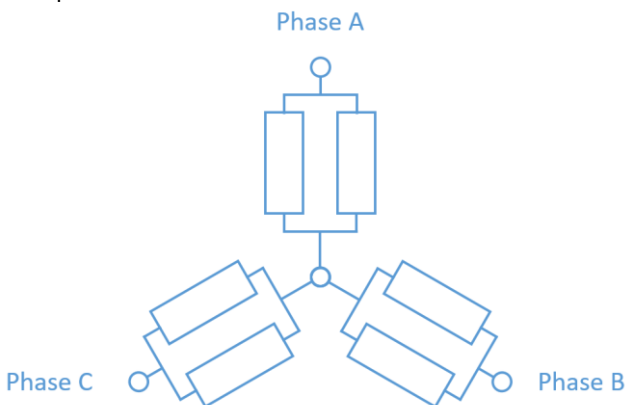
Star-serial



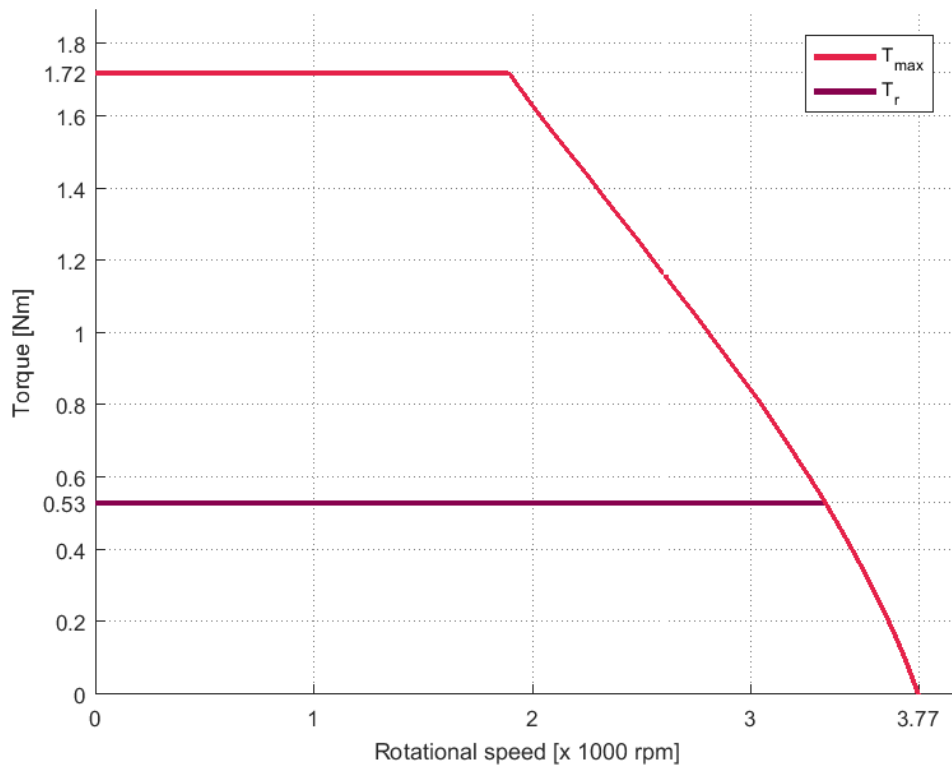
Delta-serial



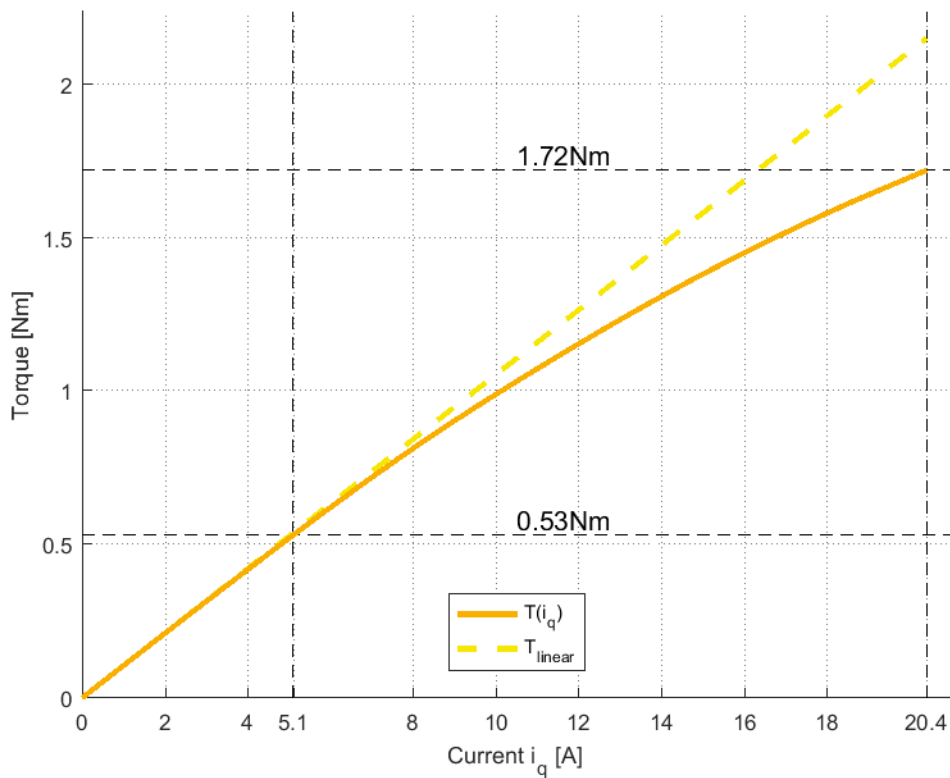
Star-parallel



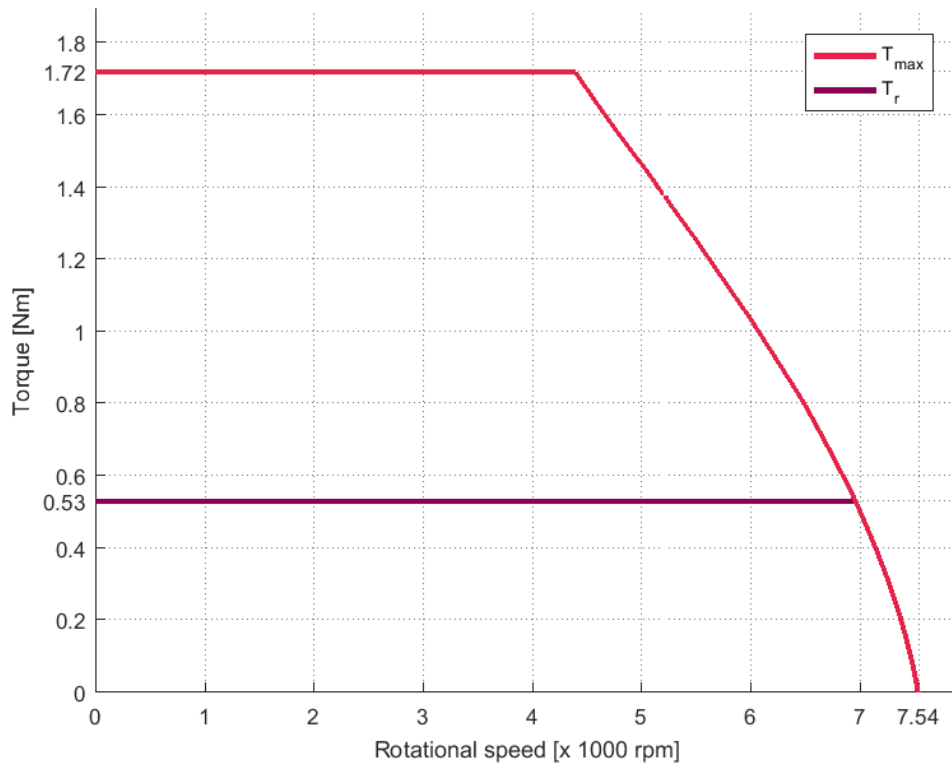
T/N-DIAGRAM ILM-E50X14 STAR-SERIAL @ 22 °C



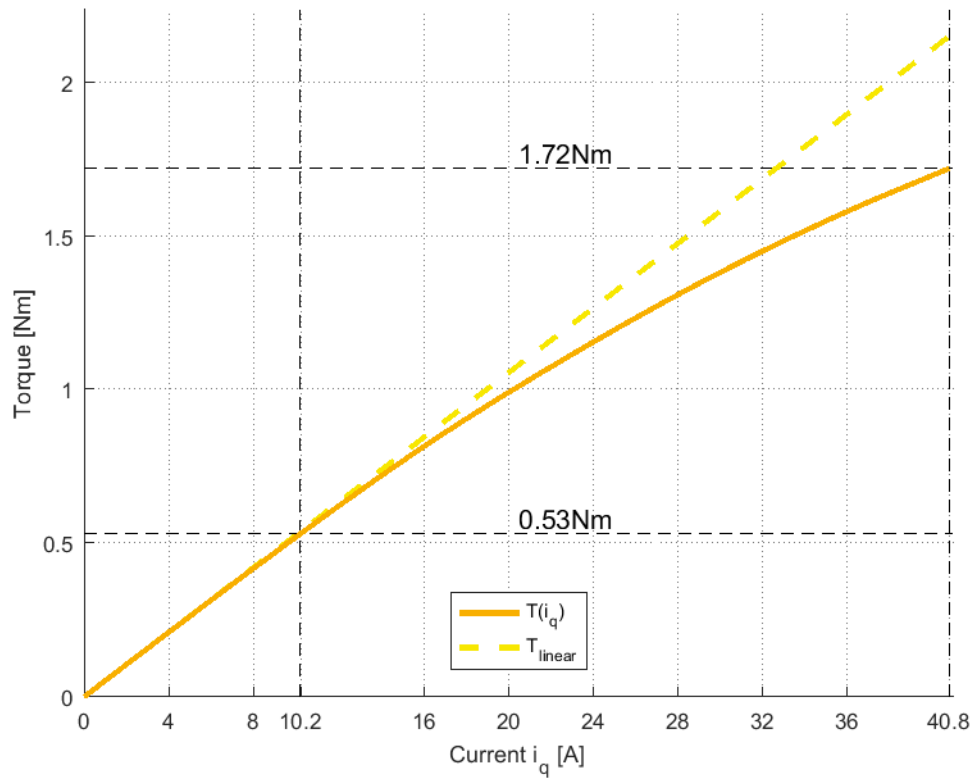
T/I-DIAGRAM ILM-E50X14 STAR-SERIAL @ 22 °C



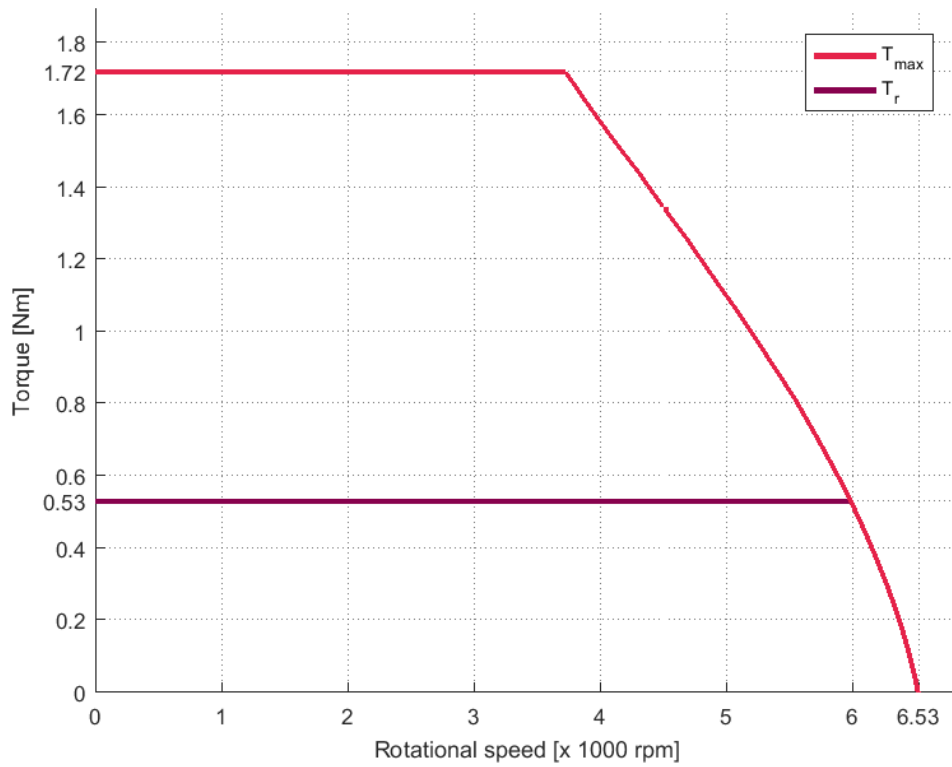
T/N-DIAGRAM ILM-E50X14 STAR-PARALLEL @ 22 °C



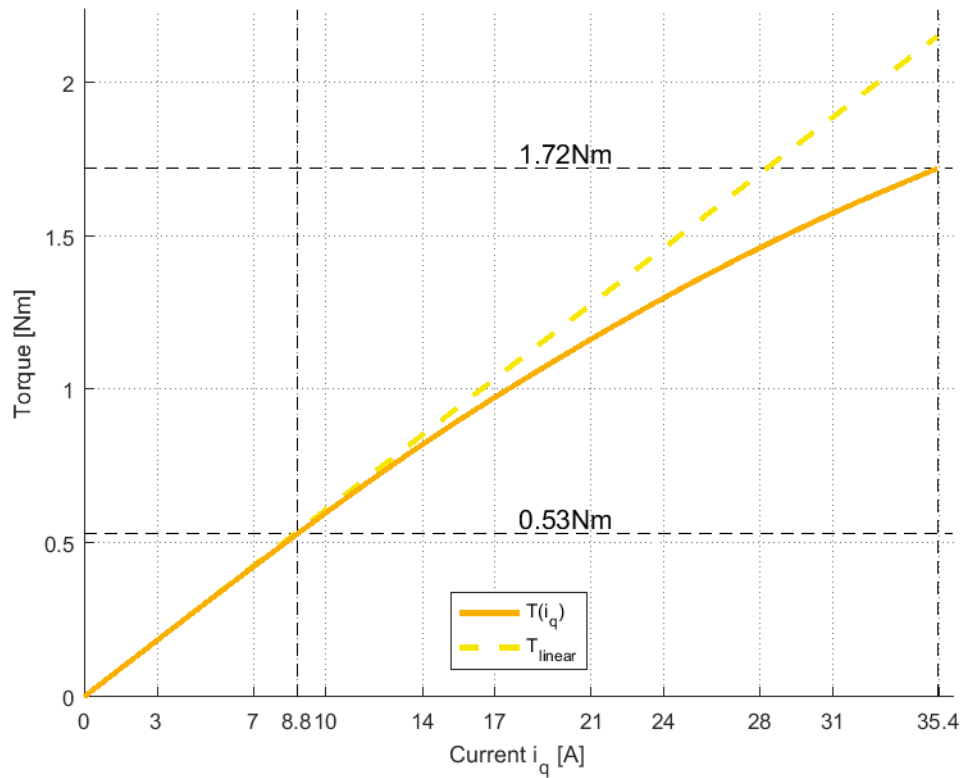
T/I-DIAGRAM ILM-E50X14 STAR-PARALLEL @ 22 °C



T/N-DIAGRAM ILM-E50X14 DELTA-SERIAL @ 22 °C



T/I-DIAGRAM ILM-E50X14 DELTA-SERIAL @ 22 °C



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