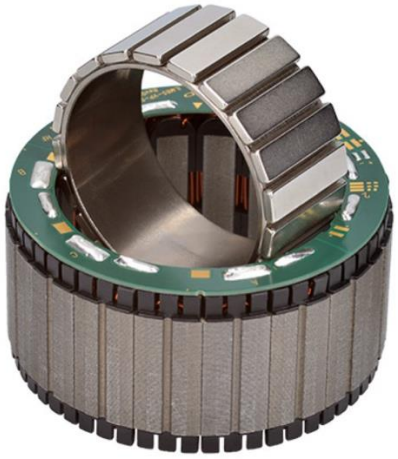
Motor Parameters ILM-E85x30



PERFORMANCE CHARACTERISTICS

(INTERCONNECTION STAR-SERIAL)

Power P	[W]	444
Rated torque T_r	[Nm]	3.3
Peak torque T_{max} @ 20% linearity deviation	[Nm]	10.6
Rated voltage U_r	[V]	48
Rotation speed n_{max}*	[rpm]	1286
Rated current I_r (phase current amplitude)	[A]	10.8
Copper losses $P_{L,r}$ @ T_r and 20°C	[W]	33.9
Torque constant k_T @ 20°C	[mNm/A]	309
Motor constant k_M @ 20°C	[Nm/√W]	0.571
Terminal resistance R_{TT} @ 20°C	[mΩ]	389
Terminal inductance L_{TT}	[µH]	1191
Rotor inertia J	[kgcm²]	1.48
Number of pole pairs	-	10
Max. efficiency η	%	93
Weight m	[g]	822
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]	1286	965	643	386	322	241
Delta-serial n_{max}* [rpm]	2227	1671	1114	668	557	418
Star-parallel n_{max}* [rpm]	2572	1929	1286	772	643	482

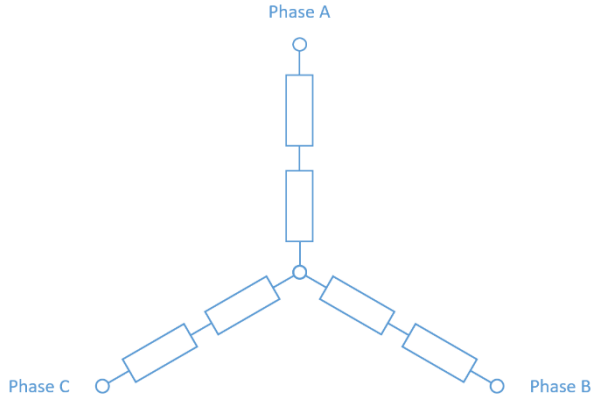
* Theoretical no-load rotation speeds at indicated voltage. Mechanical limits apply and must not be exceeded. Variations can arise from operation with different inverters.
** $n_{max, mech}$ = 7,900 rpm must not be exceeded.

CHARACTERISTICS INTERCONNECTION VARIANTS

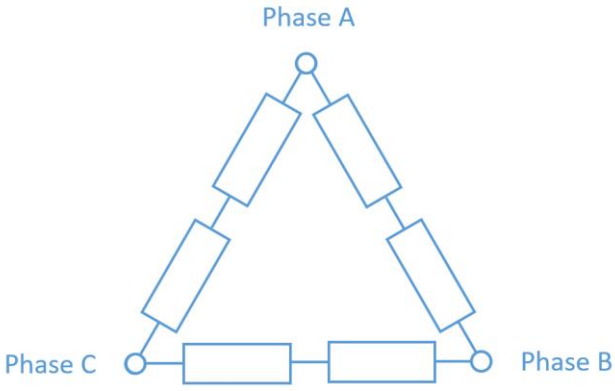
Interconnection	U_r [V]	I_r [A]	k_T [mNm/A]	R_{TT} [mΩ]	L_{TT} [µH]
Star-serial	48	10.8	309	389	1191
Delta-serial	28	18.7	178	130	397
Star-parallel	24	21.6	154	97	298

AVAILABLE INTERCONNECTION VARIANTS

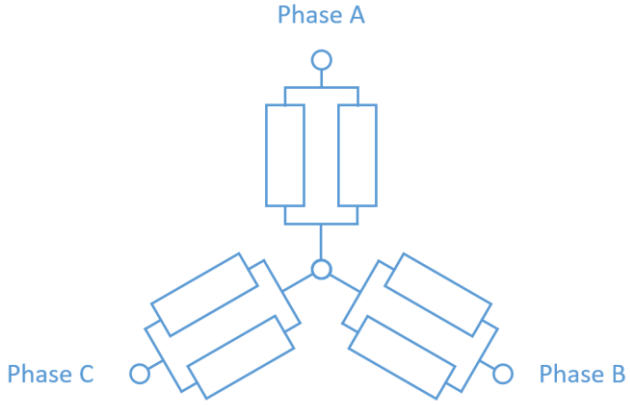
Star-serial



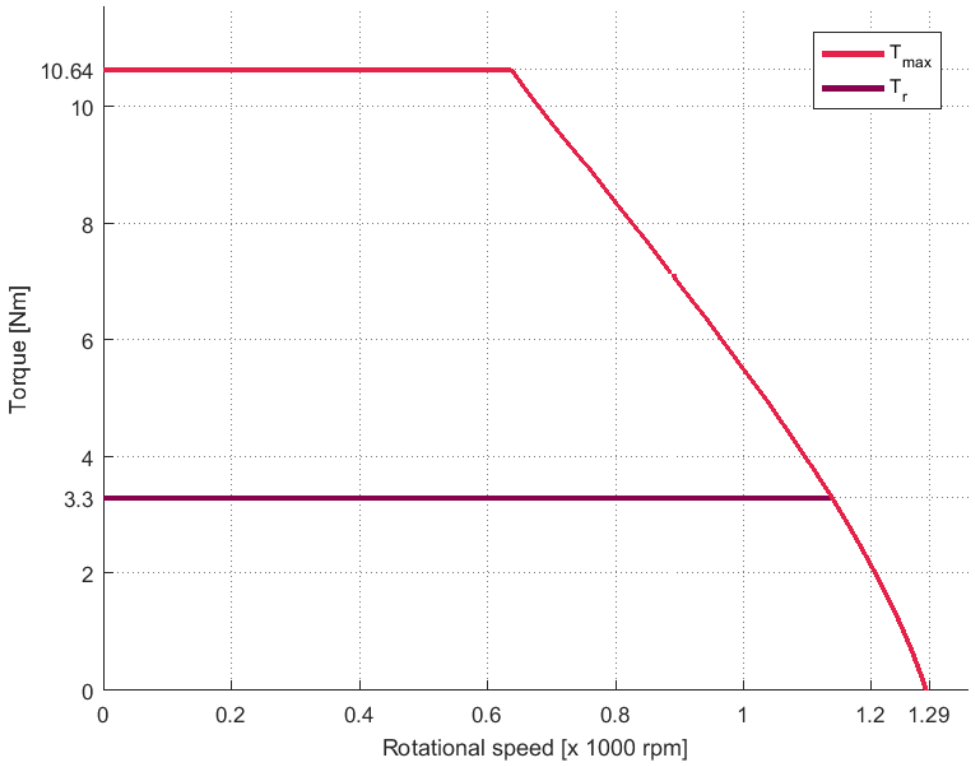
Delta-serial



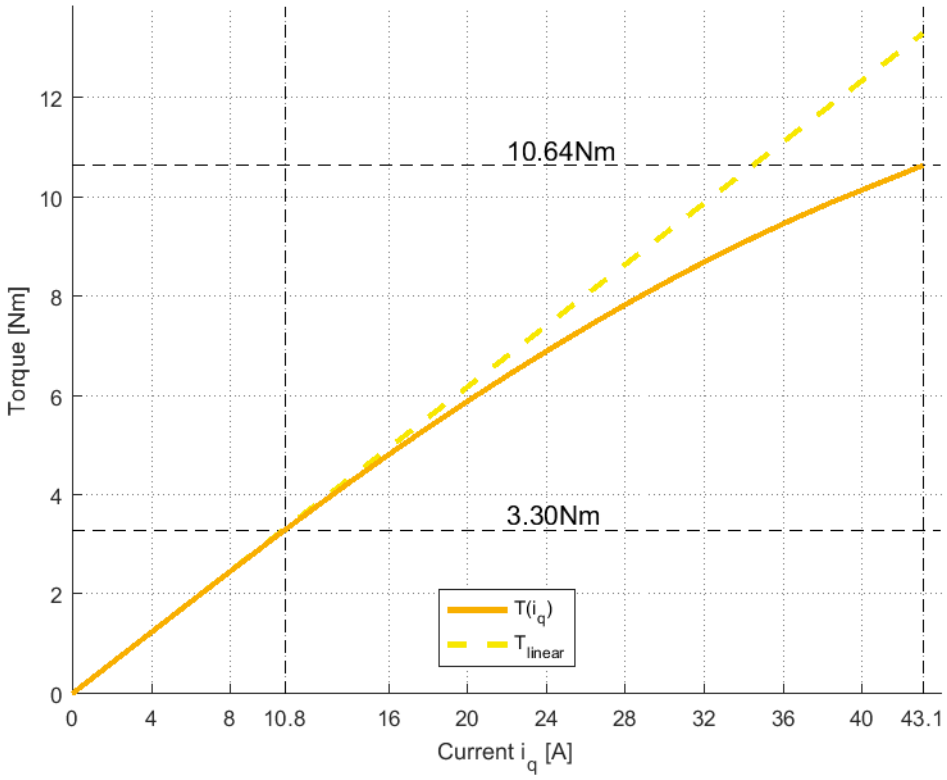
Star-parallel



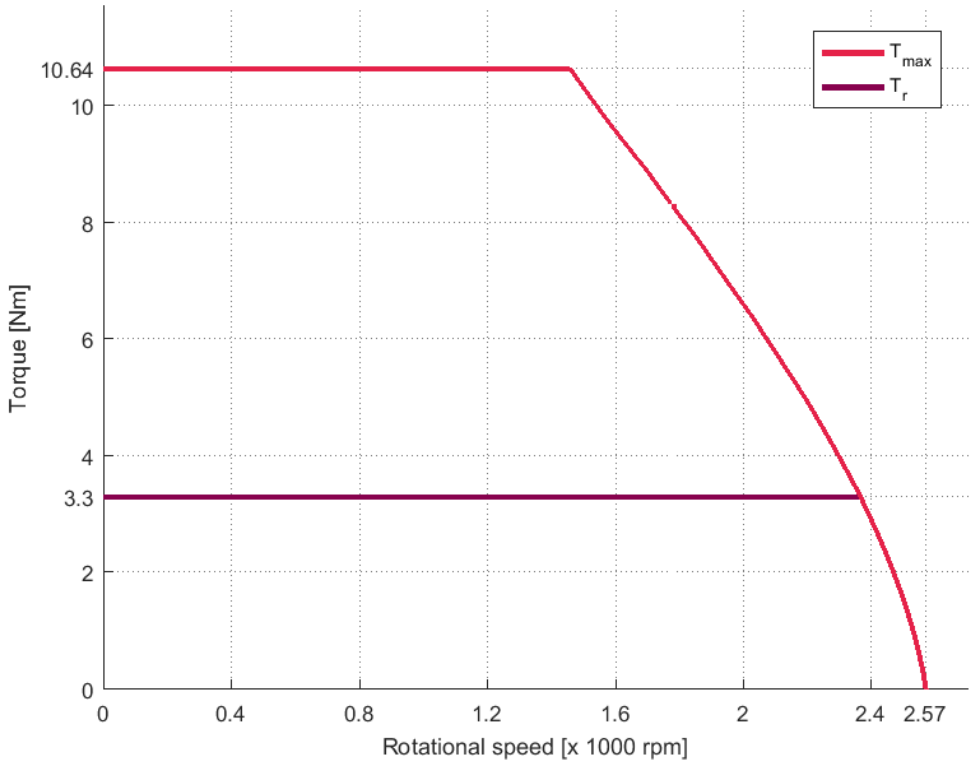
T/N-DIAGRAM ILM-E85X30 STAR-SERIAL @ 22 °C



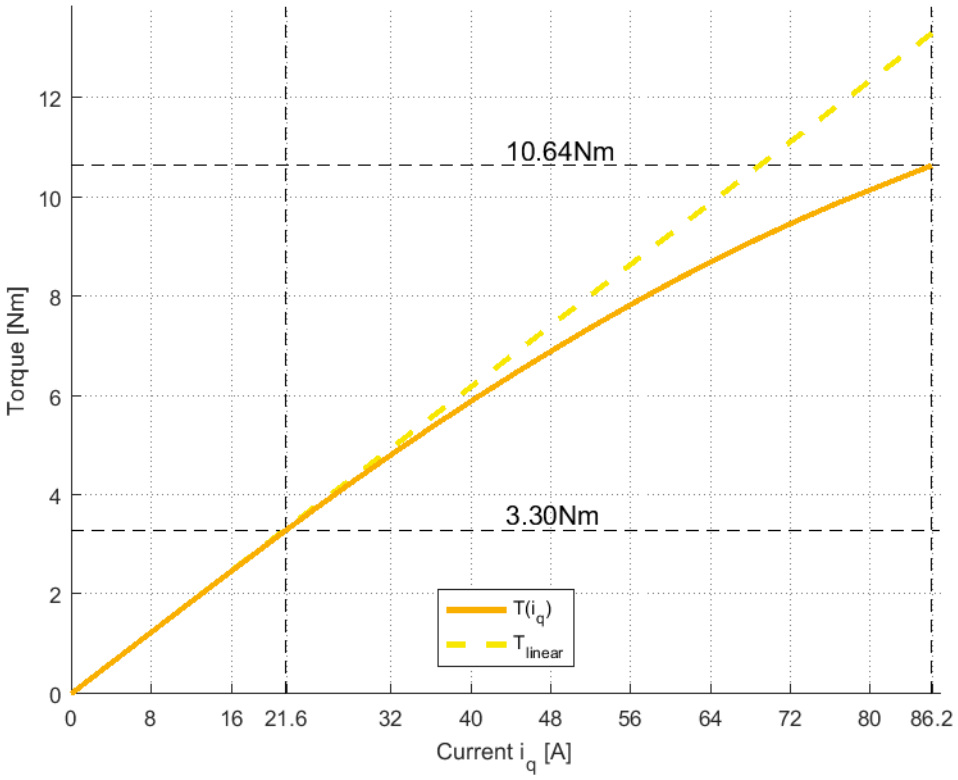
T/I-DIAGRAM ILM-E85X30 STAR-SERIAL @ 22 °C



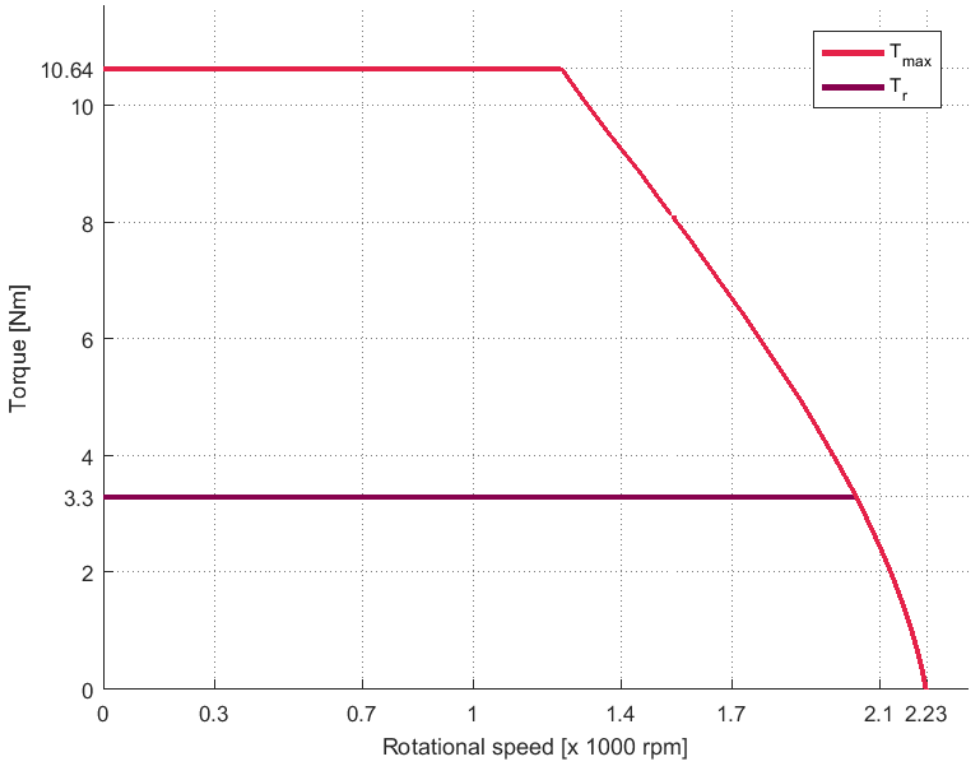
T/N-DIAGRAM ILM-E85x30 STAR-PARALLEL @ 22 °C



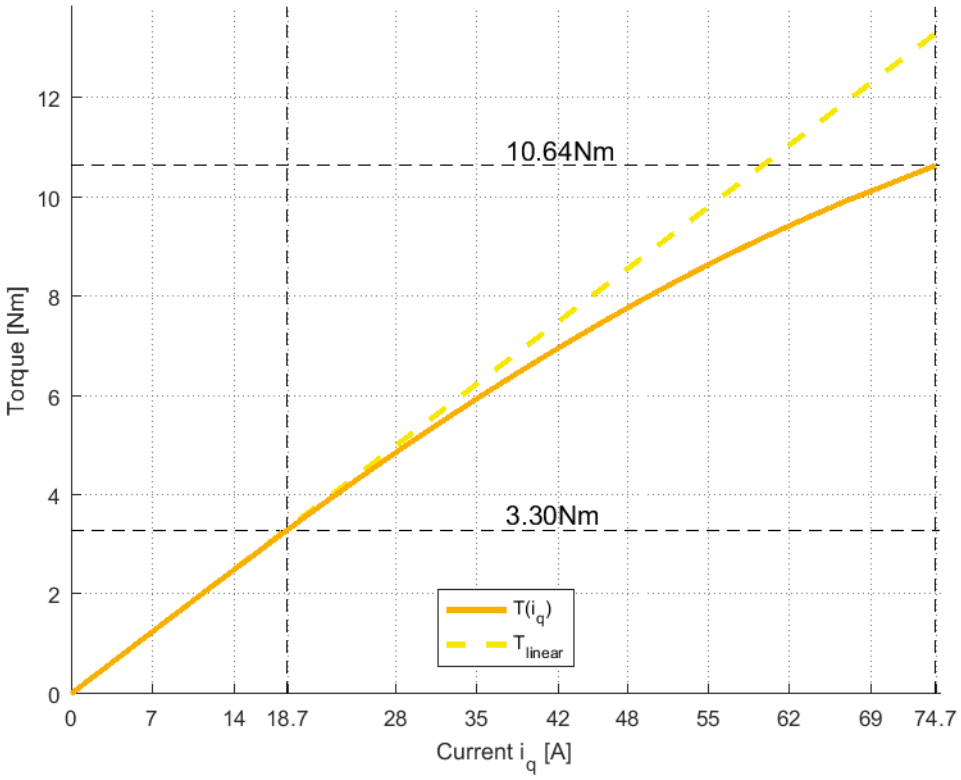
T/I-DIAGRAM ILM-E85X30 STAR-PARALLEL @ 22 °C



T/N-DIAGRAM ILM-E85x30 DELTA-SERIAL @ 22 °C



T/I-DIAGRAM ILM-E85X30 DELTA-SERIAL @ 22 °C



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