



# Motor Parameters ILM85x26



## PERFORMANCE CHARACTERISTICS (INTERCONNECTION STAR-SERIAL)

Power P	[W]	470
Rated torque $T_r$	[Nm]	2.9
Peak torque $T_{max}$ @ 20% linearity deviation	[Nm]	9.4
Rated voltage $U_r$	[V]	48
Rotation speed $n_{max}^*$	[rpm]	1560
Rated current $I_r$ (phase current amplitude)	[A]	11.5
Copper losses $P_{L,r}$ @ $T_r$ and 20°C	[W]	31.7
Torque constant $k_T$ @ 20°C	[mNm/A]	253
Motor constant $k_M$ @ 20°C	[Nm/√W]	0.52
Terminal resistance $R_{TT}$ @ 20°C	[mΩ]	320
Terminal inductance $L_{TT}$	[μH]	1040
Rotor inertia J	[kgcm <sup>2</sup> ]	1.06
Number of pole pairs	-	10
Max. efficiency $\eta$	%	91
Weight m	[g]	670

\* 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]	1560	1170	780	470	390	290
delta-serial $n_{max}^*$ [rpm]	2700	2030	1350	810	680	510
star-parallel $n_{max}^*$ [rpm]	3120	2340	1560	940	780	590
delta-parallel $n_{max}^*$ [rpm]	5400	4050	2700	1620	1350	1010

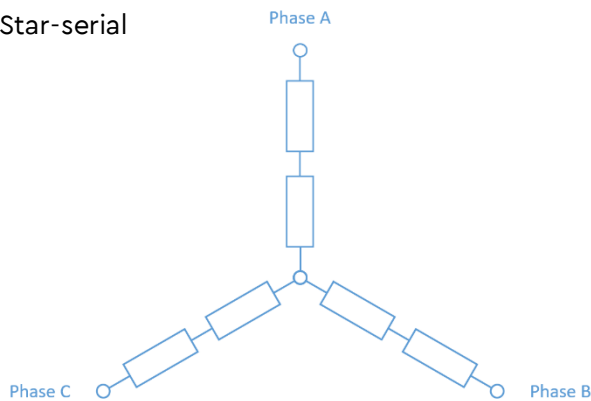
\* Theoretical no-load rotation speeds at indicated voltage. Mechanical limits apply and must not be exceeded. Variations can arise from operation with different inverters.

## CHARACTERISTICS INTERCONNECTION VARIANTS

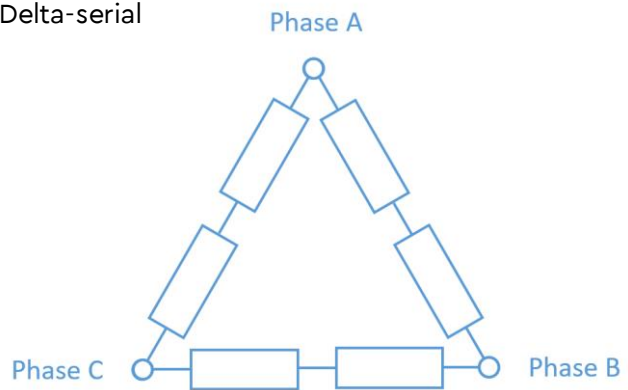
Interconnection	$U_r$ [V]	$I_r$ [A]	$k_T$ [mNm/A]	$R_{TT}$ [mΩ]	$L_{TT}$ [μH]
star-serial	48	11.5	253	320	1040
delta-serial	28	19.9	146	107	347
star-parallel	24	23.0	127	80	260
delta-parallel	14	39.8	73	27	87

## AVAILABLE INTERCONNECTION VARIANTS

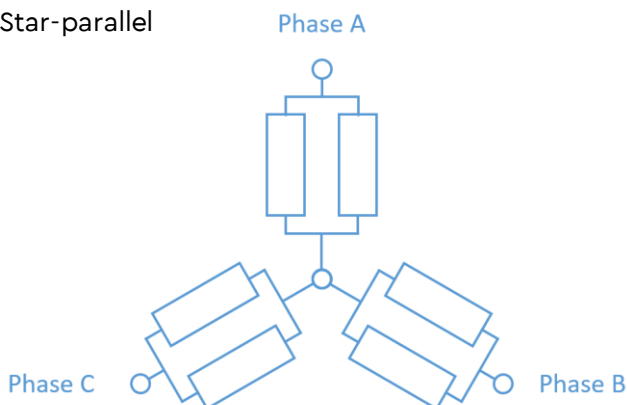
Star-serial



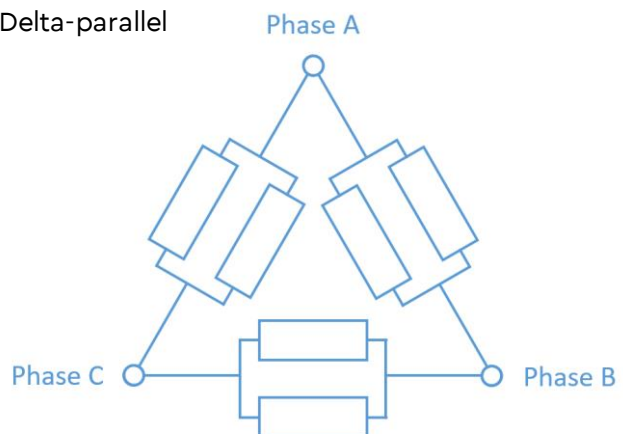
Delta-serial



Star-parallel

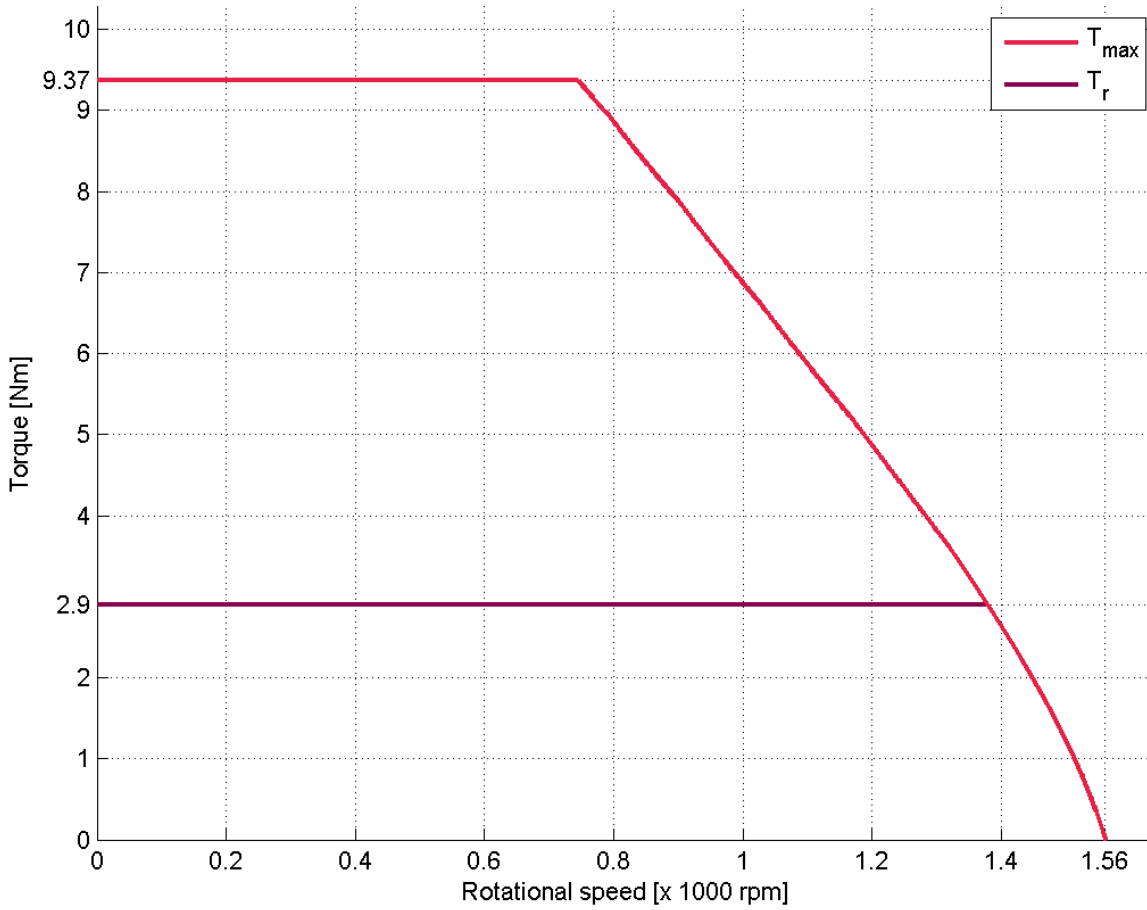


Delta-parallel

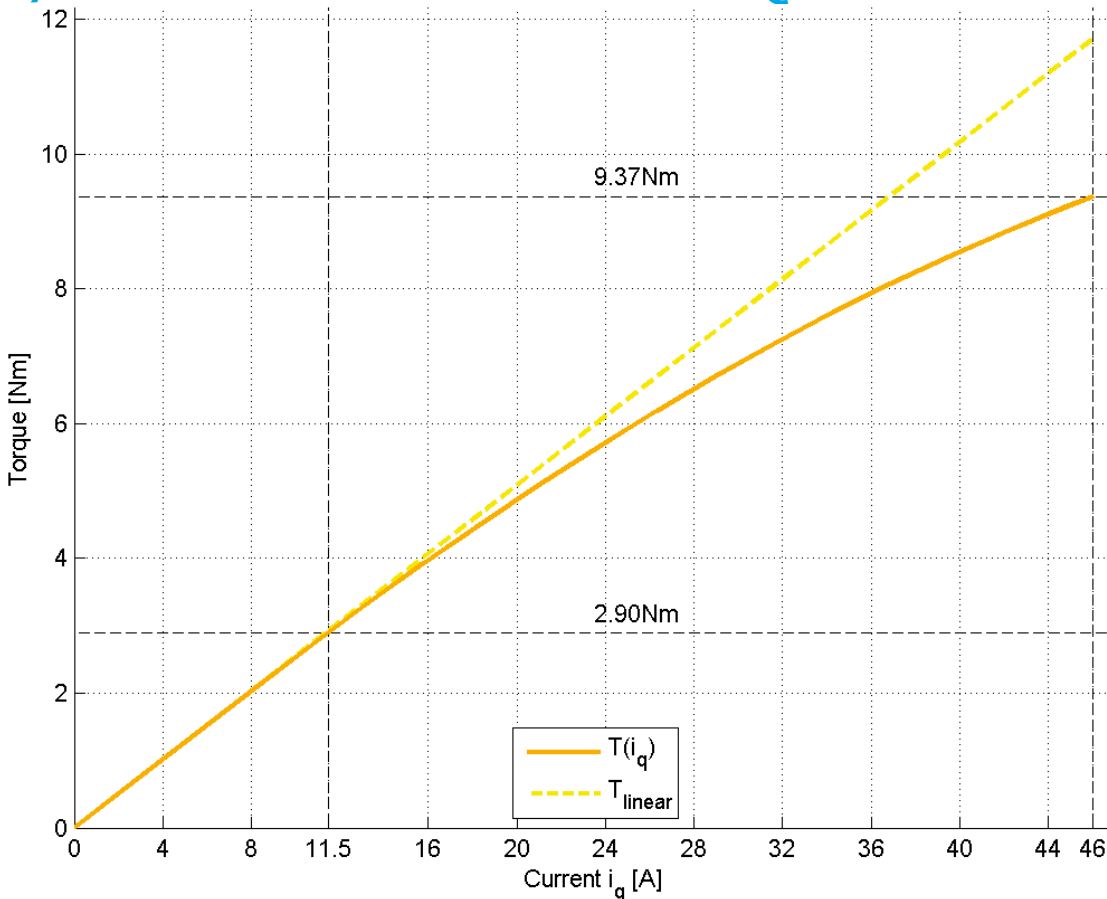


## T/N-DIAGRAM ILM85X26 STAR-SERIAL @ 22 °C

**Motor Parameters ILM85x26**

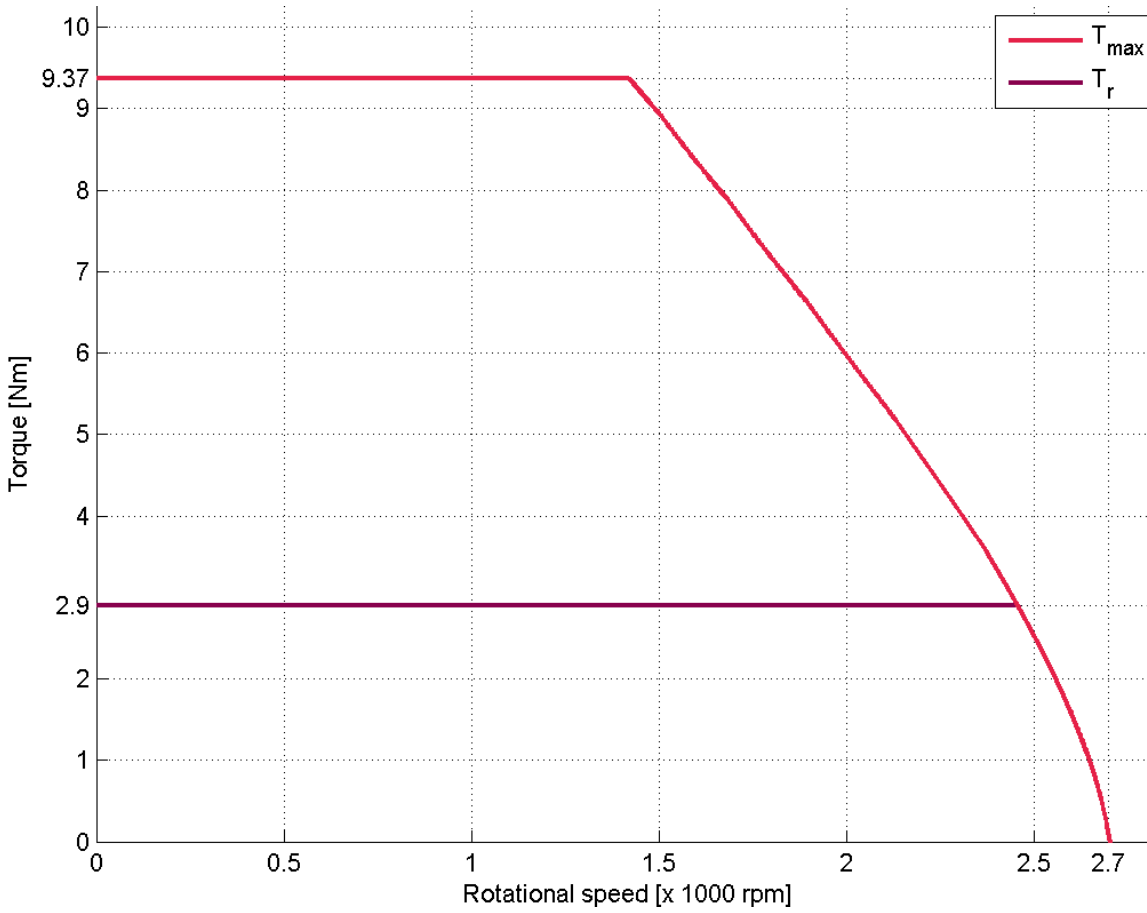


**T/I-DIAGRAM ILM85X26 STAR-SERIAL @ 22 °C**

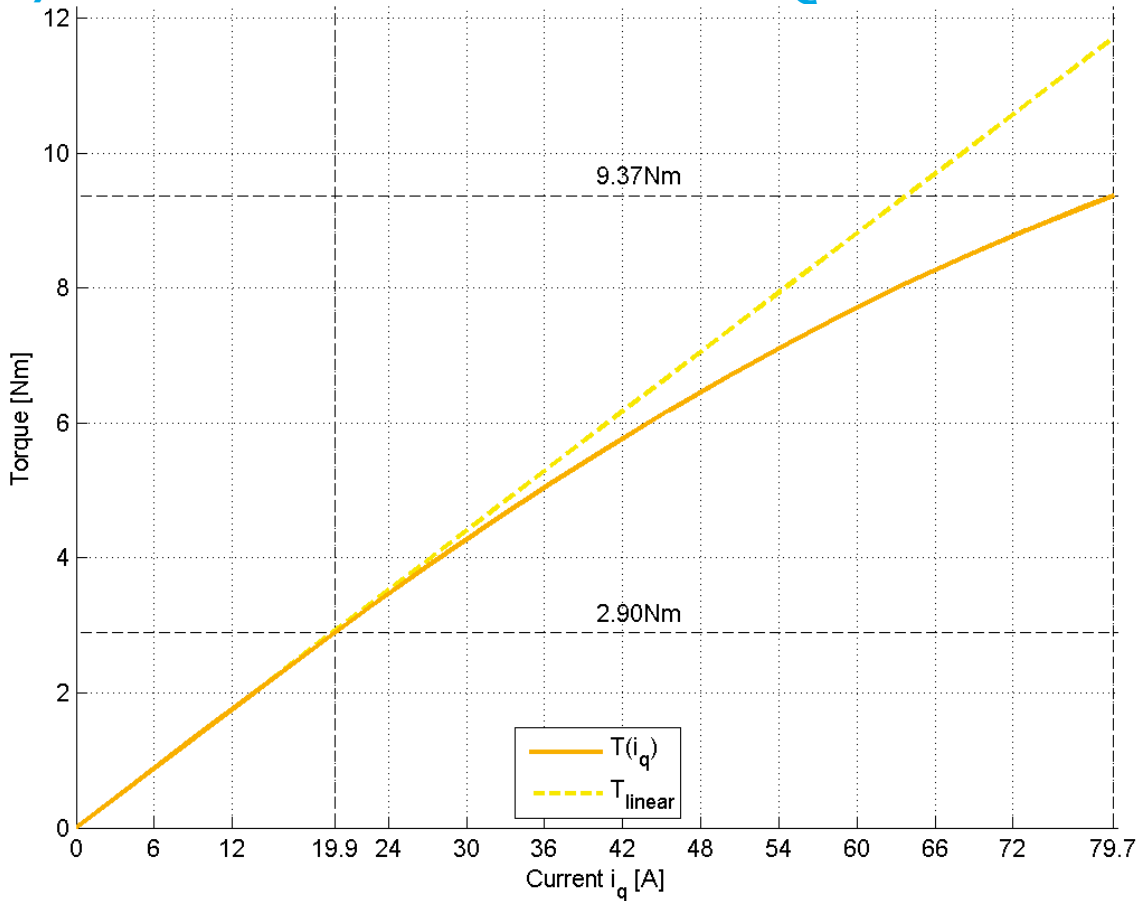


**T/N-DIAGRAM ILM85X26 DELTA-SERIAL @ 22 °C**

**Motor Parameters ILM85x26**

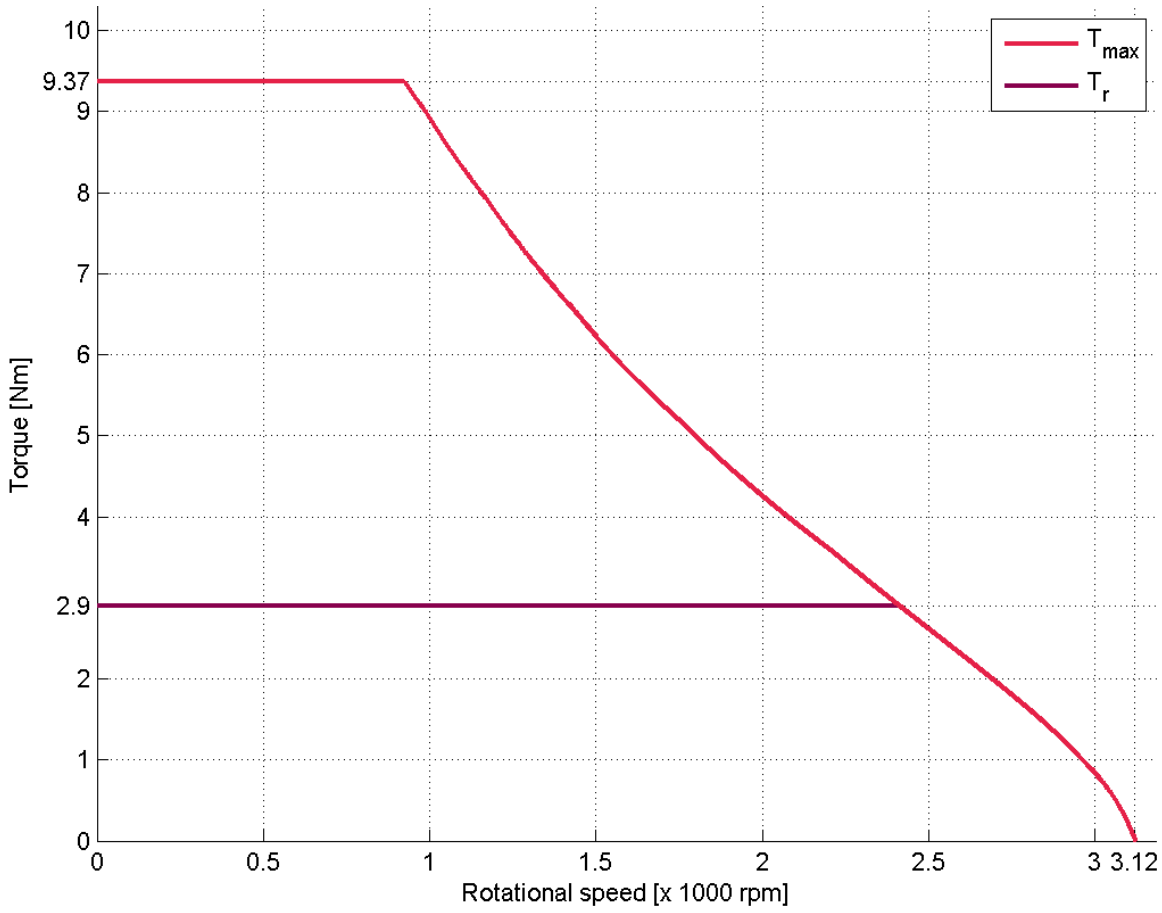


**T/I-DIAGRAM ILM85X26 DELTA-SERIAL @ 22 °C**

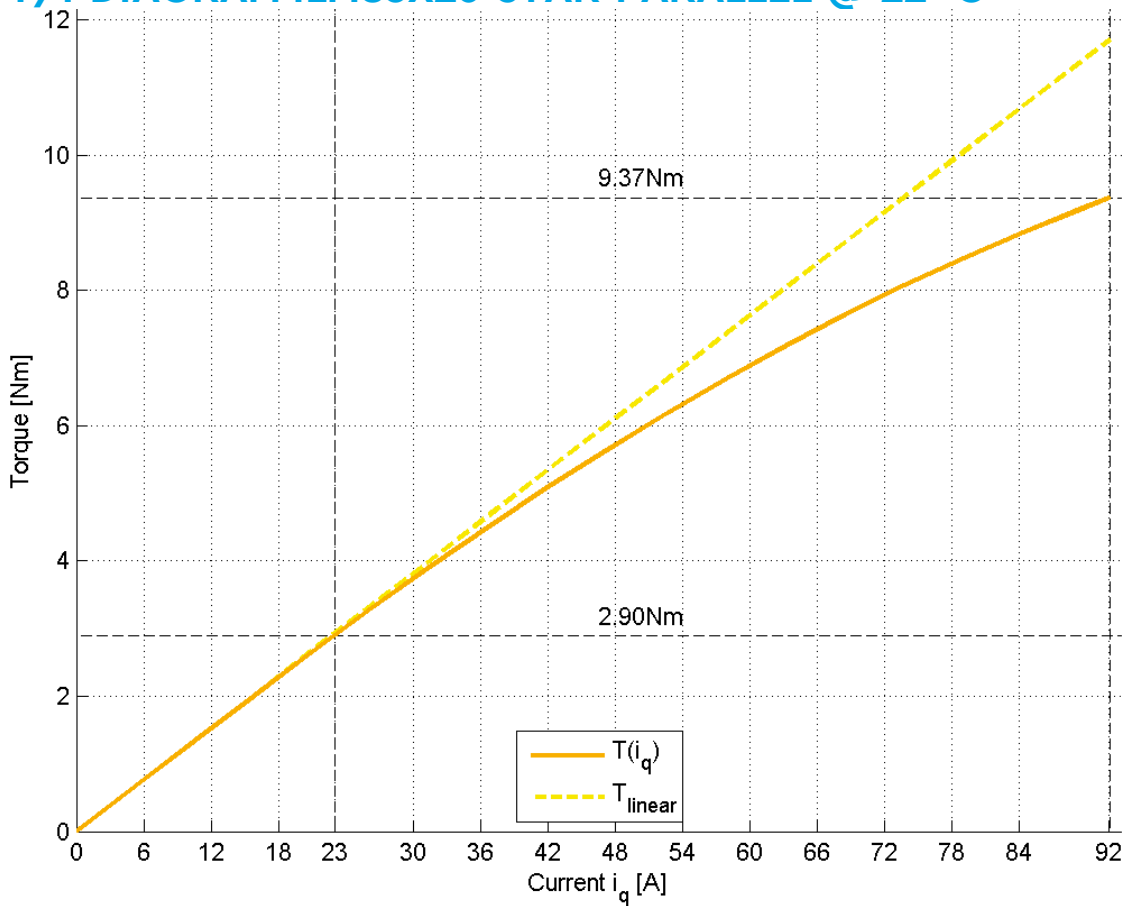


**T/N-DIAGRAM ILM85X26 STAR-PARALLEL @ 22 °C**

**Motor Parameters ILM85x26**

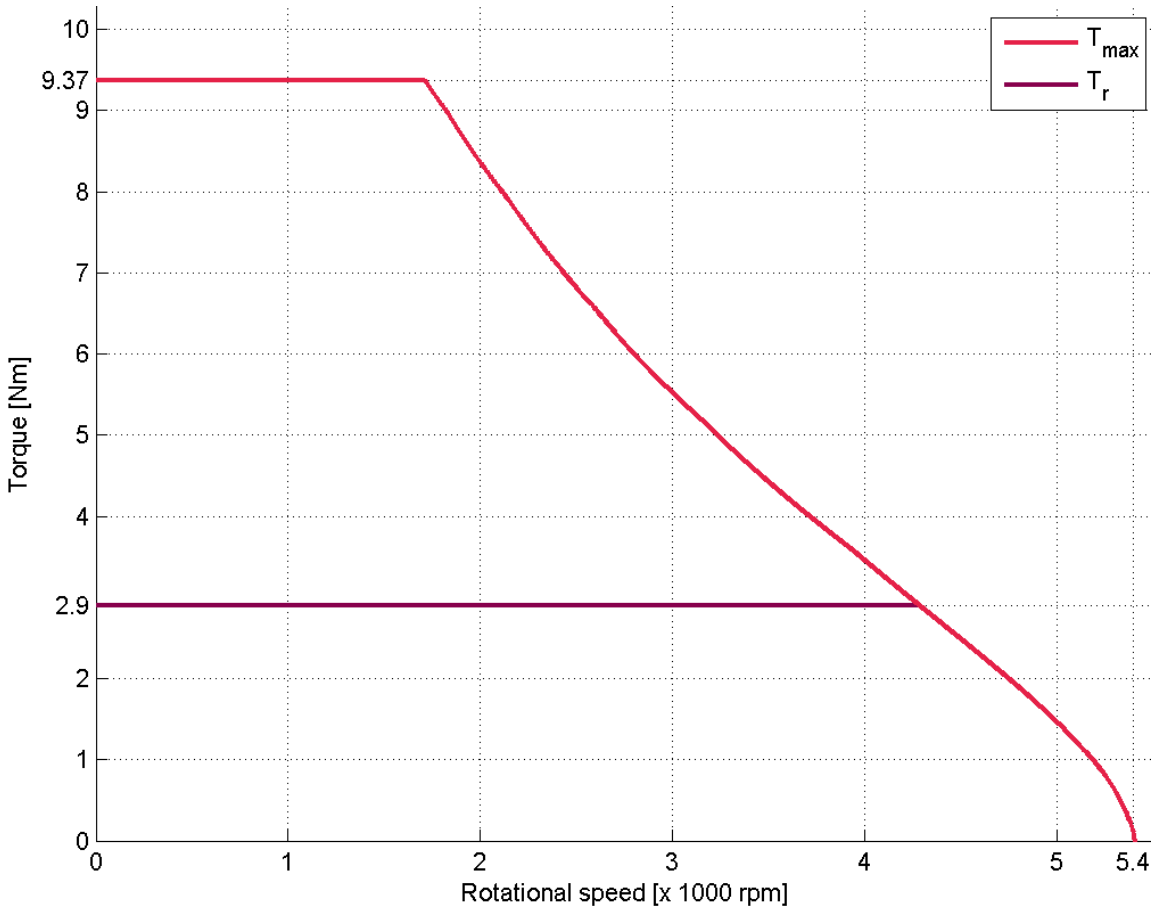


**T/I-DIAGRAM ILM85X26 STAR-PARALLEL @ 22 °C**

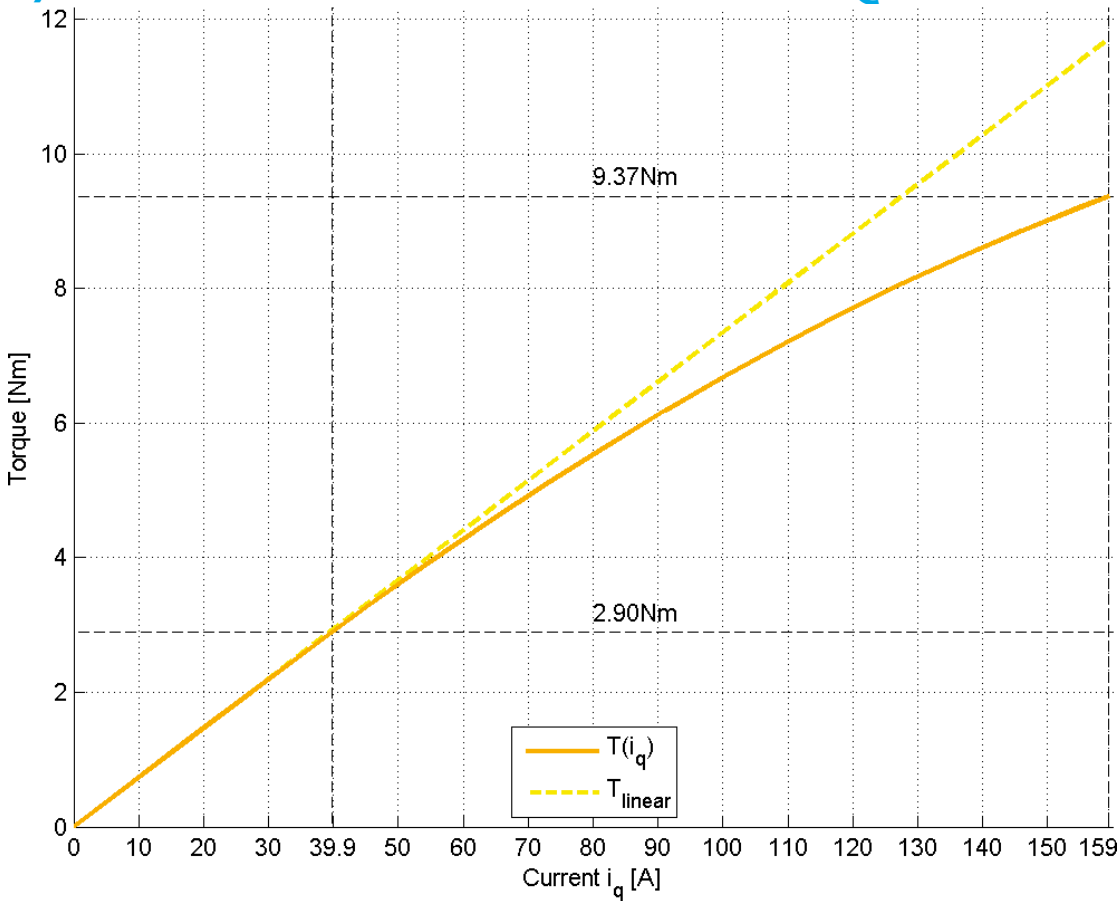


**T/N-DIAGRAM ILM85X26 DELTA-PARALLEL @ 22 °C**

Motor Parameters ILM85x26



T/I-DIAGRAM ILM85X26 DELTA-PARALLEL @ 22 °C



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