



# Motor Parameters ILM25x04



## PERFORMANCE CHARACTERISTICS (INTERCONNECTION STAR-SERIAL)

Power P	[W]	70
Rated torque $T_r$	[Nm]	0.032
Peak torque $T_{max}$ @ 20% linearity deviation	[Nm]	0.105
Rated voltage $U_r$	[V]	24
Rotation speed $n_{max}^*$	[rpm]	22650
Rated current $I_r$ (phase current amplitude)	[A]	3.8
Copper losses $P_{L,r}$ @ $T_r$ and 20°C	[W]	5.6
Torque constant $k_T$ @ 20°C	[mNm/A]	8.8
Motor constant $k_M$ @ 20°C	[Nm/ $\sqrt{W}$ ]	0.0139
Terminal resistance $R_{TT}$ @ 20°C	[m $\Omega$ ]	530
Terminal inductance $L_{TT}$	[ $\mu$ H]	180
Rotor inertia J	[kgcm <sup>2</sup> ]	0.00147
Number of pole pairs	-	7
Max. efficiency $\eta$	%	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]	45300**	33980**	22650	13590	11330	8490
star-parallel $n_{max}^*$ [rpm]	90600**	67950**	45300**	27180**	22650	16990

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

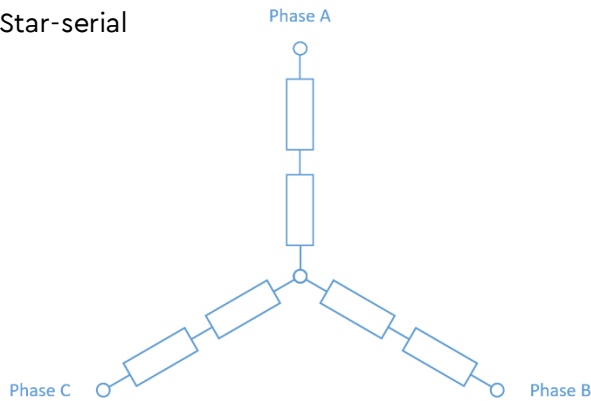
\*\*  $n_{max, mech} = 24000$  rpm must not be exceeded.

## CHARACTERISTICS INTERCONNECTION VARIANTS

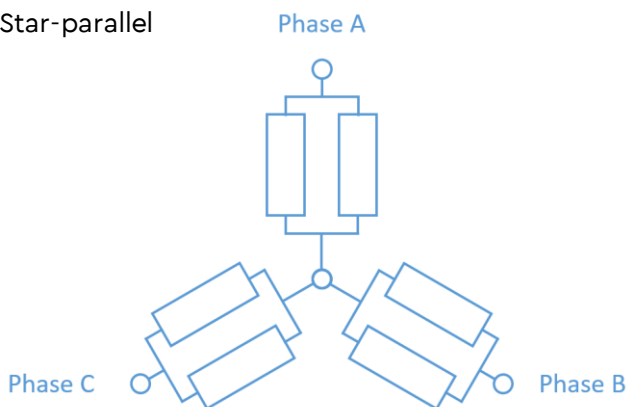
Interconnection	$U_r$ [V]	$I_r$ [A]	$k_T$ [mNm/A]	$R_{TT}$ [mΩ]	$L_{TT}$ [μH]
star-serial	24	3.8	8.8	530	180
star-parallel	12	7.5	4.4	133	45

## AVAILABLE INTERCONNECTION VARIANTS

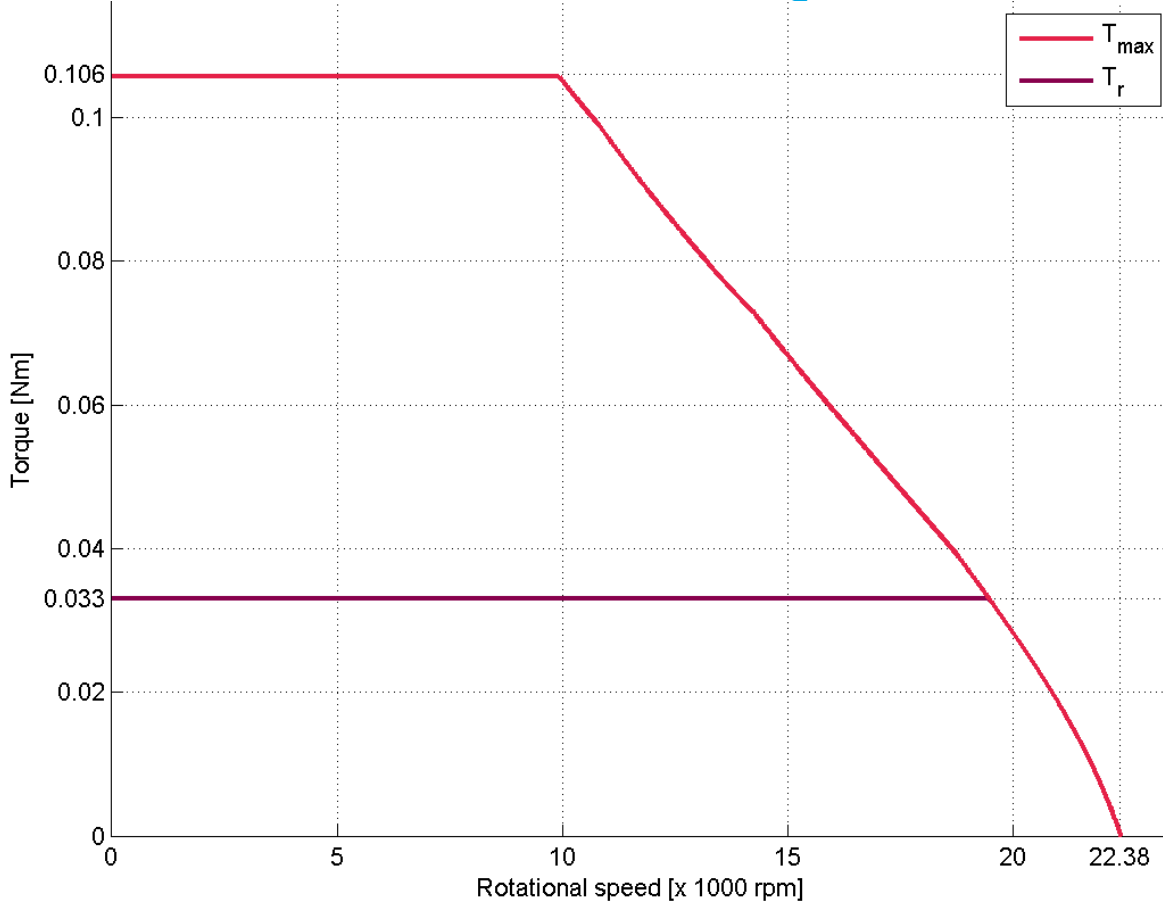
Star-serial



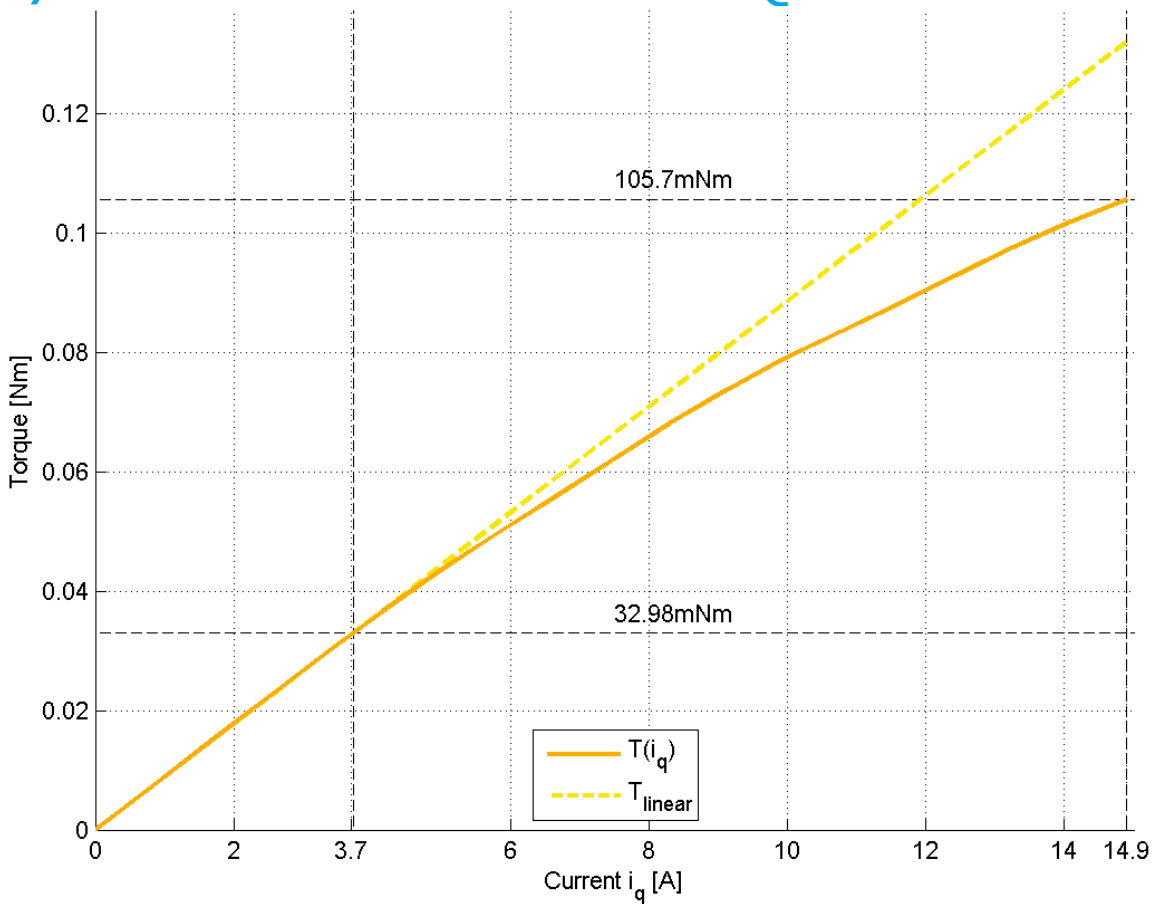
Star-parallel



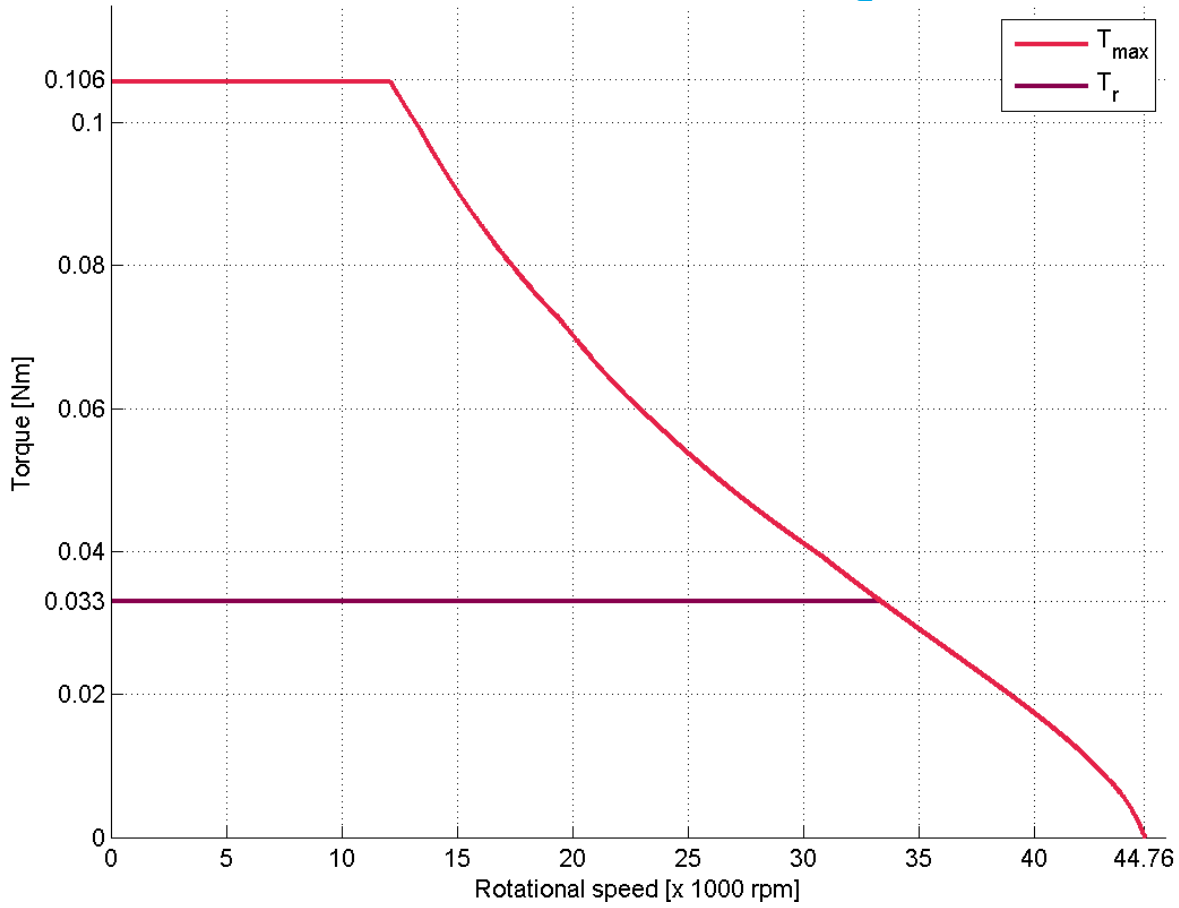
### T/N-DIAGRAM ILM25X04 STAR-SERIAL @ 22 °C



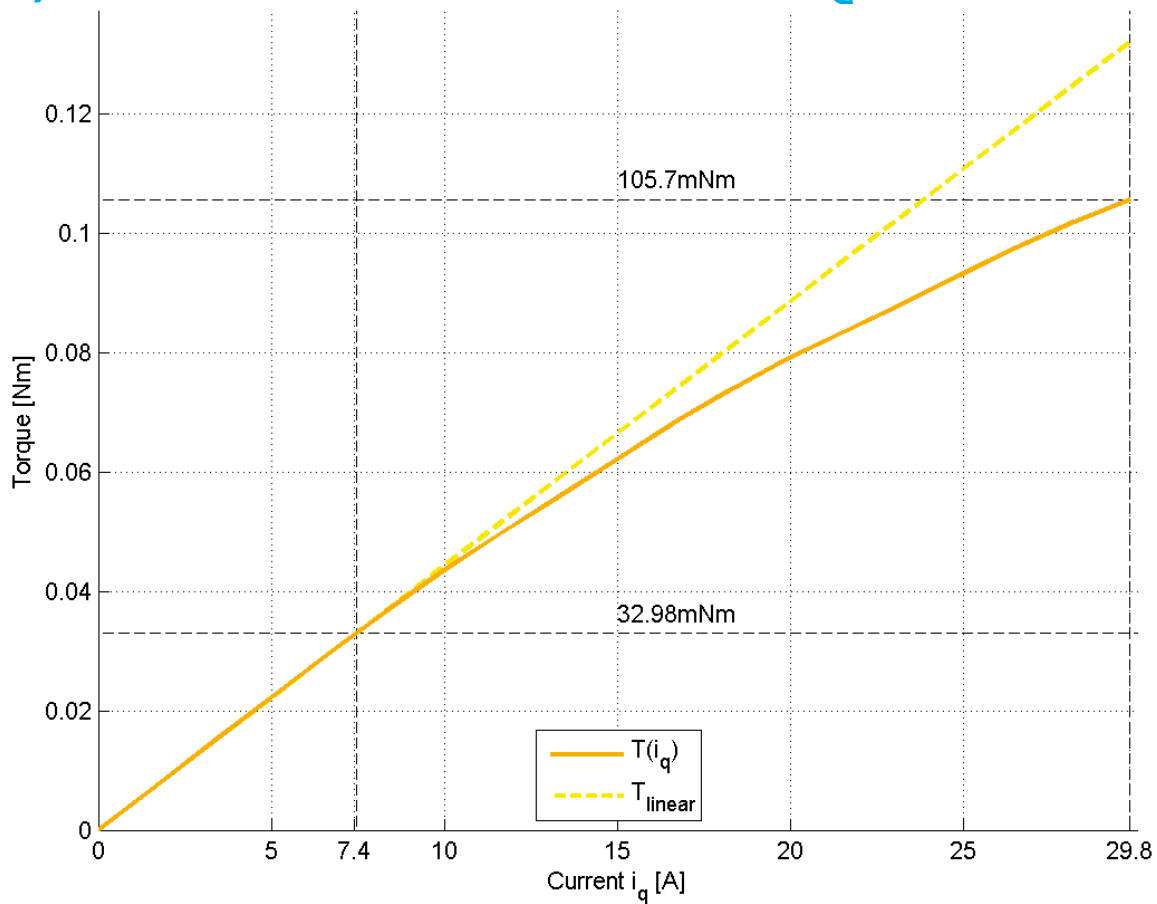
### T/I-DIAGRAM ILM25X04 STAR-SERIAL @ 22 °C



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



### T/I-DIAGRAM ILM25X04 STAR-PARALLEL @ 22 °C



## FOR FURTHER INQUIRIES, PLEASE CONTACT:

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