



# Motor Parameters ILM115x50



## PERFORMANCE CHARACTERISTICS (INTERCONNECTION STAR-SERIAL)

Power P	[W]	618
Rated torque $T_r$	[Nm]	9.51
Peak torque $T_{max}$ @ 20% linearity deviation	[Nm]	31.4
Rated voltage $U_r$	[V]	48
Rotation speed $n_{max}^*$	[rpm]	620
Rated current $I_r$ (phase current amplitude)	[A]	15.1
Copper losses $P_{L,r}$ @ $T_r$ and 20°C	[W]	43.35
Torque constant $k_T$ @ 20°C	[mNm/A]	640
Motor constant $k_M$ @ 20°C	[Nm/ $\sqrt{W}$ ]	1.47
Terminal resistance $R_{TT}$ @ 20°C	[m $\Omega$ ]	254
Terminal inductance $L_{TT}$	[ $\mu$ H]	1570
Rotor inertia J	[kgcm <sup>2</sup> ]	7.9
Number of pole pairs	-	15
Max. efficiency $\eta$	%	92
Weight m	[g]	2180

\* 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]	620	470	310	190	160	120
delta-serial $n_{max}^*$ [rpm]	1070	800	540	320	270	200

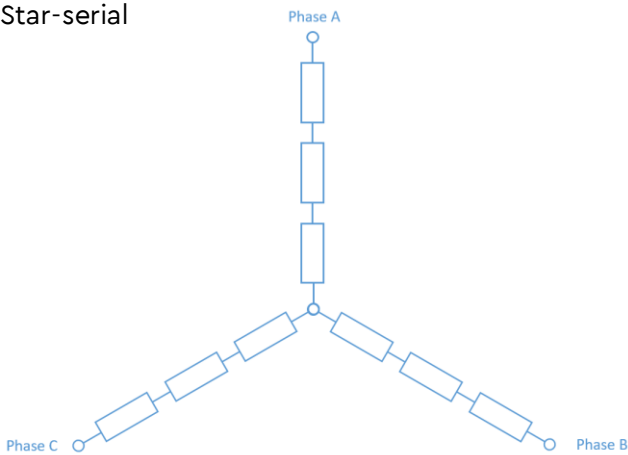
\*Theoretical no-load rotation speeds at indicated voltage. Mechanical limits apply and must not be exceeded. Variations can arise from operation with different inverters.

## CHARACTERISTICS INTERCONNECTION VARIANTS

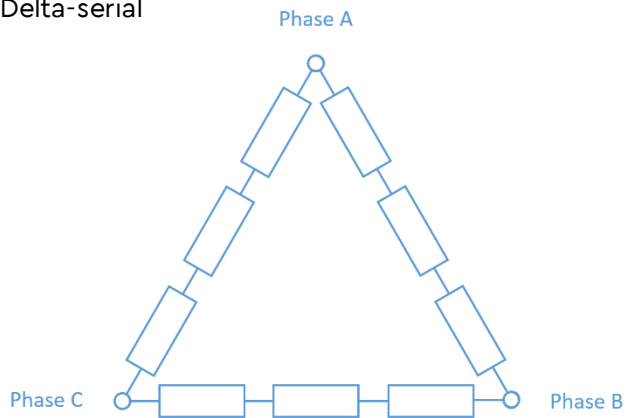
Interconnection	$U_r$ [V]	$I_r$ [A]	$k_T$ [mNm/A]	$R_{TT}$ [mΩ]	$L_{TT}$ [μH]
star-serial	48	15	640	254	1570
delta-serial	28	30	370	85	523

## AVAILABLE INTERCONNECTION VARIANTS

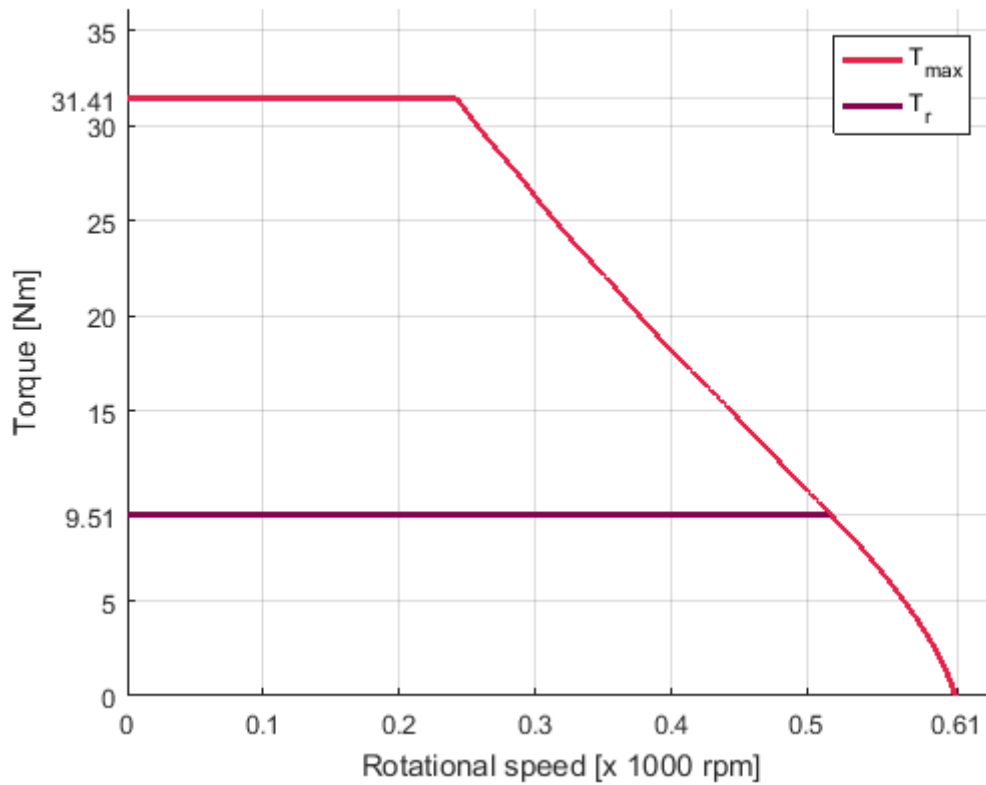
Star-serial



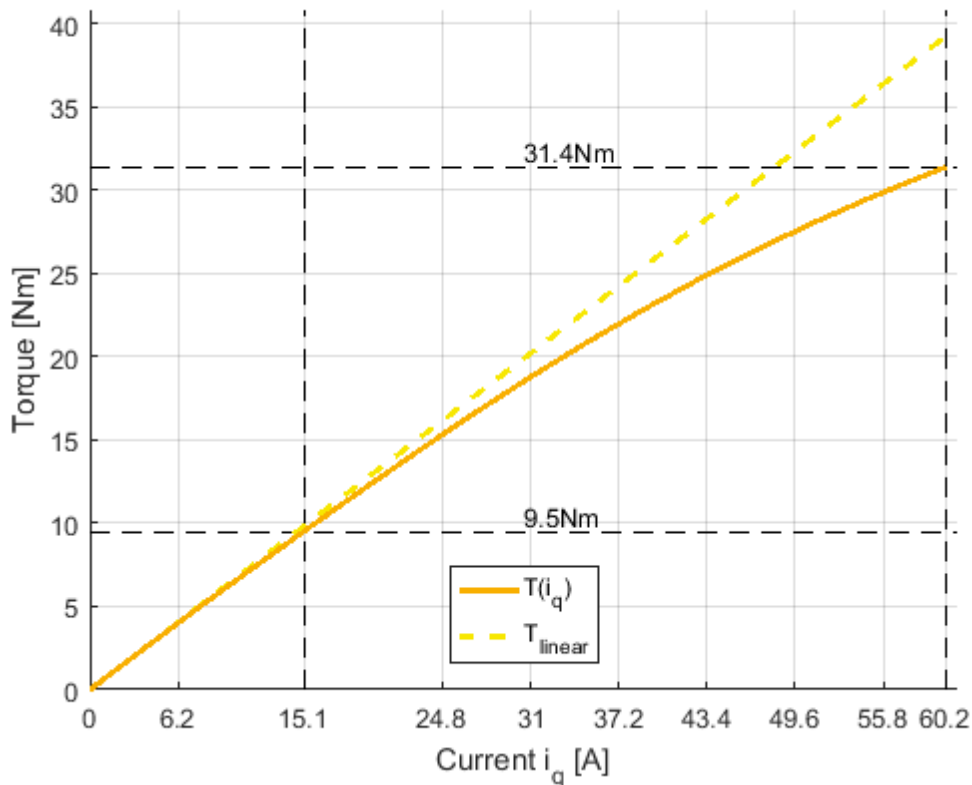
Delta-serial



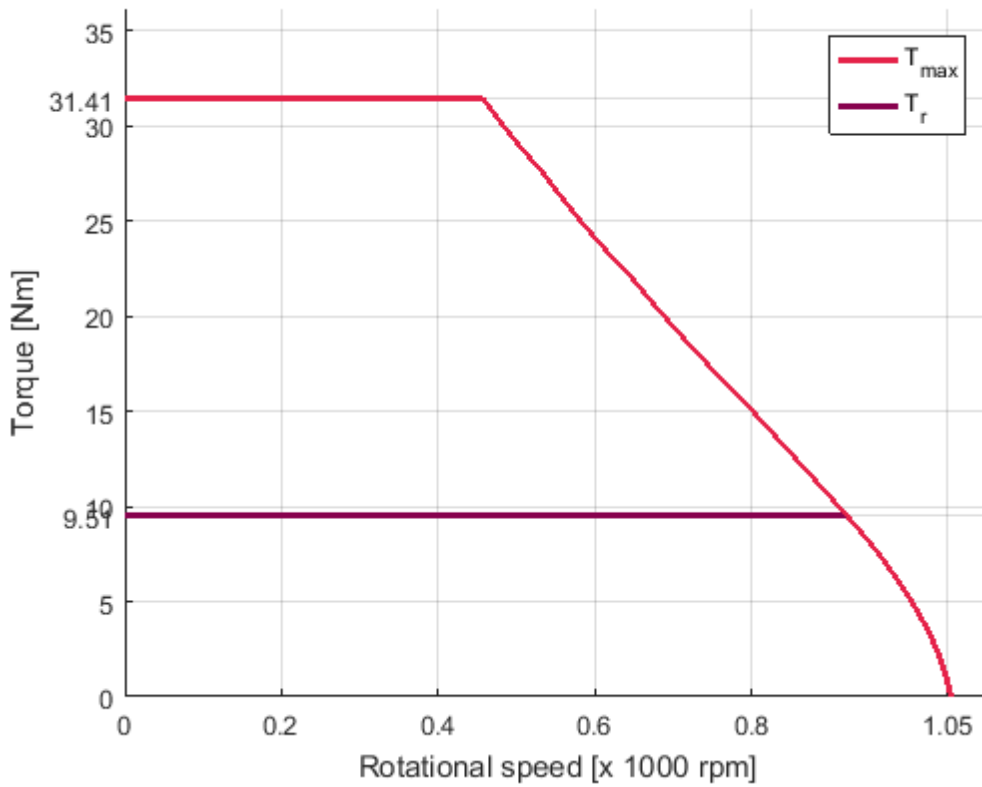
## T/N-DIAGRAM ILM115X50 STAR-SERIAL @ 22 °C



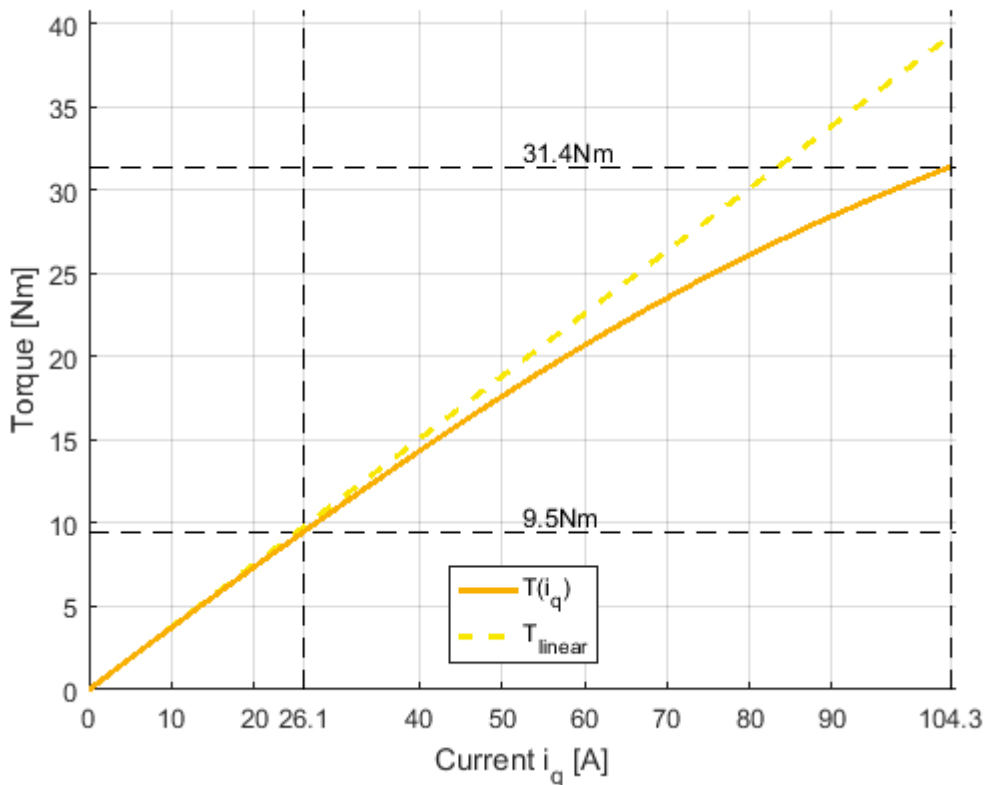
## T/I-DIAGRAM ILM115X50 STAR-SERIAL @ 22 °C



## T/N-DIAGRAM ILM115X50 DELTA-SERIAL @ 22 °C



## T/I-DIAGRAM ILM115X50 DELTA-SERIAL @ 22 °C



## FOR FURTHER INQUIRIES, PLEASE CONTACT:

### TQ-SYSTEMS GMBH

Gut Delling, Mühlstraße 2  
82229 Seefeld  
Deutschland

Tel.: +49 8153 9308-0

Fax: +49 8153 4223

E-Mail: [info@tq-robodrive.com](mailto:info@tq-robodrive.com)

Internet: [www.tq-group.com](http://www.tq-group.com)

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