MOTOR PERFORMANCE		Winding codes	3UCN	3UFS		
		UNIT	WATER COOLING	WATER COOLING		
Tp	Peak torque	Nm	1510	1510		
Ti	Intermittent torque	Nm	1380	1380		
Tc	Continuous torque	Nm	1060	1060		
Ts	Standstill torque	Nm	867	867		
Ip	Peak current	Arms	71.1	142		
Ii	Intermittent current	Arms	66.7	133		
Ic	Continuous current	Arms	42.2	84.4		
Is	Standstill current	Arms	32.0	63.9		
ns	Rated low speed	rpm	0.17	0.17		
nm	Maximum speed without flux weakening	rpm	216	433		
nm,FW	Maximum speed with flux weakening	rpm	787	1570		
τon,p	Maximum ON time for peak cycle	s	37	37		
τon,i	Maximum ON time for intermittent cycle	s	2.8	2.8		
Pp	Power dissipation @ Ip	W	15400	15400		
Pi	Power dissipation @ Ii	W	18300	18300		
Pc	Power dissipation @ Ic	W	7340	7340		
Td	Max. detent torque (average to peak)	Nm	6.0	6.0		

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	31.7	15.8		
Ku	Back EMF constant (*)	Vrms/(rad/s)	18.4	9.18		
Km	Motor constant	Nm/√W	18.7	18.7		
R20	Electrical resistance at 20°C (*)	Ohm	1.92	0.480		
Ld/Lq	Electrical inductance (*)	mH	19.4 / 15.1	4.84 / 3.78		
Isc	Maximum short-circuit current	Arms	33.2	66.4		
nb	Base speed	rpm	132	296		
nb,i	Base speed at intermittent duty cycle	rpm	97.0	231		
nb,p	Base speed at peak duty cycle	rpm	101	227		
nn	Rated speed	rpm	115	263		
Tn	Rated torque	Nm	1050	1040		
In	Rated current	Arms	41.9	82.4		
τth	Thermal time constant	s	106	106		
Rth	Thermal resistance	K/W	0.0147	0.0147		
2p	Number of poles	-	66	66		
J	Rotor inertia	kg·m²	0.469	0.469		
mr	Rotor mass	kg	28.4	28.4		
ms	Stator mass	kg	41.4	41.4		

MOTOR ENVIRONMENT		UNIT				
Udc	Nominal DC bus voltage	VDC	600	600		
Di	Intermittent duty cycle	%	40	40		
Dp	Peak duty cycle	%	5.0	5.0		
Sr	Rotor exchange surface	m²	0.124	0.124		
θamb	Ambient temperature	°C	20	20		
θmax	Maximum coil temperature	°C	130	130		
θw	Inlet water temperature	°C	20	20		
Δθw	Water temperature difference for Pc	K	5.0	5.0		
qw	Minimum water flow for Δθw	l/min	21	21		
Δpw	Max. pressure drop at qw	bar	1.1	1.1		

Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.

Caution: Any use of the motor beyond speed/torque limit could lead to hazardous voltage and serious injuries. Customer is responsible for setting safeties/limitations that will keep the motor in its safe operating area. ETEL cannot be held responsible if the motor is used in an improper way.

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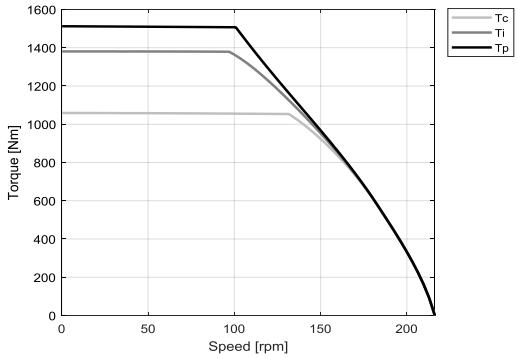
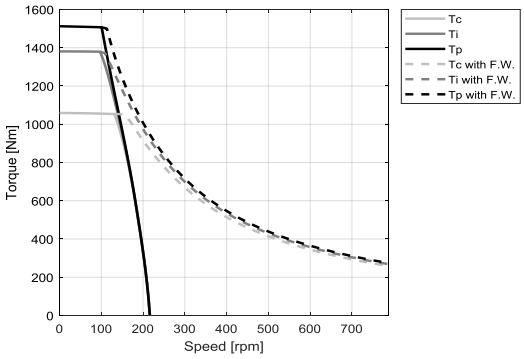
ETEL

HIGH SPEED TORQUE MOTOR TMK0360-100

3UCN - WATER COOLING



3UCN - WATER COOLING



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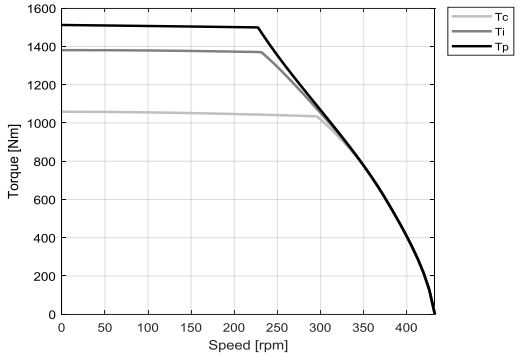
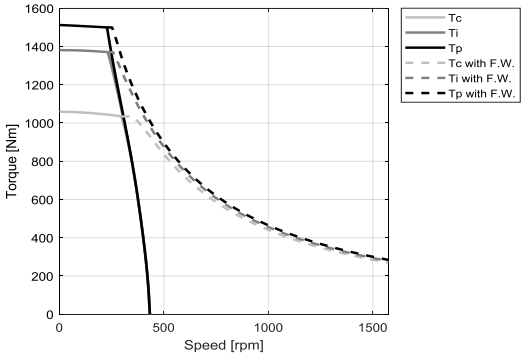


3UFS - WATER COOLING



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