

MOTOR PERFORMANCE		Winding codes	TB	UB		
		UNIT	WATER COOLING	WATER COOLING		
Tp	Peak torque	Nm	2090	2090		
Ti	Intermittent torque	Nm	1560	1510		
Tc	Continuous torque	Nm	1070	1020		
Ts	Standstill torque	Nm	817	781		
Ip	Peak current	Arms	55.1	74.8		
Ii	Intermittent current	Arms	38.1	49.5		
Ic	Continuous current	Arms	24.1	31.3		
Is	Standstill current	Arms	18.3	23.7		
ns	Rated low speed	rpm	0.46	0.47		
nm	Maximum speed without flux weakening	rpm	145	197		
nm,FW	Maximum speed with flux weakening	rpm	281	353		
ton,p	Maximum ON time for peak cycle	s	3.5	2.9		
ton,i	Maximum ON time for intermittent cycle	s	2.7	2.7		
Pp	Power dissipation @ Ip	W	33200	36000		
Pi	Power dissipation @ Ii	W	19700	19300		
Pc	Power dissipation @ Ic	W	7880	7710		
Td	Max. detent torque (average to peak)	Nm	5.2	5.2		

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	47.7	35.1		
Ku	Back EMF constant (*)	Vrms/(rad/s)	27.3	20.1		
Km	Motor constant	Nm/√W	15.0	14.4		
R20	Electrical resistance at 20°C (*)	Ohm	6.78	3.95		
Ld/Lq	Electrical inductance (*)	mH	28.3 / 26.3	15.3 / 14.4		
Isc	Maximum short-circuit current	Arms	33.8	46.0		
nb	Base speed	rpm	83.9	148		
nb,i	Base speed at intermittent duty cycle	rpm	41.5	87.4		
nb,p	Base speed at peak duty cycle	rpm	24.3	61.5		
nn	Rated speed	rpm	64.7	125		
Tn	Rated torque	Nm	1020	801		
In	Rated current	Arms	23.9	25.4		
rth	Thermal time constant	s	39.4	38.6		
Rth	Thermal resistance	K/W	0.0105	0.0105		
2p	Number of poles	-	66	66		
J	Rotor inertia	kg·m²	0.252	0.252		
mr	Rotor mass	kg	18.0	18.0		
ms	Stator mass	kg	37.0	36.8		

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	0.275	0.275		
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	25	24		
Δpw	Max. pressure drop at qw	bar	3.7	3.6		

Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

