

MOTOR PERFORMANCE		Winding codes	3SLN	3ULN	3UXN	
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	
Tp	Peak torque	Nm	7900	7890	7890	
Ti	Intermittent torque	Nm	5940	5920	5850	
Tc	Continuous torque	Nm	4520	4490	4430	
Ts	Standstill torque	Nm	3660	3640	3580	
Ip	Peak current	Arms	243	392	796	
Ii	Intermittent current	Arms	131	210	418	
Ic	Continuous current	Arms	83.1	133	264	
Is	Standstill current	Arms	63.0	101	200	
ns	Rated low speed	rpm	0.051	0.051	0.051	
nm	Maximum speed without flux weakening	rpm	108	173	352	
nm,FW	Maximum speed with flux weakening	rpm	392	632	909	
ton,p	Maximum ON time for peak cycle	s	11	11	10	
ton,i	Maximum ON time for intermittent cycle	s	3.0	3.0	3.0	
Pp	Power dissipation @ Ip	W	83000	84500	88500	
Pi	Power dissipation @ Ii	W	30000	30000	30000	
Pc	Power dissipation @ Ic	W	12000	12000	12000	
Td	Max. detent torque (average to peak)	Nm	21	21	21	

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	63.8	39.6	19.5	
Ku	Back EMF constant (*)	Vrms/(rad/s)	36.9	22.9	11.3	
Km	Motor constant	Nm/√W	57.9	57.5	56.3	
R20	Electrical resistance at 20°C (*)	Ohm	0.810	0.317	0.0800	
Ld/Lq	Electrical inductance (*)	mH	11.0 / 9.19	4.25 / 3.54	1.03 / 0.862	
Isc	Maximum short-circuit current	Arms	58.5	94.3	191	
nb	Base speed	rpm	61.9	107	237	
nb,i	Base speed at intermittent duty cycle	rpm	46.8	83.3	183	
nb,p	Base speed at peak duty cycle	rpm	33.4	62.8	139	
nn	Rated speed	rpm	54.6	95.2	210	
Tn	Rated torque	Nm	4490	4430	4180	
In	Rated current	Arms	82.4	130	246	
rth	Thermal time constant	s	178	179	178	
Rth	Thermal resistance	K/W	0.00895	0.00896	0.00896	
2p	Number of poles	-	132	132	132	
J	Rotor inertia	kg·m²	9.89	9.89	9.89	
mr	Rotor mass	kg	98.9	98.9	98.9	
ms	Stator mass	kg	149	149	149	

MOTOR ENVIRONMENT		UNIT				
Udc	Nominal DC bus voltage	VDC	600	600	600	
Di	Intermittent duty cycle	%	40	40	40	
Dp	Peak duty cycle	%	5.0	5.0	5.0	
Sr	Rotor exchange surface	m²	0.524	0.524	0.524	
θamb	Ambient temperature	°C	20	20	20	
θmax	Maximum coil temperature	°C	130	130	130	
θw	Inlet water temperature	°C	20	20	20	
Δθw	Water temperature difference for Pc	K	5.0	5.0	5.0	
qw	Minimum water flow for Δθw	l/min	35	34	34	
Δpw	Max. pressure drop at qw	bar	2.0	2.0	2.0	

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.

