

MOTOR PERFORMANCE		Winding codes	3SDN	3UHN	3UPN	
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	
Tp	Peak torque	Nm	2460	2460	2460	
Ti	Intermittent torque	Nm	1950	1950	1930	
Tc	Continuous torque	Nm	1490	1490	1470	
Ts	Standstill torque	Nm	1210	1210	1190	
Ip	Peak current	Arms	70.0	226	458	
Ii	Intermittent current	Arms	44.7	144	286	
Ic	Continuous current	Arms	28.3	90.8	181	
Is	Standstill current	Arms	21.4	68.8	137	
ns	Rated low speed	rpm	0.081	0.081	0.081	
nm	Maximum speed without flux weakening	rpm	108	348	707	
nm,FW	Maximum speed with flux weakening	rpm	393	1270	1360	
ton,p	Maximum ON time for peak cycle	s	19	19	18	
ton,i	Maximum ON time for intermittent cycle	s	3.0	3.0	3.0	
Pp	Power dissipation @ Ip	W	30100	30300	31600	
Pi	Power dissipation @ Ii	W	15800	15800	15800	
Pc	Power dissipation @ Ic	W	6320	6320	6320	
Td	Max. detent torque (average to peak)	Nm	9.8	9.8	9.8	

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	63.6	19.7	9.72	
Ku	Back EMF constant (*)	Vrms/(rad/s)	36.8	11.4	5.62	
Km	Motor constant	Nm/√W	27.0	26.9	26.4	
R20	Electrical resistance at 20°C (*)	Ohm	3.69	0.357	0.0900	
Ld/Lq	Electrical inductance (*)	mH	47.8 / 38.4	4.60 / 3.70	1.12 / 0.900	
Isc	Maximum short-circuit current	Arms	20.2	65.1	132	
nb	Base speed	rpm	57.5	228	509	
nb,i	Base speed at intermittent duty cycle	rpm	39.7	177	387	
nb,p	Base speed at peak duty cycle	rpm	30.0	145	310	
nn	Rated speed	rpm	49.8	203	450	
Tn	Rated torque	Nm	1490	1450	1330	
In	Rated current	Arms	28.1	88.0	160	
rth	Thermal time constant	s	168	169	168	
Rth	Thermal resistance	K/W	0.0170	0.0170	0.0170	
2p	Number of poles	-	88	88	88	
J	Rotor inertia	kg·m²	1.77	1.77	1.77	
mr	Rotor mass	kg	42.7	42.7	42.7	
ms	Stator mass	kg	61.9	62.0	61.9	

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	0.172	0.172	0.172	
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	18	18	18	
Δpw	Max. pressure drop at qw	bar	0.6	0.6	0.6	

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.

