

# TORQUE MOTOR

# TML0450-070

PERFORMANCE		Winding codes	3VBN	3VDS
		UNIT	FREE AIR CONVECTION	FREE AIR CONVECTION
Tp	Peak torque	Nm	1630	1630
Tc	Continuous torque	Nm	354	354
Ts	Stall torque	Nm	271	271
Kt	Torque constant	Nm/Arms	36.2	18.1
Ku	Back EMF constant (*)	Vrms/(rad/s)	21.0	10.5
Km	Motor constant	Nm/√W	16.9	16.9
R20	Electrical resistance at 20°C (*)	Ohm	3.08	0.769
L1	Electrical inductance (*)	mH	26.7	6.68
Ip	Peak current	Arms	92.2	184
Ic	Continuous current	Arms	10.1	20.3
Is	Stall current	Arms	7.68	15.4
Pc	Max. continuous power dissipation	W	678	678

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	3100	3100
Rth	Thermal resistance	K/W	0.162	0.162
2p	Number of poles	-	88	88
J	Rotor inertia	kg.m <sup>2</sup>	0.378	0.378
Mr	Rotor mass	kg	11.4	11.4
Ms	Stator mass	kg	24.9	24.9
Td	Max. detent torque (average to peak)	Nm	11	11
ns	Stall speed	rpm	0.0044	0.0044

Notes: (\*) terminal to terminal. Ambient temperature = 20 °C. Max. coil temperature = 130 °C.  
 Hypothesis and tolerances are in ETEL's Handbook. Stator connected to a total surface of 0.30 m<sup>2</sup> and rotor to a total surface of 0.200 m<sup>2</sup>

Caution: Any use of the motor beyond speed/force 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.

