

# TORQUE MOTOR

# TML0291-030

PERFORMANCE		Winding codes	3TBS	3TDS
		UNIT	FREE AIR CONVECTION	FREE AIR CONVECTION
Tp	Peak torque	Nm	249	249
Tc	Continuous torque	Nm	54.3	54.3
Ts	Stall torque	Nm	41.3	41.3
Kt	Torque constant	Nm/Arms	8.50	4.25
Ku	Back EMF constant (*)	Vrms/(rad/s)	4.92	2.46
Km	Motor constant	Nm/√W	4.27	4.27
R20	Electrical resistance at 20°C (*)	Ohm	2.64	0.661
L1	Electrical inductance (*)	mH	17.5	4.37
Ip	Peak current	Arms	46.0	91.9
Ic	Continuous current	Arms	6.68	13.4
Is	Stall current	Arms	5.06	10.1
Pc	Max. continuous power dissipation	W	253	253

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	3250	3250
Rth	Thermal resistance	K/W	0.434	0.434
2p	Number of poles	-	44	44
J	Rotor inertia	kg.m <sup>2</sup>	0.0237	0.0237
Mr	Rotor mass	kg	2.07	2.07
Ms	Stator mass	kg	8.58	8.58
Td	Max. detent torque (average to peak)	Nm	1.1	1.1
ns	Stall speed	rpm	0.0084	0.0084

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 0.08 m<sup>2</sup> and rotor to a total surface of 0.056 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.

