

# TORQUE MOTOR

# TMM0530-030

PERFORMANCE		Winding codes	3VBN	3VDS
		UNIT	FREE AIR CONVECTION (with glued stator)	FREE AIR CONVECTION (with glued stator)
Tp	Peak torque	Nm	997	997
Tc	Continuous torque	Nm	269	269
Ts	Stall torque	Nm	207	207
Kt	Torque constant	Nm/Arms	24.2	12.1
Ku	Back EMF constant (*)	Vrms/(rad/s)	14.0	6.99
Km	Motor constant	Nm/√W	12.5	12.5
R20	Electrical resistance at 20°C (*)	Ohm	2.50	0.624
L1	Electrical inductance (*)	mH	23.2	5.80
Ip	Peak current	Arms	79.6	159
Ic	Continuous current	Arms	11.4	22.9
Is	Stall current	Arms	8.67	17.3
Pc	Max. continuous power dissipation	W	701	701

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	2520	2520
Rth	Thermal resistance	K/W	0.157	0.157
2p	Number of poles	-	88	88
J	Rotor inertia	kg.m <sup>2</sup>	0.276	0.276
Mr	Rotor mass	kg	5.75	5.75
Ms	Stator mass	kg	18.0	18.0
Td	Max. detent torque (average to peak)	Nm	8.5	8.5
ns	Stall speed	rpm	0.0054	0.0054

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 0.15 m<sup>2</sup> and rotor to a total surface of 0.130 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.

