

# TORQUE MOTOR

# TML0210-100

PERFORMANCE		Winding codes	3TBN	3UBS
		UNIT	FREE AIR CONVECTION	FREE AIR CONVECTION
Tp	Peak torque	Nm	445	445
Tc	Continuous torque	Nm	70.4	67.0
Ts	Stall torque	Nm	53.0	50.3
Kt	Torque constant	Nm/Arms	11.2	8.41
Ku	Back EMF constant (*)	Vrms/(rad/s)	6.49	4.86
Km	Motor constant	Nm/√W	5.54	5.27
R20	Electrical resistance at 20°C (*)	Ohm	2.73	1.70
L1	Electrical inductance (*)	mH	15.1	8.52
Ip	Peak current	Arms	56.2	74.9
Ic	Continuous current	Arms	6.36	8.07
Is	Stall current	Arms	4.82	6.12
Pc	Max. continuous power dissipation	W	228	228

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	2920	2920
Rth	Thermal resistance	K/W	0.419	0.419
2p	Number of poles	-	44	44
J	Rotor inertia	kg.m <sup>2</sup>	0.0299	0.0299
Mr	Rotor mass	kg	5.01	5.01
Ms	Stator mass	kg	10.1	10.1
Td	Max. detent torque (average to peak)	Nm	2.1	2.1
ns	Stall speed	rpm	0.0094	0.0094

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 0.20 m<sup>2</sup> and rotor to a total surface of 0.100 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.

