

# TORQUE MOTOR

# TMM0210-050

PERFORMANCE		Winding codes	3TAS	3TBS
		UNIT	FREE AIR CONVECTION (with glued stator)	FREE AIR CONVECTION (with glued stator)
Tp	Peak torque	Nm	218	218
Tc	Continuous torque	Nm	48.0	48.0
Ts	Stall torque	Nm	36.5	36.5
Kt	Torque constant	Nm/Arms	11.0	5.49
Ku	Back EMF constant (*)	Vrms/(rad/s)	6.35	3.18
Km	Motor constant	Nm/√W	3.56	3.56
R20	Electrical resistance at 20°C (*)	Ohm	6.36	1.59
L1	Electrical inductance (*)	mH	29.6	7.40
Ip	Peak current	Arms	28.1	56.2
Ic	Continuous current	Arms	4.45	8.89
Is	Stall current	Arms	3.37	6.73
Pc	Max. continuous power dissipation	W	261	261

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	1460	1460
Rth	Thermal resistance	K/W	0.376	0.376
2p	Number of poles	-	44	44
J	Rotor inertia	kg.m <sup>2</sup>	0.0146	0.0146
Mr	Rotor mass	kg	2.45	2.45
Ms	Stator mass	kg	4.95	4.95
Td	Max. detent torque (average to peak)	Nm	1.0	1.0
ns	Stall speed	rpm	0.019	0.019

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 0.10 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.

