

# TORQUE MOTOR

## TMM0140-030

PERFORMANCE		Winding codes	3RAS	3RBS
		UNIT	FREE AIR CONVECTION (with glued stator)	FREE AIR CONVECTION (with glued stator)
Tp	Peak torque	Nm	38.2	38.2
Tc	Continuous torque	Nm	8.99	8.99
Ts	Stall torque	Nm	6.87	6.87
Kt	Torque constant	Nm/Arms	3.10	1.55
Ku	Back EMF constant (*)	Vrms/(rad/s)	1.79	0.895
Km	Motor constant	Nm/√W	0.950	0.950
R20	Electrical resistance at 20°C (*)	Ohm	7.08	1.77
L1	Electrical inductance (*)	mH	33.8	8.44
Ip	Peak current	Arms	19.8	39.5
Ic	Continuous current	Arms	2.96	5.91
Is	Stall current	Arms	2.24	4.48
Pc	Max. continuous power dissipation	W	131	131

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	1740	1740
Rth	Thermal resistance	K/W	0.796	0.796
2p	Number of poles	-	22	22
J	Rotor inertia	kg.m <sup>2</sup>	0.000998	0.000998
Mr	Rotor mass	kg	0.713	0.713
Ms	Stator mass	kg	2.48	2.48
Td	Max. detent torque (average to peak)	Nm	0.20	0.20
ns	Stall speed	rpm	0.031	0.031

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 0.04 m<sup>2</sup> and rotor to a total surface of 0.018 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.

