

TORQUE MOTOR

TMM0450-050

PERFORMANCE		Winding codes	3VBN	3VDS
		UNIT	FREE AIR CONVECTION (with glued stator)	FREE AIR CONVECTION (with glued stator)
Tp	Peak torque	Nm	1160	1160
Tc	Continuous torque	Nm	296	296
Ts	Stall torque	Nm	228	228
Kt	Torque constant	Nm/Arms	25.9	12.9
Ku	Back EMF constant (*)	Vrms/(rad/s)	15.0	7.48
Km	Motor constant	Nm/√W	13.6	13.6
R20	Electrical resistance at 20°C (*)	Ohm	2.40	0.601
L1	Electrical inductance (*)	mH	19.1	4.78
Ip	Peak current	Arms	92.2	184
Ic	Continuous current	Arms	12.0	23.9
Is	Stall current	Arms	9.07	18.1
Pc	Max. continuous power dissipation	W	739	739

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	2340	2340
Rth	Thermal resistance	K/W	0.149	0.149
2p	Number of poles	-	88	88
J	Rotor inertia	kg.m ²	0.270	0.270
Mr	Rotor mass	kg	8.15	8.15
Ms	Stator mass	kg	19.3	19.3
Td	Max. detent torque (average to peak)	Nm	7.5	7.5
ns	Stall speed	rpm	0.0058	0.0058

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 0.21 m² and rotor to a total surface of 0.150 m²

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.

