

AR70C4 Brushless DC/AC Servomotors

Technical Data (Replaces SEM HR70C series)

Parameter	Units	AR70C4-64S	AR70C4-44S	AR70C4-32S
GENERAL				
Voltage Gradient No Load	Line-Line Volts (Peak)/1000RPM	64	44	32
Max. Motor EMF	Line - Line Volts	510	350	260
Max. Speed	RPM	8000	8000	8000
Insulation Class		F	F	F
Max. Ambient Temperature	°C (°F)	40 (104)	40 (104)	40 (104)
Thermal Time Constant	Minutes	25	25	25
Static Friction Torque	Nm lb-in	0.002 0.018	0.002 0.018	0.002 0.018
Peak Stall Torque	Nm (lb-in)	4.3 (38)	4.3 (38)	4.3 (38)
Continuous Stall Current rms ^ψ	Amps	1.6	2.3	3.2
Rotor Polar Moment of Inertia (Inclusive of Resolver Inertia)	kgcm ² lb-in sec ²	0.47 0.00042	0.47 0.00042	0.47 0.00042
Maximum Current (Peak)	Amp	10.2	15	21
Continuous Stall Torque TENV (110K)^ψ	Nm (lb-in)	1.2 (10.6)	1.2 (10.6)	1.2 (10.6)
Cogging Torque	Nm	0.039	0.039	0.039
(No shaft seal fitted)	lb - in	0.35	0.35	0.35
Torque Constant Kt_{rms}^{*†}	Nm/Amp lb-in/Amp	0.75 6.6	0.51 4.5	0.375 3.3
(Size 150 x 150 x 6 mm)	Nm	1.3	1.3	1.3
Cont. Stall Torque when fitted to Heatsink (Size 6 x 6 x 0.25 in)	lb-in	11.5	11.5	11.5
STATOR WINDING				
Resistance Line-Line*	Ohms	12.5	5.3	2.9
Inductance Line-Line	MilliHenrys	25	11.6	6
Thermal Resistance	°C/Watt °F/Watt	1.7 3.6	1.7 3.6	1.7 3.6
Motor Weight	kg (lb)	2.6 (5.7)	2.6 (5.7)	2.6 (5.7)

Notes

- Tolerance** - All data is subject to a tolerance of ±10% (except motor 'Voltage Gradient' and Kt which are to +15%/-5%).
- *** - At 25°C.
- †** - Note that Kt is shown as a combined value for all **three phases**.
- ψ** - The temperature rise ΔT on the windings is 110K and applies to all continuous torque values. The maximum ambient temperature is 40°C and therefore the temperature on the windings should not be more than 150°C. A value higher than 150°C would exceed the class F insulation temperature specification.