

EMRAX 348 Technical Data Table

Type	EMRAX 348 High Voltage			EMRAX 348 Medium Voltage			EMRAX 348 Low Voltage		
Technical data									
Air cooling = AC Liquid cooling = LC Combined cooling = Air + Liquid cooling = CC	AC	LC	CC	AC	LC	CC	AC	LC	CC
Ingress protection	IP21	IP65	IP21	IP21	IP65	IP21	IP21	IP65	IP21
Cooling medium specification (Air Flow = AF; Water Flow = WF – if inlet water temperature and/or ambient temperature are lower, then continuous power is higher)	AF speed 25 m/s; 25°C	inlet WF 8 l/min - 40°C; ambient air 25°C	inlet WF 8 l/min - 40°C; ambient air 25°C	AF speed 25 m/s; 25°C	inlet WF 8 l/min - 40°C; ambient air 25°C	inlet WF 8 l/min - 40°C; ambient air 25°C	AF speed 25 m/s; 25°C	inlet WF 8 l/min - 40°C; ambient air 25°C	inlet WF 8 l/min - 40°C; ambient air 25°C
Weight [kg]	39	40	40	39	40	40	39	40	40
Diameter ϕ / width [mm]	348 / 107								
Battery voltage range [Vdc]	10 – 800			10 – 800			10 – 130 (300*)		
Peak motor power (for few min at cold start / few seconds at hot start) [kW]	300			300			300		
Continuous motor power (depends also on the motor RPM [kW]	100	100	125	150	150	170	70 (150*)	70 (150*)	80 (170*)
Maximal rotation speed [RPM] (3500 RPM with Magnetic Field Weakening)	2200			3350			1500 (3500*)		
Maximal motor current (for 2 min if cooled as described in Manual) [Arms]	300			450			1200		
Continuous motor current [Arms]	140			210			600		
Maximal motor torque (for a few seconds) [Nm]	1000								
Continuous motor torque [Nm]	500								
Torque / motor current [Nm/1Aph rms]	3,5			2,3			0,85		
Cogging torque [Nm]	5								
Maximal temperature of the copper windings in the stator and max. temp. of the magnets [°C]	120								
Motor efficiency [%]	94 - 98								
Internal phase resistance at 25 °C [m Ω]	36			15			2		
Input phase wire cross-section [mm ²]	10,2			15,2			38		
Induction in Ld/Lq [μ H]	700**			300**			40**		
Controller / motor signal	sine wave								
Specific idle speed (no load) [RPM/1Vdc]	2,75			4,2			11,4		
Specific - load speed (depends on the controller settings) [RPM/1Vdc]	2,3 – 2,75			3,5 – 4,2			9,5 – 11,4		
Magnetic field weakening (for higher RPM at lower torque) [%]	up to 50 %								
Magnetic flux – axial [Vs]	N/A			N/A			N/A		
Temperature sensor in the motor	kty 81/210								
Number of pole pairs	10								
Rotor inertia (mass dia=270 mm, m=20kg) [kg*cm ²]	N/A								
Bearings SKF _ FAG	R/R 6009								

*For a few seconds.

**Approximate data.

Maximal battery voltage is 800 Vdc (EMRAX 348 High Voltage). Maximal 3500 RPM must not be exceeded.
It is possible to weaken the magnetic field (up to 50%) to get higher RPM at existing battery voltage.