

BLDC 50

S14K - 48V MAXIMUM POWER DESIGN*
22.1.056

preliminary datasheet

Rated voltage [V]	No load speed**** [rpm]	Rated speed** [rpm]	Rated power** [W]	Rated torque** [mNm]	Rated current** [A]	Max. Efficiency [%]	Max. torque*** [Nm]
48	4500	3850****	160	391****	3.7	86	2.55

*) Rotor magnets are not protected against impacts

**) Based on heat test results with winding temperature rise of $T = 70K$ and no heat conduction to outside. Measured at 25°C ambient temperature (also valid for motor characteristics on 2nd page).

***) Theoretical stall current, $I_{stall} = 5.5 A$

****) Highly dependent on installation situation

General Information

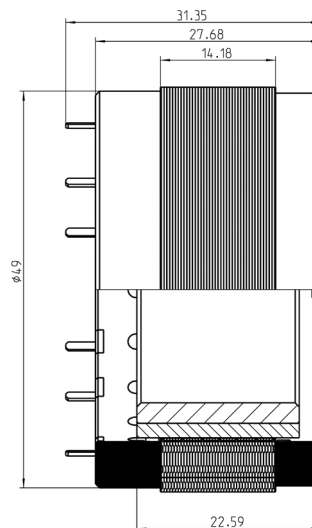
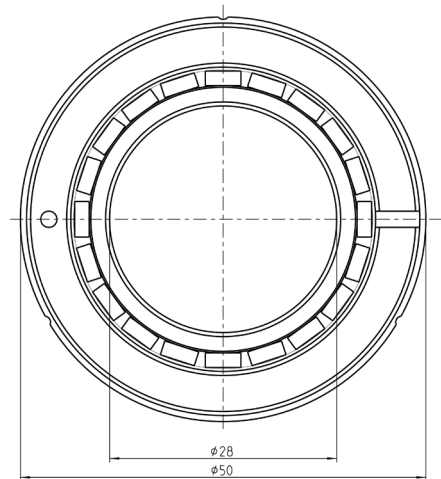
- Class of protection: IP20
- Duty cycle: up to 100 %
- Torque constant: 104.8 mNm/A
- Weight: 210 g
- Ambient Temp Range: 0 °C to +40 °C
- Insulation class for winding: B (130 °C)
- Max. Temp. Rise: 70 K
- Direction of Rotation: CW / CCW
- Number of Poles: 20
- Terminal resistance [Rph-ph]: 0.85 Ohm
- Terminal inductance [Lph-ph]: 550 μH
- Thermal resistance winding-air: 2.15 K/W

Features

- High power-to-volume ratio
- High efficiency at duty point
- High reliability

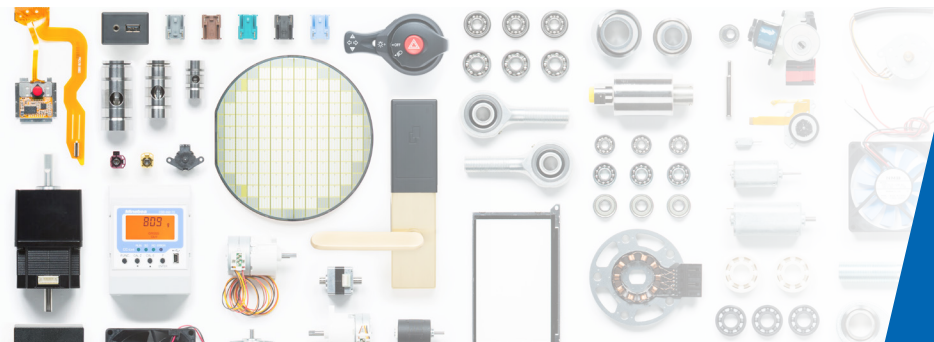
Options

- Sensorless Operation: Yes



NMB

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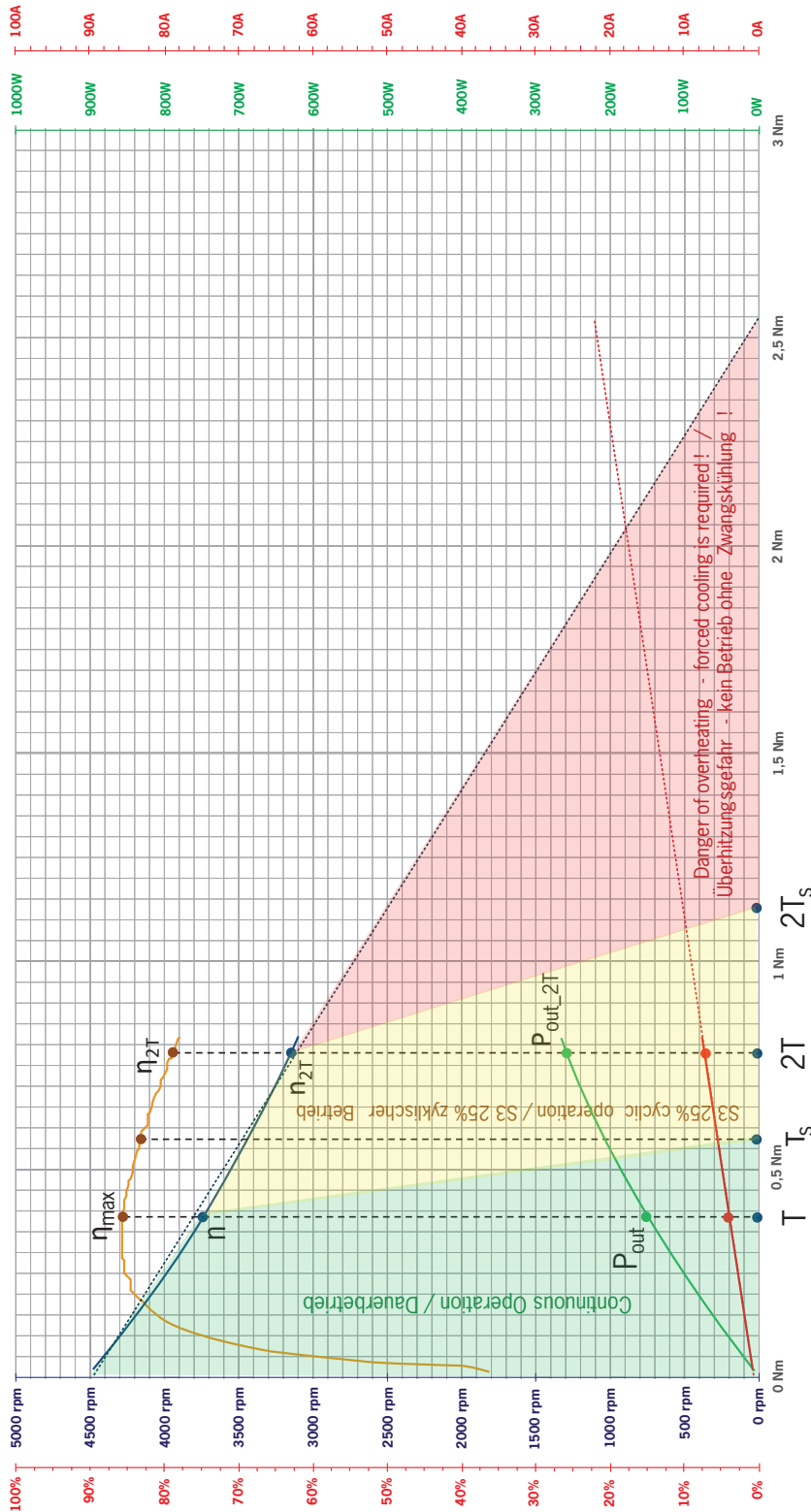


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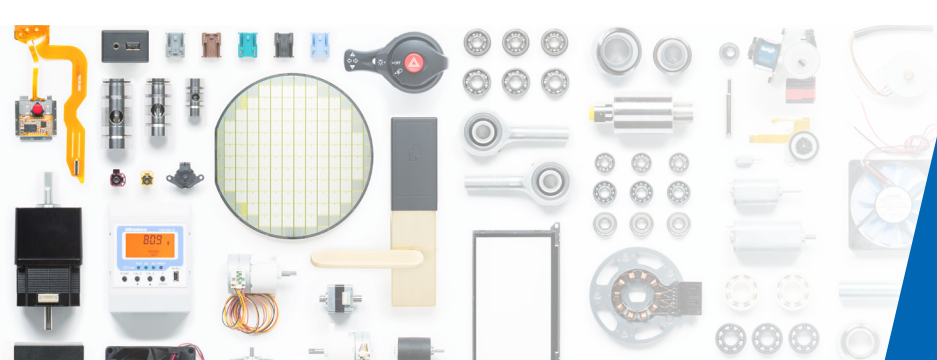
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Volt	No Load				Rated operation mode				S3 25% Operation mode			
	Speed [n ₀]	Efficiency [η _{max}]	Torque [T]	Power [P _{out}]	Speed [n]	Efficiency [η _{2T}]	Torque [2T]	Power [P _{out}]	Speed [n _{2T}]	Efficiency [η _{2T}]	Torque [2T]	Power [P _{out_2T}]
48 V	4500 rpm	86%	391 mNm	160 W	3840 rpm	78 %	782 mNm	160 W	3140 rpm	78 %	782 mNm	261 W

n ₀	n	n _{2T}	Max. Output Power		Rated torque	
			P _{out_max}	P _{out}	T	T _s



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