

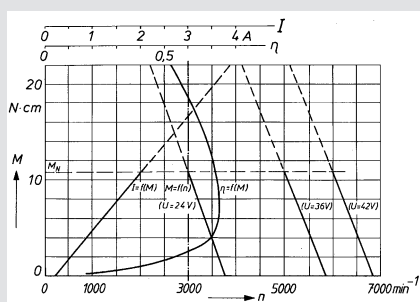
# DC motor with permanent magnet



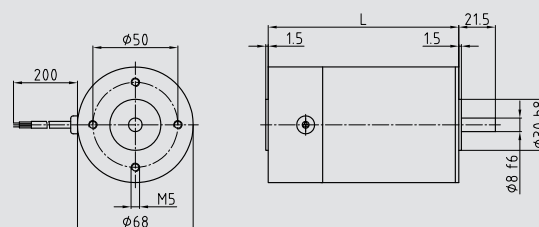
<b>Properties:</b>	<p>Connection: Connection to the power supply, battery, PWM controller or control amplifier, residual ripple of the operating voltage max. 5% Cable connection, optional plug-in connector</p> <p>Commutation: Mechanical commutation using a 12-part commutator</p> <p>Magnetic system: 2-pole permanent ferrite magnet</p> <p>Service life: 5,000 h, S1 operation</p> <p>Insulation mat. class: B, optional F</p> <p>System of protection: IP 40, optional IP 65</p> <p>Special model: Design for short-time duty with high performance, additional voltages and speeds upon request</p> <p>Options: Special shafts, custom designed</p>
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Type	Name			G 645	G 665	G 665 S
	Nominal voltage	U	DC voltage	24	24	24
<b>Rate</b>	Nominal power	P <sub>2</sub>	W	34	58.1	74.4
	Nominal speed	n <sub>nom</sub>	rpm	3000	3000	3000
	Nominal torque	T <sub>nom</sub>	Ncm	10.8	18.5	24.5
	Nominal current	I <sub>nom</sub>	A	2	3.2	4.3
	Starting torque	T <sub>A</sub>	Ncm	48	114	130
	Idling speed	n <sub>idle</sub>	rpm	3700	3550	3600
	No-load current	I <sub>0</sub>	A	0.3	0.3	0.4
<b>Characteristics</b>	Gradient speed torque curve	1 / k	mNm / rpm		0.47	0.67
	Speed constant	c <sub>n</sub>	rpm / V		135	123
	Torque constant	c <sub>T</sub>	Ncm / A		5.33	6.04
	Nominal efficiency	η		0.71	0.76	0.78
<b>Connection</b>	Terminal resistance	R	Ohm		0.8	0.8
	Rated input power	P <sub>1</sub>	W	48	77	103
<b>Dynamics</b>	Weight	m	kg	1.2	1.5	1.6
	Moment of inertia	J	gcm <sup>2</sup>	400	665	850
	Mech. time constant	τ <sub>M</sub>	ms		15	13
<b>Thermal</b>	Adm. ambient temperature	T	°C	-20 to +40	-20 to +40	-20 to +40
	max. adm. rotor temperature	T <sub>max</sub>	°C	+120	+120	+120
<b>Coupling</b>	Shaft diameter	d	mm	8	8	8
	Max. axial force	F <sub>a</sub>	N	20	20	20
	Max. radial force	F <sub>r</sub>	N	220	220	220

### Dimensions - Characteristics



Type	L / mm
G 645	92
G 665	112
G 665 S	112



### System technology

#### Recommended combinations

other gears and extensions upon request

Worm gear	GS 3	S 668	S 567
Spur gear	Z 6	Z 8	M 7
Planetary gear	PM 50		
Rotary encoder	RV 30	RI 30	
Brake	B 77		
Electronics	UCE 24		