

Brushless DC motor

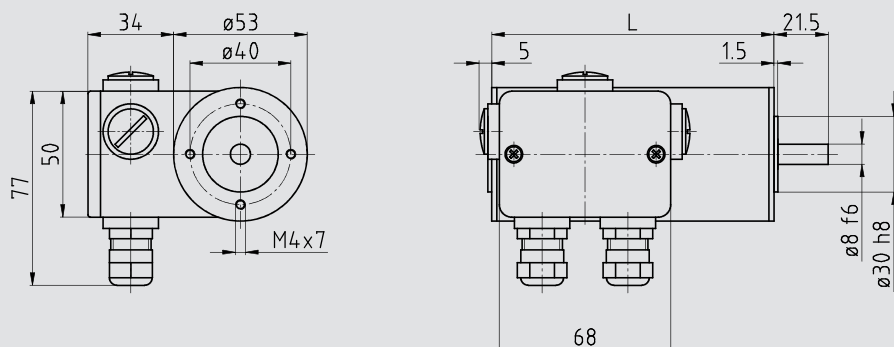
Properties:	Operation:	on the external standard controller (block commutation); Rotor position sensing by 3 hall sensors
	Connection:	K4 terminal box for power supply and sensors
	Rotor:	4-pole neodymium magnet, low cogging torque due to continuous angular magnetization
	Service life:	20,000 h, S1 duty
	Insulation mat. class:	F (155°C)
	System of protection:	IP 44, optional up to IP 65 (IP 69)
	Special Versions:	Design for short-time duty with higher performance, additional voltages and speeds upon request
	Options:	Thermal protection, special shafts, special flanges, stainless steel



Type	Name	U	Volt DC	MQ 543	MQ 563
	Nominal voltage			24	24
Rate	Nominal power	P ₂	W	70	114
	Nominal speed	n _{nenn}	rpm	2890	3110
	Nominal torque	M _{nenn}	Nm	0.23	0.35
	Nominal current	I _{nennDC}	A	4.6	6.9
	Nominal efficiency	η		0.64	0.69
	Input power	P ₁	W	110	166
	Torque constant	k _M	Ncm/A	4.9	5.1
	Max. current (2sec)	I _{max}	A	3 × I _{nennDC}	3 × I _{nennDC}
	Max. torque	M _{max}	Nm	3 × M _{nenn}	3 × M _{nenn}
	Cogging torque		mNm	-	-
Idling	Idling speed	n ₀	rpm	4000	4100
	Idling current	I ₀	A	0.7	0.7
Short-time duty (S2 5min)	Speed	n _{nenn}	rpm	2400	2500
	Torque	M _{nenn}	Nm	0.35	0.55
	Current	I _{nennDC}	A	6.4	10.05
Connection	Terminal resistance	R	mOhm	1040	600
	Terminal inductance	L	μH	765	495
Dynamics	Weight	m	kg	1.2	1.4
	Moment of inertia	J	gcm ²	180	260
Thermal	Adm. ambient temperature	T _U	°C	-20 to +40	-20 to +40
	Max. adm. stator temperature	T _{max}	°C	+155 „ISO F“	+155 „ISO F“
Coupling	Shaft diameter	d	mm	10	10
	Max. axial force	F _a	N	40	40
	Max. radial force	F _r	N	400	400

Dimensions

Type	L / mm
MQ 543	112
MQ 563	132



System technology

Recommended combinations other gears and extensions upon request	Worm gear	S 668
	Spur gear	M 7
	Planetary gear	PM 50
	Rotary encoder	RV 30 RI 30
	Brake	B 77
	Electronics	mcDSA-E45 or mcDSA-E65