

M3G-Motor

M3G084



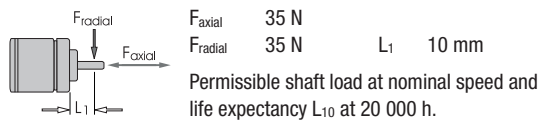
- 3-phase, 6-pulse external rotor motor.
- EC technology.
- 6-pole rotor with ferrit magnet segments, dynamically balanced.
- Determination of rotor position via 3 Hall sensors, designed for 60° commutation logic.
- Precision ball bearings for long service and life and silent running.
- Motor supply via external operating electronics.

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Nominal data

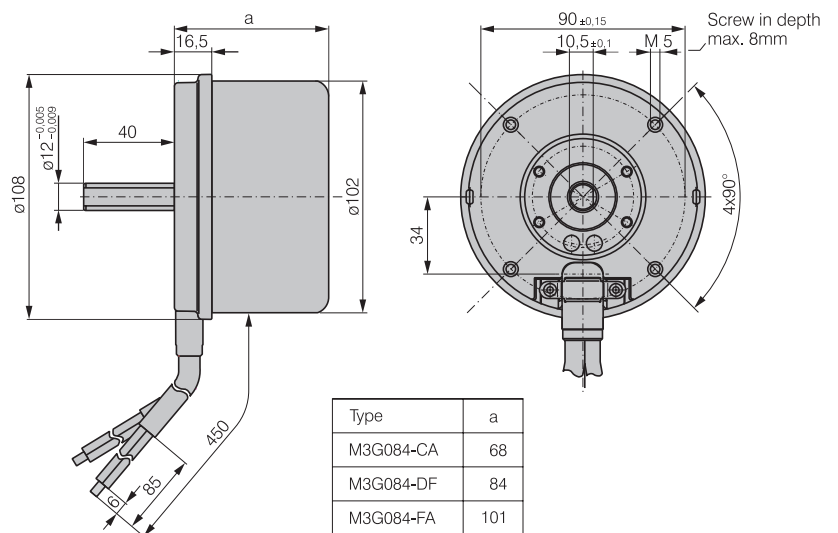
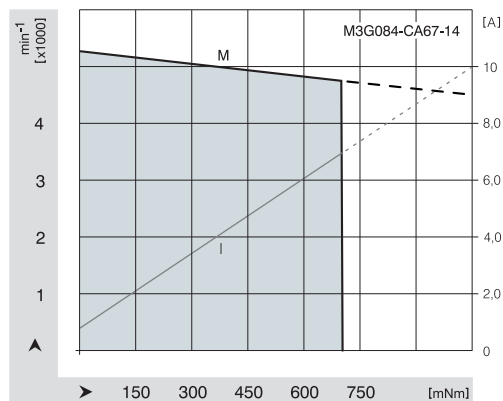
Type M3G084-		CA67-14	DF34-14	FA21-14
Nominal voltage (U_{BN})	V DC	60	60	60
Nominal speed (n_N)	min^{-1}	4 700	3 600	3 050
Nominal torque (M_N)	mNm	700	1 200	1 600
Nominal current (I_{BN})	A	7.0	9.2	11
Nominal output power (P_N)	W	340	450	510
Free-running speed (n_L)	min^{-1}	5 300	4 250	3 700
Free-running current (I_{BL})	A	0.9	0.85	0.9
Permanent stall torque (M_{BN0})	mNm	700	1 200	1 600
Permissible eff. stall current, motor lead (I_{n0eff})	A	7.0	9.2	11
Permissible permanent input power at stall (P_{BN0})	W	15	21	29
Short-term permiss. peak torque (M_{max})	mNm	2 800	3 600	4 800
Permiss. peak current, motor lead (I_{max})	A	28	40	45
Induced voltage (U_{imax})	$\text{V}/1000\text{min}^{-1}$	8.9	11.1	12.4
Terminal resistance (R_v)	Ω	0.23	0.185	0.18
Terminal inductance (L_v)	mH	1.5*	1.34*	1.32*
Rotor moment of inertia (J_R)	$\text{kgm}^2 \times 10^{-6}$	1 530	2 080	2 580
Thermal resistance (R_{th})	K/W	-	-	-
Protection class		IP 00	IP 00	IP 00
Ambient temperature range (T_U)	$^{\circ}\text{C}$	0 ... +40	0 ... +40	0 ... +40
Motor mass (m)	kg	2.0	2.6	3.3
Order No.		M3G084-CA67-14	M3G084-DF34-14	M3G084-FA21-14

* Terminal inductance without magnetic rotor



Operating Electronics:

DRIVECONTROL VT-E / Order No. 992 0490 000 resp. 992 0490 020



M3G-Motor

M3G112



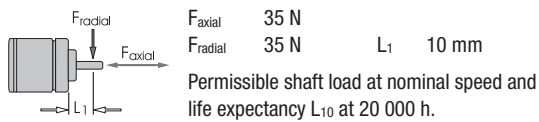
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Nominal data

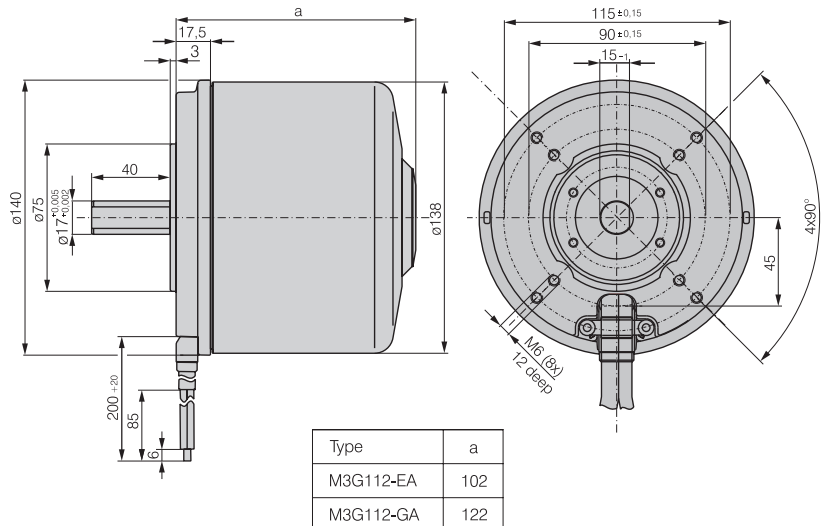
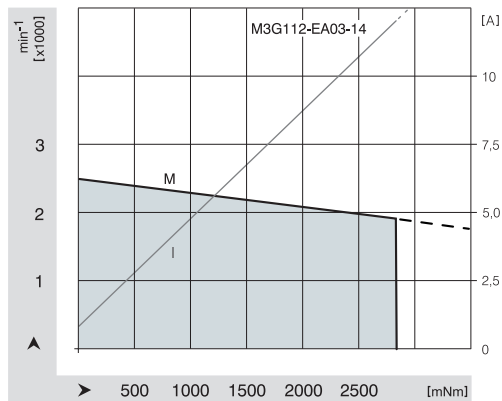
Type M3G112-		EA03-14	GA01-14
Nominal voltage (U_{BN})	V DC	60	60
Nominal speed (n_N)	min ⁻¹	1 950	1 180
Nominal torque (M_N)	mNm	2 800	4 200
Nominal current (I_{BN})	A	12	11
Nominal output power (P_N)	W	570	520
Free-running speed (n_L)	min ⁻¹	2 500	1 300
Free-running current (I_{BL})	A	0.8	0.8
Permanent stall torque (M_{BND})	mNm	2 800	4 200
Permissible eff. stall current, motor lead (I_{Noeff})	A	12	11
Permissible permanent input power at stall (P_{BND})	W	105	105
Short-term permiss. peak torque (M_{max})	mNm	8 500	13 000
Permiss. peak current, motor lead (I_{max})	A	35	45
Induced voltage (U_{imax})	V/1000min ⁻¹	18.6	18.6
Terminal resistance (R_V)	Ω	0.55	0.65
Terminal inductance (L_V)	mH	1.7*	3.25*
Rotor moment of inertia (J_R)	kgm ² x10 ⁻⁶	9 940	12 260
Thermal resistance (R_{th})	K/W	-	-
Protection class		IP 00	IP 00
Ambient temperature range (T_U)	°C	0 ... +40	0 ... +40
Motor mass (m)	kg	5.3	6.8
Order No.		M3G112-EA03-14	M3G112-GA01-14

* Terminal inductance without magnetic rotor



Operating Electronics:

DRIVECONTROL VT-E / Order No. 992 0490 000 resp. 992 0490 020



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Special solutions

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Rotor protective caps



The external rotor motors of the M3G series can be equipped with rotor protective caps of polyamid 6.6 according to customer requirements. The protective caps are directly attached to the motor flange.

The protective caps provide excellent shock-hazard and installation protection. For environmentally critical applications and for complying with higher protection classes, we provide optional solutions with protection against humidity or encapsulation of the electronics and the stator.

Customer-specific special solutions



All motors of the M3G series are available on request with customer-specific winding layouts (24 V DC, 48 V DC, 60 V DC, 110 V DC and 230 V AC are standard) as well as with optimum adaptation to the relevant application. This includes not only customer-specific shaft designs but also various cables and plugs. For gear applications a range of time-tested spur gears is available.