

DC-Micromotors

131 mNm

Graphite Commutation

110 W

Va	ues at 22°C and nominal voltage	3863 H		012 CR	018 CR	024 CR	036 CR	048 CR	
1	Nominal voltage	Un		12	18	24	36	48	V
2	Terminal resistance	R		0,16	0,36	0,64	1,55	2,58	Ω
3	Efficiency, max.	$\eta_{\scriptscriptstyle max.}$		83	84	85	86	86	%
4	No-load speed	n _o		5 600	5 900	5 800	5 800	5 800	min-1
5	No-load current, typ. (with shaft ø 6 mm)	l o		0,335	0,232	0,168	0,112	0,084	Α
6	Stall torque	Мн		1 424	1 394	1 455	1 363	1 461	mNm
7	Friction torque	M _R		6,5	6,5	6,5	6,5	6,5	mNm
8	Speed constant	K n		480	332	240	160	120	min-1/V
9	Back-EMF constant	Kε		2,08	3,01	4,17	6,25	8,33	mV/min⁻¹
10	Torque constant	k м		19,9	28,8	39,8	59,8	79,7	mNm/A
11	Current constant	k ı		0,05	0,035	0,025	0,017	0,013	A/mNm
12	Slope of n-M curve	$\Delta n I \Delta M$		3,9	4,1	3,9	4,1	3,9	min-1/mNm
13	Rotor inductance	L		45	90	180	400	700	μH
14	Mechanical time constant	τ_m		4,8	4,8	4,8	4,8	4,7	ms
15	Rotor inertia	J		120	110	120	110	115	gcm ²
16	Angular acceleration	C(max.		119	127	121	124	127	·10³rad/s²
	3				•		•	•	
17	Thermal resistance	Rth1 / Rth2	2,5/6						K/W
18	Thermal time constant	$ au_{w1}$ / $ au_{w2}$	50 / 900						s
19	Operating temperature range:								
	- motor		-30 +12	25					°C
	– winding, max. permissible			55					°C
20	Shaft bearings ball bearings, preloaded								
	Shaft load max.:			3 , ,					
	 with shaft diameter 	6						mm	
	- radial at 3 000 min ⁻¹ (3 mm from bearing)	60						N	
	- axial at 3 000 min ⁻¹	6						N	
	– axial at standstill		50						N
22	Shaft play:								
	– radial	≤	0,015						mm
	– axial	=	0						mm
23	Housing material		steel, blac	k coated					
24	24 Mass 390								g
25	Direction of rotation clockwise, viewed from the front face								
26	Speed up to						min ⁻¹		
27	Number of pole pairs		1						
28	Magnet material		NdFeB						
Ra	ted values for continuous operation		·						
	Rated torque	MΝ		69	99	129	126	131	mNm
30	Rated current (thermal limit)	IN		4	4	4	2,6	2	Α
	Rated speed			5 430	5 660	5 510	5 500	5 550	min-1

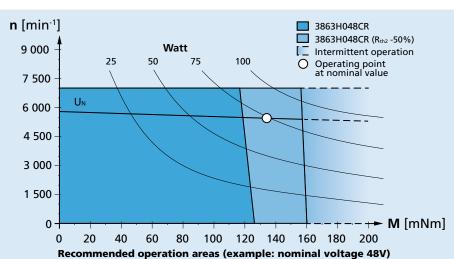
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The Rth2 value has been reduced by 25%.

Note:

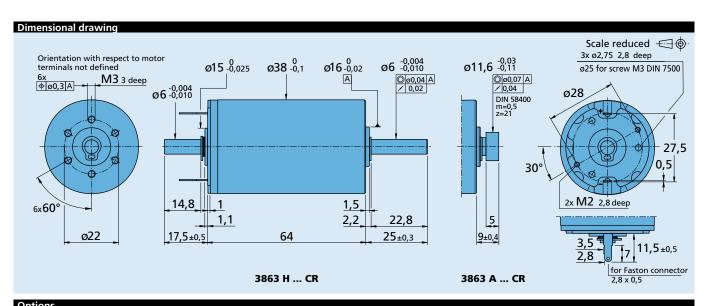
The diagram indicates the recommended speed in relation to the available torque at the output shaft for a given ambient temperature of 22°C.

The diagram shows the motor in a completely insulated as well as thermally coupled condition (Rth2 50% reduced).

The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.







Options								
Example product designation: 3863H012CR-158								
Option	Туре	Description						
U	Single Leads	For motors with single leads (PTFE), length 160 mm, red (+) / black (-)						
158	Shaft end	No second shaft end						
2016 Encoder combination Motor with rear end shaft for combination with Encoder IE3, IERS3 and IER.		Motor with rear end shaft for combination with Encoder IE3, IERS3 and IER3						
1387	Brakes combination	For combination with Brakes MBZ						

Product combination											
Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories								
38A 38/1 38/1 S 38/2 38/2 S 42GPT 44/1	IE3-1024 IE3-1024 L IERS3-500 IERS3-500 L IER3-10000 IER3-10000 L	SC 2804 S SC 5004 P SC 5008 S MCDC 3006 S MC 5010 S	MBZ To view our large range of accessory parts, please refer to the "Accessories" chapter.								