

Brushless DC-Servomotors

191 mNm

For combination with

Gearheads:
38A, 44/1

Encoders:
IE3-1024, IE3-1024 L, 40B

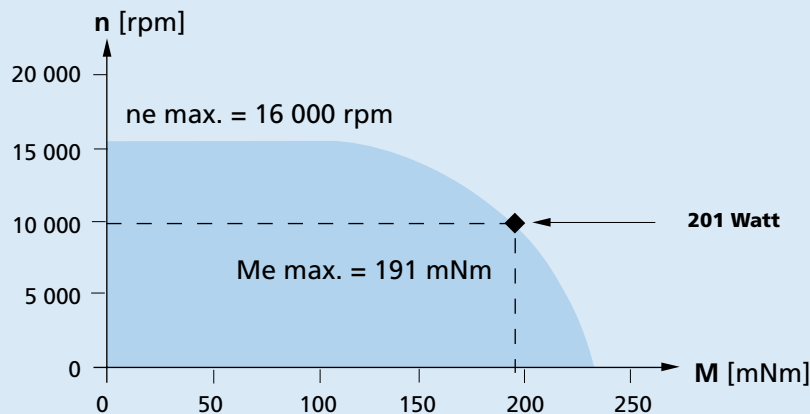
Drive Electronics:
Speed Controller, Motion Controller

Series 4490 ... B

	4490 H		024 B	036 B	048 B	
1 Nominal voltage	U_N		24	36	48	Volt
2 Terminal resistance, phase-phase	R		0,237	0,445	0,720	Ω
3 Output power ¹⁾	$P_2 \text{ max.}$		201	201	200	W
4 Efficiency	$\eta \text{ max.}$		86	86	86	%
5 No-load speed	n_0		9 550	10 450	11 000	rpm
6 No-load current (with shaft \varnothing 6,0 mm)	I_0		0,554	0,432	0,354	A
7 Stall torque	M_H		2 406	2 637	2 758	mNm
8 Friction torque, static	C_0		3,65	3,65	3,65	mNm
9 Friction torque, dynamic	C_v		$1,0 \cdot 10^{-3}$	$1,0 \cdot 10^{-3}$	$1,0 \cdot 10^{-3}$	mNm/rpm
10 Speed constant	k_n		401	292	231	rpm/V
11 Back-EMF constant	k_E		2,495	3,422	4,335	mV/rpm
12 Torque constant	k_M		23,83	32,68	41,40	mNm/A
13 Current constant	k_I		0,042	0,031	0,024	A/mNm
14 Slope of n-M curve	$\Delta n / \Delta M$		4,0	4,0	4,0	rpm/mNm
15 Terminal inductance, phase-phase	L		76	143	236	μH
16 Mechanical time constant	τ_m		5	5	5	ms
17 Rotor inertia	J		130	130	130	gcm^2
18 Angular acceleration	$\alpha \text{ max.}$		185	203	212	$\cdot 10^3 \text{ rad/s}^2$
19 Thermal resistance	$R_{th 1} / R_{th 2}$	1,35 / 3,94				K/W
20 Thermal time constant	τ_{w1} / τ_{w2}	29 / 1 756				s
21 Operating temperature range		- 30 ... +125				$^{\circ}\text{C}$
22 Shaft bearings		ball bearings, preloaded				
23 Shaft load max.:						
– radial at 3 000/10 000 rpm (13,5 mm from mounting flange)		103 / 66				N
– axial at 3 000/10 000 rpm (push-on only)		45 / 30				N
– axial at standstill (push-on only)		135				N
24 Shaft play:						
– radial	\leq	0,015				mm
– axial	\equiv	0				mm
25 Housing material		aluminium, black anodized				
26 Weight		750				g
27 Direction of rotation		electronically reversible				
Coil connection		Δ Delta-circuit				
Recommended values - mathematically independent of each other						
28 Speed up to ²⁾	$n_e \text{ max.}$		16 000	16 000	16 000	rpm
29 Torque up to ^{1) 2)}	$M_e \text{ max.}$		191,8	191,9	191,1	mNm
30 Current up to ^{1) 2)}	$I_e \text{ max.}$		8,62	6,29	4,95	A

¹⁾ at 10 000 rpm

²⁾ thermal resistance $R_{th 2}$ by 55% reduced



Recommended area for continuous operation

