

Brushless DC-Servomotors

31,1 mNm

Electronic Commutation

For combination with:
 Gearheads: 30/1, 38/1, 38/2
 Encoders: 5500, 5540
 Drive Electronics: BLD 5608, BLD 5606, MCBL 2805,
 MCBL 3603, MCBL 5004,
 MVP 2001

Series 3556 ... B

	3556 K	024 B	036 B	048 B	
1 Nominal voltage	U_N	24	36	48	Volt
2 Terminal resistance, phase-phase	R	1,2	2,7	4,6	Ω
3 Output power ¹⁾	$P_{2\max.}$	37	38	39	W
4 Efficiency	$\eta_{\max.}$	71	72	72	%
5 No-load speed	n_o	13 800	13 550	13 600	rpm
6 No-load current (with shaft \varnothing 4,0 mm)	I_o	0,544	0,346	0,261	A
7 Stall torque	M_H	311	327	339	mNm
8 Friction torque, static	C_o	2,17	2,17	2,17	mNm
9 Friction torque, dynamic	C_v	$47 \cdot 10^{-5}$	$47 \cdot 10^{-5}$	$47 \cdot 10^{-5}$	mNm/rpm
10 Speed constant	k_n	601	387	291	rpm/V
11 Back-EMF constant	k_E	1,665	2,587	3,435	mV/rpm
12 Torque constant	k_M	15,9	24,7	32,8	mNm/A
13 Current constant	k_I	0,063	0,040	0,030	A/mNm
14 Slope of n-M curve	$\Delta n/\Delta M$	45	42	41	rpm/mNm
15 Terminal inductance, phase-phase	L	92	207	352	μ H
16 Mechanical time constant	τ_m	27	26	25	ms
17 Rotor inertia	J	59	59	59	gcm^2
18 Angular acceleration	$\alpha_{\max.}$	53	55	58	$\cdot 10^3 \text{rad/s}^2$
19 Thermal resistance	R_{th1} / R_{th2}	2,6 / 9,3			K/W
20 Thermal time constant	τ_{w1} / τ_{w2}	11 / 1 238			s
21 Operating temperature range		- 30 ... +125			$^{\circ}\text{C}$
22 Shaft bearings		ball bearings, preloaded			
23 Shaft load max.:					
- radial at 3000 rpm (6 mm from bearing)		107			N
- axial at 3000 rpm (axial push-on only)		50			N
- axial at standstill (axial push-on only)		131			N
24 Shaft play:					
- radial	\leq	0,015			mm
- axial	$=$	0			mm
25 Housing material		aluminium, black anodized			
26 Weight		290			g
27 Direction of rotation		electronically reversible			
Recommended values					
28 Speed up to ²⁾	$n_e \max.$	15 000	15 000	15 000	rpm
29 Torque up to ^{1) 2)}	$M_e \max.$	29,1	30,4	31,1	mNm
30 Current up to ^{1) 2)}	$I_e \max.$	2,32	1,55	1,19	A

¹⁾ at 12 000 rpm

²⁾ thermal resistance R_{th2} by 55% reduced

