

DC BRUSHLESS MOTOR SPEED DRIVER INTEGRATED SERIES

ASSUN
DRIVING THE FUTURE

AM-BD3660AN Series

Brushless Motor		Ball Bearings						
Motor Model		1211	1209	2413	2410	2408	2407	
Nominal voltage	V	12	12	24	24	24	24	
No load speed $\pm 12\%$	rpm	11200	8840	12500	10200	8200	6966	
No load current Max 150%	mA	320	230	220	165	100	85	
Recommend limit for continuous operating	Max cont. torque	mN.m	39.5	43.4	32.5	41.0	56.1	
	Rated Speed	rpm	10472	8066	11997	9525	7409	6116
	Rated Current	mA	4200	3600	2000	2000	1900	1800
	Rated Power	W	43.3	36.7	40.8	40.9	38.8	35.9
Starting current	mA	60000	38710	44444	27907	18750	14118	
Stall torque	mN.m	607	496	807	620	518	459	
Maximum power output	W	178.1	114.8	264.0	165.5	111.3	83.7	
Maximum Efficiency	%	86	85	86	85	86	85	
Operating Range	V	10~28	10~28	10~28	10~28	10~28	10~28	
Type of Current		Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	
Mechanical time constant	ms	3.2	3.1	2.7	2.9	2.8	2.7	
Moment of inertia	gcm ²	16.75	16.75	16.75	16.75	16.75	16.75	
Torque constant	mN.m/A	10.2	12.9	18.2	22.3	27.8	32.7	
Speed constant	rpm/V	938	741	523	428	343	292	
Speed/torque gradient	rpm/mN.m	18.4	17.8	15.5	16.5	15.8	15.2	
Weight	g	326.3	326.8	327.4	327.2	328.1	328.4	
ADDITIONAL INFORMATION								
Motor thermal resistance:	6.9 K/W	Motor thermal time constant:	1188 S					
Axial (dynamic):	6.0 N	Radial (5mm from mounting face):	28.0 N					
Press-fit force (static):	110 N	Max allowable screw depth into flange:	4.0 mm					
Maximum radial play (5mm from mounting face):	≤ 0.02 mm	Axial play:	0 (<6.0N)					
Maximum winding temperature:	85°C	Ambient temperature range:	-30 to 65°C					
Standard rear shaft diameter:	5 mm	Standard rear shaft length "L":	0/3.7/5.5 mm					
Connection (AWG 20#)	Total Length: $L_T = L_1 + L_2 + L_3$							
	L1:36GP	L1:40GP	L2:BD36	L3:EN22S	L3:EN36T			
Cable 1: Red +Vcc	30.6	35.3	60.5	10.7	12.0			
Cable 2: Blue GND	39.6	46.8						
Plug definition (AWG 28#) Molex: 51021-0500	48.6	58.3						
	57.6	69.8						
Plug 1: Brown GND								
Plug 2: Black FG Pulse								
Plug 3: Yellow CW/CCW								
Plug 4: Red PWM								
Plug 5: Blue Brake								
Remarks: Client can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.								
<p>AM-BD3660AN Combination Scheme</p> <p>Recommended Gearbox: Planetary Gearbox: AM-36GP, AM-40GP</p> <p>Encoder S: AM-EN221S*** (2~3 Channels) Encoder T: AM-EN3612T*** (2~3 Channels)</p> <p>For more combination specs, visit Assun Motor website.</p>								
Motor data tested at 25°C. Motor operation exceeding continuous limits will reduce life or result in damage. At elevated ambient temperatures, load current must be reduced.								

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