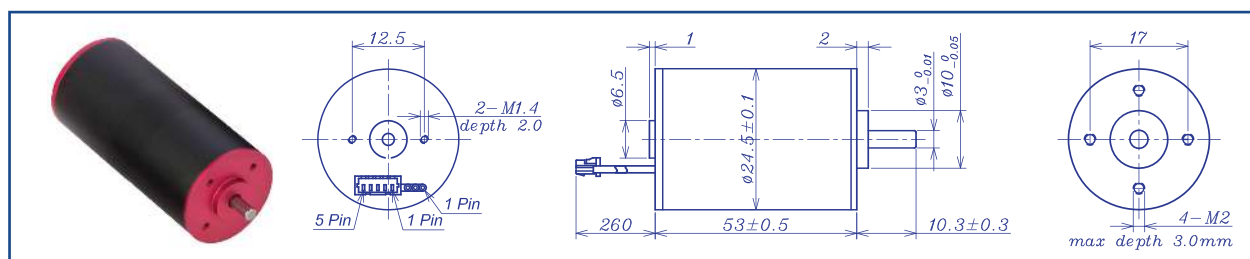


DC BRUSHLESS MOTOR STANDARD SERIES

ASSUN

DRIVING THE FUTURE

AM-BL2453AN Series



		Brushless Motor			Ball Bearings			
Motor Model		1213	1210	1829	1813	2414	2410	
Nominal voltage	V	12	12	18	18	24	24	
No load speed $\pm 12\%$	rpm	13010	10460	28715	12920	13625	9770	
No load current Max 150%	mA	180	140	420	115	100	75	
Recommend limit for continuous operating	Max cont. torque	mN.m	21.1	22.3	9.4	22.2	23.8	
	Rated Speed	rpm	11582	8937.3	27928	11187	8739	
	Rated Current	mA	2600	2200	2000	1800	1300	1100
	Rated Power	mA	25.6	20.9	27.5	26.0	25.8	20.9
Starting current	mA	22222	14286	58065	21676	12632	7273	
Stall torque	mN.m	193	153	343	166	209	167	
Maximum power output	W	65.6	40.2	257.5	56.0	74.6	42.7	
Maximum Efficiency	%	83	81	84	82	83	81	
Terminal resistance $\pm 12\%$	Ω	0.54	0.84	0.31	1.42	1.9	3.3	
Inductance (1KHz)	mH	0.055	0.092	0.092	0.14	0.14	0.45	
Mechanical time constant	ms	2.4	2.5	3.0	2.8	2.4	2.1	
Moment of inertia	gcm ²	3.45	3.45	3.45	3.45	3.45	3.45	
Torque constant	mN.m/A	8.7	10.8	5.9	13.2	16.7	23.2	
Speed constant	rpm/V	1093	880	1607	724	572	411	
Speed/torque gradient	rpm/mN.m	67.6	68.2	83.8	78.0	65.2	58.5	
Weigh	g	126.7	126.8	126.7	125.7	126.3	127.5	
ADDITIONAL INFORMATION								
Motor thermal resistance:		10.5 K/W	Motor thermal time constant:		768 S			
Axial (dynamic):		2.5 N	Radial (5mm from mounting face):		16.0 N			
Press-fit force (static):		50 N	Max allowable screw depth into flange:		3.0 mm			
Maximum radial play (5mm from mounting face):		≤ 0.02 mm	Axial play:		0 (<4.0N)			
Maximum winding temperature:		85°C	Ambient temperature range:		-30 to 65°C			
Standard rear shaft diameter:		3 mm	Standard rear shaft length "L":		0/3.7/5.5 mm			
Connection (AWG 22#)	Total Length: $L_T = L_1 + L_2 + L_3$						<p style="text-align: center;">AM-BL2453AN Combination Scheme</p> <p style="text-align: center;">Gearbox Motor Encoder</p> <p style="text-align: center;">L_1 L_2 L_3 L_T</p> <p>Recommended Gearbox: Planetary Gearbox: AM-24GP AM-28GP</p> <p>Recommended Encoder: Encoder S: AM-EN1611S*** 2~3 Channels Encoder T: AM-EN1612T*** 2~3 Channels</p>	
Cable 1: Yellow Winding A	L1:24GP	L1:28GP	L2:BL24	L3:EN16S	L3:EN16T			
Cable 2: Red Winding B	22.2	25.9	53.0	10.7	12.0			
Cable 3: Blue Winding C	27.4	33.1						
Plug definition (AWG 28#) Molex: 51021-0500	32.6	40.3						
Plug 1: Red Hall 3~16V								
Plug 2: Black Hall GND								
Plug 3: Yellow Hall A								
Plug 4: Red Hall B								
Plug 5: Blue Hall C								
Remarks: Client can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.								
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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