

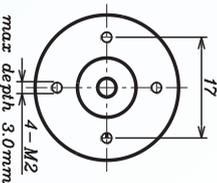
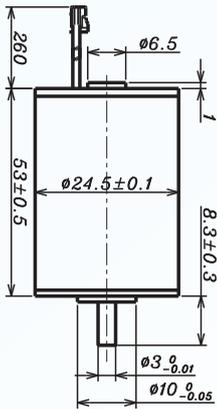
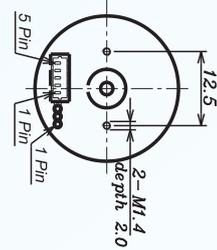


# DC Brushless Motor AM-BD2453A/B Series

ASSUN MOTOR

2015 edition. Specifications are subject to change without notice.

## BRUSHLESS MOTOR BALL BEARING



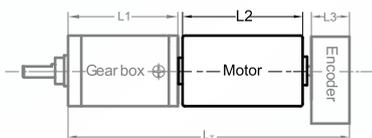
MOTOR MODEL		1213	1210	1813	2414	2410
NOMINAL VOLTAGE	V	12	12	18	24	24
NO LOAD SPEED ±12%	rpm	13010	10460	12920	13625	9770
NO LOAD CURRENT Max 150%	mA	180	140	115	100	75
	mN.m	17.6	18.7	18.3	18.4	21.5
Recommend Limit for	rpm	11818	9188	11495	12429	8514
Continuous	mA	2200	1860	1500	1200	1000
Operating	W	21.8	18.0	22.0	23.9	19.1
STARTING CURRENT	mA	22222	14286	12676	12632	7273
STALL TORQUE	mN.m	193	153	166	209	167
MAXIMUM POWER OUTPUT	W	65.6	42.0	56.0	74.6	42.7
MAXIMUM EFFICIENCY	%	83	81	82	83	81
OPERATING RANGE	V	10-28	10-28	10-28	10-28	10-28
TYPE OF CURRENT		Controlled	Controlled	Controlled	Controlled	Controlled
MECHANICAL TIME CONSTANT	ms <sup>2</sup>	2.4	2.5	2.8	2.4	2.1
MOMENT OF INERTIA	gcm <sup>2</sup>	3.45	3.45	3.45	3.45	3.45
TORQUE CONSTANT	mN.m/A	8.7	10.8	13.2	16.7	23.2
SPEED CONSTANT	rpm/V	1093	880	724	572	411
SPEED/TORQUE GRADIENT	rpm/mN.m	67.6	68.2	78.0	65.2	58.5
WEIGHT	g	126.7	126.8	125.7	126.3	127.5

## ADDITIONAL INFORMATION

### MAXIMUM ROLLING BEARING LOADS

AXIAL (DYNAMIX)	2.5 N	RADIAL ( 5MM FROM HEAD FACE)	16.0 N
PRESS-FIT FORCE	50N	L: MAX ALLOWABLE SCREW DEPTH INTO FLANGE	3.0 mm
MAXIMUM RADIAL PLAY	≤0.02mm	AXIAL PLAY:	0 (<4.0N)
MAXIMUM WINDING TEMPERATURE	85°C	AMBIENT TEMPERATURE RANGE:	-30 to 65°C

### AM-BD2453A/B COMBINATION SCHEME



Recommend Gearbox:  
Planetary Gearbox:  
AM-22P  
AM-26P

Recommend Encoder:  
Encoder S: AM-EN16-S\*\*\*  
2~3 Channels  
Encoder T: AM-EN24-T\*\*\*  
2~3 Channels

For more gearbox specs, see Assun Motor website.

CONNECTION (AWG26#)	TOTAL LENGTH (GEARBOX AND MOTOR): L <sub>T</sub> =L <sub>1</sub> +L <sub>2</sub> + L <sub>3</sub>				
CABLE 1: +VCC	L1:22P	L1:28P	L2:BL24	L3:EN16-S	L3:EN24-T
CABLE 2: GND	22.4	28.4	53.0	10.7	10.0
PLUG DEFINATION	32.5	34.7			12.0
MOLEX: 51021 - 0500	25.2	41.0			
	37.5	47.3			
PLUG 1 GND	42.6				
PLUG 2 FG PULSE					
PLUG 3 CW/CCW					
PLUG 4 PWM					
PLUG 5 BRAKE					

## REMARKS

Clients can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.

Motor Data Tested at 25°. Motor Operation exceeds continuous limits of operating range will compromise the life of the device.