

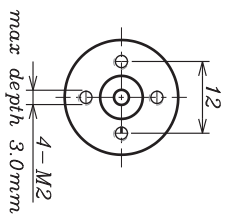
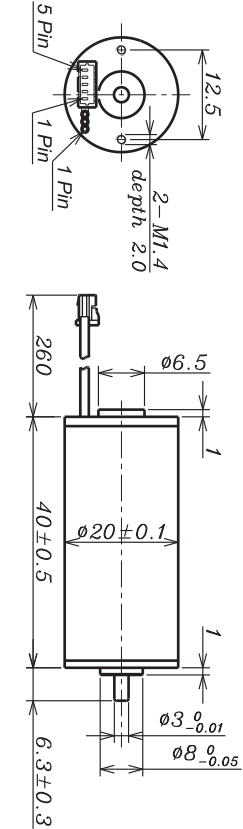


# DC Brushless Motor AM-BL2040A/B Series

**ASSUN MOTOR**

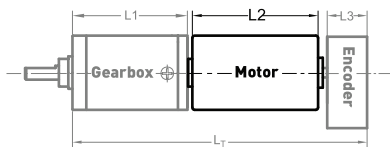
2015 edition. Specifications are subject to change without notice.

BRUSHLESS MOTOR		BALL BEARING						
MOTOR MODEL		1226	1220	1216	1820	1817	2420	2417
<b>NOMINAL VOLTAGE</b>	<b>V</b>	12	12	12	18	18	24	24
<b>NO LOAD SPEED ±12%</b>	<b>rpm</b>	26000	20360	16260	19500	17350	20000	16600
<b>NO LOAD CURRENT Max 150%</b>	<b>mA</b>	350	190	180	150	140	110	95
Recommend Limit for Continuous Operating	<b>mN.m</b>	5.4	7.3	8.5	7.4	6.4	6.7	7.5
	<b>rpm</b>	24682	18605	14445	17760	15721	18454	14905
	<b>mA</b>	1600	1500	1400	1000	800	700	650
	<b>W</b>	14.0	14.2	12.8	13.7	10.6	12.9	11.8
<b>STARTING CURRENT</b>	<b>mA</b>	25000	15385	11111	9677	7171	7742	5530
<b>STALL TORQUE</b>	<b>mN.m</b>	107	84	76	83	68	86	74
<b>MAXIMUM POWER OUTPUT</b>	<b>W</b>	72.9	45.0	32.3	42.2	31.0	45.1	32.0
<b>MAXIMUM EFFICIENCY</b>	<b>%</b>	78	79	76	77	74	78	76
<b>TERMINAL RESISTANCE PHASE TO PHASE ±12%</b>	<b>Ω</b>	0.48	0.78	1.08	1.86	2.51	3.1	4.34
<b>INDUCTANCE (1kHz)</b>	<b>mH</b>	0.034	0.061	0.097	0.17	0.22	0.29	0.42
<b>MECHANICAL TIME CONSTANT</b>	<b>ms</b>	2.9	2.9	2.5	2.8	3.0	2.7	2.7
<b>MOMENT OF INERTIA</b>	<b>gcm<sup>2</sup></b>	1.13	1.13	1.13	1.13	1.13	1.13	1.13
<b>TORQUE CONSTANT</b>	<b>mN.m/A</b>	4.3	5.6	6.9	8.7	9.7	11.3	13.6
<b>SPEED CONSTANT</b>	<b>rpm/V</b>	2197	1718	1377	1100	983	845	704
<b>SPEED/TORQUE GRADIENT</b>	<b>rpm/mN.m</b>	242.7	241.1	214.5	235.8	254.0	232.0	225.1
<b>WEIGHT</b>	<b>g</b>	65.9	66.2	66.6	65.7	65.4	65.1	65.9



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

## AM-BL2040A/B COMBINATION SCHEME



Recommend Gearbox:  
Planetary Gearbox:  
AM-22P

Recommend Encoder:  
Encoder S: AM-EN16-S\*\*\*  
2-3 Channels  
Encoder T: AM-EN16-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>			
	L1:22P	L2:BL16	L3:EN16-S	L3:EN16-T
<b>CABLE 1: WINDING A</b>				
<b>CABLE 1: WINDING B</b>	22.4	4.0	10.7	10.0
<b>CABLE 1: WINDING C</b>	32.5			12.0
<b>PLUG DEFINATION</b> MOLEX: 51021 - 0500	25.2			
<b>PLUG 1 HALL V</b>	37.5			
<b>PLUG 2 HALL GND</b>	42.6			
<b>PLUG 3 HALL A</b>				
<b>PLUG 4 HALL B</b>				
<b>PLUG 5 HALL C</b>				

## 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.