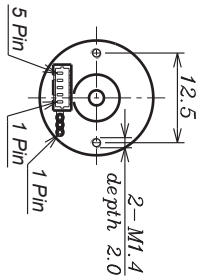
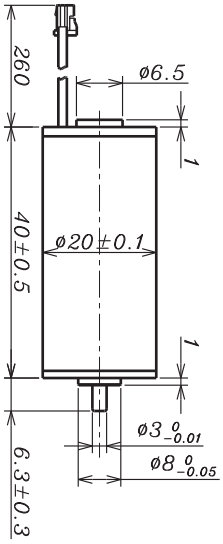
DC Brushless Motor
AM-BL2040A/B Series

ASSUN MOTOR

2015 edition. Specifications are subject to change without notice.





BRUSHLESS MOTOR

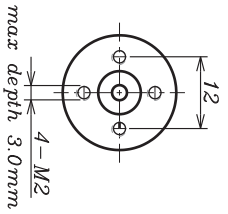
BALL BEARING

MOTOR MODEL			1226	1220	1216	1820	1817	2420	2417
NOMINAL VOLTAGE		**V**	12	12	12	18	18	24	24
NO LOAD SPEED ±12%		**rpm**	26000	20360	16260	19500	17350	20000	16600
NO LOAD CURRENT Max 150%		**mA**	350	190	180	150	140	110	95
Recommend Limit for Continuous Operating		**mN.m**	5.4	7.3	8.5	7.4	6.4	6.7	7.5
		rpm	24682	18605	14445	17760	15721	18454	14905
		mA	1600	1500	1400	1000	800	700	650
		W	14.0	14.2	12.8	13.7	10.6	12.9	11.8
STARTING CURRENT		**mA**	25000	15385	11111	9677	7171	7742	5530
STALL TORQUE		**mN.m**	107	84	76	83	68	86	74
MAXIMUM POWER OUTPUT		**W**	72.9	45.0	32.3	42.2	31.0	45.1	32.0
MAXIMUM EFFICIENCY		**%**	78	79	76	77	74	78	76
TERMINAL RESISTANCE PHASE TO PHASE ±12%		**Ω**	0.48	0.78	1.08	1.86	2.51	3.1	4.34
INDUCTANCE (1kHz)		**mH**	0.034	0.061	0.097	0.17	0.22	0.29	0.42
MECHANICAL TIME CONSTANT		**ms**	2.9	2.9	2.5	2.8	3.0	2.7	2.7
MOMENT OF INERTIA		**gcm²**	1.13	1.13	1.13	1.13	1.13	1.13	1.13
TORQUE CONTANT		**mN.m/A**	4.3	5.6	6.9	8.7	9.7	11.3	13.6
SPEED CONSTANT		**rpm/V**	2197	1718	1377	1100	983	845	704
SPEED/TORQUE GRADIENT		**rpm/mN.m**	242.7	241.1	214.5	235.8	254.0	232.0	225.1
WEIGHT		**g**	65.9	66.2	66.6	65.7	65.4	65.1	65.9

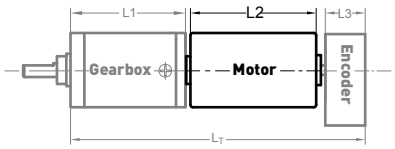
ADDITIONAL INFORMATION

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-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#)
CABLE 1: WINDING A
CABLE 1: WINDING B
CABLE 1: WINDING C
PLUG DEFINATION MOLEX: 51021 - 0500
PLUG 1 HALL V
PLUG 2 HALL GND
PLUG 3 HALL A
PLUG 4 HALL B
PLUG 5 HALL C

TOTAL LENGTH (GEARBOX AND MOTOR): $L_T = L_1 + L_2 + L_3$			
L1:22P	**L2:BL16**	**L3:EN16-S**	**L3:EN16-T**
22.4	4.0	10.7	10.0
32.5			12.0
25.2			
37.5			
42.6			

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.