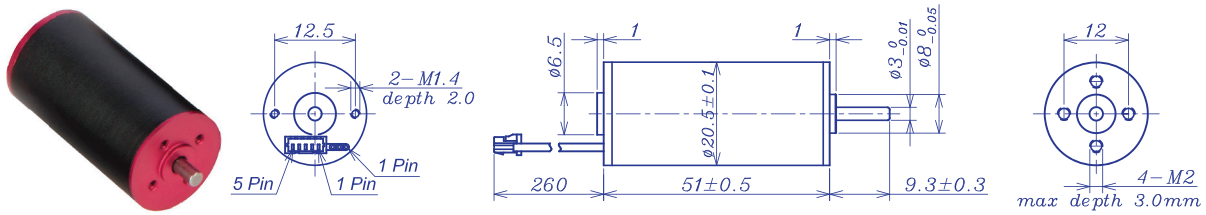
AM-BL2051AE Series



Motor Model			Brushless Motor 1221	1216	Ball Bearings 2426	2421	3619	3625
Nominal voltage		V	12	12	24	24	36	36
No load speed ±12%		rpm	20604	15670	25800	21400	19297	24781
No load current Max 150%		mA	250	185	155	126	65	90
Recommend limit for continuous operating	Max cont. torque	mN.m	14.0	14.5	10.6	12.0	14.8	12.0
	Rated Speed	rpm	18392	13350	24181	19418	17221	22910
	Rated Current	mA	2800	2200	1360	1260	900	960
	Rated Power	W	27.0	20.3	26.9	24.4	26.6	28.7
Starting current		mA	24000	13793	19355	12371	7826	11613
Stall torque		mN.m	131	98	169	130	137	159
Maximum power output		W	70.5	40.3	114.3	72.7	69.3	102.9
Maximum Efficiency		%	81	78	83	81	83	83
Terminal resistance ±12%		Ω	0.5	0.87	1.24	1.94	4.6	3.1
Inductance (1KHz)		mH	0.04	0.07	0.1	0.16	0.47	0.29
Mechanical time constant		ms	2.4	2.4	2.3	2.5	2.1	2.3
Moment of inertia		gcm^2	1.43	1.43	1.43	1.43	1.43	1.43
Torque constant		mN.m/A	5.5	7.2	8.8	20.6	17.7	13.8
Speed constant		rpm/V	1735	1324	1084	901	541	694
Speed/torque gradient		rpm/mN.m	157.6	159.6	152.5	164.9	140.7	156.2
Weight		g						

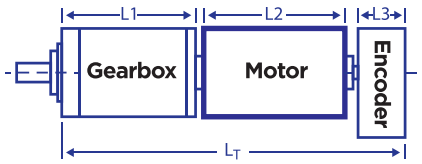
ADDITIONAL INFORMATION

Motor thermal resistance:	15 K/W	Motor thermal time constant:	720S
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:	125ºC	Ambient temperature range:	-30 to 65ºC
Standard rear shaft diameter:	3 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

Connection (AWG 24#)	Total Length: L_T=L1+L2+L3				
Cable 1: Yellow Winding A	L1:20GP	L1:24GP	L2:BL20	L3:EN16S	L3:EN16T
Cable 2: Red Winding B	18.8	22.2	51.0	10.7	12.0
Cable 3: Blue Winding C	23.6	27.4			
Plug definition (AWG 28#) Molex: 51021-0500	28.4	32.6			
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.

AM-BL2051AE Combiniation Scheme



Recommended Gearbox:
Planetary Gearbox:
AM-20GP
AM-24GP

Recommended Encoder:
Encoder S: AM-EN1611S***
2~3 Channels
Encoder T: AM-EN1612T***
2~3 Channels

For more combination specs, visit Assun Motor website.

Motor data tested at 25ºC. Motor operation exceeding continuous limits will reduce life or result in damage.
At elevated ambient temperatures, load current must be reduced.

Download datasheet: https://assunmotor.com/documents-download