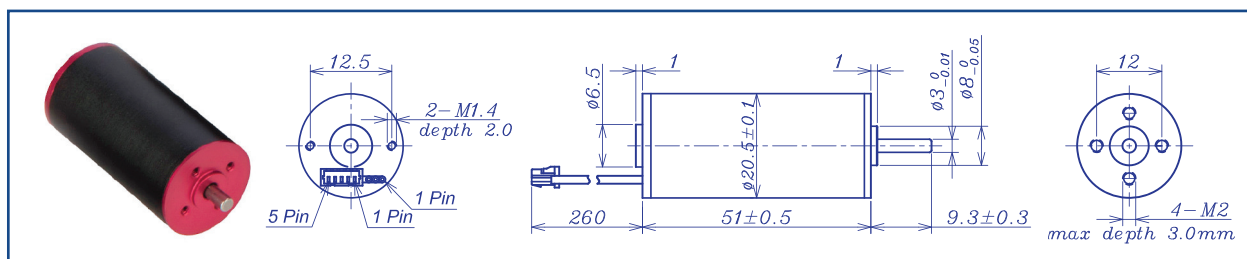


AM-BL2051AN Series



		Brushless Motor				Ball Bearings		
Motor Model		1221	1216	2426	2421	3619	3624	
Nominal voltage	V	12	12	24	24	36	36	
No load speed $\pm 12\%$	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	6.9	9.5	3.0	6.6	5.6	
	Rated Speed		19520	14156	25336	20309	23899	
	Rated Current	mA	1500	1500	500	750	500	
	Rated Power	W	14.1	14.1	8.1	14.1	18.4	14.1
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 $\pm 12\%$	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	10.6	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:	720 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 24#)	Total Length: $L_T = L_1 + L_2 + L_3$						
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	Remarks: Client can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.						
Plug 4: Red Hall B							
Plug 5: Blue Hall C							
<p>AM-BL2051AN Combination Scheme</p> <p>Recommended Gearbox: Planetary Gearbox: AM-20GP, AM-24GP</p> <p>Recommended Encoder: Encoder S: AM-EN1611S*** (2~3 Channels), Encoder T: AM-EN1612T*** (2~3 Channels)</p>							
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.							

Download datasheet: <https://assunmotor.com/documents-downloads>