

## AM-BL2032AE Series

		Brushless Motor			Ball Bearings			
<b>Motor Model</b>		<b>1225</b>	<b>1220</b>	<b>1822</b>	<b>1819</b>	<b>2419</b>	<b>2415</b>	
Nominal voltage	V	12	12	18	18	24	24	
No load speed ±12%	rpm	24525	19908	22265	18634	19339	14850	
No load current Max 150%	mA	200	150	120	100	90	70	
Recommend limit for continuous operating	Max cont. torque	mN.m	6.0	7.1	6.7	7.0	6.5	6.7
	Rated Speed	rpm	22070	16889	19520	15584	16569	11775
	Rated Current	mA	1500	1400	1000	880	650	520
	Rated Power	W	13.8	12.5	13.7	11.5	11.3	8.3
Starting current	mA	13187	8392	7258	4865	4000	2243	
Stall torque	mN.m	60	47	54	43	45	32	
Maximum power output	W	38.4	24.3	31.6	21.0	22.9	12.6	
Maximum Efficiency	%	77	75	76	73	72	68	
Terminal resistance ±12%	Ω	0.91	1.43	2.48	3.7	6.0	10.7	
Inductance (1KH <sub>2</sub> )	mH	0.07	0.11	0.19	0.29	0.47	0.86	
Mechanical time constant	ms	3.0	3.1	3.0	3.1	3.1	3.3	
Moment of inertia	gcm <sup>2</sup>	0.69	0.69	0.69	0.69	0.69	0.69	
Torque constant	mN.m/A	4.6	5.7	7.6	9.0	11.6	15.0	
Speed constant	rpm/V	2075	1689	1258	1057	824	639	
Speed/torque gradient	rpm/mN.m	410.4	427.3	410.8	432.9	427.0	457.1	
Weight	g							
ADDITIONAL INFORMATION								
Motor thermal resistance:	22.8 K/W			Motor thermal time constant:	552S			
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:	125°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#)	<b>Total Length: L<sub>T</sub>=L<sub>1</sub>+L<sub>2</sub>+L<sub>3</sub></b>							
Cable 1: Yellow Winding A	L1:20GP	L1:24GP	L2:BL20	L3:EN16S	L3:EN16T			
Cable 2: Red Winding B	18.8	22.2	32.0	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	Remarks: Client can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.							
Plug 2: Black Hall GND								
Plug 3: Yellow Hall A								
Plug 4: Red Hall B								
Plug 5: Blue Hall C								
				<b>AM-BL2032AE Combination Scheme</b>				
				<b>Recommended Gearbox:</b> Planetary Gearbox: AM-20GP AM-24GP				
				<b>Recommended Encoder:</b> 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 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-download>