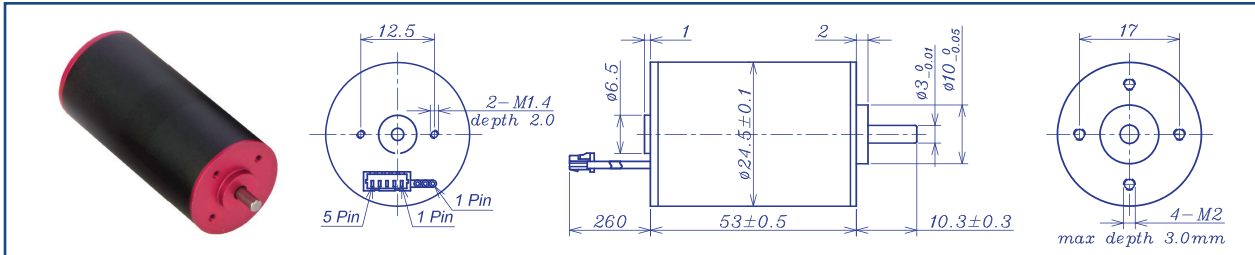


AM-BL2453AE Series

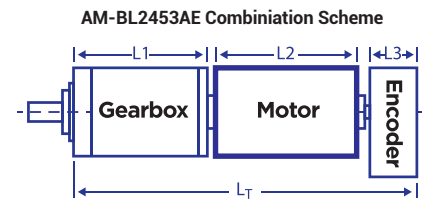


		Brushless Motor			Ball Bearings		
Motor Model		1213	1210	1829	1813	2414	2410
Nominal voltage		V	12	12	18	18	24
No load speed ±12%		rpm	13010	10460	28715	12920	13625
No load current Max 150%		mA	180	140	420	115	100
Recommend limit for continuous operating	Max cont. torque	mN.m	30.3	31.6	12.4	27.5	30.0
	Rated Speed	rpm	10962	8308	27679	10775	11668
	Rated Current	mA	3650	3050	2500	2200	1900
	Rated Power	W	34.8	27.5	35.8	31.0	36.7
Starting current		mA	22222	14286	58065	12676	12632
Stall torque		mN.m	193	153	343	166	209
Maximum power output		W	65.6	40.2	257.5	56.0	74.6
Maximum Efficiency		%	83	81	84	82	83
Terminal resistance ±12%		Ω	0.54	0.84	0.31	1.42	1.9
Inductance (1KHz)		mH	0.055	0.092	0.02	0.14	0.23
Mechanical time constant		ms	2.4	2.5	3.0	2.8	2.4
Moment of inertia		gcm <sup>2</sup>	3.45	3.45	3.45	3.45	3.45
Torque constant		mN.m/A	8.7	10.8	5.9	13.2	16.7
Speed constant		rpm/V	1093	880	1607	724	572
Speed/torque gradient		rpm/mN.m	67.6	68.2	83.8	78.0	65.2
Weight		g	126.7	126.8	126.7	125.7	126.3

ADDITIONAL INFORMATION			
Motor thermal resistance:	10.5 K/W	Motor thermal time constant:	768 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:	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 22#)		Total Length: L <sub>T</sub> =L <sub>1</sub> +L <sub>2</sub> +L <sub>3</sub>				
Cable 1: Yellow	Winding A	L1:24GP	L1:26GP	L2:BL24	L3:EN16S	L3:EN24T
Cable 2: Red	Winding B	24.0	25.7	53.0	10.7	12.0
Cable 3: Blue	Winding C	34.3	36			
Plug definition (AWG 28#) Molex: 51021-0500		42.8	44.5			
Plug 1: Brown	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.



**Recommended Gearbox:**  
Planetary Gearbox:  
AM-24GP  
AM-26GP

**Recommended Encoder:**  
Encoder S: AM-EN1611S\*\*\*  
2~3 Channels  
Encoder T: AM-EN2412T\*\*\*  
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>

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