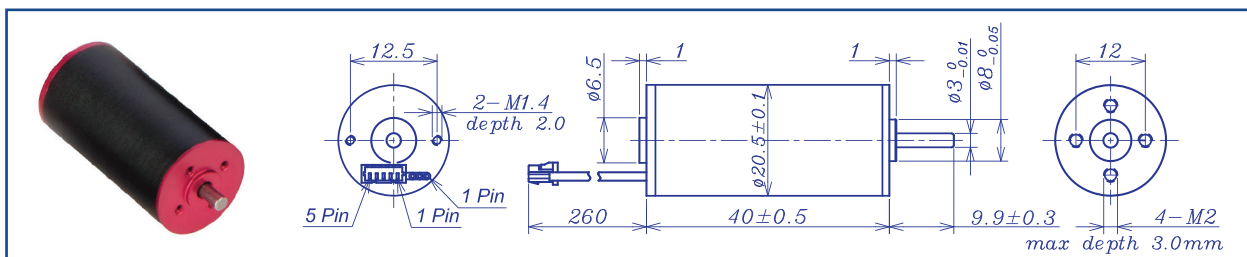


DC BRUSHLESS MOTOR STANDARD SERIES

ASSUN

DRIVING THE FUTURE

AM-BL2040AN Series



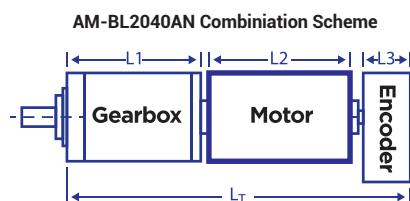
		Brushless Motor				Ball Bearings			
Motor Model		1226	1220	1216	1820	1817	2420	2417	
Nominal voltage	V	12	12	12	18	18	24	24	
No load speed $\pm 12\%$	rpm	26000	20360	16260	19500	17350	20000	16600	
No load current Max 150%	mA	350	190	180	150	140	110	95	
Recommend limit for continuous operating	Max cont. torque	mN.m	5.4	7.3	8.5	7.4	6.4	7.5	
	Rated Speed	rpm	24682	18605	14445	17760	15721	18454	
	Rated Current	mA	1600	1500	1400	1000	800	700	
	Rated Power	W	14.0	14.2	12.8	13.7	10.6	12.9	
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 $\pm 12\%$	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	gcm ²	1.13	1.13	1.13	1.13	1.13	1.13	1.13	
Torque constant	mN.m/A	4.6	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

Motor thermal resistance:	15 K/W	Motor thermal time constant:	673 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	L1:19GP	L1:24GP	L2:BL20	L3:EN16S	L3:EN16T
Cable 2: Red Winding B	18.8	24	40.0	10.7	12.0
Cable 3: Blue Winding C	23.6	34.3			
Plug definition (AWG 28#) Molex: 51021-0500	28.4	42.8			
	33.2	51.3			
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-19GP
AM-22GP
AM-24GP

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

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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