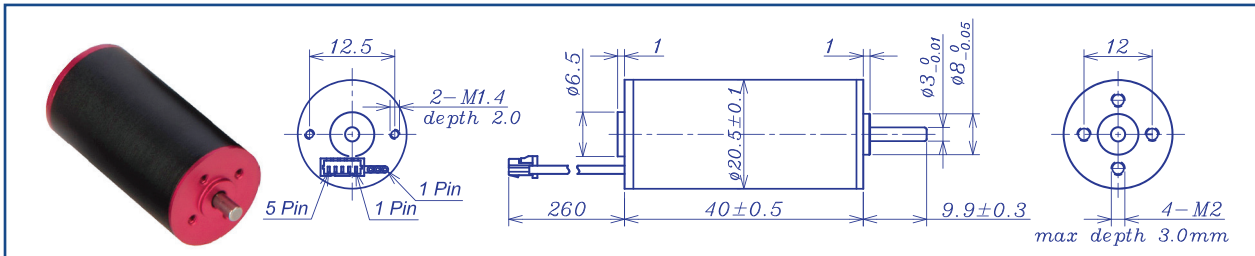


DC BRUSHLESS MOTOR HIGH TEMPERATURE SERIES



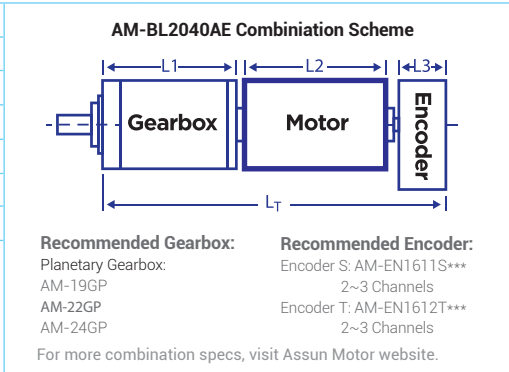
AM-BL2040AE Series



		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 ±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	8.5	12.3	13.3	11.7	11.9	12.3	12.3
	Rated Speed	rpm	23943	17399	13404	16737	14340	17144	13836
	Rated Current	mA	2300	2400	2100	1500	1360	1200	1000
	Rated Power	W	21.2	22.4	18.7	20.5	17.8	22.1	17.8
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 ±12%		Ω	0.48	0.78	1.08	1.86	2.51	3.1	4.34
Inductance (1KHz)		mH	0.04	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	4.3	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	4242.7	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:	637S
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#)		Total Length: L _T =L ₁ +L ₂ +L ₃				
Cable	Winding	L1:16GP	L1:19GP	L2:BL16	L3:EN16S	L3:EN16T
Cable 1: Yellow	Winding A	18.8	22.2	40.0	10.7	12.0
Cable 2: Red	Winding B	23.6	27.4			
Cable 3: Blue	Winding C	28.4	32.6			
Plug definition (AWG 28#) Molex: 51021-0500						
Plug 1: Brown	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					



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.

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