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TOTAL SOLUTION for Precision
DC Drive System 2020

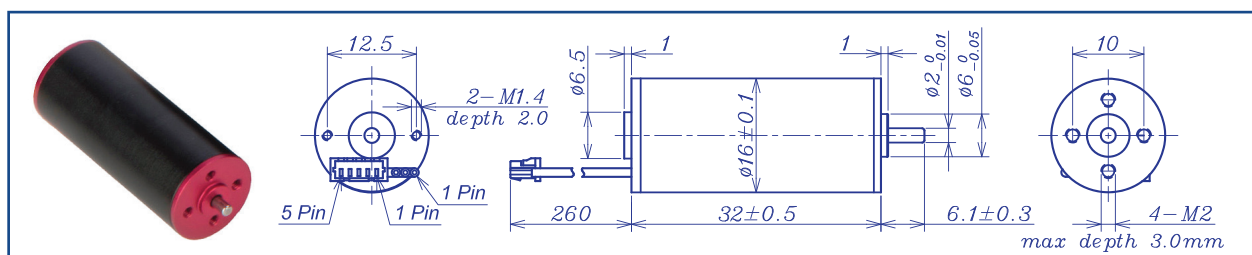
DC BRUSHLESS MOTOR
STANDARD SERIES

Assun standard series BLDC motors were designed with slot-less winding structure for highest efficiency and smooth operation. High quality hardware and sintered NdFeB magnets were adopted to ensure the performance, reliability and lifetime.

Standard series BLDC products are equipped with hall sensor, which customers may choose to remove in customized service. These motors are widely used and are suitable for most applications with normal operation conditions.



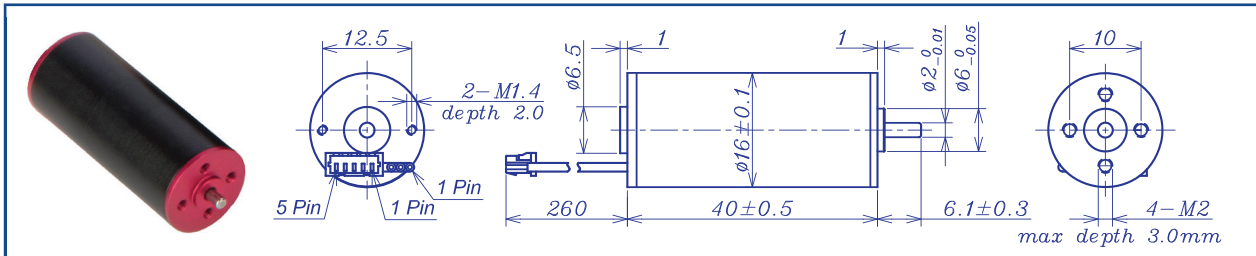
AM-BL1632AN Series



		Brushless Motor				Ball Bearings		
Motor Model			1220	1214	1827	1817	2420	2416
Nominal voltage		V	12	12	18	18	24	24
No load speed ±12%		rpm	19822	13840	26874	17253	19613	16063
No load current Max±50%		mA	85	60	77	49	42	35
Recommend limit for continuous operating	Max cont. torque	mN.m	3.0	3.2	2.2	3.1	2.8	3.1
	Rated Speed	rpm	16809	10528	24516	14233	16854	13135
	Rated Current	mA	600	450	420	360	280	250
	Rated Power	W	5.26	3.56	5.63	4.61	4.91	4.22
Starting current		mA	3947	1881	4787	2050	1990	1371
Stall Torque		mN.m	23	16	31	20	23	20
Maximum power output		W	11.8	5.6	21.5	9.2	11.9	8.2
Maximum Efficiency		%	73	67	76	71	73	71
Terminal resistance ±12%		Ω	3.04	6.38	3.76	8.78	12.06	17.5
Inductance (1KHz)		mH	0	0	0	0	0	0
Mechanical time constant		ms	2.73	2.79	2.76	2.65	2.65	2.58
Moment of inertia		gcm ²	0.3	0.3	0.3	0.3	0.3	0.3
Torque constant		mN.m/A	5.78	8.28	6.40	9.96	11.69	14.27
Speed constant		rpm/V	1652	1153	1493	958	843.5	820.9
Speed/torque gradient		rpm/mN.m	868.6	888.7	877.7	844.7	254.0	232.0
Weight		g	32.6	32.6	32.6	32.6	32.6	32.6
ADDITIONAL INFORMATION								
Motor thermal resistance:		22.5 K/W			Motor thermal time constant:		407 S	
Axial (dynamic):		1.5 N			Radial (5mm from mounting face):		6.0 N	
Press-fit force (static):		40 N			Max allowable screw depth into flange:		3.0 mm	
Maximum radial play (5mm from mounting face):		≤0.02 mm			Axial play:		0 (<2.0N)	
Maximum winding temperature:		85°C			Ambient temperature range:		-30 to 65°C	
Standard rear shaft diameter:		2 mm			Standard rear shaft length "L":		0/3.7/5.5 mm	
Connection (AWG 26#)		Total Length: $L_T=L_1+L_2+L_3$						
Cable 1:Yellow	Winding A	L1:16GP	L1:20GP	L2:BL16	L3:EN16S	L3:EN16T		
Cable 2:Red	Winding B	15.9	18.8	32.0	10.7	12.0		
Cable 3: Blue	Winding C	29.6	23.6					
Plug definition (AWG 28#) Molex:51021-0500		23.3	28.4					
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 style="text-align: center;">AM-BL1632AN Combination Scheme</p> <p>Recommended Gearbox: Planetary Gearbox: AM-16GP AM-20GP</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.								

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AM-BL1640AN Series

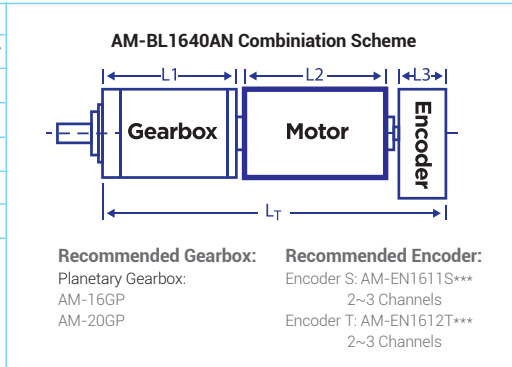


		Brushless Motor				Ball Bearings				
Motor Model		1231	1219	1216	1834	1819	1815	2417	2412	
Nominal voltage		V	12	12	12	18	18	18	24	24
No load speed ±12%		rpm	30890	19320	15750	34300	18900	15210	17380	11690
No load current Max150%		mA	150	90	70	120	65	55	45	38
Recommend limit for continuous operating	Max cont. torque	mN.m	6.1	7.1	6.7	4.9	6.6	6.6	7.0	6.9
	Rated Speed	rpm	27977	15845	12465	31908	15903	12085	14353	8273
	Rated Current	mA	1800	1300	1000	1100	800	650	580	400
	Rated Power	W	17.8	11.8	8.7	16.3	11.0	8.4	10.5	6.0
Starting current		mA	17647	6818	4528	14173	4700	2951	3117	1277
Stall torque		mN.m	64	39	32	70	42	32	40	24
Maximum power output		W	52.0	19.9	13.2	62.7	20.6	12.8	18.2	7.2
Maximum Efficiency		%	82	78	77	82	78	75	77	68
Terminal resistance ±12%		Ω	0.68	1.76	2.65	1.27	3.83	6.1	7.7	18.8
Inductance (1KH ₂)		mH	0.036	0.11	0.17	0.075	0.27	0.42	0.58	1.28
Mechanical time constant		ms	2.1	2.1	2.1	2.1	2.0	2.0	1.9	2.1
Moment of inertia		gcm ²	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Torque constant		mN.m/A	3.7	5.9	7.2	5.0	9.0	11.1	13.0	19.0
Speed constant		rpm/V	2596	1632	1333	1922	1065	861	735	505
Speed/torque gradient		rpm/mN.m	480.0	490.6	493.2	491.2	454.7	473.6	435.5	496.2
Weight		g	42.2	42.1	41.8	42.1	42.2	41.8	41.9	41.8

ADDITIONAL INFORMATION

Motor thermal resistance:	17.9K/W	Motor thermal time constant:	439S
Axial (dynamic):	1.5 N	Radial (5mm from mounting face):	6.0 N
Press-fit force (static):	40 N	Max allowable screw depth into flange:	3.0 mm
Maximum radial play (5mm from mounting face):	≤0.02 mm	Axial play:	0 (<2.0N)
Maximum winding temperature:	85°C	Ambient temperature range:	-30 to 65°C
Standard rear shaft diameter:	2 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

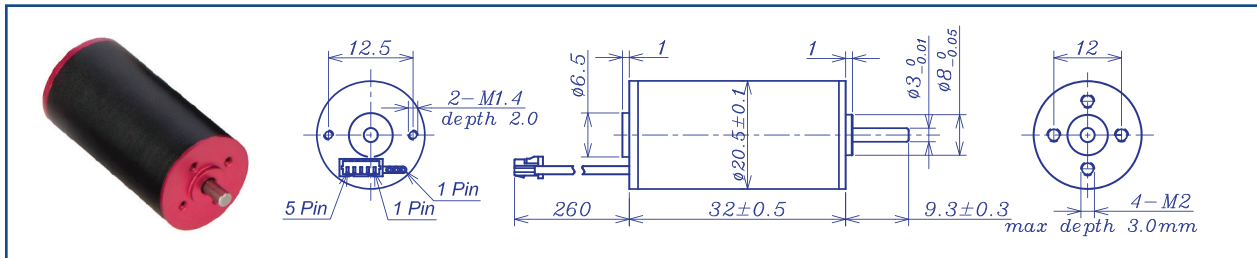
Connection (AWG 26#)	Total Length: L _T =L1+L2+L3				
Cable 1:Yellow Winding A	L1:16GP	L1:20GP	L2:BL16	L3:EN16S	L3:EN16T
Cable 2:Red Winding B	15.9	18.8	40.0	10.7	12.0
Cable 3:Blue Winding C	23.3	23.6			
Plug definition (AWG 28#) Molex:51021-0500	27.0	28.4			
Plug 1: Red Hall 3~16V					
Plug 2: Black 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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AM-BL2032AN Series

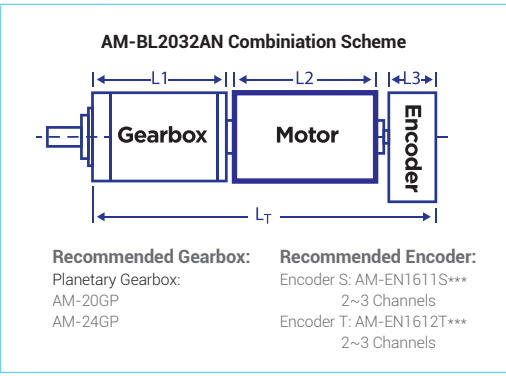


		Brushless Motor		Ball Bearings				
Motor Model			1225	1220	1822	1819	2419	2415
Nominal voltage		V	12	12	18	18	24	24
No load speed ±12%		rpm	24525	19908	22265	18634	19339	14850
No load current Max150%		mA	200	150	120	100	90	70
Recommend limit for continuous operating	Max cont. torque	mN.m	2.3	4.2	2.9	4.5	3.6	4.6
	Rated Speed	rpm	23581	18096	21080	16679	17806	12731
	Rated Current	mA	700	900	500	600	400	380
	Rated Power	W	5.7	8.0	6.4	7.9	6.7	6.2
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 (1KHz)		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 ²	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
Weigh		g						

ADDITIONAL INFORMATION

Motor thermal resistance:	22.8K/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:	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

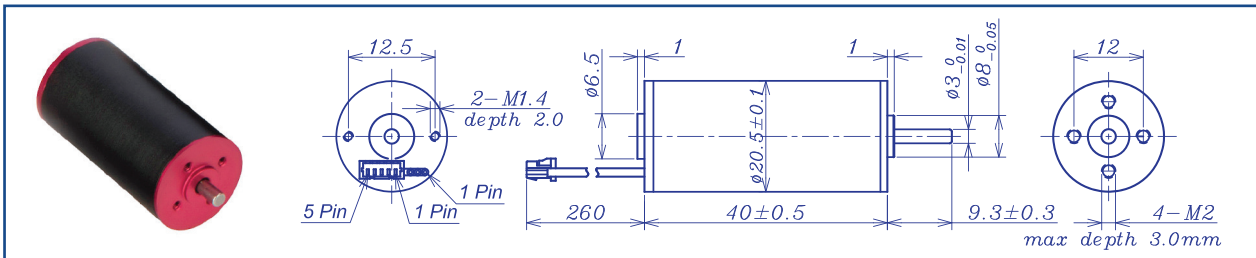
Connection (AWG 24#)	Total Length: L _T =L1+L2+L3				
Cable 1:Yellow Winding A	L1:20GP	L1:24GP	L2:BL20	L3:EN16S	L3:EN16T
Cable 2:Red Winding B	18.8	22.2	32.0	10.7	12.0
Cable 3: Blue Winding C	23.6	27.4			
Plug definition (AWG 28#) Molex:51021-0500	28.4	32.6			
Plug 1: Red Hall 3~16V					
Plug 2: Black 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					



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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AM-BL2040AN Series



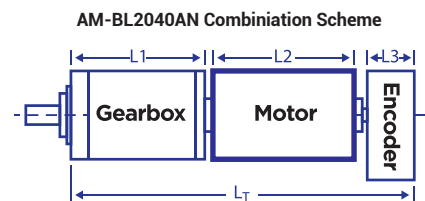
		Brushless Motor				Ball Bearings			
Motor Model		1226	1220	1216	1820	1817	2420	2417	
Nominal voltage	V	12	12	12	18	18	24	24	
No load speed ±12%	rpm	26000	20360	16260	19500	17350	20000	16600	
No load current Max 150%	mA	350	190	180	150	140	110	95	
Recommend limit for continuous operating	Max cont. torque	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 ±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	L1:20GP	L1:24GP	L2:BL20	L3:EN16S	L3:EN16T
Cable 2: Red Winding B	18.8	22.2	40.0	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					
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.



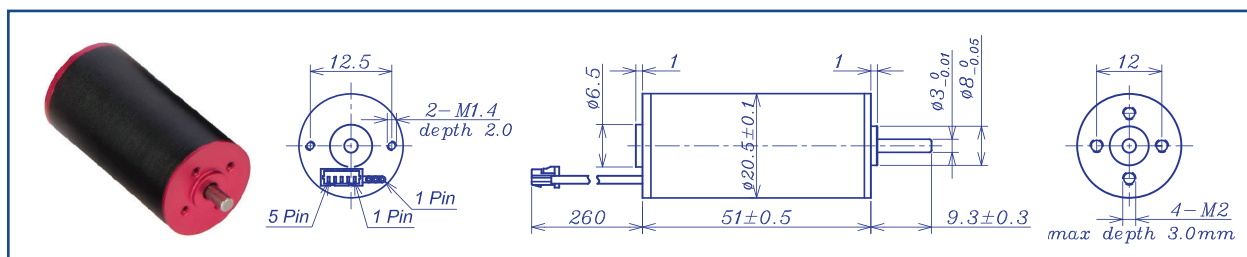
Recommended Gearbox:
Planetary Gearbox:
AM-20GP
AM-24GP

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.

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AM-BL2051AN Series

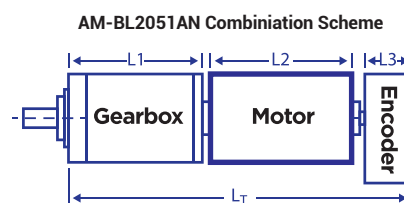


		Brushless Motor				Ball Bearings	
Motor Model		1221	1216	2426	2421	3619	3624
Nominal voltage	V	12	12	24	24	36	36
No load speed ±12%	rpm	20604	15670	25800	21400	19297	24781
No load current Max 150%	mA	250	185	155	126	65	90
Recommend limit for continuous operating	Max cont. torque	mN.m	6.9	9.5	3.0	6.6	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
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 ±12%	Ω	0.5	0.87	1.24	1.94	4.6	3.1
Inductance (1KH ₂)	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					
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.



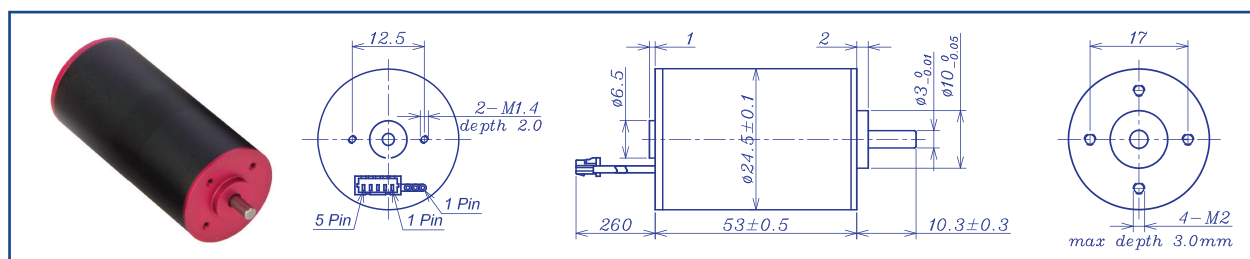
Recommended Gearbox: Planetary Gearbox: AM-20GP, AM-24GP
Recommended Encoder: Encoder S: AM-EN1611S*** 2~3 Channels, Encoder T: AM-EN1612T*** 2~3 Channels

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.

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DC BRUSHLESS MOTOR STANDARD SERIES

AM-BL2453AN Series



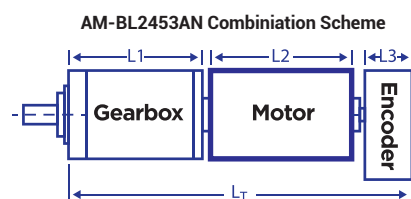
		Brushless Motor			Ball Bearings		
Motor Model		1213	1210	1829	1813	2414	2410
Nominal voltage	V	12	12	18	18	24	24
No load speed $\pm 12\%$	rpm	13010	10460	28715	12920	13625	9770
No load current Max 150%	mA	180	140	420	115	100	75
Recommend limit for continuous operating	Max cont. torque	mN.m	21.1	22.3	9.4	20.0	23.8
	Rated Speed	rpm	11582	8937.3	27928	11187	12320
	Rated Current	mA	2600	2200	2000	1800	1300
	Rated Power	mA	25.6	20.9	27.5	26.0	25.8
Starting current	mA	22222	14286	58065	21676	12632	7273
Stall torque	mN.m	193	153	343	166	209	167
Maximum power output	W	65.6	40.2	257.5	56.0	74.6	42.7
Maximum Efficiency	%	83	81	84	82	83	81
Terminal resistance $\pm 12\%$	Ω	0.54	0.84	0.31	1.42	1.9	3.3
Inductance (1KHz)	mH	0.055	0.092	0.092	0.14	0.14	0.45
Mechanical time constant	ms	2.4	2.5	3.0	2.8	2.4	2.1
Moment of inertia	gcm ²	3.45	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	23.2
Speed constant	rpm/V	1093	880	1607	724	572	411
Speed/torque gradient	rpm/mN.m	67.6	68.2	83.8	78.0	65.2	58.5
Weigh	g	126.7	126.8	126.7	125.7	126.3	127.5

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:	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 22#)	Total Length: $L_T = L_1 + L_2 + L_3$				
	L1:24GP	L1:28GP	L2:BL24	L3:EN16S	L3:EN16T
Cable 1: Yellow Winding A					
Cable 2: Red Winding B	22.2	25.9	53.0	10.7	12.0
Cable 3: Blue Winding C	27.4	33.1			
Plug definition (AWG 28#) Molex: 51021-0500	32.6	40.3			
Plug 1: Red 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.



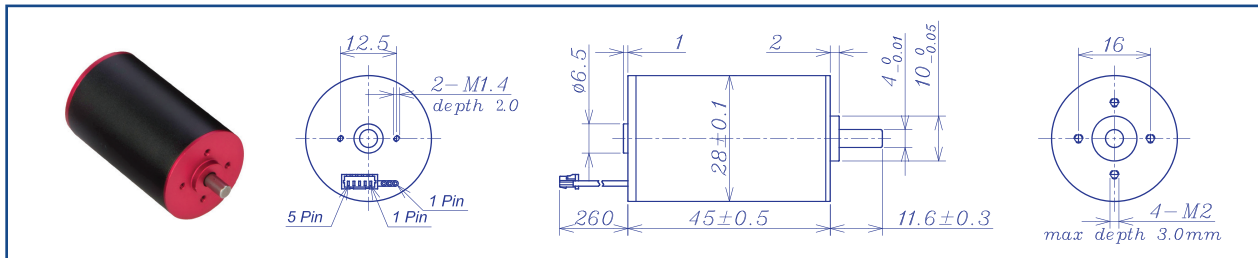
Recommended Gearbox:
Planetary Gearbox:
AM-24GP
AM-28GP

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.

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AM-BL2845AN Series

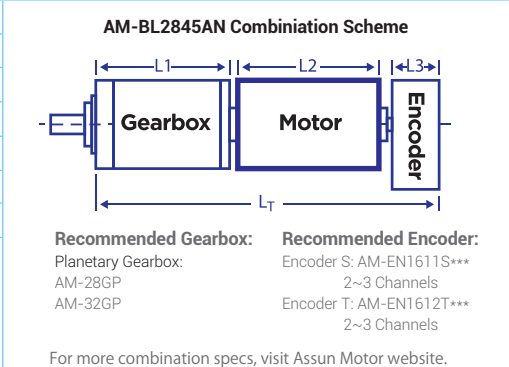


		Brushless Motor				Ball Bearings		
Motor Model		1215	1210	1813	1810	2412	2409	
Nominal voltage	V	12	12	18	18	24	24	
No load speed ±12%	rpm	14800	10000	12520	9680	11680	9080	
No load current Max 150%	mA	300	190	170	120	120	85	
Recommend limit for continuous operating	Max cont. torque	mN.m	28.4	34.2	30.4	33.1	28.8	35.4
	Rated Speed	rpm	13374	8455	11222	8282	10401	7593
	Rated Current	mA	4000	3200	2400	2000	1600	1500
	Rated Power	W	39.8	30.2	35.7	28.7	31.4	28.1
Starting current	mA	60000	19672	21687	13139	13636	8727	
Stall torque	mN.m	295	221	293	229	263	216	
Maximum power output	W	114.3	57.9	96.1	58.0	80.4	51.3	
Maximum Efficiency	%	83	81	83	82	82	81	
Terminal resistance ±12%	Ω	0.31	0.61	0.83	1.37	1.76	2.75	
Inductance (1KHz)	mH	0.034	0.086	0.126	0.22	0.27	0.46	
Mechanical time constant	ms	3.3	2.9	2.8	2.7	2.9	2.7	
Moment of inertia	gcm ²	6.19	6.19	6.19	6.19	6.19	6.19	
Torque constant	mN.m/A	7.7	11.3	13.6	17.6	19.4	25.0	
Speed constant	rpm/V	1243	841	701	543	491	382	
Speed/torque gradient	rpm/mN.m	50.2	45.2	42.7	42.3	44.4	42.0	
Weight	g	138.8	138.7	139.1	140.1	138.4	139.2	

ADDITIONAL INFORMATION

Motor thermal resistance:	10.2 K/W	Motor thermal time constant:	822 S
Axial (dynamic):	4.0 N	Radial (5mm from mounting face):	16.0 N
Press-fit force (static):	110 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:	4 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

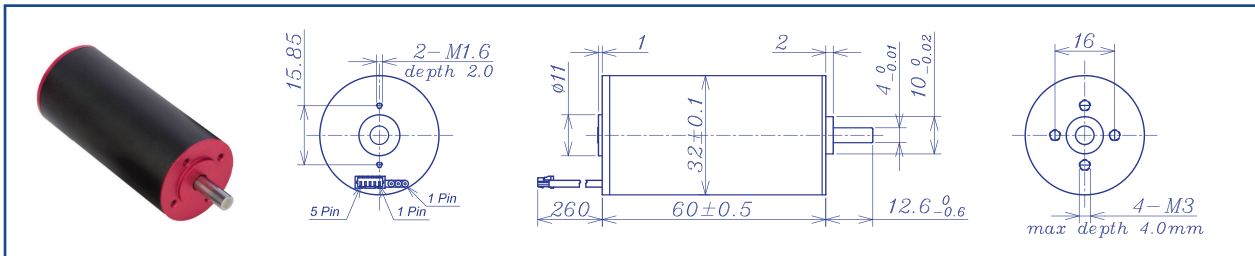
Connection (AWG 22#)	Total Length: L _T =L ₁ +L ₂ +L ₃				
Cable 1:Yellow Winding A	L1:28GP	L1:32GP	L2:BL28	L3:EN16S	L3:EN16T
Cable 2:Red Winding B	25.9	27.4	45.0	10.7	12.0
Cable 3: Blue Winding C	33.1	35.9			
Plug definition (AWG 28#) Molex:51021-0500	40.3	44.4			
Plug 1: Red Hall 3~16V					
Plug 2: 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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AM-BL3260AN Series



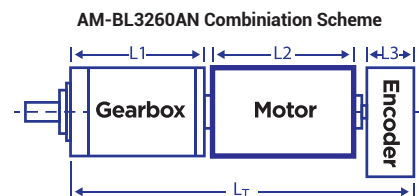
		Brushless Motor			Ball Bearings		
Motor Model		1212	1208	2413	2409	3613	3610
Nominal voltage	V	12	12	24	24	36	36
No load speed ±12%	rpm	12191	8127	12832	9752	12611	10449
No load current Max 150%	mA	355	192	190	127	125	94
Recommend limit for continuous operating	Max cont. torque	mN.m	31.3	42.1	28.6	34.4	29.1
	Rated Speed	rpm	11507	7245	12243	9305	12001
	Rated Current	mA	3700	3200	1800	1600	1200
	Rated Power	W	37.7	32.0	36.7	32.5	36.6
Starting current	mA	60000	27907	35294	120168	22360	15319
Stall torque	mN.m	557	388	624	468	603	498
Maximum power output	W	177.9	82.6	209.5	119.5	199.0	136.2
Maximum Efficiency	%	85	84	86	85	86	85
Terminal resistance ±12%	Ω	0.2	0.43	0.68	1.19	1.61	2.35
Inductance (1KH ₂)	mH						
Mechanical time constant	ms	3.0	2.9	2.9	2.9	2.9	2.9
Moment of inertia	gcm ²	13.3	13.3	13.3	13.3	13.3	13.3
Torque constant	mN.m/A	9.3	14.0	17.8	23.4	27.1	32.7
Speed constant	rpm/V	1022	682	538	409	352	292
Speed/torque gradient	rpm/mN.m	21.9	20.9	20.6	20.8	20.9	21.0
Weight	g	240	240	240	240	240	240

ADDITIONAL INFORMATION

Motor thermal resistance:	7.8 K/W	Motor thermal time constant:	1089 S
Axial (dynamic):	6.0 N	Radial (5mm from mounting face):	28.0 N
Press-fit force (static):	110 N	Max allowable screw depth into flange:	4.0 mm
Maximum radial play (5mm from mounting face):	≤0.02 mm	Axial play:	0 (<6.0N)
Maximum winding temperature:	85°C	Ambient temperature range:	-30 to 65°C
Standard rear shaft diameter:	4 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

Connection (AWG 20#)	Total Length: L _T =L ₁ +L ₂ +L ₃				
Cable 1:Yellow Winding A	L1:32GP	L1:36GP	L2:BL32	L3:EN22S	L3:EN24T
Cable 2:Red Winding B	27.4	39.6	60.0	10.7	12.0
Cable 3: Blue Winding C	35.9	48.6			
Plug definition (AWG 28#) Molex:51021-0500	44.4	57.6			
Plug 1: Red 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-32GP
AM-36GP

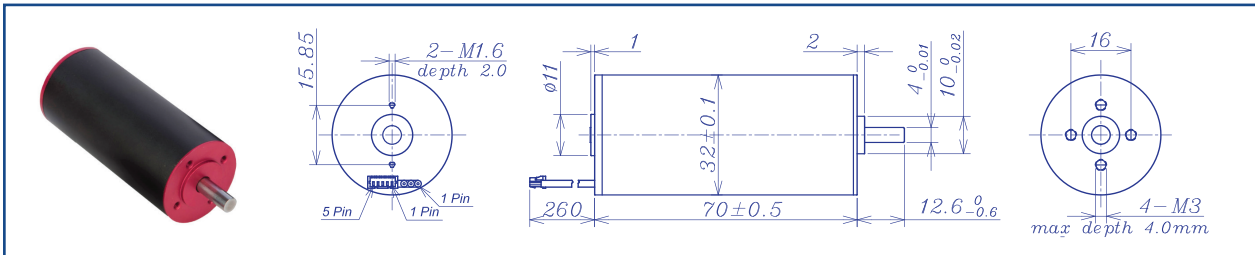
Recommended Encoder:
Encoder S: AM-EN2211S***
2~3 Channels
Encoder T: AM-EN2412T***
2~3 Channels

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.

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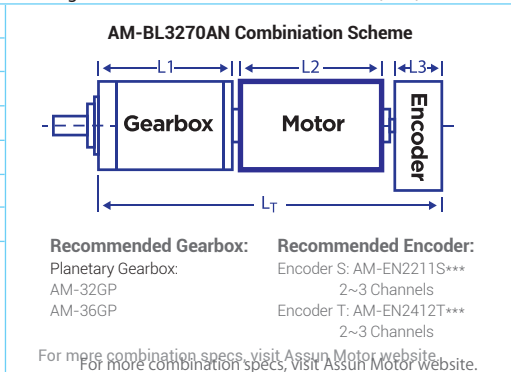
AM-BL3270AN Series



		Brushless Motor			Ball Bearings			
Motor Model		1210	1207	2412	2409	3611	3609	
Nominal voltage		V	12	12	24	24	36	36
No load speed ±12%		rpm	9794	6529	11523	8904	10882	9182
No load current Max 150%		mA	355	192	190	127	94	80
Recommend limit for continuous operating	Max cont. torque	mN.m	40.0	52.4	35.8	47.9	44.2	49.2
	Rated Speed	rpm	9143	5721	10982	8184	10225	8465
	Rated Current	mA	3800	3200	2000	2000	1500	1400
	Rated Power	W	38.3	31.4	41.2	41.1	47.4	43.6
Starting current		mA	52174	24490	38710	23301	23377	16981
Stall torque		mN.m	602	423	762	593	733	630
Maximum power output		W	154.4	72.3	230.0	138.3	208.7	151.4
Maximum Efficiency		%	84	83	86	86	88	87
Terminal resistance ±12%		Ω	0.23	0.49	0.62	1.03	1.54	2.12
Inductance (1KHz)		mH		0.047				0.21
Mechanical time constant		ms	2.6	2.5	2.4	2.4	2.4	2.3
Moment of inertia		gcm ²	15.3	15.3	15.3	15.3	15.3	15.3
Torque constant		mN.m/A	11.6	17.4	19.8	25.6	31.5	37.3
Speed constant		rpm/V	822	548	482	373	303	256
Speed/torque gradient		rpm/mN.m	16.3	15.4	15.1	15.0	14.9	14.6
Weight		g	280	280	280	280	280	280

ADDITIONAL INFORMATION			
Motor thermal resistance:	8.2 K/W	Motor thermal time constant:	822 S
Axial (dynamic):	6.0 N	Radial (5mm from mounting face):	28.0 N
Press-fit force (static):	110 N	Max allowable screw depth into flange:	4.0 mm
Maximum radial play (5mm from mounting face):	≤0.02 mm	Axial play:	0 (<6.0N)
Maximum winding temperature:	85°C	Ambient temperature range:	-30 to 65°C
Standard rear shaft diameter:	4 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

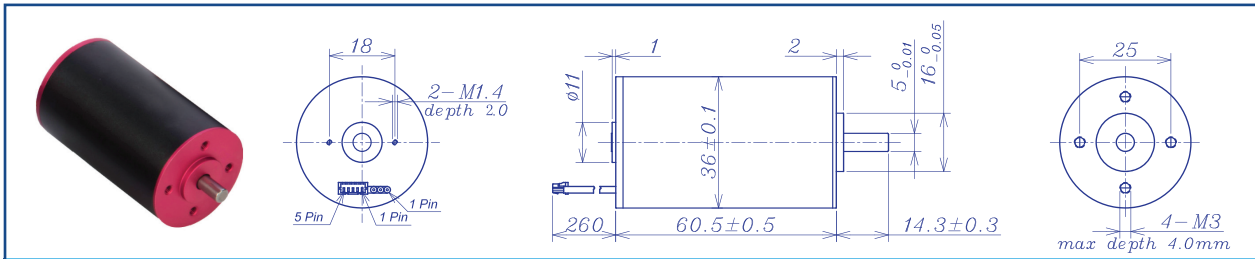
Connection (AWG 20#)	Total Length: L _T =L ₁ +L ₂ +L ₃				
Cable 1: Yellow Winding A	L1:32GP	L1:36GP	L2:BL32	L3:EN22S	L3:EN24T
Cable 2: Red Winding B	27.4	39.6	70.0	10.7	12.0
Cable 3: Blue Winding C	35.9	48.6			
Plug definition (AWG 28#) Molex: 51021-0500	44.4	57.6			
Plug 1: Red Hall 3~16V					
Plug 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					



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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AM-BL3660AN Series



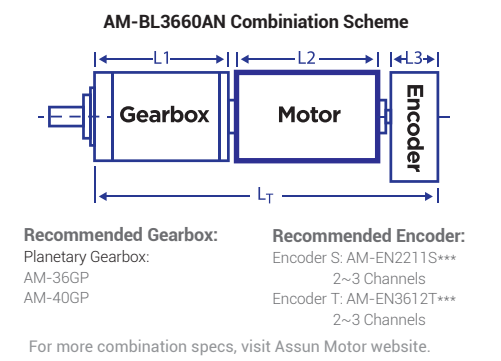
		Brushless Motor				Ball Bearings		
Motor Model		1211	1209	2413	2410	3612	3610	
Nominal voltage		V	12	12	24	24	36	36
No load speed ±12%		rpm	11200	8840	12500	12300	12300	10450
No load current Max 150%		mA	320	230	220	165	120	105
Recommend limit for continuous operating	Max cont. torque	mN.m	47.6	51.2	36.1	43.2	41.2	45.7
	Rated Speed	rpm	10322	7928	11940	9489	11650	9758
	Rated Current	mA	5000	4200	2200	2100	1600	1500
	Rated Power	W	51.5	42.8	45.2	42.9	50.2	46.7
Starting current		mA	60000	38710	44444	27907	28125	21176
Stall torque		mN.m	607	496	807	620	779	690
Maximum power output		W	178.1	114.8	264.0	165.5	251.0	188.7
Maximum Efficiency		%	86	85	86	85	87	86
Terminal resistance ±12%		Ω	0.2	0.31	0.54	0.86	1.28	1.7
Inductance (1KHz)		mH	0.027	0.051	0.11	0.17	0.27	0.38
Mechanical time constant		ms	3.2	3.1	2.7	2.9	2.8	2.7
Moment of inertia		gcm ²	16.75	16.75	16.75	16.75	16.75	16.75
Torque constant		mN.m/A	10.2	12.9	18.2	22.3	27.8	32.7
Speed constant		rpm/V	938	741	523	428	343	292
Speed/torque gradient		rpm/mN.m	18.4	17.8	15.5	16.5	15.8	15.2
Weight		g	325.8	325.9	326.8	326.9	326.5	327.5

ADDITIONAL INFORMATION

Motor thermal resistance:	6.9 K/W	Motor thermal time constant:	1188S
Axial (dynamic):	6.0 N	Radial (5mm from mounting face):	28.0 N
Press-fit force (static):	110 N	Max allowable screw depth into flange:	4.0 mm
Maximum radial play (5mm from mounting face):	≤0.02 mm	Axial play:	0 (<6.0N)
Maximum winding temperature:	85°C	Ambient temperature range:	-30 to 65°C
Standard rear shaft diameter:	5 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

Connection (AWG 20#)	Total Length: L _T =L ₁ +L ₂ +L ₃				
Cable 1: Yellow Winding A	L1:36GP	L1:40GP	L2:BL36	L3:EN22S	L3:EN36T
Cable 2: Red Winding B	39.6	46.8	60.5	10.7	12.0
Cable 3: Blue Winding C	48.6	58.3			
Plug definition (AWG 28#) Molex: 51021-0500	57.6	69.8			
Plug 1: Red Hall 3~16V					
Plug 2: Black Hall GND					
Plug 3: Yellow Hall A					
Plug 4: Red Hall B					
Plug 5: Blue Hall C					

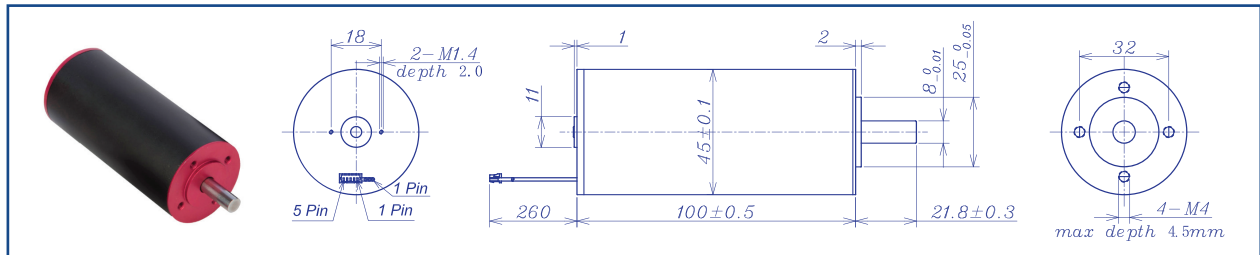
Remarks: Client can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.



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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AM-BL45100AN Series

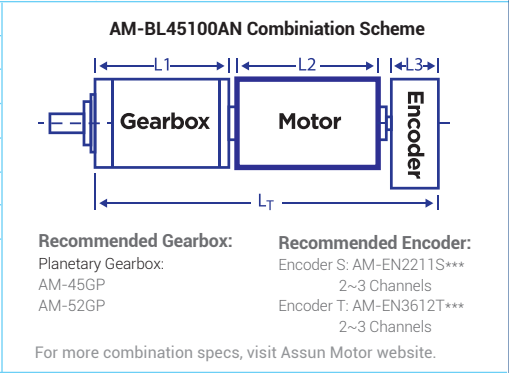


		Brushless Motor		Ball Bearings				
Motor Model		2411	2406	3610	3606	4810	4806	
Nominal voltage	V	24	24	36	36	48	48	
No load speed ±12%	rpm	11240	5900	10340	6380	10360	6450	
No load current Max 150%	mA	600	320	390	200	370	190	
Recommend limit for continuous operating	Max cont. torque	mN.m	69.0	161.5	69.9	123.3.4	49.8	120.8
	Rated Speed	rpm	10984	5466	10127	6032	10215	6108
	Rated Current	mA	4000	4500	2500	2500	1500	1900
	Rated Power	W	79.4	92.4	74.1	77.9	53.2	77.3
Starting current	mA	150000	57143	102857	42353	81356	32432	
Stall torque	mN.m	3034	2195	3394	2261	3567	2278	
Maximum power output	W	892.8	339.0	918.7	377.6	967.4	384.6	
Maximum Efficiency	%	88	86	88	87	87	85	
Terminal resistance ±12%	Ω	0.16	0.42	0.35	0.85	0.59	1.48	
Inductance (1KHz)	mH	0.035	0.14	0.11	0.31	0.21	0.55	
Mechanical time constant	ms	4.3	3.1	3.5	3.2	3.3	3.3	
Moment of inertia	gcm ²	109.8	109.8	109.8	109.8	109.8	109.8	
Torque constant	mN.m/A	20.3	38.6	33.1	53.6	44.0	70.6	
Speed constant	rpm/V	470	247	288	178	217	135	
Speed/torque gradient	rpm/mN.m	3.7	2.7	3.0	2.8	2.9	2.8	
Weight	g	846.5	850.2	852.5	841.5	847.5	840.3	

ADDITIONAL INFORMATION			
Motor thermal resistance:	3.6 K/W	Motor thermal time constant:	1286 S
Axial (dynamic):	8.0 N	Radial (5mm from mounting face):	180.0 N
Press-fit force (static):	170 N	Max allowable screw depth into flange:	4.5 mm
Maximum radial play (5mm from mounting face):	≤0.02 mm	Axial play:	0 (<8.0N)
Maximum winding temperature:	85°C	Ambient temperature range:	-30 to 65°C
Standard rear shaft diameter:	8 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

Connection (AWG 18#)	Total Length: L _T =L ₁ +L ₂ +L ₃				
Cable 1: Yellow Winding A	L1:45GP	L1:52GP	L2:BL45	L3:EN22S	L3:EN36T
Cable 2: Red Winding B	62.8.9	18.8	40.0	10.7	12.0
Cable 3: Blue Winding C	74.8				
Plug definition (AWG 28#) Molex: 51021-0500					
Plug 1: Red Hall 3~16V					
Plug 2: Black Hall GND					
Plug 3: Yellow Hall A					
Plug 4: Red Hall B					
Plug 5: Blue Hall C					

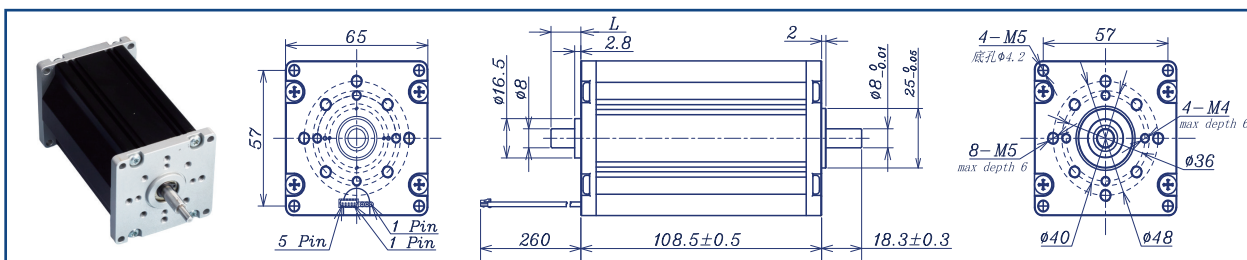
Remarks: Client can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.



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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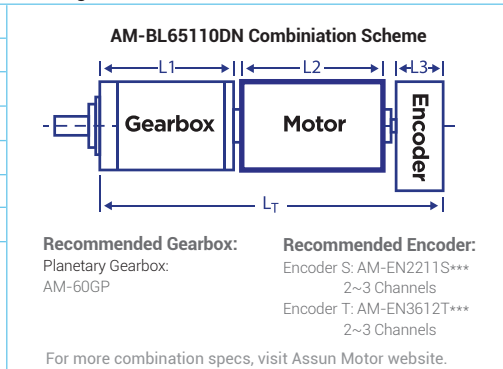
AM-BL65110DN Seires



		Brushless Motor		Ball Bearings	
Motor Model		2404	4003		
Nominal voltage		V	24	40	
No Load Speed ±12%		rpm	3550	3450	
No load current Max 150%		mA	225	135	
Recommend Limit for continuous operating	Max cont. torque	mN.m	403.0	403.5	
	Rated Speed	rpm	3037	2922	
	Rated Current	mA	6500	3800	
	Rated Power	W	128.2	123.5	
Starting current		mA	43636	24096	
Stall torque		mN.m	2788	2638	
Maximum power output		W	259.1	238.3	
Maximum Efficiency		%	86	86	
Terminal resistance ±12%		Ω	0.55	1.66	
Inductance (1KHz)		mH		0.44	
Mechanical time constant		ms	19.8	20.4	
Moment of inertia		gcm ²	1486	1486	
Torque constant		mN.m/A	64.2	110.1	
Speed constant		rpm/V	149	87	
Speed/torque gradient		rpm/mN.m	1.3	1.3	
Weight		g	1300	1308	

ADDITIONAL INFORMATION			
Motor thermal resistance:	2.6 K/W	Motor thermal time constant:	2025 S
Axial (dynamic):	30.0 N	Radial (5mm from mounting face):	180.0 N
Press-fit force (static):	150 N	Max allowable screw depth into flange:	6.0mm
Maximum radial play (5mm from mounting face):	≤0.02 mm	Axial play:	0 (<12.0N)
Maximum winding temperature:	85°C	Ambient temperature range:	-30 to 65°C
Standard Rear Shaft Diameter:	8 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

Connection (AWG 18#)		减速电机总长: $L_T=L_1+L_2+L_3$			
Cable	Winding	L1:60GP	L2:BL65	L3:EN22S	L3:EN36T
Cable 1: Yellow	Winding A	73.5	108.5	10.7	12.0
Cable 2: Red	Winding B				
Cable 3: Blue	Winding C				
Plug definition (AWG 28#) Molex: 51021-0500					
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				



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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