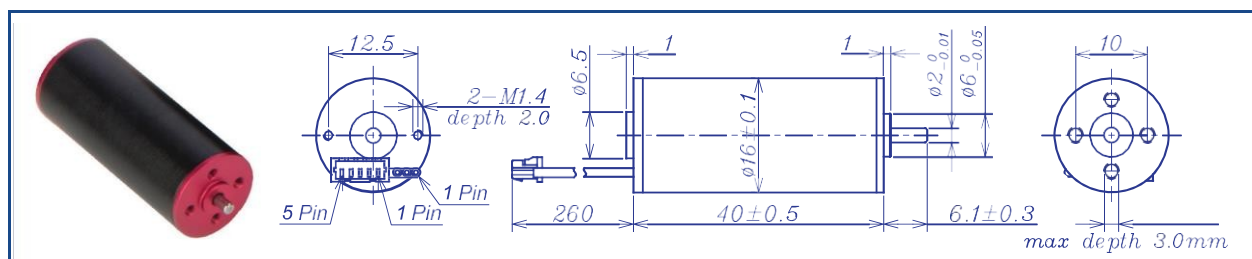


DC BRUSHLESS MOTOR STANDARD SERIES

ASSUN

DRIVING THE FUTURE

AM-BL1640AN Series

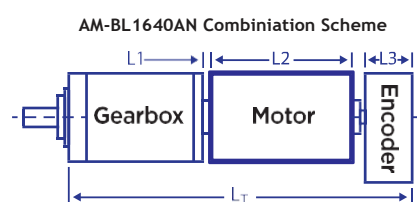


		Brushless Motor				Ball Bearings			
Motor Model		1231	1219	1216	1834	1819	1815	2417	2412
Nominal voltage	V	12	12	12	18	18	18	24	24
No load speed $\pm 12\%$	rpm	30890	19320	15750	34300	18900	15210	17380	11690
No load current Max150%	mA	150	90	70	120	65	55	45	38
Recommend limit for continuous operating	Max cont. torque	mN.m	6.1	7.1	6.7	4.9	6.6	7.0	6.9
	Rated Speed	rpm	27977	15845	12465	31908	15903	12085	14353
	Rated Current	mA	1800	1300	1000	1100	800	650	580
	Rated Power	W	17.8	11.8	8.7	16.3	11.0	8.4	10.5
Starting current	mA	17647	6818	4528	14173	4700	2951	3117	1277
Stall torque	Nm.	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 $\pm 12\%$	Ω	0.68	1.76	2.65	1.27	3.83	6.1	7.7	18.8
Inductance (1KHz)	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 (\square 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

C onne ction (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	40.0	10.7	12.0
Cable 3: Blue	Winding C	23.3	23.6			
Plug de finition (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					



Recommended Gearbox: Planetary Gearbox:
AM-16GP
AM-20GP

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.

Softing Italia Srl

Via M. Kolbe 6, Cesano Boscone (MI)

Tel.: 024505171

Email: info@softingitalia.it

Web: www.softingitalia.it/motors

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