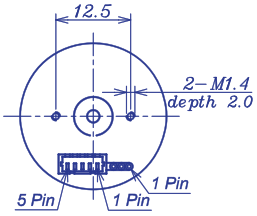
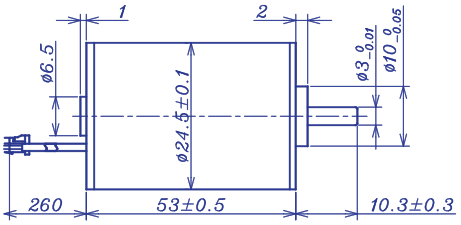
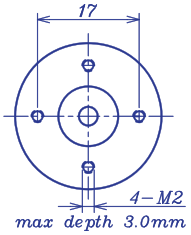
AM-BL2453BF Series







			Brushless Motor		Ball Bearings			
Motor Model			**1212**	**1209**	**1812**	**1809**	**2412**	**2409**
Nominal voltage		V	12	12	18	18	24	24
No load speed ±12%		rpm	11937	9182	11937	8952	11937	9182
No load current Max 150%		mA	358	300	239	200	179	150
Recommend limit for continuous operating	Max cont. torque	mN.m	46.48	51.17	54.16	53.76	46.48	56.16
	Rated Speed	rpm	10799	8037	10769	7818	10954	7979
	Rated Current	mA	5200	4400	4000	3000	2600	2400
	Rated Power	W	52.56	43.07	61.08	44.02	53.32	46.93
Starting current		mA	54545	35294	40909	23684	31579	18321
Stall torque		mN.m	524	440	589	455	606	457
Maximum power output		W	163.6	105.9	174.1	106.6	189.5	109.9
Maximum Efficiency		%	84	82	85	82	86	83
Terminal resistance ±12%		Ω	0.22	0.34	0.44	0.76	0.76	1.31
Inductance ($1KH_Z$)		mH						
Mechanical time constant		ms	2.38	2.18	2.12	2.06	2.08	2.10
Moment of inertia		gcm^2	9.97	9.97	9.97	9.97	9.97	9.97
Torque constant		mN.m/A	9.60	12.48	14.40	19.20	19.20	24.96
Speed constant		rpm/V	995	765	663	497	497	383
Speed/torque gradient		rpm/mN.m	22.8	20.8	20.3	19.7	19.7	20.1
Weight		g	180	180	180	180	180	180

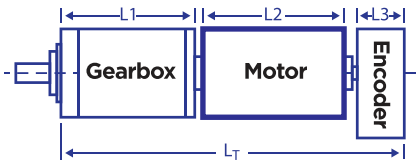
ADDITIONAL INFORMATION

Motor thermal resistance:	10.2 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:	155ºC	Ambient temperature range:	-30 to 65ºC
Standard rear shaft diameter:	3 mm	Standard rear shaft length "L":	0/3.7/5.5 mm

Connection (AWG 22#)	Total Length: L_T=L1+L2+L3				
Cable 1: Yellow Winding A	**L1:24GP**	**L1:28GP**	**L2:BL24**	**L3:EN16S**	**L3:EN16T**
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.

AM-BL2453BF Combiniation Scheme



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

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

For more combination specs, visit Assun Motor website.

Motor data tested at 25ºC. 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