

Brushless DC Motor&Drive

Wide speed range, flat torque
Excellent speed stability
Compact and high power

Low power consumption low noise low vibration
Long life and low maintenance
Low cogging torque



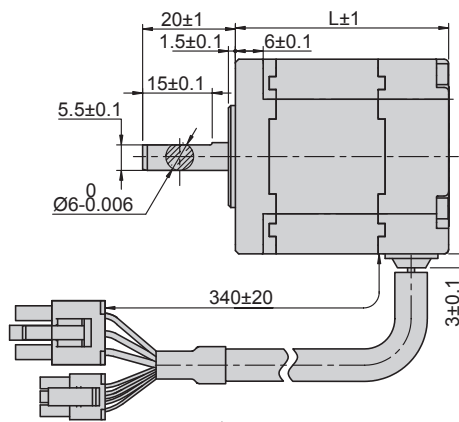
42 BLD Motor

Technical specification

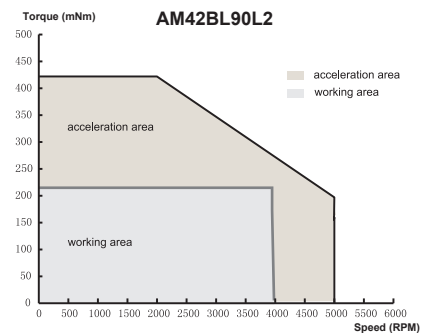
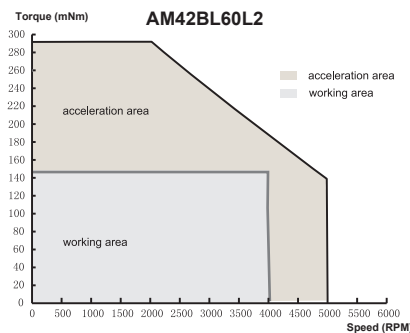
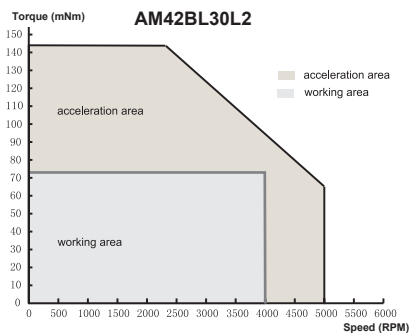
	Symbols	Units	Type					
			AM42BL30L2	AM42BL30L4	AM42BL60L2	AM42BL60L4	AM42BL90L2	AM42BL90L4
		mm	42	42	42	42	42	42
length	L	mm	46	46	70	70	100	100
Input voltage	Un	VDC	24	48	24	48	24	48
Rated power	Pn		30	30	60	60	90	90
Phase number	P		3					
Rated speed	Nn	RPM	4000	4000	4000	4000	4000	4000
Max. speed	Np	RPM	5000	5000	5000	5000	5000	5000
Rated torque	T	Nm	0.072	0.072	0.144	0.144	0.215	0.215
Max. torque	T max	Nm	0.144	0.144	0.288	0.288	0.43	0.43
Rated current	I	Arms	1.67	0.81	3.28	1.63	4.92	2.40
Max. current	I max	Arms	3.34	1.62	6.56	3.26	9.84	4.8
Voltage ± 10%		Vrms/Krpm	2.95	6.13	3.00	6.00	3.00	6.10
Torque ± 10%		Nm/Arms	0.043	0.089	0.044	0.088	0.044	0.089
Moment of inertia		g.cm ²	39	39	72	72	114	114
Resistance ± 10%(25℃)	R	Ω	1.34	5.92	0.68	2.62	0.40	1.47
Inductance	L	mH	1.15	3.15	0.60	2.5	0.37	1.57
Sensor			Hall					
Ins.class			E					
Protective rating			IP40					
Storage temperature			-25~+70℃					
Operating temperature			0~+40℃					
Operating humidity			85% RH or below (noncondensing))					
Operating environment			Outdoor (no direct sunlight), no corrosive gas, no flammable gas, no oil mist, no dust					
Altitude			1000m or below					

Mechanical Dimension(Unit:mm)

Series	length
	mm
AM42BL30L2	46
AM42BL60L2	70
AM42BL90L2	100



Torque Curves



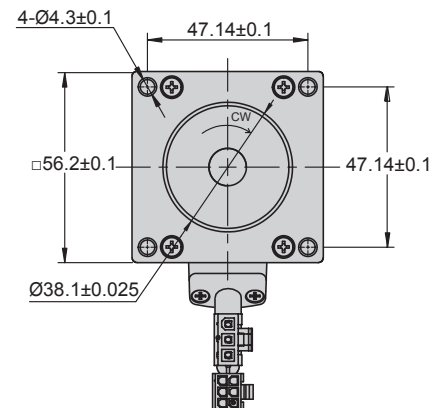
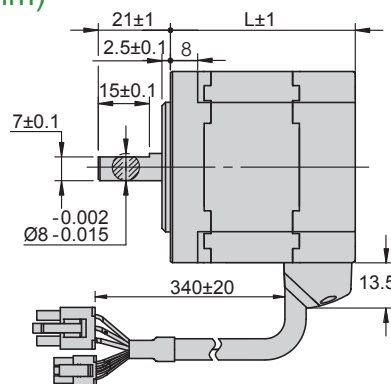
57 BLD Motor

Technical specification

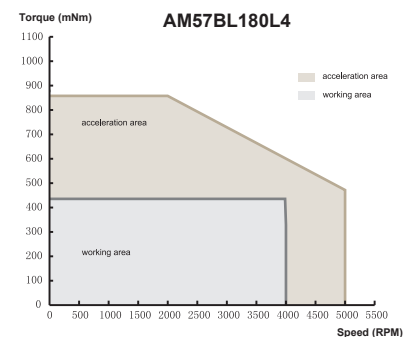
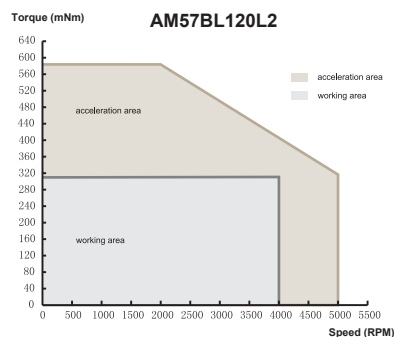
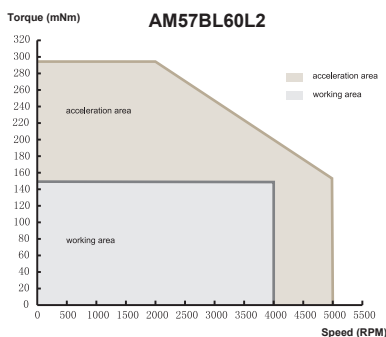
	Symbols	Units	Type				
			AM57BL60L2	AM57BL60L4	AM57BL120L2	AM57BL120L4	AM57BL180L4
		mm	57	57	57	57	57
length	L	mm	54.5	54.5	82.5	82.5	120.5
Input voltage	Un	VDC	24	48	24	48	48
Rated power	Pn		60	60	120	120	180
Phase number	P		3				
Rated speed	Nn	RPM	4000	4000	4000	4000	4000
Max. speed	Np	RPM	5000	5000	5000	5000	5000
Rated torque	T	Nm	0.145	0.145	0.29	0.29	0.43
Max. torque	T max	Nm	0.29	0.29	0.58	0.58	0.86
Rated current	I	Arms	3.2	1.6	6.9	3.0	4.5
Max. current	I max	Arms	6.4	3.2	13.8	6.0	9.0
Voltage $\pm 10\%$		Vrms/Krpm	3.08	6.35	3.00	6.4	6.45
Torque $\pm 10\%$		Nm/Arms	0.045	0.090	0.042	0.097	0.096
Moment of inertia		g.cm ²	148	148	279	279	456
Resistance $\pm 10\%$ (25℃)	R	Ω	0.48	1.8	0.18	0.76	0.44
Inductance	L	mH	0.45	1.9	0.18	0.84	0.54
Sensor			Hall				
Ins.class			E				
Protective rating			IP40				
Storage temperature			-25~+70℃				
Operating temperature			0~+40℃				
Operating humidity			85% RH or below (noncondensing))				
Operating environment			Outdoor (no direct sunlight), no corrosive gas, no fl ammable gas, no oil mist, no dust				
Altitude			1000m or below				

Mechanical Dimension(Unit:mm)

Series	length
	mm
AM57BL60L2	54.5
AM57BL120L2	82.5
AM57BL180L4	120.5



Torque Curves



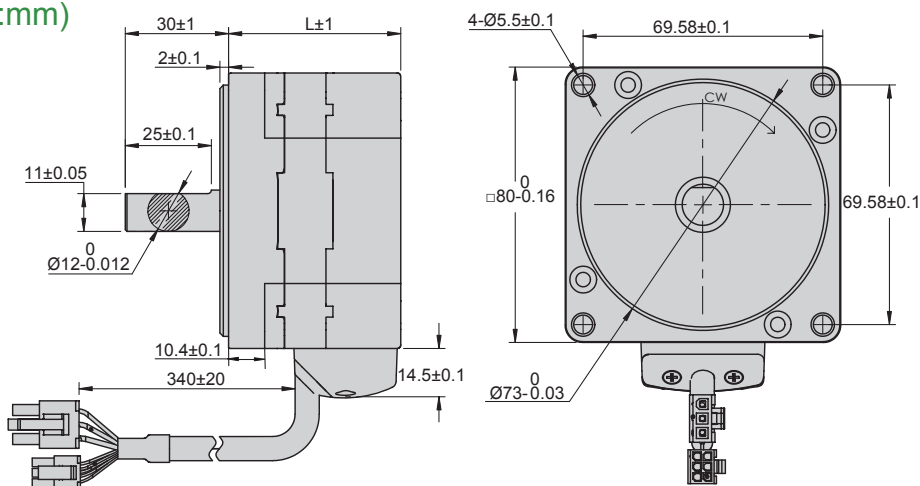
80 BLD Motor

Technical specification

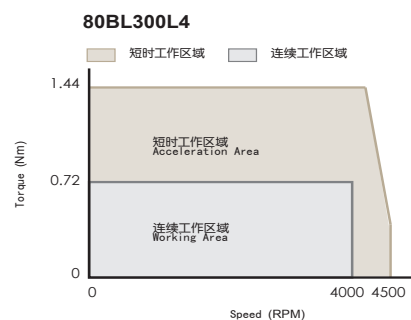
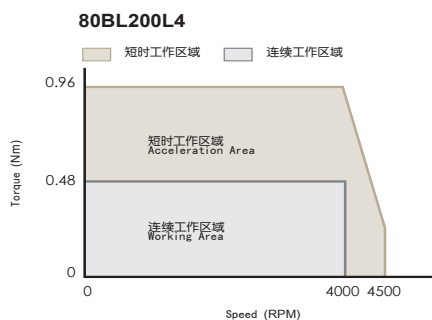
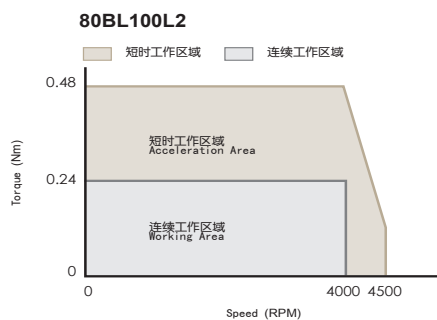
	Symbols	Units	Type				
			AM80BL100L2	AM80BL100L4	AM80BL200L2	AM80BL200L4	AM80BL300L4
length	L	mm	80	80	80	80	80
Input voltage	Un	VDC	24	48	24	48	48
Rated power	Pn		100	100	200	200	300
Phase number	P		3				
Rated speed	Nn	RPM	4000	4000	4000	4000	4000
Max. speed	Np	RPM	4500	4500	4500	4500	4500
Rated torque	T	Nm	0.24	0.24	0.48	0.48	0.72
Max. torque	T max	Nm	0.48	0.48	0.96	0.96	1.44
Rated current	I	Arms	5.00	2.43	10.10	5.06	7.49
Max. current	I max	Arms	10.00	4.86	20.20	10.12	14.98
Voltage ± 10%		Vrms/Krpm	3.44	6.88	3.38	6.76	7.03
Torque ± 10%		Nm/Arms	0.048	0.099	0.048	0.095	0.096
Moment of inertia		g.cm ²	38	38	74	74	108
Resistance ± 10%(25℃)	R	Ω	0.18	0.71	0.10	0.32	0.23
Inductance	L	mH	0.34	1.35	0.18	0.70	0.95
Sensor			Hall				
Ins.class			E				
Protective rating			IP40				
Storage temperature			-25~+70℃				
Operating temperature			0~+40℃				
Operating humidity			85% RH or below (noncondensing))				
Operating environment			Outdoor (no direct sunlight), no corrosive gas, no fl ammable gas, no oil mist, no dust				
Altitude			1000m or below				

Mechanical Dimension(Unit:mm)

Series	length
	mm
AM80BL100L2	50
AM80BL200L4	67
AM80BL300L4	84



Torque Curves



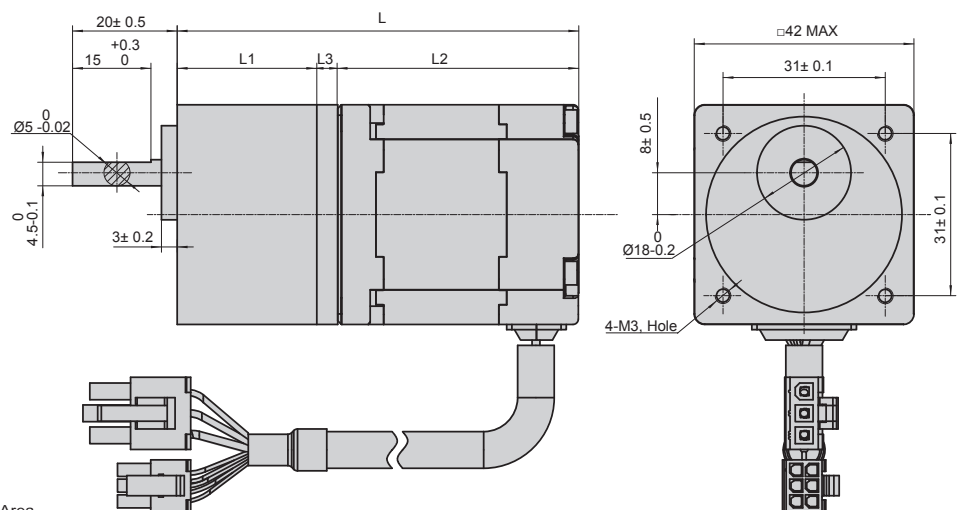
42 BLD Gear Box Motor

Electrical Specifications

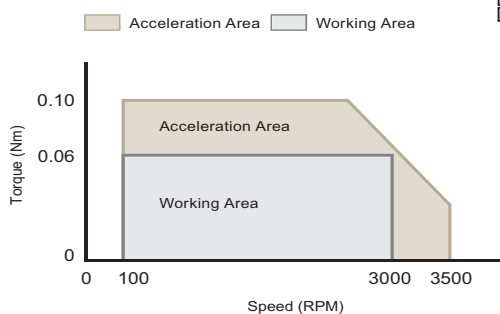
	Symbols	Type						
		AM42BL18 L2-005	AM42BL18 L2-010	AM42BL18 L2-015	AM42BL18 L2-020	AM42BL18 L2-030	AM42BL18 L2-050	AM42BL18 L2-100
Motor Model		AM42BL30L2						
Maximum Output Speed	rpm	3500						
Rated Output Speed	rpm	3000						
Rated Power	W	18						
Ratio		5	10	15	20	30	50	100
Direction of rotation		CCW	CW	CW	CCW	CCW	CCW	CW
Rated Voltage		DC24V						
Output Speed	rpm	600	300	200	150	100	60	30
Permissible Torque	Nm	0.25	0.50	0.75	0.96	1.45	2.00	2.00
Permissible Thrust Load	N	30						
Permissible Overhung Load	4 N	50						
Permissible Moment of Inertia Referred to Input Shaft	10 ⁻⁴ Kgm ²	0.4	1.7	3.9	7	15.9	43.7	43.7
Life	Lh	5000						
Noise	dB	< 60						
Protective rating		IP40						
Storage temperature		-25~+70℃						
Operating temperature		0~+40℃						
Operating humidity		85% RH or less (without condensation)						

Mechanical Dimension(Unit:mm)

Code	length	Ratio
	mm	
L1	26.5	≤ 100
L2	46	
L3	4.5	



Torque Curves



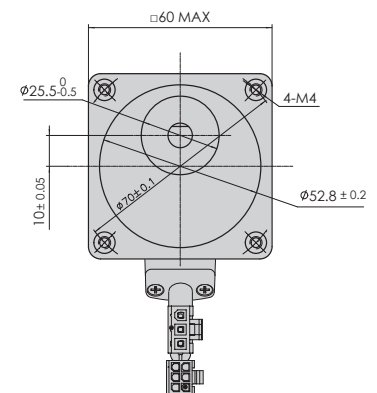
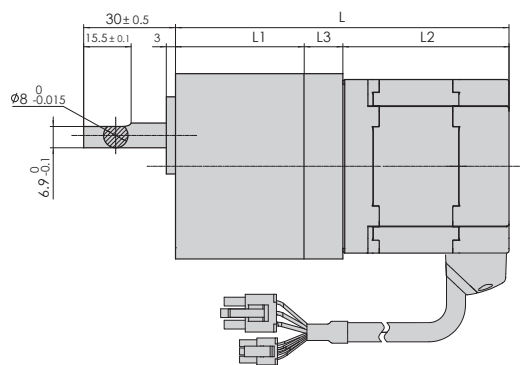
60 BLD Gear Box Motor

Electrical Specifications

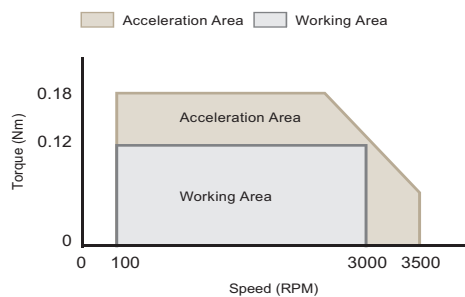
	Units	Type							
		AM60BL30 L2-005	AM60BL30 L2-010	AM60BL30 L2-015	AM60BL30 L2-020	AM60BL30 L2-030	AM60BL30 L2-050	AM60BL30 L2-100	AM60BL30 L2-200
Motor Model		AM57BL60L2							
Maximum Output Speed	rpm	3500							
Rated Output Speed	rpm	3000							
Rated Power	W	30							
Ratio		5	10	15	20	30	50	100	200
Direction of rotation		CCW	CW	CW	CCW	CCW	CCW	CW	CW
Rated Voltage		DC24V							
Output Speed	rpm	600	300	200	150	100	60	30	15
Permissible Torque	Nm	0.27	0.54	0.81	1.1	1.5	2.6	5.2	6
Permissible Thrust Load	N	40							
Permissible Overhung Load	4 N	100	150			200			
	5 N	150	200			300			
Permissible Moment of Inertia Referred to Input Shaft	10 ⁻⁴ Kgm ²	1.55	6.2	14	24.8	55.8	155	155	155
Life	Lh	10000							
Noise	dB	< 60							
Protective rating		IP40							
Storage temperature		-25~+70℃							
Operating temperature		0~+40℃							
Operating humidity		85% RH or below (noncondensing))							

Mechanical Dimension(Unit:mm)

Code	length	Ratio
	mm	
L1	32	≤20
L2	54	
L3	12.7	
L1	42	>20
L2	54	
L3	12.7	



Torque Curves



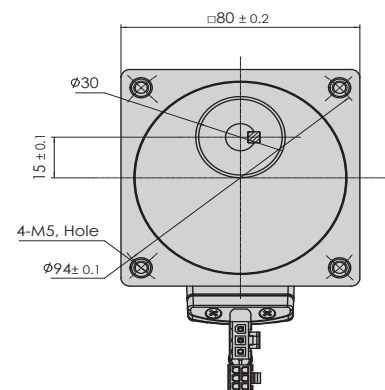
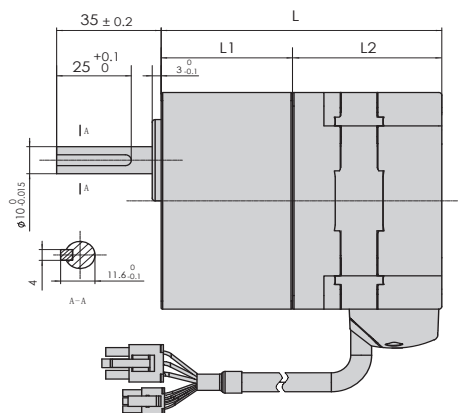
80 BLD Gear Box Motor

Electrical Specifications

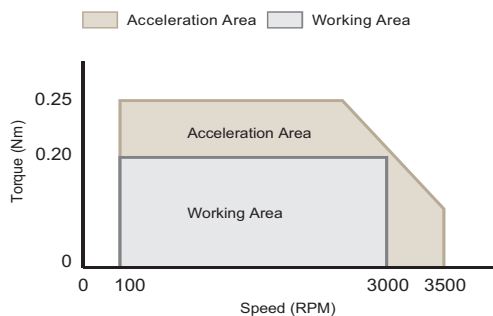
	Units	Type							
		AM80BL50 L2-005	AM80BL50 L2-010	AM80BL50 L2-015	AM80BL50 L2-020	AM80BL50 L2-030	AM80BL50 L2-050	AM80BL50 L2-100	AM80BL50 L2-200
Motor Model		AM80BL100L2							
Maximum Output Speed	rpm	3500							
Rated Output Speed	rpm	3000							
Rated Power	W	50							
Ratio		5	10	15	20	30	50	100	200
Direction of rotation		CCW	CW	CW	CCW	CCW	CCW	CW	CW
Rated Voltage		DC24V							
Output Speed	rpm	600	300	200	150	100	60	30	15
Permissible Torque	Nm	0.45	0.9	1.4	1.8	2.6	4.3	8.6	16
Permissible Thrust Load	N	100							
Permissible Overhung Load	4 N	200	300			450			
	5 N	250	350			550			
Permissible Moment of Inertia Referred to Input Shaft	10 ⁻⁴ Kgm ²	505	22	49.5	88	198	550	550	550
Life	Lh	10000							
Noise	dB	< 60							
Protective rating		IP40							
Storage temperature		-25~+70℃							
Operating temperature		0~+40℃							
Operating humidity		85% RH or below (noncondensing))							

Mechanical Dimension(Unit:mm)

Code	length	Ratio
	mm	
L1	32	≤20
L2	51	
L1	43.5	>20
L2	51	



Torque Curves

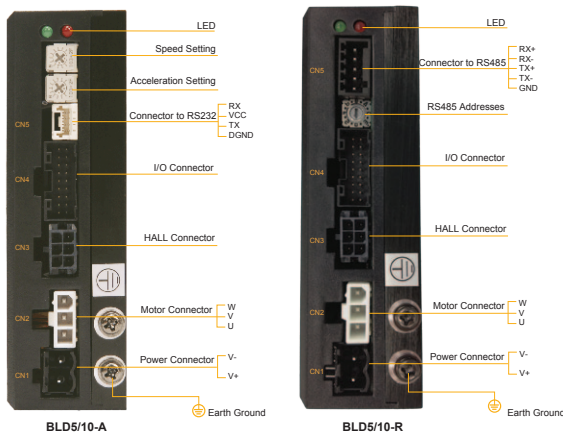


BLD Motor Drive

Feature

- Excellent velocity control
- Wide speed control range of 150-4500rpm
- Speed regulation:0.5%max(with respect to load)
- RS485 multi-axis control
- Easy operation with on board potentiometer
- Speed setting via external analog or digital signals
- Strong protection
- compact size

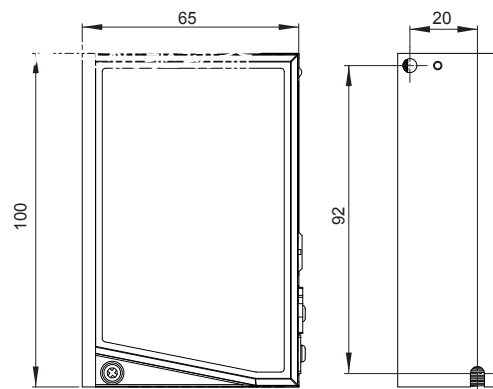
Mechanical Dimension(Unit:mm)



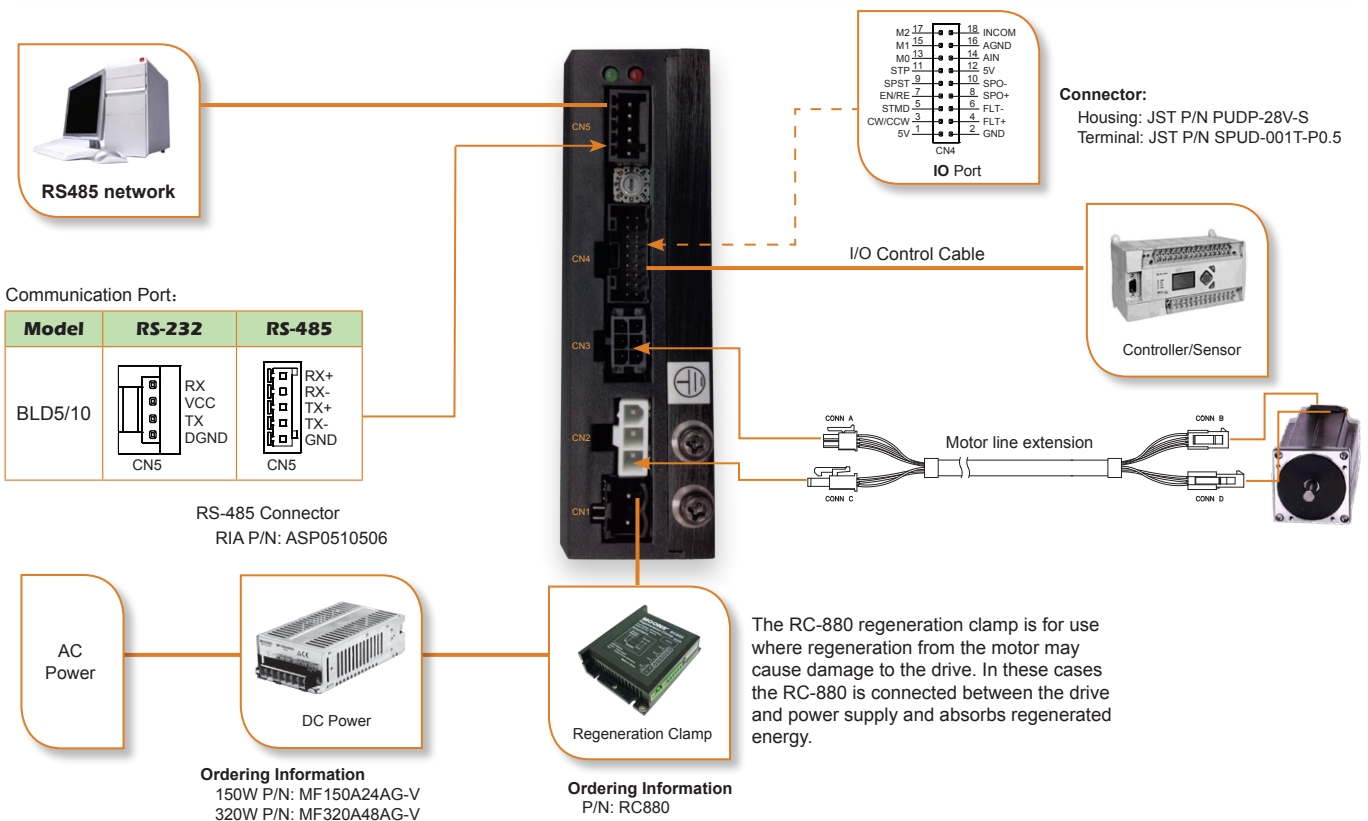
Technical Specification

Parameter	Min.	Typical	Max.	Units
Power supply	12	-	48	VDC
Output Current	BLD5	0.1	5	Amps
	BLD10	0.1	10	
Under voltage protection	-	8	-	V
Over voltage protection	-	70	-	V
Input signals voltage	4	5-24	28	V
Input analog voltage	-	-	5	V
OUT Maximum Output current	-	-	100	mA
OUT Maximum voltage	-	-	30	V
Speed control range	150	-	4500*	r/min

* Limited by the maximum rated speed of the motor



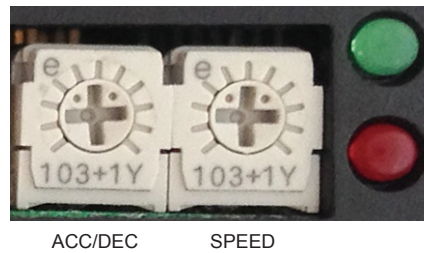
System configuration



I/O Control&Functional Description

1	+5V USER	2	GND
3	X1	4	Y1+
5	X2	6	Y1-
7	X3	8	Y2+
9	X4	10	Y2-
11	X5	12	AH
13	X6	14	Analog In
15	X7	16	AL
17	X8	18	INCOM

PIN	Signal Type	Signal Name		Function
		Basic Type	Universal Type	Basic Type
1	Power	+5V USER		Provide maximum +5V 100mA power to user
2		GND		External control signal GND
18		INCOM		External optical power input (common&cathode can dial selection)
3	Injput	CW/CCW	X1	CW/CCW
5		STMD(STOP MODE)	X2	Stop Mode Choose
7		EN/RE(Enable/Reset)	X3	Motor Enable / Disable
9		SPST(SPEED-SET)	X4	Internal / External Analog Speed Selection (Only BLD5/10-A)
11		STOP	X5	Motor Start&Stop Settings
13		M0	X6	Eight Segment Code Speed (0, 500, 1000, 2000, 3000, 3500, 4000, 4500 r/min)
15		M1	X7	
17		M2	X8	
12	Analog Input	Analog VCC	-	External Analog Control
14		Analog In	-	
16		Analog GND	-	
4	Output	Fault+	Y1+	Alarm Output
6		Fault-	Y1-	
8		Speed Out+	Y2+	Speed output: the default value is 6P/R
10		Speed Out-	Y2-	
-		MOVE	-	ON Status indication, The motor output to ON
-		VA	-	Speed up to output
-		Fault2	-	Overload output
-		Warning	-	Alarm output
-		TLC	-	Torque mode, the motor output torque limit is reached when the output
-		IDLE	-	Configured Common output port to use



Speed Setting

This one potentiometer can be used for adjusting speed. The velocity range can be setting in BLD configurator. Its default range is 150 to 4500rpm.

Acceleration Setting

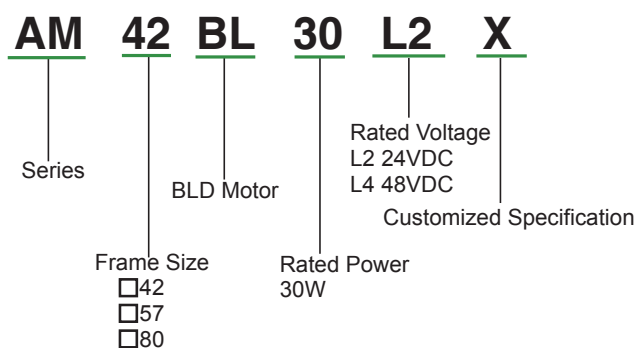
This one potentiometer can be used for adjusting acceleration and deceleration. The acceleration and deceleration range are the same and can be setting in BLD configuration. Their default range are 0 to 3000rps2

Status LED Codes

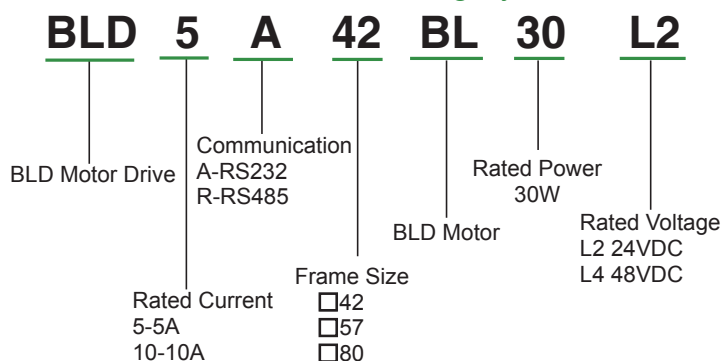
Code		Error
	Solid Green	Motor Disabled
	Flashing Green	Motor Enabled
	1 Red, 2 Green	Can't Move (Disabled)
	3 Red, 1 Green	Drive Over Temperature
	3 Red, 2 Green	Bad Internal Voltage
	4 Red, 1 Green	Supply Voltage High
	4 Red, 2 Green	Supply Voltage Low
	5 Red, 1 Green	Over Current
	5 Red, 2 Green	Over Load
	6 Red, 1 Green	Open Motor Phase
	6 Red, 2 Green	Bad Hall Signal
	7 Red, 1 Green	Comm Error
	7 Red, 2 Green	Save Failed

Ordering Information

■ BLD Motor Numbering System



■ BLD Drive Numbering System



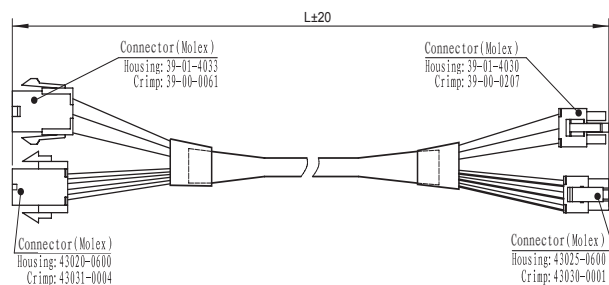
■ Ordering Information

BLD Drive Type	BLD Motor Type	Power	Voltage	RS-232	RS-485
BLD5-A-42BL30L2	AM42BL30L2	30W	24VDC	✓	
BLD5-R-42BL30L2	AM42BL30L2				✓
BLD5-A-42BL60L2	AM42BL60L2	60W		✓	
BLD5-R-42BL60L2	AM42BL60L2				✓
BLD10-A-42BL90L2	AM42BL90L2	90W		✓	
BLD10-R-42BL90L2	AM42BL90L2				✓
BLD5-A-57BL60L2	AM57BL60L2	60W		✓	
BLD5-R-57BL60L2	AM57BL60L2				✓
BLD10-A-57BL120L2	AM57BL120L2	120W		✓	
BLD10-R-57BL120L2	AM57BL120L2				✓
BLD10-A-57BL180L4	AM57BL180L4	180W	48VDC	✓	
BLD10-R-57BL180L4	AM57BL180L4				✓
BLD10-A-80BL100L2	AM80BL100L2	100W	24VDC	✓	
BLD10-R-80BL100L2	AM80BL100L2				✓
BLD10-A-80BL200L4	AM80BL200L4	200W	48VDC	✓	
BLD10-R-80BL200L4	AM80BL200L4				✓
BLD10-A-80BL300L4	AM80BL300L4	300W		✓	
BLD10-R-80BL300L4	AM80BL300L4				✓

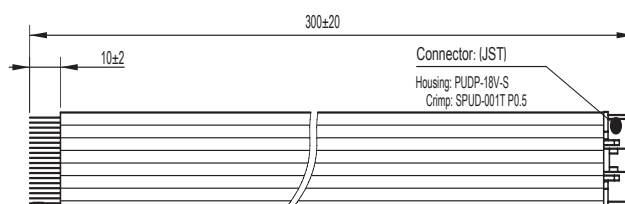
■ Optional Accessories

Motor Cable

P/N	Length
4201-100	1m
4201-300	3m

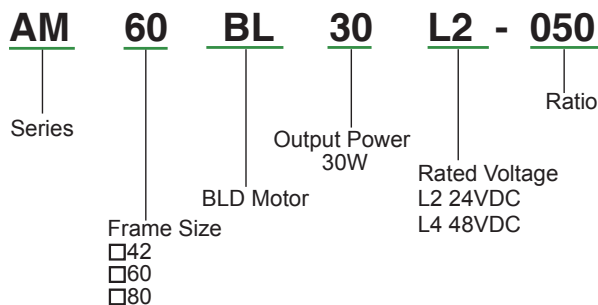


I/O Control Cable

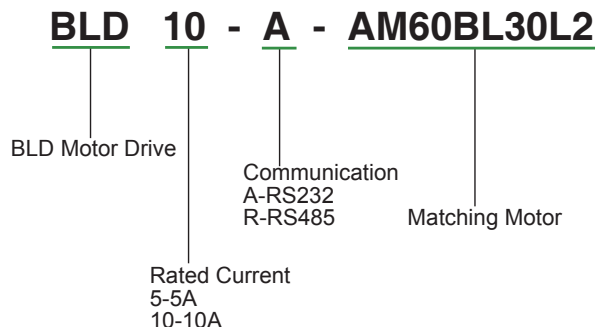


BLD Gear Box Ordering Information

■ BLD Gear Box Motor Numbering System



■ BLD Gear Box Motor Drive Numbering System



■ Ordering Model

BLD Gear Box Motor Drive Model	BLD Gear Box Motor Model	Power	Voltage	RS-232	RS-485
BLD5-A-AM42BL18L2	AM42BL18L2-□	18W	24VDC	✓	
BLD5-R-AM42BL18L2					✓
BLD5-A-AM60BL30L2	AM60BL30L2-□	30W		✓	
BLD5-R-AM60BL30L2					✓
BLD5-A-AM80BL50L2	AM80BL50L2-□	50W		✓	
BLD5-R-AM80BL50L2					✓

- Note: 1. AM60BL30L2 as the matching of the motor, the specific model refer to 5 pages, 6 pages, 7 pages
2. For the BLD5-A-AM60BL30L2- representative ratio, including: 5, 10, 15, 20, 30, 50, 100
3. For the AM60, 80 representative ratio, including: 5, 10, 15, 20, 30, 50, 100, 200



Headquarters

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