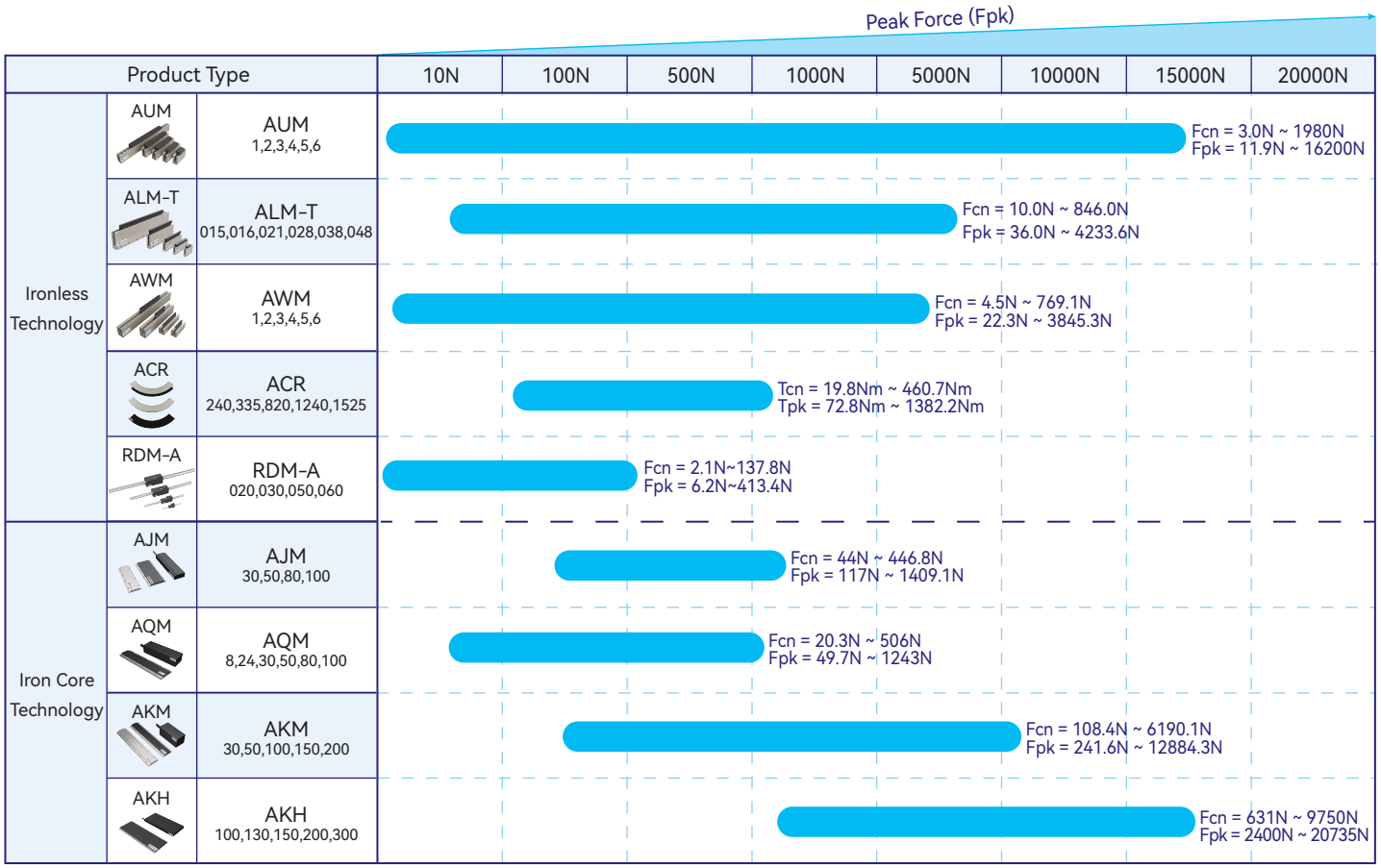
Overview

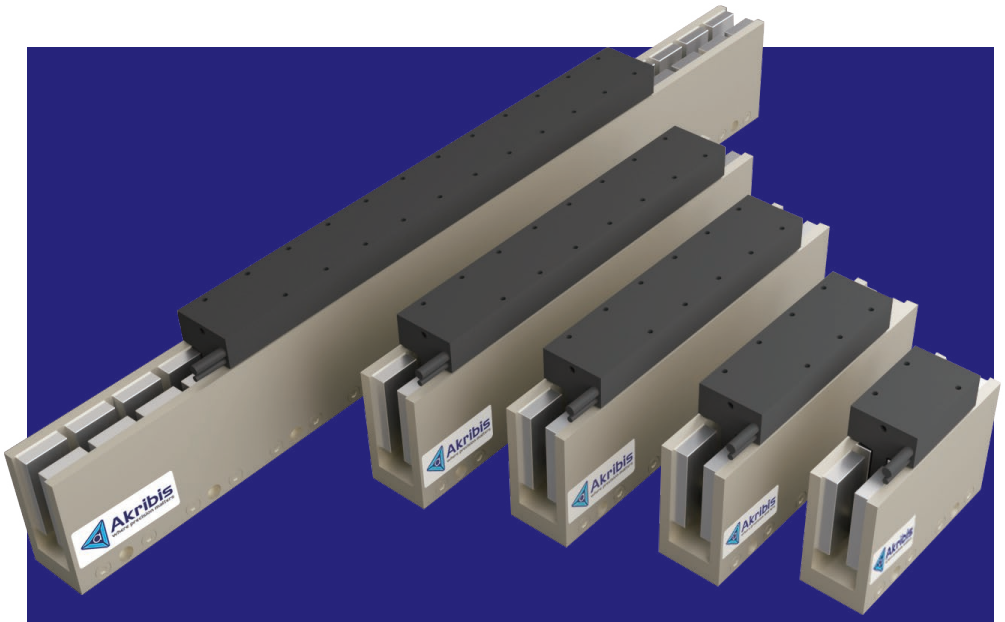


Flexible structure design contributes to excellent and simple high-precision control system:

- Multi-carriage structure
- Optional moving track design instead of moving coil, eliminating cable management and potential cable damage
- Multiple coils can be connected in series or parallel to generate higher force and faster speed while maintaining compact size

Please contact Akribis Sales engineers for more details （cust-service@akribis-sys.com）.

Applications & Industries: electronics, semiconductor, solar energy, lithium battery, PCB, FPD, HDD, LED, lathe, vehicle electronics, packaging, printing, optics, biomedical and many more.



AUM SERIES

- Ironless technology
- Zero cogging force
- Patented technology
- Small electrical and mechanical constant
- High continuous force and peak force

EN-26.3.1

Akribis systems

AUM Series

Introduction

AUM series Ironless brushless linear motors are compact in size but high in force density, achieving larger thrust force.

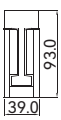
Continuous Force Fcn = 3N ~ 1980N
Peak Force Fpk = 11.9N ~ 16200N

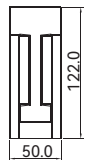
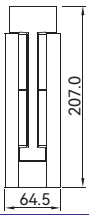
Applications

- Ironless technology and no cogging force
- High continuous and peak force
- Optional hall sensors
- High motor constant
- Wide range of forces and sizes to choose from
- Optional air cooling and water cooling configurations

Features

Applicable to point-to-point micron/nanometer level positioning; unlimited travel stroke with top speed of 5m/s or faster; low velocity ripple during both fast and low speed scanning; precise force control with fine resolution.
Applications & Industries: high speed and precision machines for positioning, motion profile tracking, velocity controlling used in front-end & back-end wafer handling and inspection, photovoltaic and lithium battery systems, glass and LCD applications, biomedical equipment, printing machines and laser processing machines.

	Model	Coil Length[1] (mm)	● Continuous Force (Fcn) / ■ PeakForce (Fpk)[2] Unit: N 10 50 100 500 1000 1500 2000 ....
	AUM1-S1	22	● 3 / ■ 11.9
	AUM1-S2	43	● 6 / ■ 23.8
	AUM1-S3	64	● 8.9 / ■ 35.7
	AUM1-S4	85	● 11.9 / ■ 47.6
	AUM1-S5	106	● 14.9 / ■ 59.5
	AUM2-S1	31	● 8.8 / ■ 44
	AUM2-S2	61	● 17.6 / ■ 88
	AUM2-S3	91	● 26.4 / ■ 132
	AUM2-S4	121	● 35.2 / ■ 176
	AUM2-S6	181	● 52.8 / ■ 264
	AUM2-S8	241	● 70.4 / ■ 352
	AUM3-S1	61	● 28 / ■ 144
	AUM3-S2	121	● 57 / ■ 289
	AUM3-S3	181	● 85 / ■ 433
	AUM3-S4	241	● 113 / ■ 578
	AUM3-S5	301	● 141 / ■ 722
	AUM3-S6	361	● 170 / ■ 867
	AUM4-S1	61	● 55 / ■ 312
	AUM4-S2	121	● 110 / ■ 624
	AUM4-S3	181	● 166 / ■ 936
	AUM4-S4	241	● 221 / ■ 1248
	AUM4-S5	301	● 276 / ■ 1560
	AUM4-S6	361	● 331 / ■ 1872
	AUM4-S8	481	● 442 / ■ 2496

	Model	Coil Length[1] (mm)	● Continuous Force (F_{cn}) / ■ PeakForce (F_{pk})[2] Unit: N 10 50 100 500 1000 1500 2000 ....
	AUM5-S1	85	●98 / ■707
	AUM5-S2	169	●197 / ■1415
	AUM5-S3	253	●295 / ■2112
	AUM5-S4	337	●393 / ■2830
	AUM5-S5	421	●491 / ■3537
	AUM5-S6	505	●590 / ■4244
	AUM5-S8-V107	673	●786 / ■5659
	AUM5-S9-V80	757	●884 / ■6367
	AUM5-S10-V107	841	●983 / ■7078
	AUM5-S12-V107	1009	●1179 / ■8489
	AUM6-P5-S4	337	●660 / ■5400
	AUM6-P8-S6	505	●990 / ■8100
	AUM6-P5-S8	673	●1320 / ■10800
	AUM6-P8-S9	757	●1485 / ■12150
	AUM6-P7-S10	841	●1650 / ■13500
	AUM6-P8-S12	1009	●1980 / ■16200

[1] AUM1 Series Coil Length is based on the No Hall Module Option.

[2] Continuous force is measured under the condition of natural cooling. Please refer to the detail parameters for the continuous under the condition of air cooling or water cooling.

AUM1

			AUM1-S1	AUM1-S2	AUM1-S3	AUM1-S4	AUM1-S5
Performance Parameters	Symbol	Unit	Series	Series	Series	Series	Series
Continuous Force (NC) @100°C ❶	F_{cn}	N	3.0	6.0	8.9	11.9	14.9
Peak Force	F_{pk}	N	11.9	23.8	35.7	47.6	59.5
Force Constant ±10%	K_f	N/Arms	1.75	3.50	5.25	7.00	8.75
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	1.4	2.9	4.3	5.7	7.1
Motor Constant @25°C	K_m	N/Sqrt(W)	1.4	2.0	2.4	2.8	3.2
Resistance (L-L) 25°C ±10% ❷	R_{25}	Ω	1.11	2.18	3.18	4.18	5.18
Inductance (L-L) ±50% ❸	L	mH	0.15	0.30	0.44	0.59	0.72
Electrical Time Constant	τ_e	ms	0.14	0.14	0.14	0.14	0.14
Continuous Current (NC) @100°C ❶	I_{cn}	Arms	1.7	1.7	1.7	1.7	1.7
Peak Current	I_{pk}	Arms	6.8	6.8	6.8	6.8	6.8
Continuous Power Dissipation (NC) @100°C ❶	P_{cn}	W	6.20	12.18	17.77	23.32	28.94
Max. Coil Temperature	t_{max}	°C	100	100	100	100	100
Thermal Dissipation Constant (NC) ❶	K_{thn}	W/°C	0.1	0.2	0.2	0.3	0.4
Max. Bus Voltage	U_{bus}	Vdc	60	60	60	60	60
Magnetic Period	τ_{NN}	mm	21.0	21.0	21.0	21.0	21.0
Attraction Force	F_a	kN	0	0	0	0	0
Mechanical Parameters							
Coil Mass (NC)	m_{cn}	kg	0.03	0.05	0.08	0.10	0.13
Coil Length (NC)	L_{cn}	mm	22.0	43.0	64.0	85.0	106.0
Track Mass Per Meter	m_{track}	kg/m	2.37	2.37	2.37	2.37	2.37
Other Information							
Insulation Class			Class B (130°C)				
Protection Grade			IP00				
Compliance with Global Standards			RoHS, CE				
Ambient Temperature	Operation		0°C to 40°C (non-freezing)				
	Storage		-15°C to 70°C (non-freezing)				
Ambient Humidity	Operation		10%RH to 80%RH (non-condensing)				
	Storage		10%RH to 90%RH (non-condensing)				
Recommended Ambience			Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.				

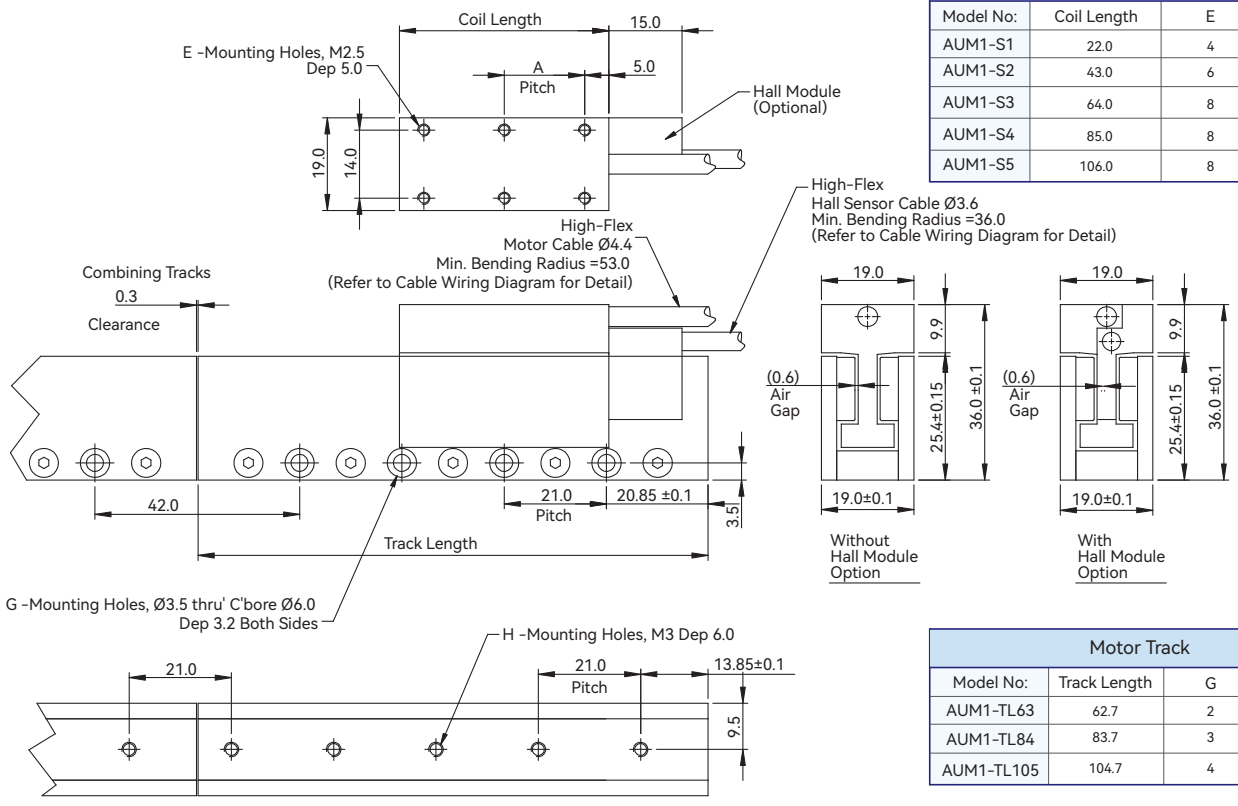
❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment. Abbreviations: NC-Natural Cooling, AC-Air Cooling, WC-Water Cooling.

❷ Resistance is measured by DC current with standard 0.5 m cable.

❸ Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±50% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±25%.

The contents of datasheet are subject to change without prior notice.

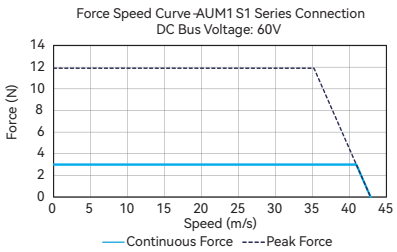
■ Dimension

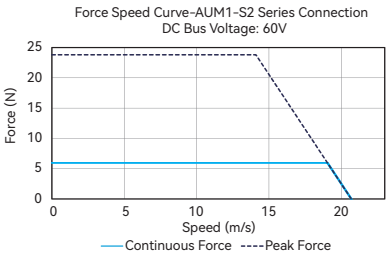


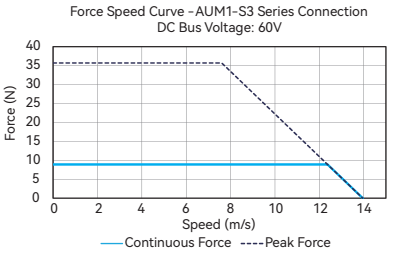
Motor Coil			
Model No:	Coil Length	E	A
AUM1-S1	22.0	4	12.0
AUM1-S2	43.0	6	16.5
AUM1-S3	64.0	8	18.0
AUM1-S4	85.0	8	25.0
AUM1-S5	106.0	8	32.0

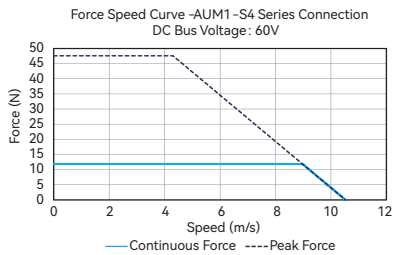
Motor Track			
Model No:	Track Length	G	H
AUM1-TL63	62.7	2	3
AUM1-TL84	83.7	3	4
AUM1-TL105	104.7	4	5

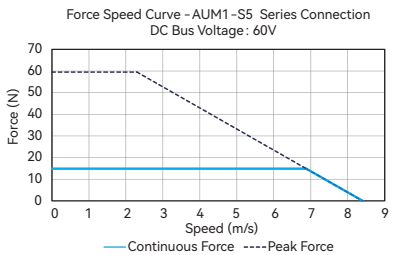
Force-Speed Curve











Part Numbering

Motor Coil

AUM1-S-S3-HF-0.5-FB

- Motor: AUM1
- Connection: S = Series
- Size: S1 / S2 / S3 / S4 / S5
- Hall Cable Option: NH[1] / HF[2] / H9D[3]
- Cable Length (m): 0.5 / 3.0
- Motor Cable Options: FB[4] / NFB[5]

1. NH = Without Built- in Hall Cable
2. HF = With Hall Module, Hall Cable C/W Flying Leads
3. H9D = With Hall Module C/W 9-Pins D-Sub Connector
4. FB = With Ferrite Bead C/W Flying Leads
5. NFB = Without Ferrite Bead C/W Flying Leads

Motor Track

AUM1-TL63

- Model: AUM1
- Track Length: TL63 / TL84 / TL105

AUM2

			AUM2-S1	AUM2-S2		AUM2-S3		AUM2-S4		AUM2-S6		AUM2-S8	
Performance Parameters	Symbol	Unit	Series	Series	Parallel	Series	Parallel	Series	Parallel	Series	Parallel	Series	Parallel
Continuous Force (NC) @100°C[1]	F_{cn}	N	8.8	17.6	17.6	26.4	26.4	35.2	35.2	52.8	52.8	70.4	70.4
Peak Force	F_{pk}	N	44.0	88.0	88.0	132.0	132.0	176.0	176.0	264.0	264.0	352.0	352.0
Force Constant ±10%	K_f	N/Arms	5.5	11.0	5.5	16.5	8.3	22.0	11.0	33.0	16.5	44.0	22.0
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	4.5	9.0	4.5	13.5	6.7	18.0	9.0	26.94	13.47	35.9	18.0
Motor Constant @25°C	K_m	N/Sqrt(W)	2.5	3.5	3.5	4.3	4.2	5.0	4.9	6.1	6.0	7.1	7.1
Resistance (L-L) 25°C ±10%[2]	R_{25}	Ω	3.25	6.64	1.71	9.95	2.63	13.17	3.35	19.75	5.00	25.76	6.51
Inductance (L-L) ±40%[3]	L	mH	1.03	1.96	0.51	2.94	0.73	3.88	0.97	5.88	1.55	7.83	1.96
Electrical Time Constant	τ_e	ms	0.32	0.30	0.30	0.30	0.28	0.29	0.29	0.30	0.31	0.30	0.30
Continuous Current (NC) @100°C[1]	I_{cn}	Arms	1.6	1.6	3.2	1.6	3.2	1.6	3.2	1.6	3.2	1.6	3.2
Peak Current	I_{pk}	Arms	8.0	8.0	16.0	8.0	16.0	8.0	16.0	8.0	16.0	8.0	16.0
Continuous Power Dissipation (NC) @100°C[1]	P_{cn}	W	16.1	32.9	33.8	49.2	52.1	65.2	66.3	97.7	99.0	127.5	128.9
Max. Coil Temperature	t_{max}	°C	100	100	100	100	100	100	100	100	100	100	100
Thermal Dissipation Constant (NC)[1]	K_{thn}	W/°C	0.2	0.4	0.5	0.7	0.7	0.9	0.9	1.3	1.3	1.7	1.7
Max. Bus Voltage[4]	U_{bus}	Vdc	330	330	330	330	330	330	330	330	330	330	330
Magnetic Period	τ_{NN}	mm	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Attraction Force	F_a	kN	0	0	0	0	0	0	0	0	0	0	0
Mechanical Parameters													
Coil Mass (NC)	m_{cn}	kg	0.06	0.12	0.12	0.18	0.18	0.24	0.24	0.35	0.35	0.47	0.47
Coil Length (NC)	L_{cn}	mm	31.0	61.0	61.0	91.0	91.0	121.0	121.0	181.0	181.0	241.0	241.0
Track Mass Per Meter	m_{track}	kg/m	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90

Other Information		
Insulation Class		Class B (130°C)
Protection Grade		IP00
Compliance with Global Standards		RoHS, CE, NTRL(option)
Ambient Temperature	Operation	0°C to 40°C (non-freezing)
	Storage	-15°C to 70°C (non-freezing)
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)
	Storage	10%RH to 90%RH (non-condensing)
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.

[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment. Abbreviations: NC-Natural Cooling, AC-Air Cooling, WC-Water Cooling.

[2] Resistance is measured by DC current with standard 0.5 m cable.

[3] Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

[4] Both the standard and NTRL versions are recommended to use a bus voltage of up to 330Vdc.

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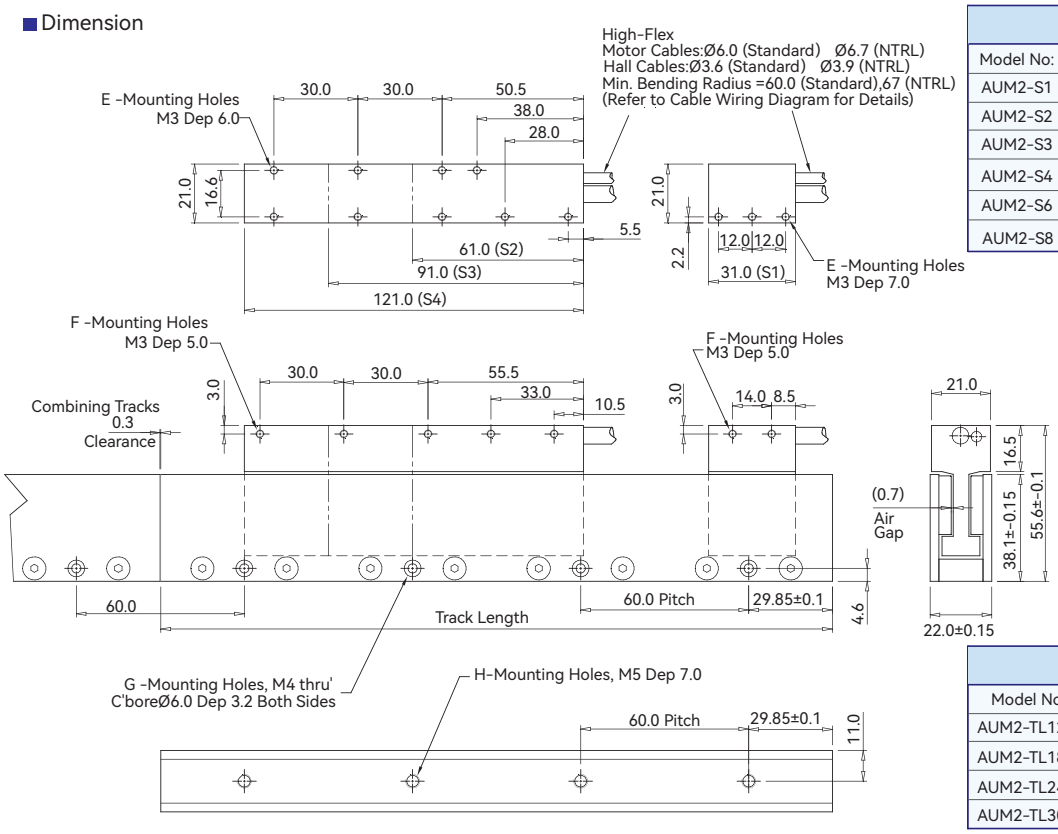
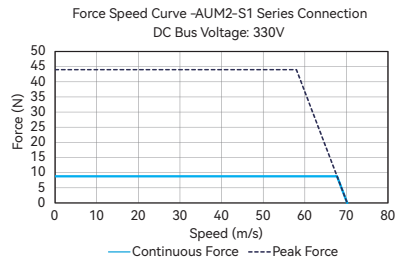
Dimension

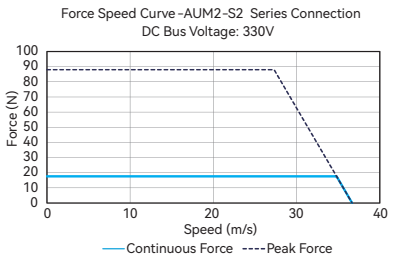


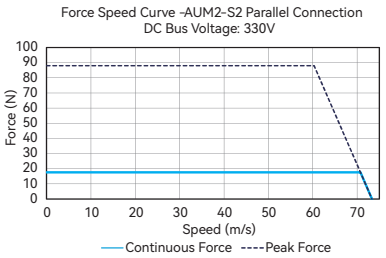
Motor Coil			
Model No:	Coil Length	E	F
AUM2-S1	31.0	3	2
AUM2-S2	61.0	5	5
AUM2-S3	91.0	7	7
AUM2-S4	121.0	9	9
AUM2-S6	181.0	13	13
AUM2-S8	241.0	17	17

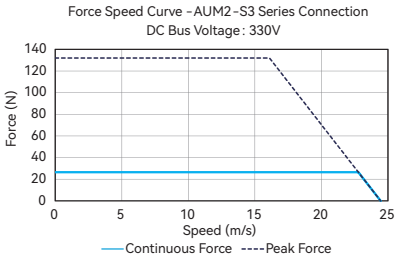
Motor Track			
Model No:	Track Length	G	H
AUM2-TL120	119.7	2	2
AUM2-TL180	179.7	3	3
AUM2-TL240	239.7	4	4
AUM2-TL300	299.7	5	5

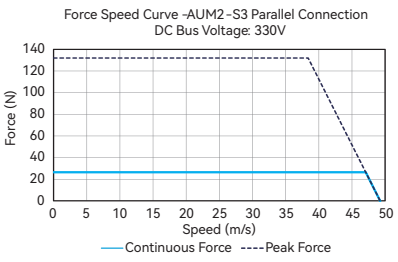
Force-Speed Curve

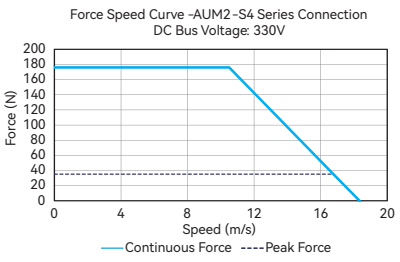


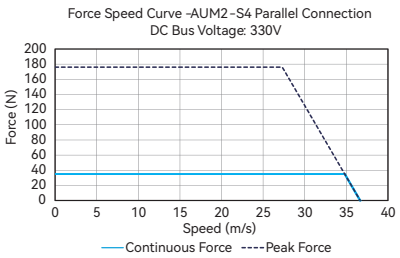


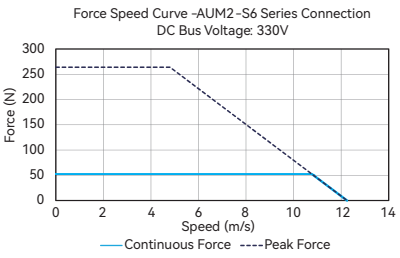


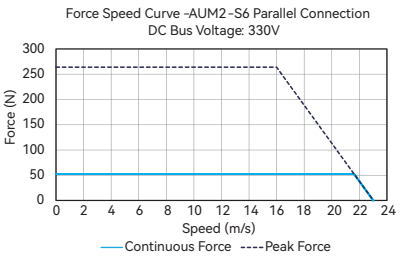


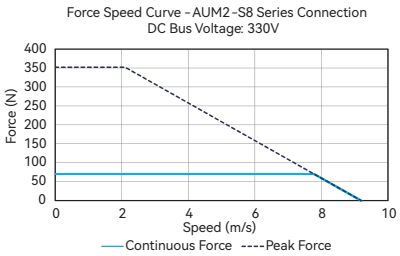


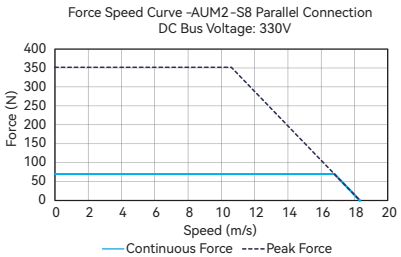












Part Numbering

Motor Coil

AUM2-S-S3-K-HF-0.5-FB-0UA

- **Motor:** AUM2
- **Connection:** S = Series / P = Parallel
- **Size:** S1 / S2 / S3 / S4 / S6 / S8
- **Thermal Sensor:** K = PT100(RTD)
- **Custom Type:** (Blank)[7] / 0UA[8]
- **Motor Cable Options:** FB[4] / NFB[5] / 9W4M[6]
- **Cable Length (m):** 0.5 / 3.0
- **Hall Cable Option:** NH[1] / HF[2] / H9D[3]

1. NH = Without Built-in Hall Sensor
2. HF = With Built-in Hall Sensor, Hall Cable C/W Flying Leads
3. H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
4. FB = With Ferrite Bead C/W Flying Leads
5. NFB = Without Ferrite Bead C/W Flying Leads
6. 9W4M = Without Ferrite bead C/W D-Sub 9W4 Male Connector
7. (Blank) = Standard Model
8. 0UA = NTRL-certified Model, Only Valid for Natural Cooling Type and Power Cable=NFB Options

Motor Track

AUM2-TL120

- **Model:** AUM2
- **Track Length:** TL120 / TL180 / TL240 / TL300

AUM3

			AUM3-S1	AUM3-S2		AUM3-S3		AUM3-S4		AUM3-S5		AUM3-S6
Performance Parameters	Symbol	Unit	Series	Series	Parallel	Series	Parallel	Series	Parallel	Series	Parallel	Parallel
Continuous Force (NC) @100°C[1]	F_{cn}	N	28	57	57	85	85	113	113	141	141	170
Continuous Force (AC) @100°C[1]	F_{ca}	N	34	68	68	102	102	136	136	170	170	203
Continuous Force (WC) @100°C[1][4]	F_{cw}	N	37	73	73	110	110	147	147	184	184	220
Peak Force	F_{pk}	N	144	289	289	433	433	578	578	722	722	867
Force Constant ±10%	K_f	N/Arms	15.7	31.4	15.7	47.1	23.6	62.8	31.4	78.5	39.3	47.1
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	12.8	25.6	12.8	38.5	19.2	51.3	25.6	64.1	32.0	38.5
Motor Constant @25°C	K_m	N/Sqrt(W)	5.8	8.4	8.2	10.3	10.0	11.9	11.8	13.0	13.0	14.2
Resistance (L-L) @25°C ±10% [2]	R_{25}	Ω	4.90	9.41	2.50	14.09	3.72	18.70	4.74	24.36	6.12	7.33
Inductance (L-L) ±40% [3]	L	mH	3.49	6.99	1.75	10.48	2.62	13.98	3.49	17.47	4.37	5.24
Electrical Time Constant	τ_e	ms	0.71	0.74	0.70	0.74	0.70	0.75	0.74	0.72	0.71	0.71
Continuous Current (NC) @100°C[1]	I_{cn}	Arms	1.8	1.8	3.6	1.8	3.6	1.8	3.6	1.8	3.6	3.6
Continuous Current (AC) @100°C[1]	I_{ca}	Arms	2.2	2.2	4.3	2.2	4.3	2.2	4.3	2.2	4.3	4.3
Continuous Current (WC) @100°C[1][4]	I_{cw}	Arms	2.3	2.3	4.7	2.3	4.7	2.3	4.7	2.3	4.7	4.7
Peak Current	I_{pk}	Arms	9.2	9.2	18.4	9.2	18.4	9.2	18.4	9.2	18.4	18.4
Continuous Power Dissipation (NC) @100°C[1]	P_{cn}	W	30.7	58.9	62.6	88.3	93.2	117.1	118.8	152.6	153.2	183.7
Continuous Power Dissipation (AC) @100°C[1]	P_{ca}	W	44.2	84.9	90.2	127.1	134.2	168.7	171.0	219.7	220.7	264.5
Continuous Power Dissipation (WC) @100°C[1][4]	P_{cw}	W	51.9	99.6	105.9	149.1	157.5	197.9	200.7	257.9	259.0	310.5
Max. Coil Temperature	t_{max}	°C	100	100	100	100	100	100	100	100	100	100
Thermal Dissipation Constant (NC) [1]	K_{thn}	W/°C	0.4	0.8	0.8	1.2	1.2	1.6	1.6	2.0	2.0	2.4
Thermal Dissipation Constant (AC) [1]	K_{tha}	W/°C	0.6	1.1	1.2	1.7	1.8	2.2	2.3	2.9	2.9	3.5
Thermal Dissipation Constant (WC) [1][4]	K_{thw}	W/°C	0.7	1.3	1.4	2.0	2.1	2.6	2.7	3.4	3.5	4.1
Max. Bus Voltage[5]	U_{bus}	Vdc	330	330	330	330	330	330	330	330	330	330
Magnetic Period	τ_{NN}	mm	60	60	60	60	60	60	60	60	60	60
Attraction Force	F_a	kN	0	0	0	0	0	0	0	0	0	0
Mechanical Parameters												
Coil Mass (NC)	m_{cn}	kg	0.22	0.45	0.45	0.68	0.68	0.91	0.91	1.14	1.14	1.37
Coil Length (NC)	L_{cn}	mm	61.0	121.0	121.0	181.0	181.0	241.0	241.0	301.0	301.0	361.0
Coil Length (AC)	L_{ca}	mm	61.0	121.0	121.0	181.0	181.0	241.0	241.0	301.0	301.0	361.0
Coil Length (WC)	L_{cw}	mm	61.0	121.0	121.0	181.0	181.0	241.0	241.0	301.0	301.0	361.0
Track Mass Per Meter	m_{track}	kg/m	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33

Other Information		
Insulation Class		Class B (130°C)
Protection Grade		IP00
Compliance with Global Standards		RoHS, CE, NTRL(option)
Ambient Temperature	Operation	0°C to 40°C (non-freezing)
	Storage	-15°C to 70°C (non-freezing)
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)
	Storage	10%RH to 90%RH (non-condensing)
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.

[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment. Abbreviations: NC-Natural Cooling, AC-Air Cooling, WC-Water Cooling.

[2] Resistance is measured by DC current with standard 0.5 m cable.

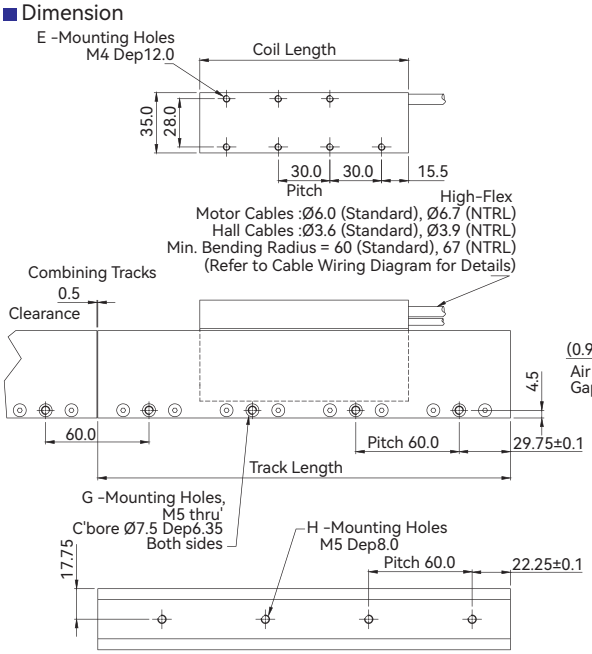
[3] Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

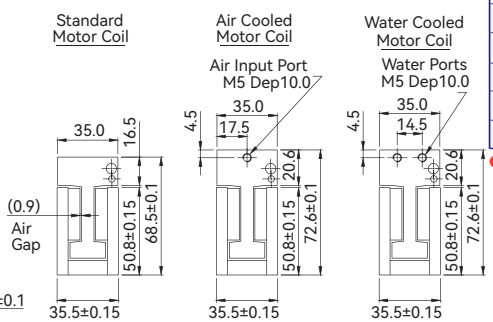
[4] Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 1.5 L/min. (For detailed test conditions, please consult Akribis)

[5] Both the standard and NTRL versions are recommended to use a bus voltage of up to 330Vdc.

The contents of datasheet are subject to change without prior notice.

Dimension



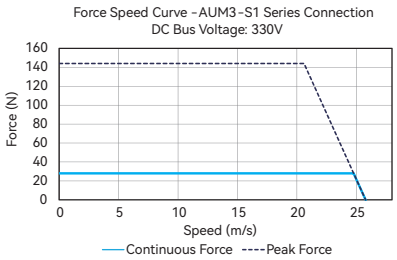


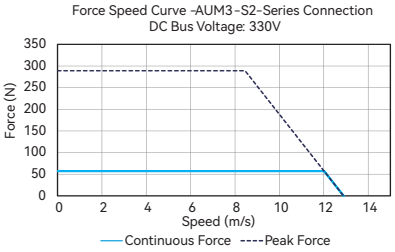
Motor Coil		
Model No:[1]	Coil Length	E
AUM3-S1	61.0	3
AUM3-S2	121.0	7
AUM3-S3	181.0	11
AUM3-S4	241.0	15
AUM3-S5	301.0	19
AUM3-S6	361.0	23

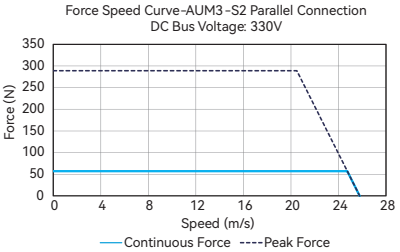
[1] For air or water cooled models, Coil Length and E are the same as the standard model.

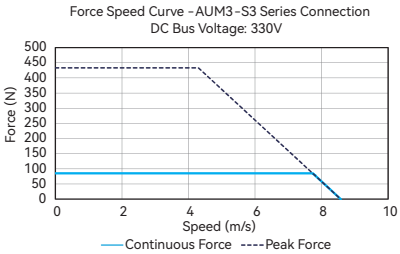
Motor Track			
Model No:	Track Length	G	H
AUM3-TL120	119.5	2	2
AUM3-TL180	179.5	3	3
AUM3-TL240	239.5	4	4
AUM3-TL300	299.5	5	5
AUM3-TL600	599.5	10	10

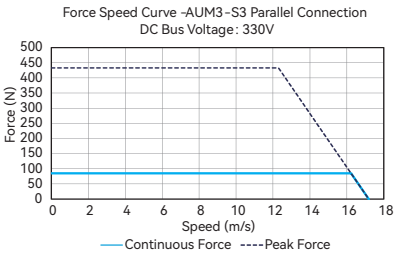
Force-Speed Curve

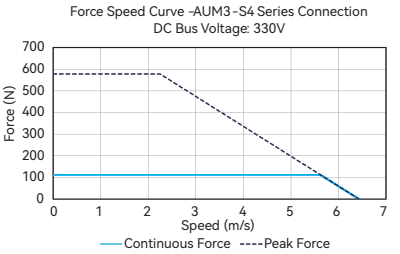


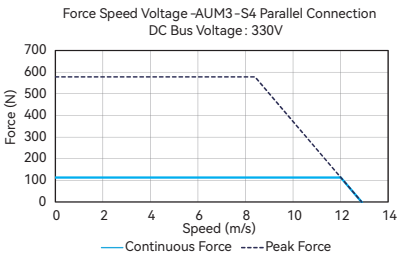


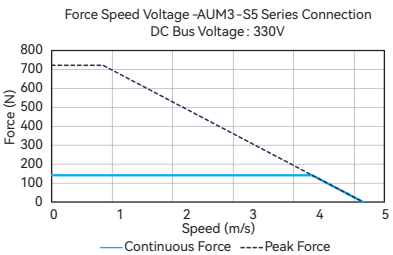


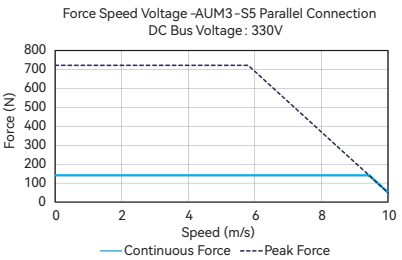


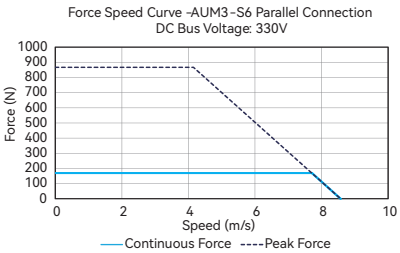












Part Numbering

Motor Coil

AUM3-▮-S-S3-K-HF-0.5-FB-0UA

- Motor: AUM3
- Cooling Option: (Blank) = Natural Convection; A = Air Cooled / W = Water Cooled
- Connection: S = Series / P = Parallel
- Size: S1 / S2 / S3 / S4 / S5 / S6
- Thermal Sensor: J = Thermostat (standard) / K = PT100 (RTD)
- Hall Cable Option: NH[1] / HF[2] / H9D[3]
- Cable Length (m): 0.5 / 3.0
- Motor Cable Options: FB[4] / NFB[5] / 9W4M[6]
- Custom Type: (Blank)[7] / 0UA[8]

1. NH = Without Built-in Hall Sensor
2. HF = With Built-in Hall Sensor, Hall Cable C/W Flying Leads
3. H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
4. FB = With Ferrite Bead C/W Flying Leads
5. NFB = Without Ferrite Bead C/W Flying Leads
6. 9W4M = Without Ferrite Bead C/W D-Sub 9W4 Male Connector
7. (Blank) = Standard Model
8. 0UA = NTRL-certified Model, Only Valid for Natural Cooling Type and Power Cable=NFB Options

Motor Track

AUM3-TL120

- Model: AUM3
- Track Length: TL120 / TL180 / TL240 / TL300 / TL600

AUM4

			AUM4-S1	AUM4-S2		AUM4-S3		AUM4-S4		AUM4-S5	AUM4-S6	AUM4-S8
Performance Parameters	Symbol	Unit	Series	Series	Parallel	Series	Parallel	Series	Parallel	Parallel	Parallel	Parallel
Continuous Force (NC) @100°C[1]	F_{cn}	N	55	110	110	166	166	221	221	276	331	442
Continuous Force (AC) @100°C[1]	F_{ca}	N	66	132	132	199	199	265	265	331	397	530
Continuous Force (WC) @100°C[1][4]	F_{cw}	N	72	144	144	215	215	287	287	359	431	574
Peak Force	F_{pk}	N	312	624	624	936	936	1248	1248	1560	1872	2496
Force Constant ±10%	K_f	N/Arms	24.0	48.0	24.0	72.0	36.0	96.0	48.0	60.0	72.0	96.0
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	19.6	39.2	19.6	58.8	29.4	78.4	39.2	49.0	58.8	78.4
Motor Constant @25°C	K_m	N/Sqrt(W)	9.1	12.9	12.7	15.7	15.7	18.2	18.2	20.3	22.3	25.7
Resistance (L-L) @25°C ±10% [2]	R_{25}	Ω	4.68	9.33	2.43	13.97	3.52	18.62	4.68	5.84	7.00	9.33
Inductance (L-L) ±40% [3]	L	mH	3.83	7.67	1.92	11.50	2.87	15.33	3.83	4.79	5.75	7.67
Electrical Time Constant	τ_e	ms	0.82	0.82	0.79	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Continuous Current (NC) @100°C[1]	I_{cn}	Arms	2.3	2.3	4.6	2.3	4.6	2.3	4.6	4.6	4.6	4.6
Continuous Current (AC) @100°C[1]	I_{ca}	Arms	2.8	2.8	5.5	2.8	5.5	2.8	5.5	5.5	5.5	5.5
Continuous Current (WC) @100°C[1][4]	I_{cw}	Arms	3.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0
Peak Current	I_{pk}	Arms	13.0	13.0	26.0	13.0	26.0	13.0	26.0	26.0	26.0	26.0
Continuous Power Dissipation (NC) @100°C [1]	P_{cn}	W	48	95	99	143	144	190	191	239	286	381
Continuous Power Dissipation (AC) @100°C [1]	P_{ca}	W	69	137	143	206	207	274	276	344	412	549
Continuous Power Dissipation (WC) @100°C[1][4]	P_{cw}	W	81	161	168	241	243	322	324	404	484	645
Max. Coil Temperature	t_{max}	°C	100	100	100	100	100	100	100	100	100	100
Thermal Dissipation Constant (NC) [1]	K_{thn}	W/°C	0.6	1.3	1.3	1.9	1.9	2.5	2.6	3.2	3.8	5.1
Thermal Dissipation Constant (AC) [1]	K_{tha}	W/°C	0.9	1.8	1.9	2.7	2.8	3.7	3.7	4.6	5.5	7.3
Thermal Dissipation Constant (WC) [1][4]	K_{thw}	W/°C	1.1	2.1	2.2	3.2	3.2	4.3	4.3	5.4	6.5	8.6
Max. Bus Voltage [5]	U_{bus}	Vdc	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600
Magnetic Period	τ_{NN}	mm	60	60	60	60	60	60	60	60	60	60
Attraction Force	F_a	kN	0	0	0	0	0	0	0	0	0	0
Mechanical Parameters												
Coil Mass (NC)	m_{cn}	kg	0.28	0.56	0.56	0.89	0.89	1.19	1.19	1.49	1.78	2.37
Coil Length (NC)	L_{cn}	mm	61.0	121.0	121.0	181.0	181.0	241.0	241.0	301.0	361.0	481.0
Coil Length (AC)	L_{ca}	mm	61.0	121.0	121.0	181.0	181.0	241.0	241.0	301.0	361.0	481.0
Coil Length (WC)	L_{cw}	mm	61.0	121.0	121.0	181.0	181.0	241.0	241.0	301.0	361.0	481.0
Track Mass Per Meter	m_{track}	kg/m	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75

Other Information		
Insulation Class		Class B (130°C)
Protection Grade		IP00
Compliance with Global Standards		RoHS, CE, NTRL(option)
Ambient Temperature	Operation	0°C to 40°C (non-freezing)
	Storage	-15°C to 70°C (non-freezing)
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)
	Storage	10%RH to 90%RH (non-condensing)
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.

[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment. Abbreviations: NC-Natural Cooling, AC-Air Cooling, WC-Water Cooling.

[2] Resistance is measured by DC current with standard 0.5 m cable.

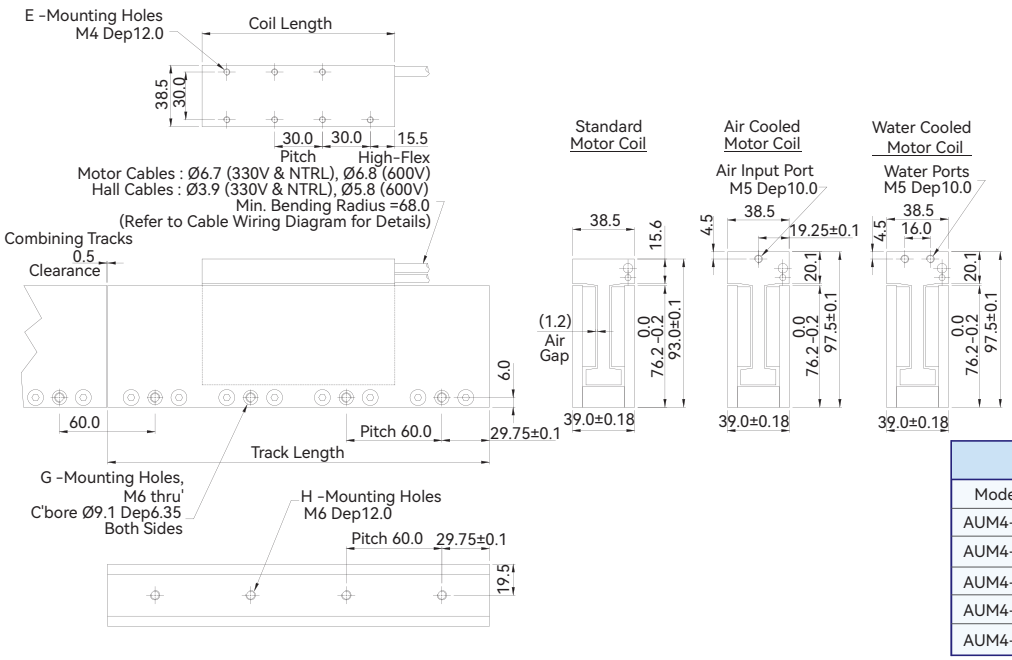
[3] Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

[4] Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 1.5 L/min for S1-S6, and the flow rate is 2 L/min for S8. (For detailed test conditions, please consult Akribis)

[5] The bus voltage of the standard version supports up to 330Vdc, and the bus voltage of the NTRL version supports up to 600Vdc.

The contents of datasheet are subject to change without prior notice.

Dimension



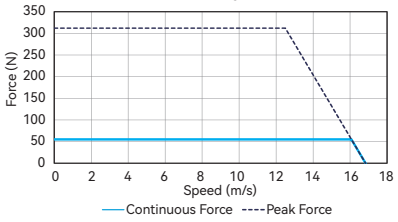
Motor Coil		
Model No:[1]	Coil Length	E
AUM4-S1	61.0	3
AUM4-S2	121.0	7
AUM4-S3	181.0	11
AUM4-S4	241.0	15
AUM4-S5	301.0	19
AUM4-S6	361.0	23
AUM4-S8	481.0	31

[1] For air or water cooled models, Coil Length and E are the same as the standard model.

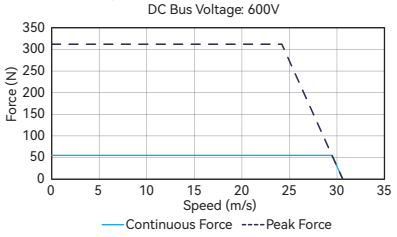
Motor Track			
Model No:	Track Length	G	H
AUM4-TL120	119.5	2	2
AUM4-TL180	179.5	3	3
AUM4-TL240	239.5	4	4
AUM4-TL300	299.5	5	5
AUM4-TL600	599.5	10	10

Force-Speed Curve

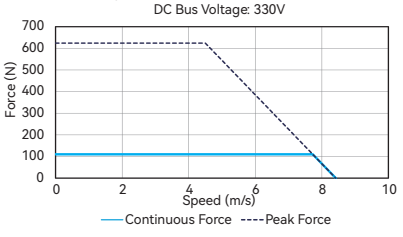
Force Speed Curve -AUM4-S1 Series Connection
DC Bus Voltage: 330V



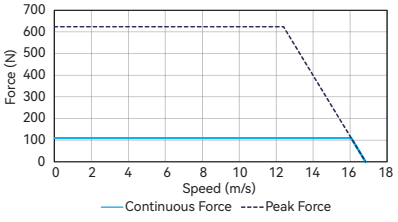
Force Speed Curve -AUM4-S1 Series Connection
DC Bus Voltage: 600V



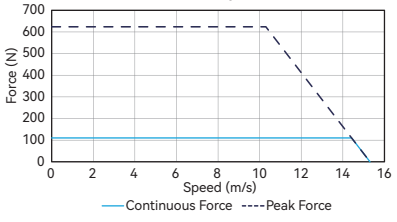
Force Speed Curve -AUM4-S2 Series Connection
DC Bus Voltage: 330V



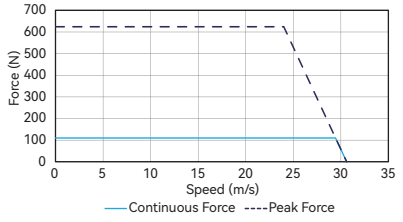
Force Speed Curve -AUM4-S2 Parallel Connection
DC Bus Voltage: 330V



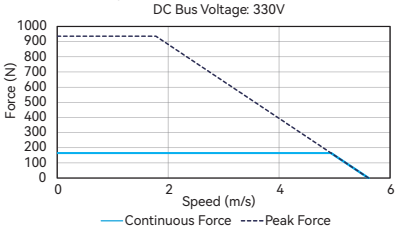
Force Speed Curve -AUM4-S2 Series Connection
DC Bus Voltage: 600V



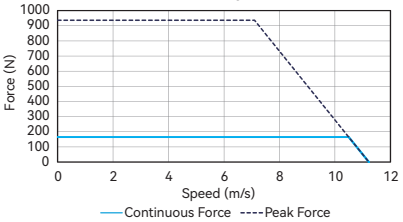
Force Speed Curve -AUM4-S2 Parallel Connection
DC Bus Voltage: 600V



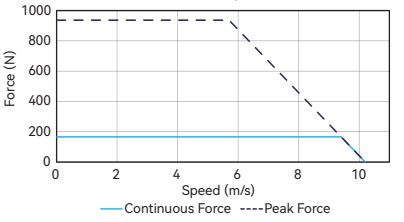
Force Speed Curve -AUM4-S3 Series Connection
DC Bus Voltage: 330V



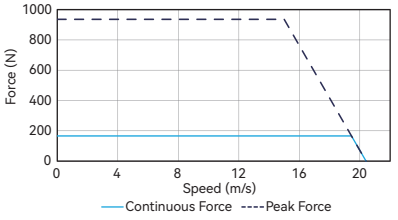
Force Speed Curve -AUM4-S3 Parallel Connection
DC Bus Voltage: 330V



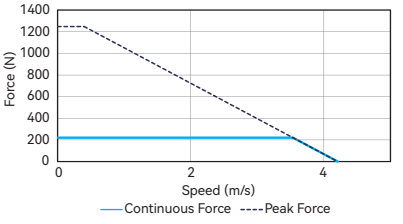
Force Speed Curve -AUM4-S3 Series Connection
DC Bus Voltage: 600V



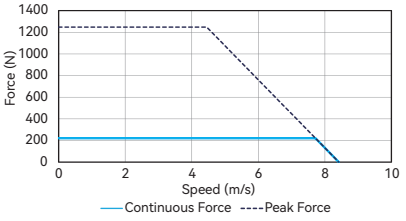
Force Speed Curve -AUM4-S3 Parallel Connection
DC Bus Voltage: 600V



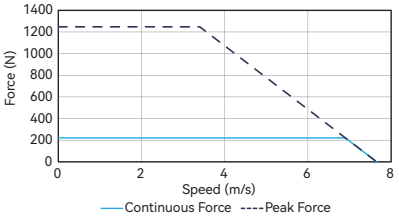
Force Speed Curve -AUM4-S4 Series Connection
DC Bus Voltage: 330V



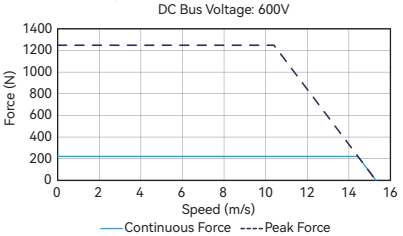
Force Speed Curve -AUM4-S4 Parallel Connection
DC Bus Voltage: 330V



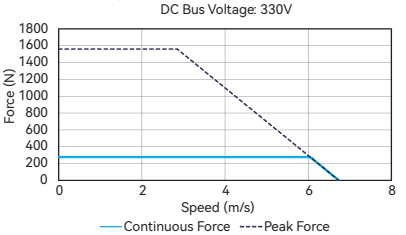
Force Speed Curve -AUM4-S4 Series Connection
DC Bus Voltage: 600V



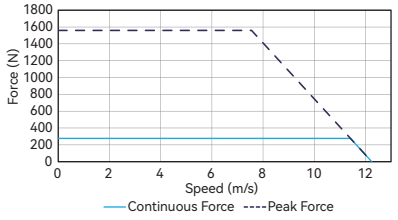
Force Speed Curve -AUM4-S4 Parallel Connection
DC Bus Voltage: 600V



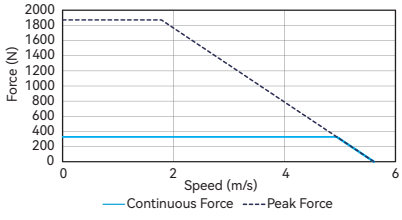
Force Speed Curve -AUM4-S5 Parallel Connection
DC Bus Voltage: 330V



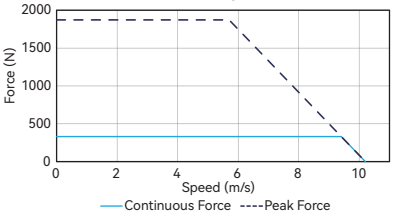
Force Speed Curve -AUM4-S5 Parallel Connection
DC Bus Voltage: 600V

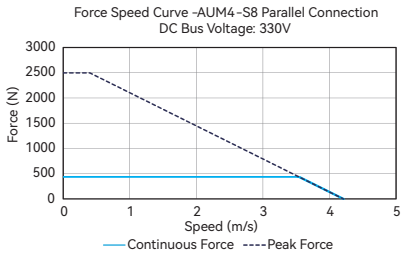


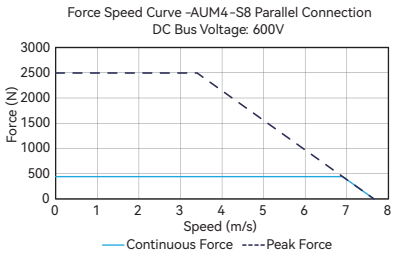
Force Speed Curve -AUM4-S6 Parallel Connection
DC Bus Voltage : 330V



Force Speed Curve -AUM4-S6 Parallel Connection
DC Bus Voltage : 600V







Part Numbering

Motor Coil

AUM4-[ ]-S-S3-K-HF-0.5-FB-0UA

- Motor: AUM4
- Cooling Option: (Blank) = Natural Convection; A = Air Cooled / W = Water Cooled
- Connection: S = Series / P = Parallel
- Size: S1 / S2 / S3 / S4 / S6
- Custom Type: (Blank)[7] / 0UA[8]
- Motor Cable Options: FB[4] / NFB[5] / 9W4M[6]
- Cable Length (m): 0.5 / 3.0
- Hall Cable Option: NH[1] / HF[2] / H9D[3]
- Thermal Sensor: J = Thermostat (standard) / K = PT100 (RTD)

1. NH = Without Built-in Hall Sensor
2. HF = With Built-in Hall Sensor, Hall Cable C/W Flying Leads
3. H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
4. FB = With Ferrite Bead C/W Flying Leads
5. NFB = Without Ferrite Bead C/W Flying Leads
6. 9W4M = Without Ferrite bead C/W D-Sub 9W4 Male Connector
7. (Blank) = Standard CE-Certified Model
8. 0UA = NTRL-certified Model, Only Valid for Natural Cooling Type and Power Cable=NFB Options

Motor Track

AUM4-TL120

- Model: AUM4
- Track Length: TL120 / TL180 / TL240 / TL300 / TL600

AUM5

			AUM5-S1	AUM5-S2		AUM5-S3		AUM5-S4		AUM5-S5	AUM5-S6	AUM5-S8 -V107	AUM5-S9 -V80	AUM5-S10 -V107	AUM5-S12 -V107
Performance Parameters	Symbol	Unit	Series	Series	Parallel	Series	Parallel	Series	Parallel	Parallel	Parallel	P5	P7	P5	P5
Continuous Force (NC) @100°C[1]	F_{cn}	N	98	197	197	295	295	393	393	491	590	786	884	983	1179
Continuous Force (AC) @100°C[1]	F_{ca}	N	118	236	236	354	354	472	472	590	707	-	-	-	-
Continuous Force (WC) @100°C[1][4]	F_{cw}	N	128	255	255	383	383	511	511	639	766	-	-	-	-
Peak Force	F_{pk}	N	707	1415	1415	2122	2122	2830	2830	3537	4244	5659	6367	7078	8489
Force Constant ±10%	K_f	N/Arms	39.3	78.6	39.3	117.9	59.0	157.2	78.6	98.3	117.9	78.6	117.9	98.3	117.9
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	32.1	64.2	32.1	96.3	48.1	128.4	64.2	80.2	96.3	64.2	96.3	80.3	96.3
Motor Constant @25°C	K_m	N/Sqrt(W)	15.8	22.4	21.8	27.4	27.4	31.6	31.6	34.8	38.7	44.7	47.4	50.0	54.2
Resistance (L-L) @25°C ±10%[2]	R_{25}	Ω	4.16	8.28	2.20	12.40	3.13	16.52	4.16	5.34	6.22	2.07	4.13	2.58	3.16
Inductance (L-L) ±40%[3]	L	mH	6.50	13.00	3.25	19.50	4.88	26.00	6.50	8.13	9.75	3.25	6.50	4.06	4.88
Electrical Time Constant	τ_e	ms	1.56	1.57	1.48	1.57	1.56	1.57	1.56	1.52	1.57	1.57	1.57	1.57	1.54
Continuous Current (NC) @100°C[1]	I_{cn}	Arms	2.5	2.5	5.0	2.5	5.0	2.5	5.0	5.0	5.0	10.0	7.5	10.0	10.0
Continuous Current (AC) @100°C[1]	I_{ca}	Arms	3.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	-	-	-	-
Continuous Current (WC) @100°C[1][4]	I_{cw}	Arms	3.3	3.3	6.5	3.3	6.5	3.3	6.5	6.5	6.5	-	-	-	-
Peak Current	I_{pk}	Arms	18.0	18.0	36.0	18.0	36.0	18.0	36.0	36.0	36.0	72.0	54.0	72.0	72.0
Continuous Power Dissipation (NC) @100°C[1]	P_{cn}	W	50	100	106	150	151	200	201	258	300	400	449	499	611
Continuous Power Dissipation (AC) @100°C[1]	P_{ca}	W	72	144	153	216	217	287	289	372	433	-	-	-	-
Continuous Power Dissipation (WC) @100°C[1][4]	P_{cw}	W	85	169	180	253	255	337	339	436	508	-	-	-	-
Max. Coil Temperature	t_{max}	°C	100	100	100	100	100	100	100	100	100	100	100	100	100
Thermal Dissipation Constant (NC)[1]	K_{thn}	W/°C	0.7	1.3	1.4	2.0	2.0	2.7	2.7	3.4	4.0	5.3	6.0	6.7	8.1
Thermal Dissipation Constant (AC)[1]	K_{tha}	W/°C	1.0	1.9	2.0	2.9	2.9	3.8	3.9	5.0	5.8	-	-	-	-
Thermal Dissipation Constant (WC)[1][4]	K_{thw}	W/°C	1.1	2.3	2.4	3.4	3.4	4.5	4.5	5.8	6.8	-	-	-	-
Max. Bus Voltage[5]	U_{bus}	Vdc	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600	330/600
Magnetic Period	τ_{NN}	mm	84	84	84	84	84	84	84	84	84	84	84	84	84
Attraction Force	F_a	kN	0	0	0	0	0	0	0	0	0	0	0	0	0
Mechanical Parameters															
Coil Mass (NC)	m_{cn}	kg	0.73	1.45	1.45	2.16	2.16	2.88	2.88	3.60	4.32	5.73	6.53	7.25	8.76
Coil Length (NC)	L_{cn}	mm	85.0	169.0	169.0	253.0	253.0	337.0	337.0	421.0	505.0	673.0	757.0	841.0	1009.0
Coil Length (AC)	L_{ca}	mm	85.0	169.0	169.0	253.0	253.0	337.0	337.0	421.0	505.0	-	-	-	-
Coil Length (WC)	L_{cw}	mm	85.0	169.0	169.0	253.0	253.0	337.0	337.0	421.0	505.0	-	-	-	-
Track Mass Per Meter	m_{track}	kg/m	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50

Other Information		
Insulation Class		Class B (130°C)
Protection Grade		IP00
Compliance with Global Standards		RoHS, CE, NTRL(option)
Ambient Temperature	Operation	0°C to 40°C (non-freezing)
	Storage	-15°C to 70°C (non-freezing)
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)
	Storage	10%RH to 90%RH (non-condensing)
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.

[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment. Abbreviations: NC-Natural Cooling, AC-Air Cooling, WC-Water Cooling.

[2] Resistance is measured by DC current with standard 0.5 m cable.

[3] Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

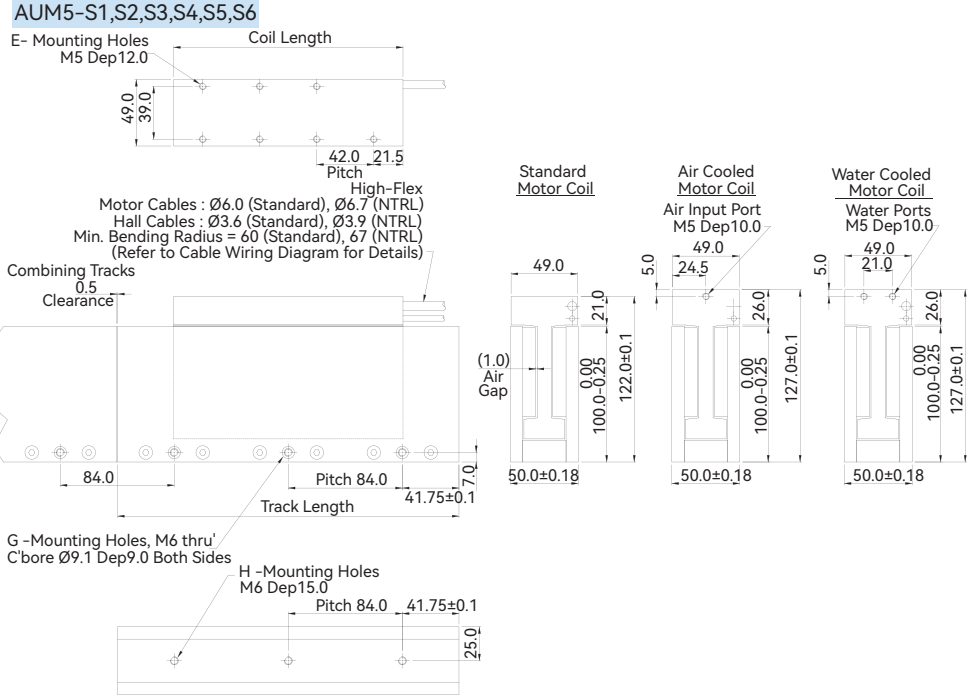
[4] Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 1.5 L/min for S1-S5, and the flow rate is 2 L/min for S6-S12. (For detailed test conditions, please consult Akribis)

[5] The bus voltage of the standard version supports up to 330Vdc, and the bus voltage of the NTRL version supports up to 600Vdc.

The contents of datasheet are subject to change without prior notice.

Dimension

AUM5-S1,S2,S3,S4,S5,S6



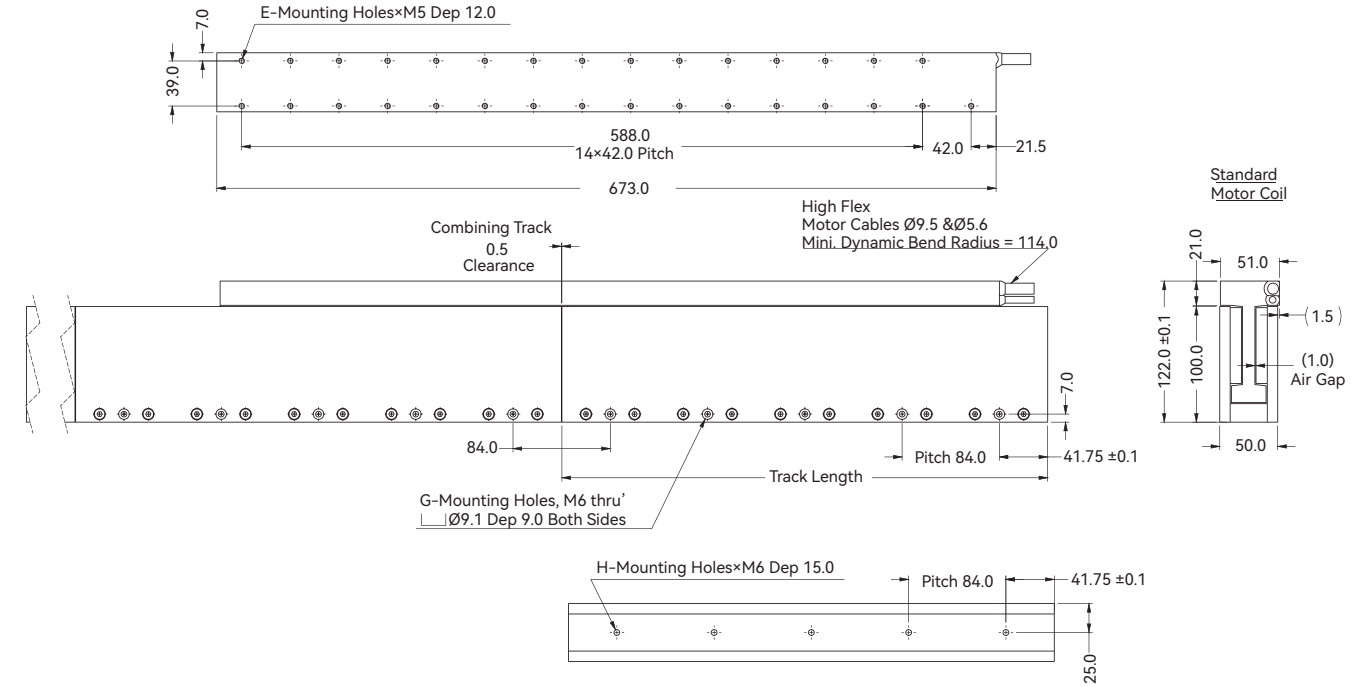
Motor Coil		
Model No: [1][2]	Coil Length	E
AUM5-S1	85.0	3
AUM5-S2	169.0	7
AUM5-S3	253.0	11
AUM5-S4	337.0	15
AUM5-S5	421.0	19
AUM5-S6	505.0	23

[1] For air or water cooled models, Coil Length and E are the same as the standard model.

[2] Air and Water cooled models are only available up to S6 Coil length.

Motor Track			
Model No:	Track Length	G	H
AUM5-TL168	167.5	2	2
AUM5-TL252	251.5	3	3
AUM5-TL420	419.5	5	5

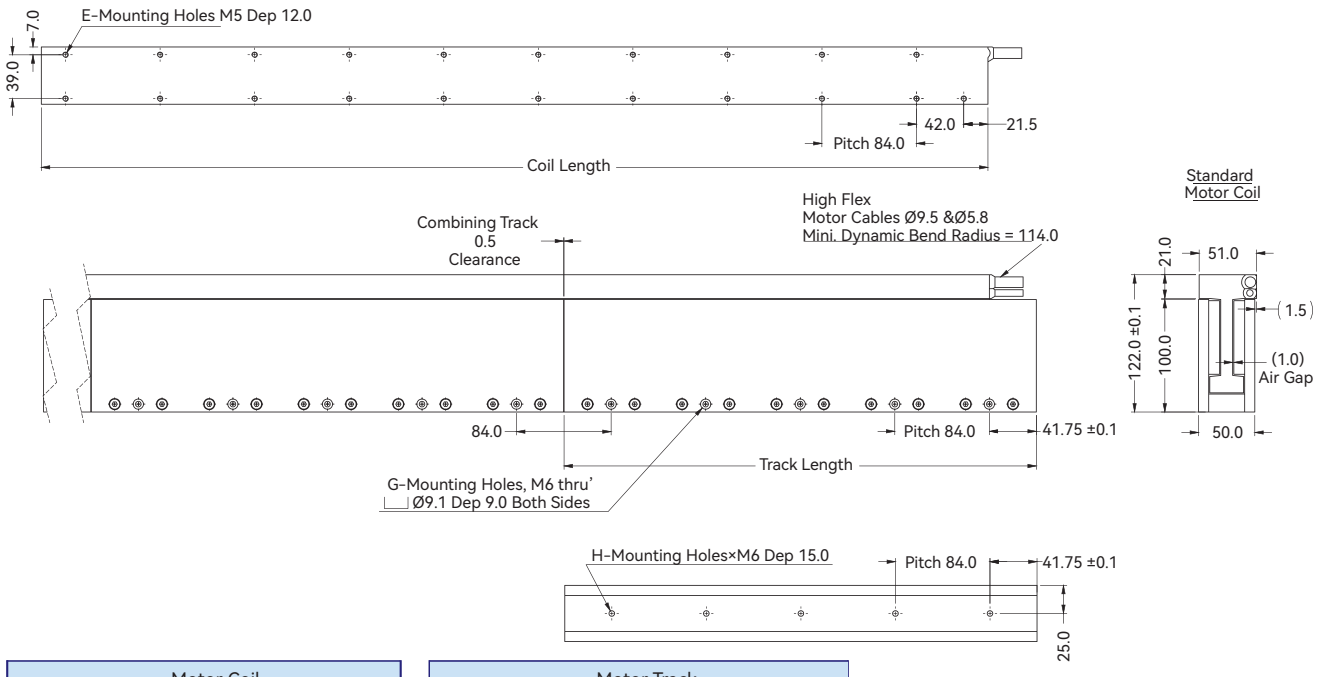
AUM5-P5-S8-V107



Motor Coil		
Model No:	Coil Length	E
AUM5-P5-S8-V107	673.0	31

Motor Track			
Model No:	Track Length	G	H
AUM5-TL168	167.5	2	2
AUM5-TL252	251.5	3	3
AUM5-TL420	419.5	5	5

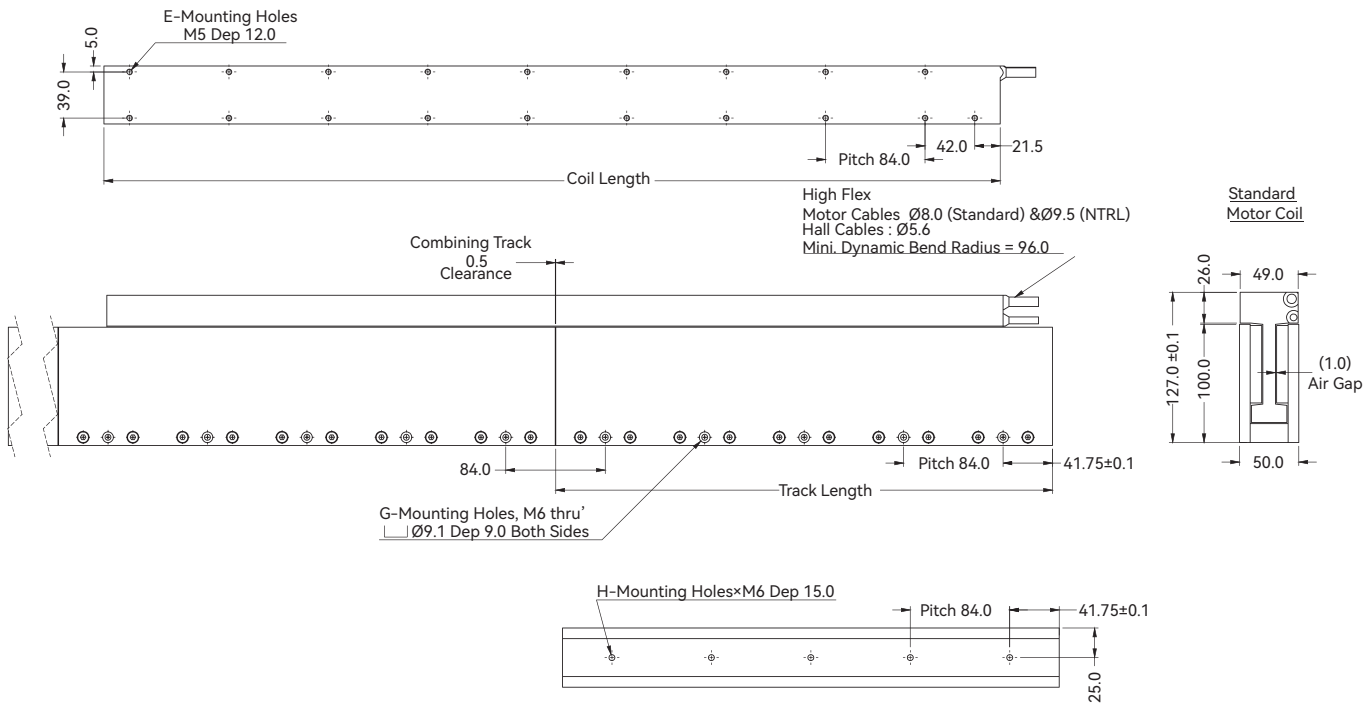
AUM5-P5-S10,S12-V107



Motor Coil		
Model No:	Coil Length	E
AUM5-P5-S10-V107	841.0	21
AUM5-P5-S12-V107	1009.0	25

Motor Track			
Model No:	Track Length	G	H
AUM5-TL168	167.5	2	2
AUM5-TL252	251.5	3	3
AUM5-TL420	419.5	5	5

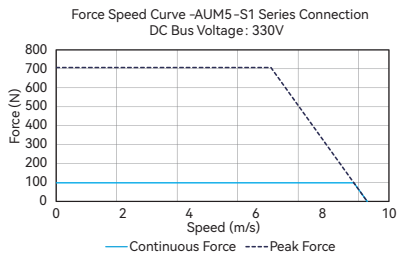
AUM5-P7-S9-V80

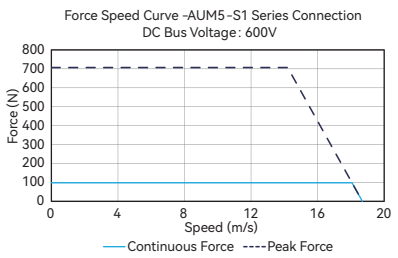


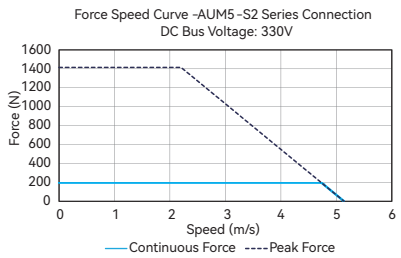
Motor Coil		
Model No:	Coil Length	E
AUM5-P7-S9-V80	757.0	19

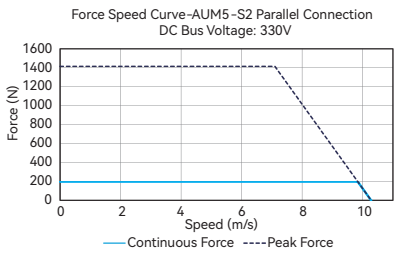
Motor Track			
Model No:	Track Length	G	H
AUM5-TL168	167.5	2	2
AUM5-TL252	251.5	3	3
AUM5-TL420	419.5	5	5

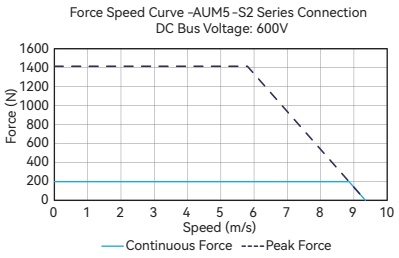
■ Force-Speed Curve

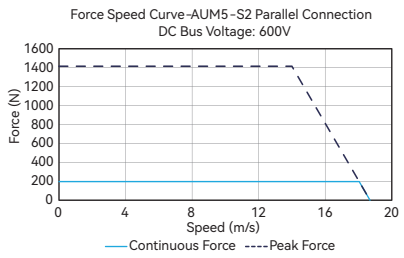






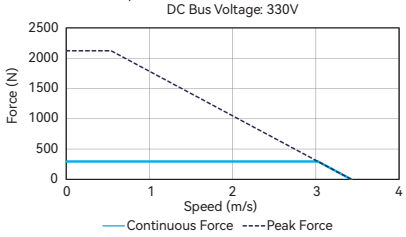




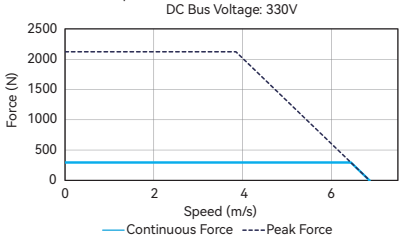


AUM Series

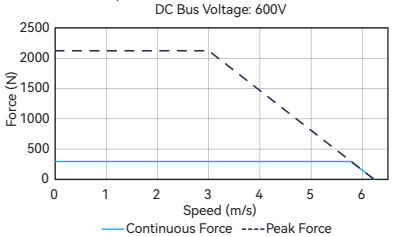
Force Speed Curve -AUM5-S3 Series Connection
DC Bus Voltage: 330V



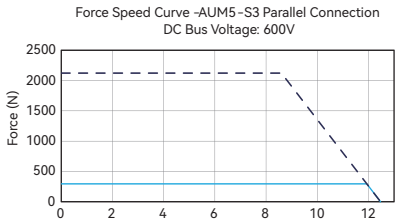
Force Speed Curve -AUM5-S3 Parallel Connection
DC Bus Voltage: 330V



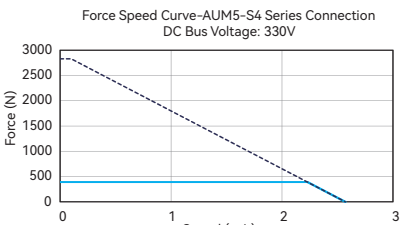
Force Speed Curve -AUM5-S3 Series Connection
DC Bus Voltage: 600V



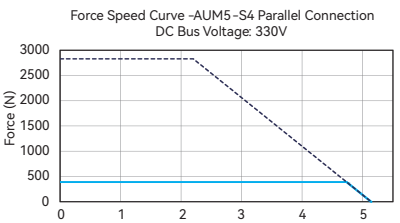
Force Speed Curve -AUM5-S3 Parallel Connection
DC Bus Voltage: 600V



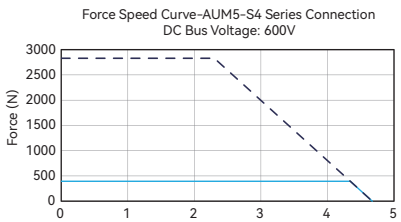
Force Speed Curve-AUM5-S4 Series Connection
DC Bus Voltage: 330V



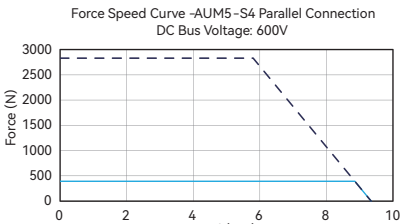
Force Speed Curve -AUM5-S4 Parallel Connection
DC Bus Voltage: 330V



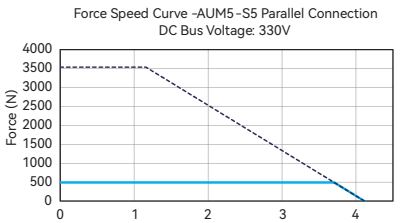
Force Speed Curve-AUM5-S4 Series Connection
DC Bus Voltage: 600V



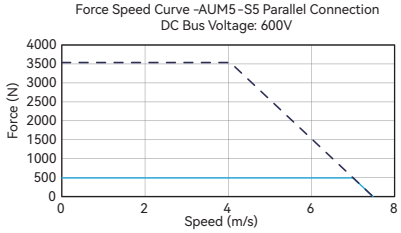
Force Speed Curve -AUM5-S4 Parallel Connection
DC Bus Voltage: 600V



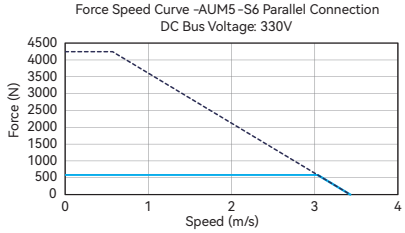
Force Speed Curve -AUM5-S5 Parallel Connection
DC Bus Voltage: 330V



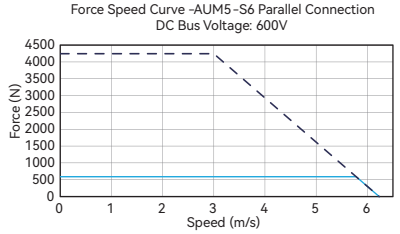
Force Speed Curve -AUM5-S5 Parallel Connection
DC Bus Voltage: 600V



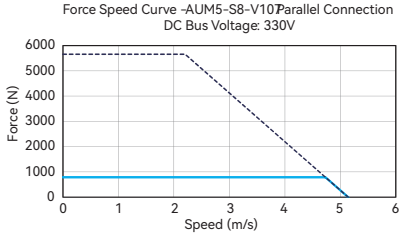
Force Speed Curve -AUM5-S6 Parallel Connection
DC Bus Voltage: 330V



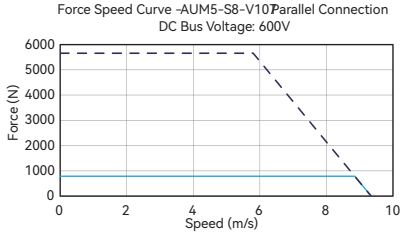
Force Speed Curve -AUM5-S6 Parallel Connection
DC Bus Voltage: 600V



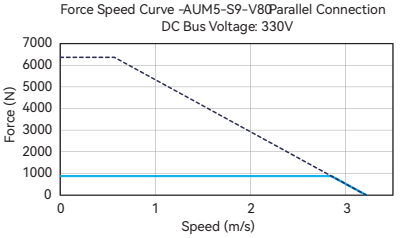
Force Speed Curve -AUM5-S8-V107Parallel Connection
DC Bus Voltage: 330V



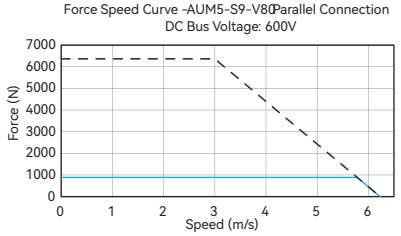
Force Speed Curve -AUM5-S8-V107Parallel Connection
DC Bus Voltage: 600V



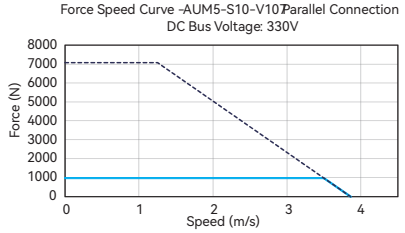
Force Speed Curve -AUM5-S9-V80Parallel Connection
DC Bus Voltage: 330V



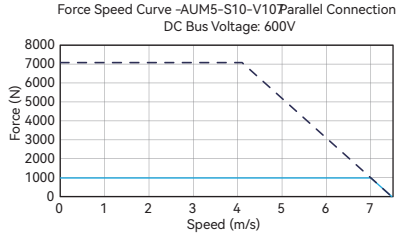
Force Speed Curve -AUM5-S9-V80Parallel Connection
DC Bus Voltage: 600V

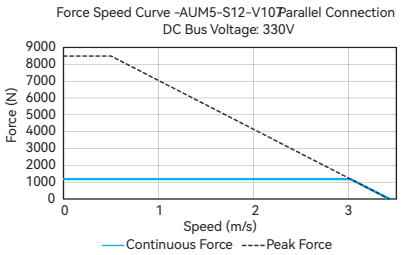


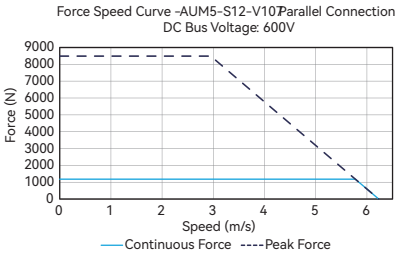
Force Speed Curve -AUM5-S10-V107Parallel Connection
DC Bus Voltage: 330V



Force Speed Curve -AUM5-S10-V107Parallel Connection
DC Bus Voltage: 600V







Part Numbering

Motor Coil

AUM5-▮-S-S3-K-HF-0.5-FB-0UA

Motor:
AUM5

Cooling Option:
(Blank) = Natural Convection
A = Air Cooled / W = Water Cooled ❶

Connection:
S = Series / P = Parallel / P5 / P7

Size:
S1 / S2 / S3 / S4 / S6

Custom Type:
⑧ (Blank) / ⑨ V80 / ⑩ V107 / ⑪ 0UA

Motor Cable Options:
❺ FB / ❻ NFB / ❼ 9W4M

Cable Length (m):
0.5 / 3.0

Hall Cable Option:
❷ NH / ❸ HF / ❹ H9D

Thermal Sensor:
J = Thermostat (standard) / K = PT100 (RTD)

❶ Cooling Options is Only Valid for AUM5-S1 to S6 Models
❷ NH = Without Built-in Hall Sensor
❸ HF = With Built-in Hall Sensor, Hall Cable C/W Flying Leads
❹ H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
❺ FB = With Ferrite Bead C/W Flying Leads
❻ NFB = Without Ferrite Bead C/W Flying Leads
❼ 9W4M = Without Ferrite bead C/W D-Sub 9W4 Male Connector
❽ (Blank) = Standard Model
❾ V80 = Only for AUM5-S9
❿ V107 = Only for AUM5-S8, AUM5-S10 & AUM5-S12
⓫ 0UA = NTRL-certified Model, Only Valid for Natural Cooling Type and Power Cable=NFB Options

Motor Track

AUM5-TL168

Model:
AUM5

Track Length:
TL168 / TL252 / TL420

AUM6

			AUM6-P5-S4	AUM6-P8-S6	AUM6-P5-S8	AUM6-P8-S9	AUM6-P7-S10	AUM6-P8-S12
Performance Parameters	Symbol	Unit	P5	P8	P5	P8	P7	P8
Continuous Force (NC) @100°C[1]	F_{cn}	N	660	990	1320	1485	1650	1980
Peak Force	F_{pk}	N	5400	8100	10800	12150	13500	16200
Force Constant ±10%	K_f	N/Arms	75.0	75.0	150.0	112.5	150.0	150.0
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	61.2	61.2	122.5	91.9	122.5	122.5
Motor Constant @25°C	K_m	N/Sqrt(W)	48.9	59.9	69.2	73.4	77.3	84.7
Resistance (L-L) @25°C ±10% [2]	R_{25}	Ω	1.57	1.05	3.14	1.57	2.52	2.10
Inductance (L-L) ±40% [3]	L	mH	2.65	1.77	5.30	2.65	4.24	3.53
Electrical Time Constant	τ_e	ms	1.68	1.68	1.69	1.68	1.69	1.68
Continuous Current (NC) @100°C[1]	I_{cn}	Arms	8.8	13.2	8.8	13.2	11.0	13.2
Peak Current	I_{pk}	Arms	72.0	108.0	72.0	108.0	90.0	108.0
Continuous Power Dissipation (NC) @100°C[1]	P_{cn}	W	236	354	470	530	588	706
Max. Coil Temperature	t_{max}	°C	100	100	100	100	100	100
Thermal Dissipation Constant (NC) [1]	K_{thn}	W/°C	3.1	4.7	6.3	7.1	7.8	9.4
Max. Bus Voltage[4]	U_{bus}	Vdc	330/600	330/600	330/600	330/600	330/600	330/600
Magnetic Period	τ_{NN}	mm	84	84	84	84	84	84
Attraction Force	F_a	kN	0	0	0	0	0	0
Mechanical Parameters								
Coil Mass (NC)	m_{cn}	kg	4.50	6.75	9.00	10.13	11.25	13.50
Coil Length (NC)	L_{cn}	mm	337.0	505.0	673.0	757.0	841.0	1009.0
Track Mass Per Meter	m_{track}	kg/m	66.67	66.67	66.67	66.67	66.67	66.67
Other Information								
Insulation Class			Class B (130°C)					
Protection Grade			IP00					
Compliance with Global Standards			RoHS, CE, NTRL(option)					
Ambient Temperature	Operation		0°C to 40°C (non-freezing)					
	Storage		-15°C to 70°C (non-freezing)					
Ambient Humidity	Operation		10%RH to 80%RH (non-condensing)					
	Storage		10%RH to 90%RH (non-condensing)					
Recommended Ambience			Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.					

[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment. Abbreviations: NC-Natural Cooling, AC-Air Cooling, WC-Water Cooling.

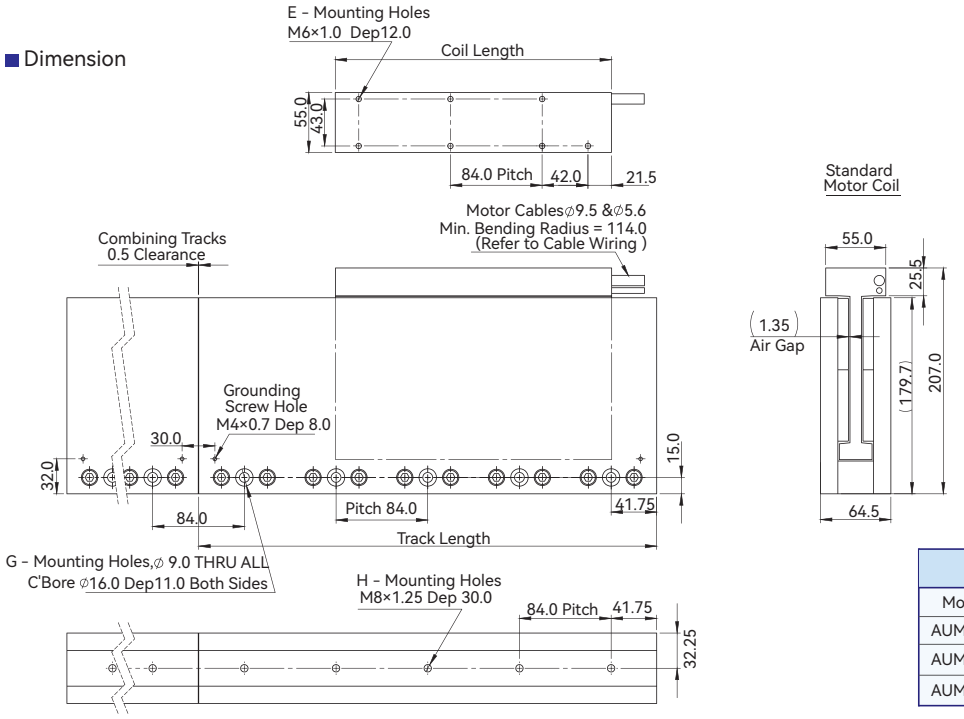
[2] Resistance is measured by DC current with standard 0.5 m cable.

[3] Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

[4] The bus voltage of the standard version supports up to 330Vdc, and the bus voltage of the UL version supports up to 600Vdc.

The contents of datasheet are subject to change without prior notice.

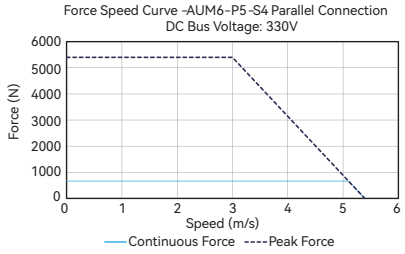
Dimension

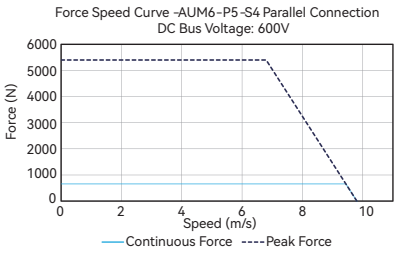


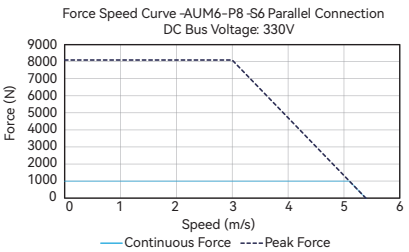
Motor Coil		
Model No:	Coil Length	E
AUM6-P5-S4	337.0	9
AUM6-P8-S6	505.0	13
AUM6-P5-S8	673.0	17
AUM6-P8-S9	757.0	19
AUM6-P7-S10	841.0	21
AUM6-P8-S12	1009.0	25

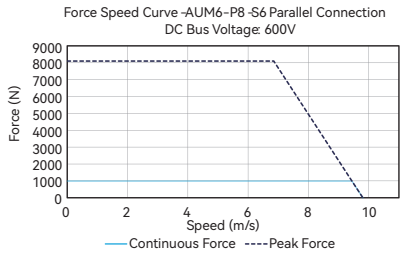
Motor Track			
Model No:	Track Length	G	H
AUM6-TL168	167.5	2	2
AUM6-TL252	251.5	3	3
AUM6-TL420	419.5	5	5

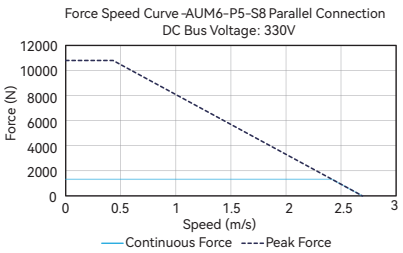
Force-Speed Curve

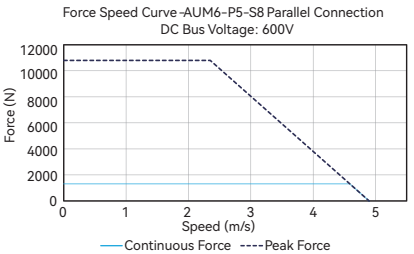


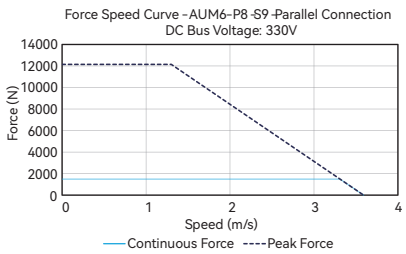


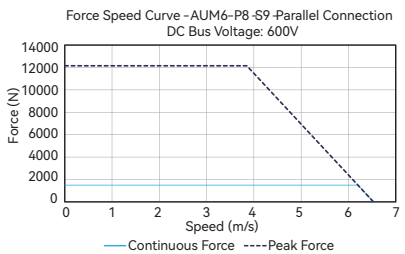


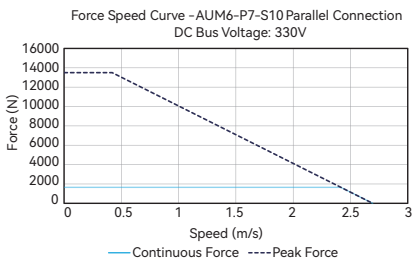


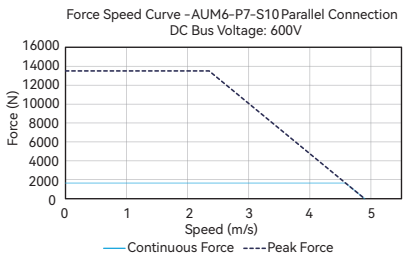


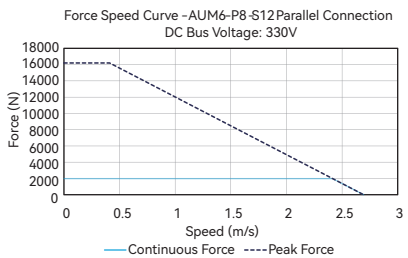


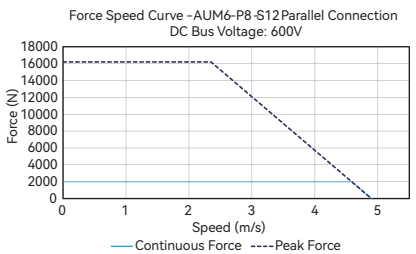






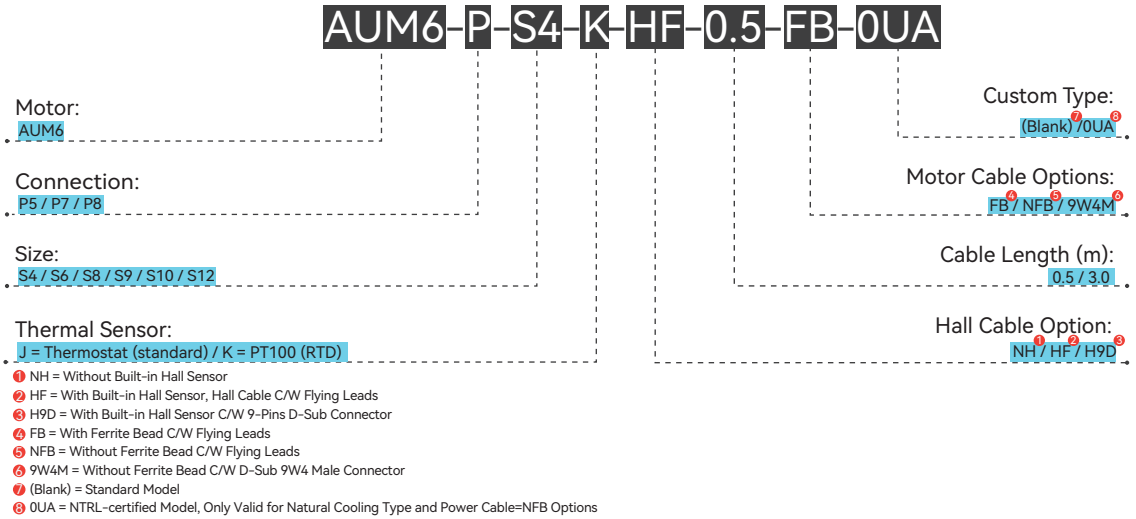






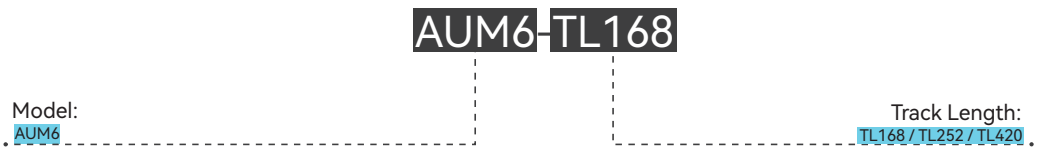
Part Numbering

Motor Coil



1. NH = Without Built-in Hall Sensor
2. HF = With Built-in Hall Sensor, Hall Cable C/W Flying Leads
3. H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
4. FB = With Ferrite Bead C/W Flying Leads
5. NFB = Without Ferrite Bead C/W Flying Leads
6. 9W4M = Without Ferrite Bead C/W D-Sub 9W4 Male Connector
7. (Blank) = Standard Model
8. 0UA = NTRL-certified Model, Only Valid for Natural Cooling Type and Power Cable=NFB Options

Motor Track



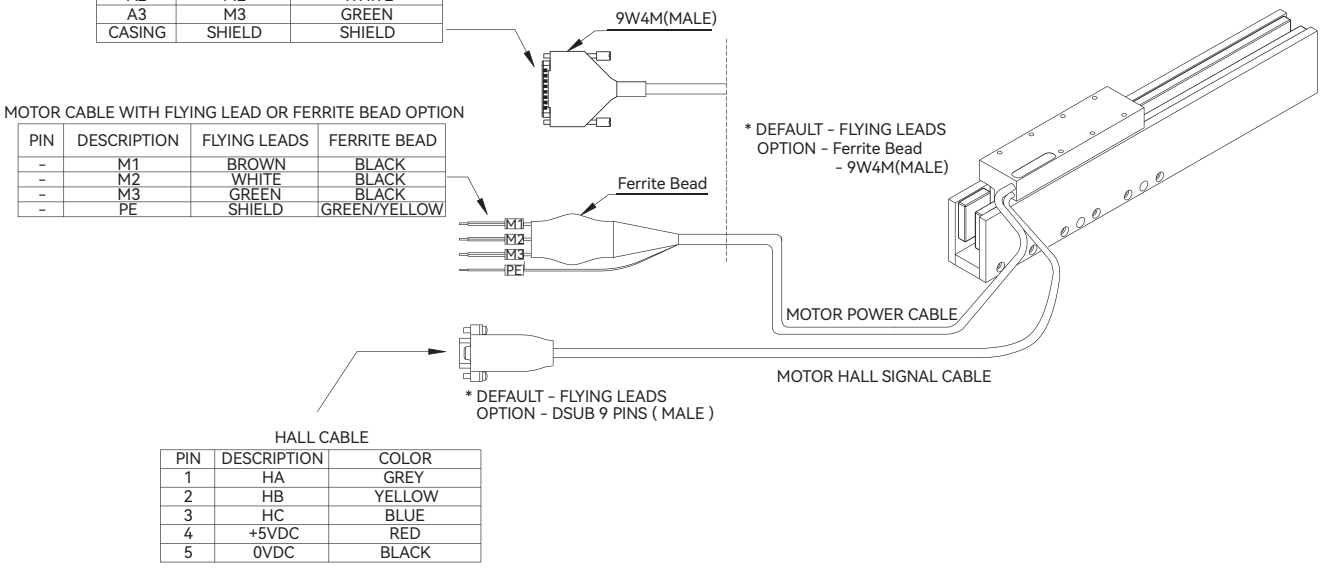
AUM1 Series Motor Cable Connection

MOTOR CABLE WITH 9W4M

PIN	DESCRIPTION	9W4M
A1	M1	BROWN
A2	M2	WHITE
A3	M3	GREEN
CASING	SHIELD	SHIELD

MOTOR CABLE WITH FLYING LEAD OR FERRITE BEAD OPTION

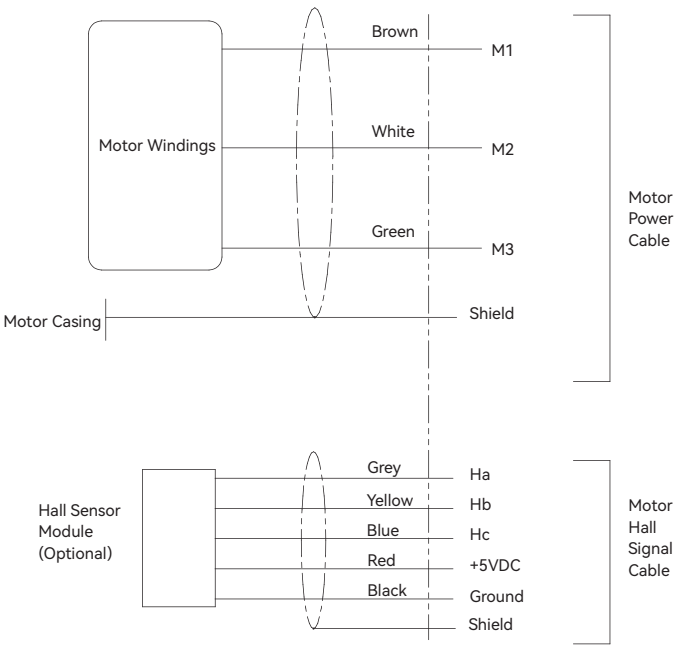
PIN	DESCRIPTION	FLYING LEADS	FERRITE BEAD
-	M1	BROWN	BLACK
-	M2	WHITE	BLACK
-	M3	GREEN	BLACK
-	PE	SHIELD	GREEN/YELLOW



HALL CABLE

PIN	DESCRIPTION	COLOR
1	HA	GREY
2	HB	YELLOW
3	HC	BLUE
4	+5VDC	RED
5	0VDC	BLACK

Cable Connection Information



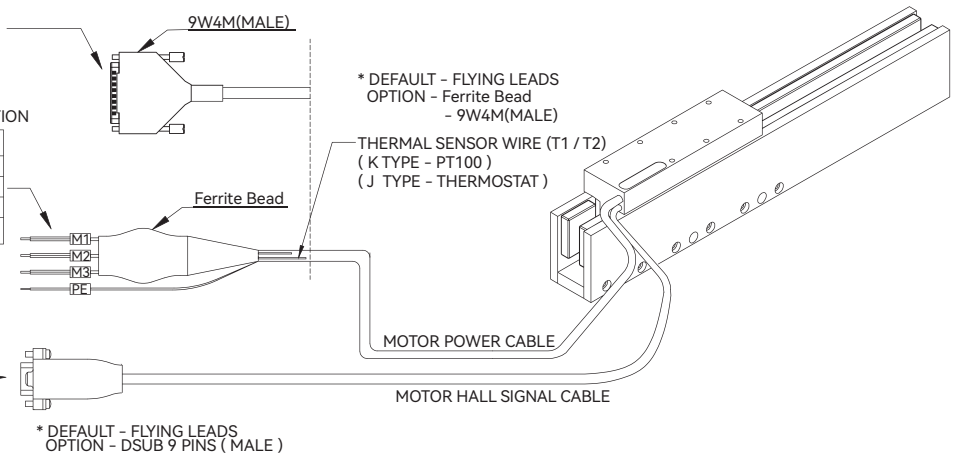
AUM2 / 3 Series Motor Cable Connection

MOTOR CABLE WITH 9W4M

PIN	DESCRIPTION	9W4M
A1	M1	YELLOW / GREY
A2	M2	BLUE/ORANGE
A3	M3	RED/GREEN
A4	PE	GREEN/YELLOW
1	T1	BROWN
2	T2	BROWN / BLACK
CASING	SHIELD	SHIELD

MOTOR CABLE WITH FLYING LEAD OR FERRITE BEAD OPTION

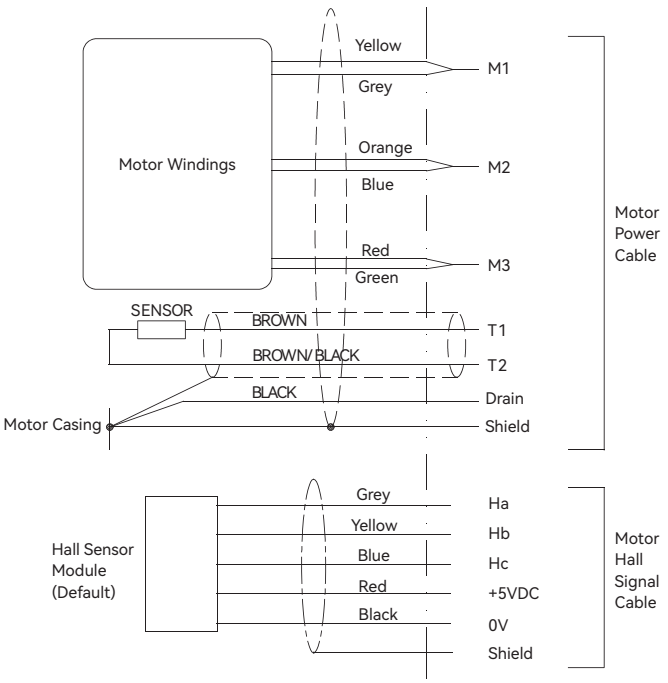
PIN	DESCRIPTION	FLYING LEADS	FERRITE BEAD
-	M1	YELLOW / GREY	BLACK
-	M2	BLUE/ORANGE	BLACK
-	M3	RED/GREEN	BLACK
-	PE	BLACK	YELLOW/GREEN



HALL CABLE

PIN	DESCRIPTION	COLOR
1	HA	GREY
2	HB	YELLOW
3	HC	BLUE
4	+5VDC	RED
5	0VDC	BLACK

Cable Connection Information



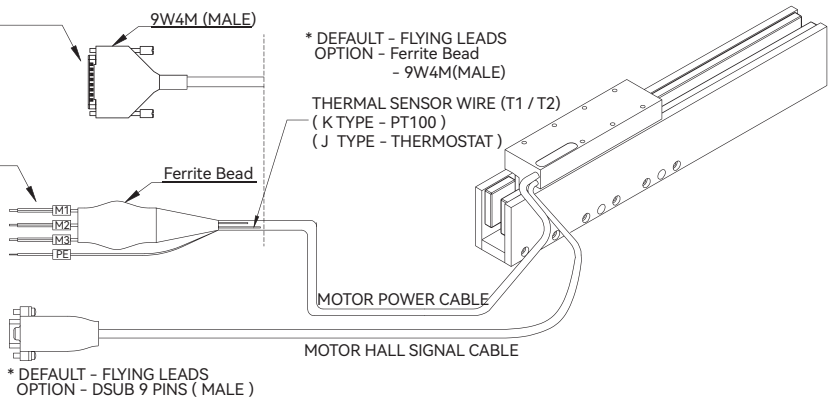
AUM4 / 5 Series Motor Cable Connection

MOTOR CABLE WITH 9W4M

PIN	DESCRIPTION	9W4M (330Vdc)	9W4M (600Vdc)
A1	M1	YELLOW / GREY	BLACK1
A2	M2	BLUE/ORANGE	BLACK2
A3	M3	RED/GREEN	BLACK3
A4	PE	GREEN/YELLOW	GREEN/YELLOW
1	T1	BROWN	-
2	T2	BROWN / BLACK	-
CASING	SHIELD	SHIELD	SHIELD

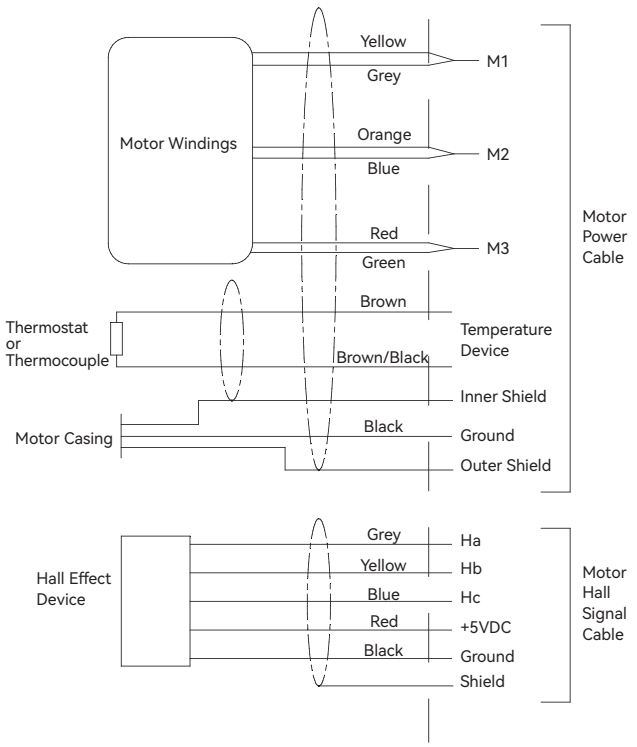
MOTOR CABLE WITH FLYING LEAD OR FERRITE BEAD OPTION

PIN	DESCRIPTION	FLYING LEADS (330Vdc)	FLYING LEADS (600Vdc)	FERRITE BEAD
-	M1	YELLOW / GREY	BLACK1	BLACK
-	M2	BLUE/ORANGE	BLACK2	BLACK
-	M3	RED/GREEN	BLACK3	BLACK
-	PE	BLACK	YELLOW/GREEN	YELLOW/GREEN

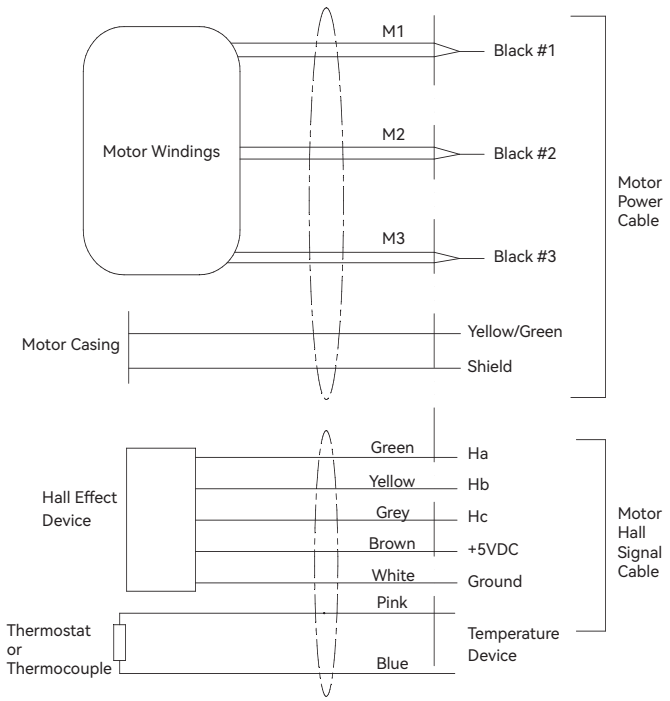


PIN	DESCRIPTION	FLYING LEAD (330Vdc)	FLYING LEAD (600Vdc)
1	HA	GREY	GREEN
2	HB	YELLOW	YELLOW
3	HC	BLUE	GREY
4	+5VDC	RED	BROWN
5	0VDC	BLACK	WHITE
8	T1	-	PINK
9	T2	-	BLUE

Cable Connection Information (330Vdc)



Cable Connection Information (600Vdc)



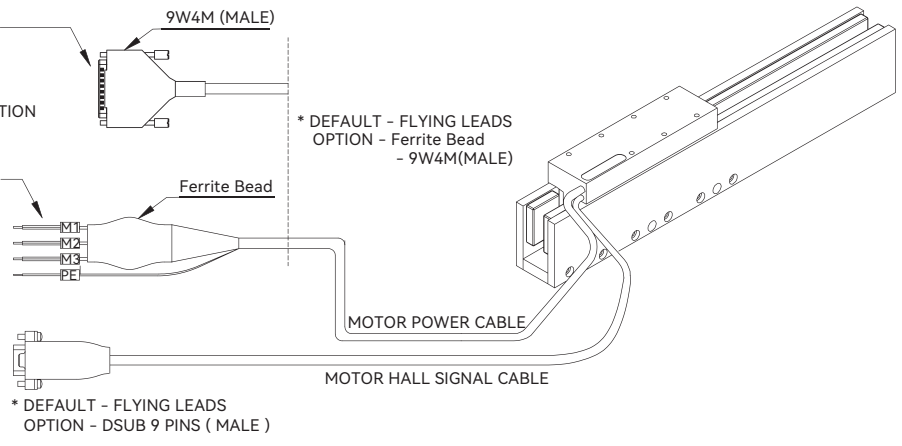
AUM5-V107 Series Motor Cable Connection

MOTOR CABLE WITH 9W4M

PIN	DESCRIPTION	9W4M
A1	M1	BLACK 1
A2	M2	BLACK 2
A3	M3	BLACK 3
A4	PE	GREEN/YELLOW
CASING	SHIELD	SHIELD

MOTOR CABLE WITH FLYING LEAD OR FERRITE BEAD OPTION

PIN	DESCRIPTION	FLYING LEADS	FERRITE BEAD
-	M1	BLACK 1	BLACK
-	M2	BLACK 2	BLACK
-	M3	BLACK 3	BLACK
-	PE	YELLOW/GREEN	YELLOW/GREEN

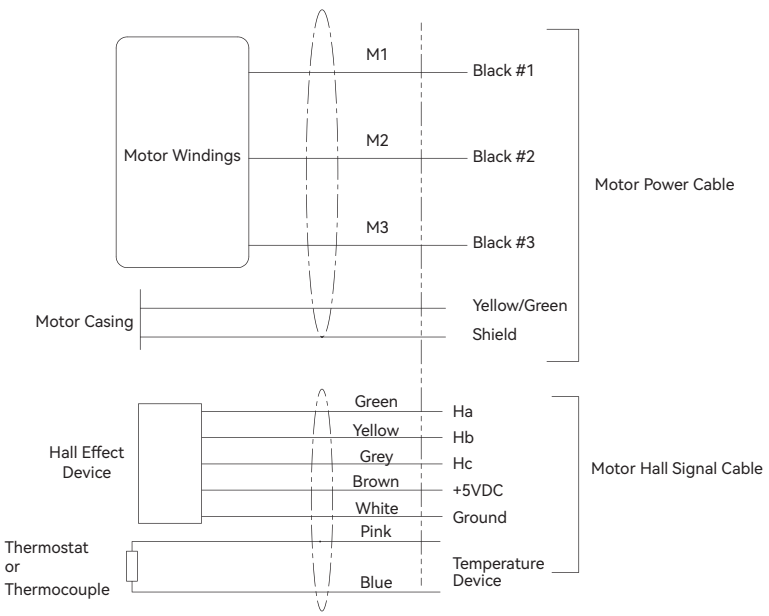


HALL CABLE

PIN	DESCRIPTION	COLOR
1	HA	GREEN
2	HB	YELLOW
3	HC	GREY
4	+5VDC	BROWN
5	0VDC	WHITE
8	T1	PINK
9	T2	BLUE

THERMAL SENSOR WIRE (T1 / T2)
(K TYPE - PT100)
(J TYPE - THERMOSTAT)

Cable Connection Information



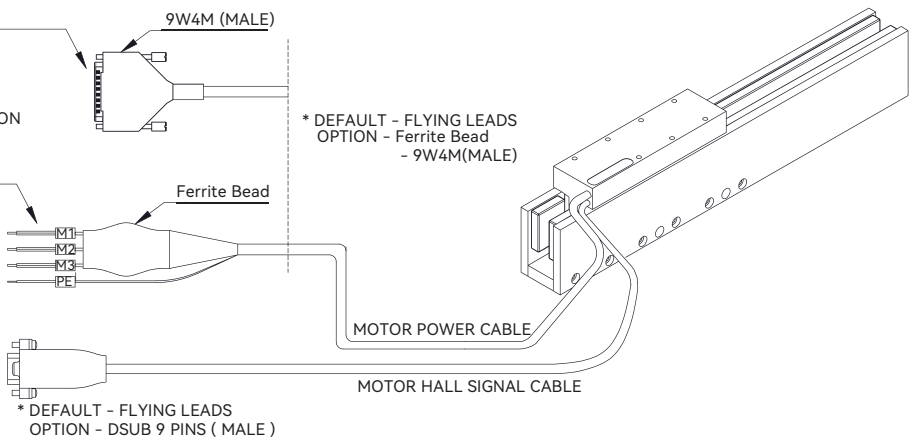
AUM6 Series Motor Cable Connection

MOTOR CABLE WITH 9W4M

PIN	DESCRIPTION	9W4M
A1	M1	BLACK 1
A2	M2	BLACK 2
A3	M3	BLACK 3
A4	PE	GREEN/YELLOW
CASING	SHIELD	SHIELD

MOTOR CABLE WITH FLYING LEAD OR FERRITE BEAD OPTION

PIN	DESCRIPTION	FLYING LEADS	FERRITE BEAD
-	M1	BLACK 1	BLACK
-	M2	BLACK 2	BLACK
-	M3	BLACK 3	BLACK
-	PE	YELLOW/GREEN	GREEN/YELLOW



HALL CABLE

PIN	DESCRIPTION	COLOR
1	HA	GREEN
2	HB	YELLOW
3	HC	GREY
4	+5VDC	BROWN
5	0VDC	WHITE
8	T1	PINK
9	T2	BLUE

THERMAL SENSOR WIRE (T1 / T2)
(K TYPE - PT100)
(J TYPE - THERMOSTAT)

Cable Connection Information