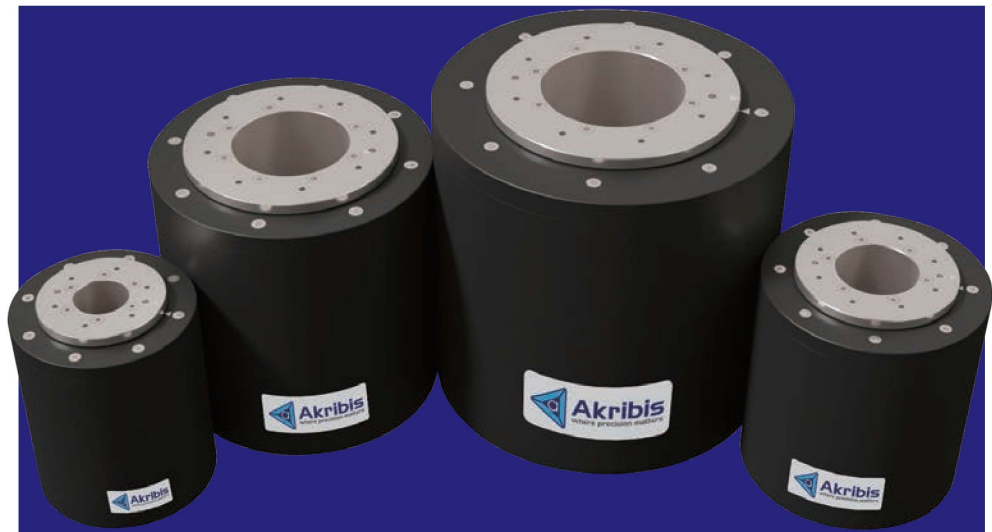




ADR-B SERIES

- ▶ Large center bore
- ▶ Direct drive brushless motor
- ▶ Fully integrated with encoder and bearing
- ▶ Low cogging torque
- ▶ Precise homing through index pulse
- ▶ Low speed and high speed windings

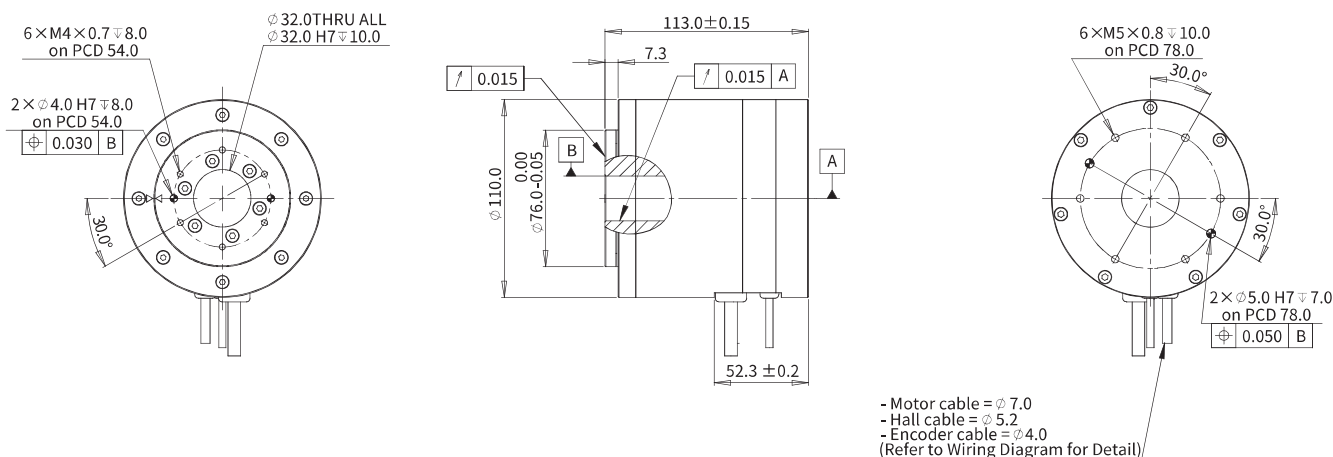
EN-24.5.1

ADR110-B113

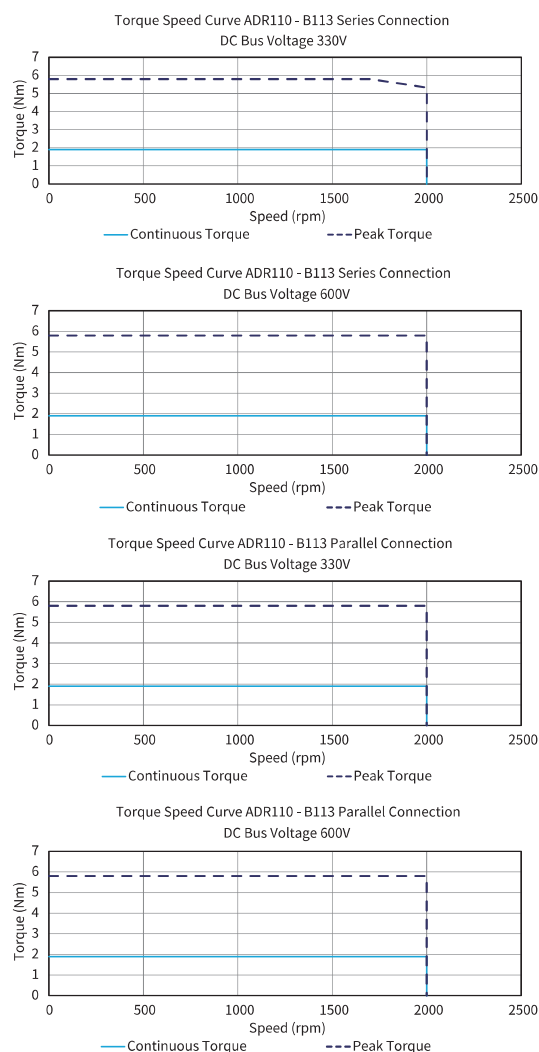
ADR110-B113				
Performance Parameters		Symbol	Unit	Series
Continuous Torque @100°C ^①		T _{cn}	Nm	1.9
Peak Torque		T _{pk}	Nm	5.8
Torque Constant ±10%		K _t	Nm/Arms	0.65
Back EMF constant ±10%		K _e	Vpeak/rpm	0.055
Motor Constant @25°C		K _m	Nm/Sqrt(W)	0.30
Resistance (L-L) @25°C ±10% ^②		R ₂₅	Ω	3.20
Inductance (L-L) ±20% ^③		L	mH	11.00
Electrical time constant		τ _e	ms	3.44
Continuous Current @100°C ^①		I _{cn}	Arms	3.0
Peak Current		I _{pk}	Arms	9.0
Continuous Power Dissipation @100°C ^①		P _{cn}	W	55.7
Max. Coil Temperature		T _{max}	°C	100.0
Thermal Dissipation Constant ^①		K _{thn}	W/°C	0.7
Max. Bus Voltage		U _{bus}	Vdc	600.0
Pole Number		p	-	16
Rec. Max Speed @Peak Torque ^④		Ω _{max}	rpm	1700
Rec. Max Speed @Continuous Torque ^⑤		Ω _{max}	rpm	2000
Mechanical Parameters				
Overall Mass		m _n	kg	3.20
Rotor Inertia		J _r	kg·m ²	3.086E-04
Axial Runout ^⑥		-	μm	15
Radial Runout ^⑥		-	μm	15
Max Axial Load (Upright Mounting) ^⑦		-	N	439
Max Axial Load (Inverted / Wall mounting)		-	N	35
Max Moment Load (Upright Mounting)		-	Nm	25
Max Moment Load (Inverted / Wall Mounting)		-	Nm	2.8
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)		-	lines / rev	3005
ABI Optical Incremental Encoder Digital Resolution (80x)		-	counts / rev	240400
ABI Optical Incremental Encoder Digital Resolution (160x)		-	counts / rev	480800
ABI Optical Incremental Encoder Digital Resolution (400x)		-	counts / rev	1202000
ATOM DX Optical Incremental Encoder		-	lines / rev	5870
ATOM DX Optical Incremental Encoder (80x)		-	counts / rev	469600
Accuracy with Error Mapping ^⑧		-	arc sec	+/-5.4
Repeatability ^⑨		-	arc sec	+/-2.7
Other Information				
Insulation Class			Class B (130°C)	
Protection Grade			IP40	
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.	

- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② Resistance is measured by DC current with standard 0.5m cable.
 ③ Inductance is measured by current frequency of 1kHz.
 ④ The value is based on ABI optical SIN/COS encoder (4096x interpolation) under 330V bus voltage.
 ⑤ Runout specification define in the datasheet is based on constant loading and temperature condition (the value in parenthesis is optional).
 ⑥ Please refer to the illustration for different mountings.
 ⑦ Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
 The contents of datasheet are subject to change without prior notice.

Dimension



Torque-Speed Curve



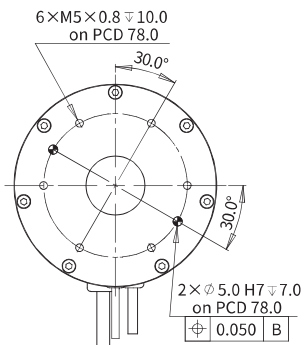
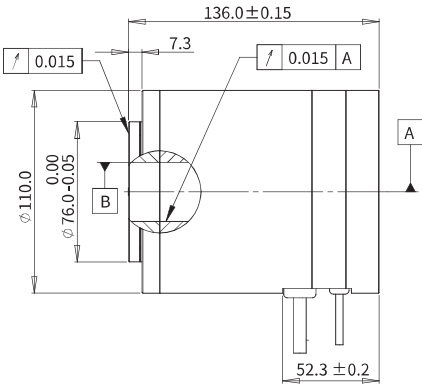
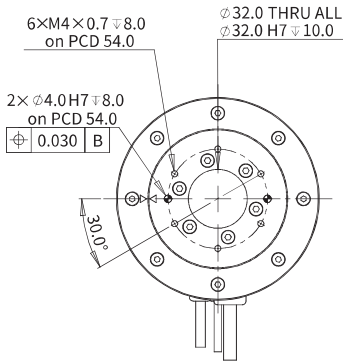
ADR110-B136

Introduction
Sizing Guide
Frequently Asked Questions
Linear Motors
Voice Coil Motors
Direct Drive Rotary Motors
Motion Control of Gantry Stages

ADR110-B136				
Performance Parameters		Symbol	Unit	Series
Continuous Torque @100°C		T _{cn}	Nm	4.2
Peak Torque		T _{pk}	Nm	12.6
Torque Constant ±10%		K _t	Nm/Arms	1.40
Back EMF constant ±10%		K _e	Vpeak/rpm	0.119
Motor Constant @25°C		K _m	Nm/Sqrt(W)	0.51
Resistance (L-L) @25°C ±10%		R ₂₅	Ω	4.90
Inductance (L-L) ±20%		L	mH	23.50
Electrical time constant		τ _e	ms	4.80
Continuous Current @100°C		I _{cn}	Arms	3.0
Peak Current		I _{pk}	Arms	9.0
Continuous Power Dissipation @100°C		P _{cn}	W	85.3
Max. Coil Temperature		T _{max}	°C	100.0
Thermal Dissipation Constant		K _{thn}	W/°C	1.1
Max. Bus Voltage		U _{bus}	Vdc	600.0
Pole Number		p	-	16
Rec. Max Speed @Peak Torque		Ω _{max}	rpm	1000
Rec. Max Speed @Continuous Torque		Ω _{max}	rpm	2000
Mechanical Parameters				
Overall Mass		m _n	kg	4.60
Rotor Inertia		J _r	kg·m ²	4.419E-04
Axial Runout		-	μm	15
Radial Runout		-	μm	15
Max Axial Load (Upright Mounting)		-	N	439
Max Axial Load (Inverted / Wall mounting)		-	N	35
Max Moment Load (Upright Mounting)		-	Nm	25
Max Moment Load (Inverted / Wall Mounting)		-	Nm	2.8
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)		-	lines / rev	3005
ABI Optical Incremental Encoder Digital Resolution (80x)		-	counts / rev	240400
ABI Optical Incremental Encoder Digital Resolution (160x)		-	counts / rev	480800
ABI Optical Incremental Encoder Digital Resolution (400x)		-	counts / rev	1202000
ATOM DX Optical Incremental Encoder		-	lines / rev	5870
ATOM DX Optical Incremental Encoder (80x)		-	counts / rev	469600
Accuracy with Error Mapping		-	arc sec	±/-5.4
Repeatability		-	arc sec	±/-2.7
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
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.		

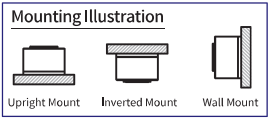
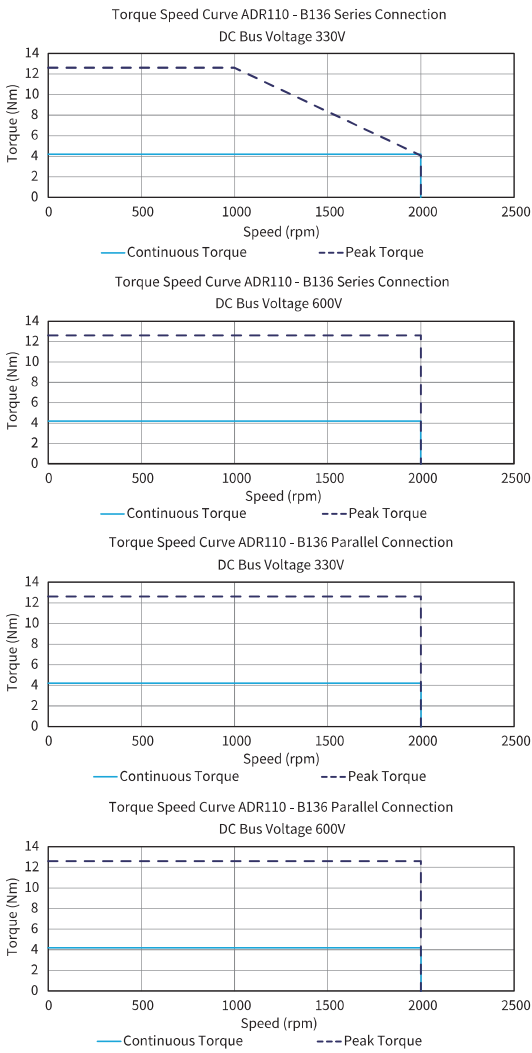
- 1 Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - 2 Resistance is measured by DC current with standard 0.5m cable.
 - 3 Inductance is measured by current frequency of 1kHz.
 - 4 The value is based on ABI optical SIN/COS encoder (4096x interpolation) under 330V bus voltage.
 - 5 Runout specification define in the datasheet is based on constant loading and temperature condition (the value in parenthesis is optional).
 - 6 Please refer to the illustration for different mountings.
 - 7 Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
- The contents of datasheet are subject to change without prior notice.

Dimension



- Motor cable = φ 7.0
- Hall cable = φ 5.2
- Encoder cable = φ 4.0

Torque-Speed Curve

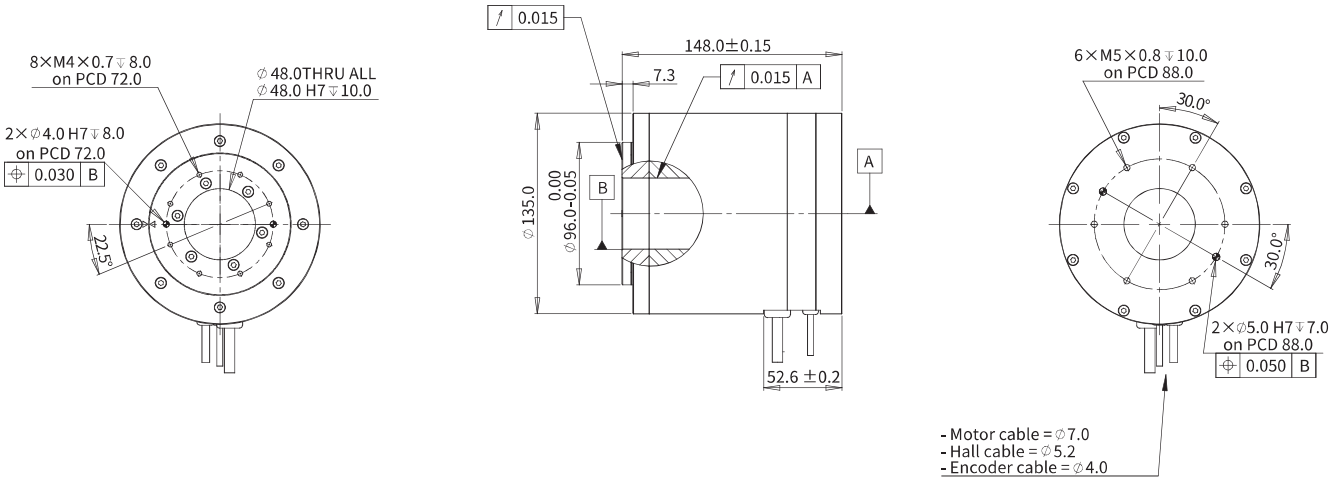


ADR135-B148

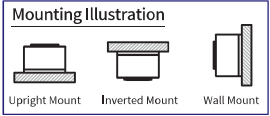
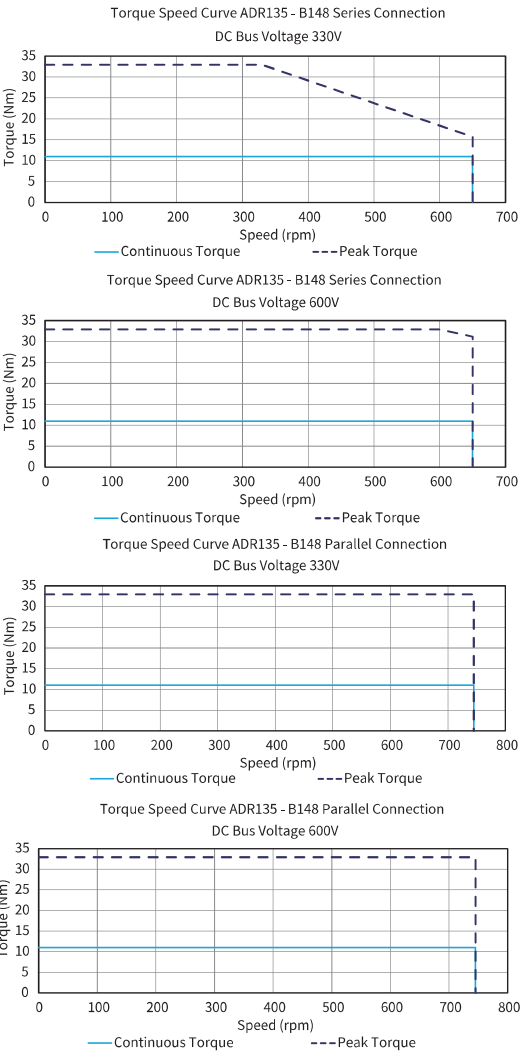
ADR135-B148				
Performance Parameters		Symbol	Unit	Series
Continuous Torque @100°C		T _{cn}	Nm	11.0
Peak Torque		T _{pk}	Nm	32.9
Torque Constant ±10%		K _t	Nm/Arms	3.66
Back EMF constant ±10%		K _e	Vpeak/rpm	0.313
Motor Constant @25°C		K _m	Nm/Sqrt(W)	0.91
Resistance (L-L) @25°C ±10%		R ₂₅	Ω	10.70
Inductance (L-L) ±20%		L	mH	72.76
Electrical time constant		T _e	ms	6.80
Continuous Current @100°C		I _{cn}	Arms	3.0
Peak Current		I _{pk}	Arms	9.0
Continuous Power Dissipation @100°C		P _{cn}	W	186.2
Max. Coil Temperature		T _{max}	°C	100.0
Thermal Dissipation Constant		K _{thn}	W/°C	2.5
Max. Bus Voltage		U _{bus}	Vdc	600.0
Pole Number		p	-	16
Rec. Max Speed @Peak Torque		Ω _{max}	rpm	330
Rec. Max Speed @Continuous Torque		Ω _{max}	rpm	650
Mechanical Parameters				
Overall Mass		m _n	kg	5.70
Rotor Inertia		J _r	kg·m ²	1.332E-03
Axial Runout		-	μm	15
Radial Runout		-	μm	15
Max Axial Load (Upright Mounting)		-	N	604
Max Axial Load (Inverted / Wall mounting)		-	N	56
Max Moment Load (Upright Mounting)		-	Nm	45
Max Moment Load (Inverted / Wall Mounting)		-	Nm	5.0
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)		-	lines / rev	4103
ABI Optical Incremental Encoder Digital Resolution (80x)		-	counts / rev	328240
ABI Optical Incremental Encoder Digital Resolution (160x)		-	counts / rev	656480
ABI Optical Incremental Encoder Digital Resolution (400x)		-	counts / rev	1641200
ATOM DX Optical Incremental Encoder		-	lines / rev	8192
ATOM DX Optical Incremental Encoder (200x)		-	counts / rev	1638400
Accuracy with Error Mapping		-	arc sec	+/-4
Repeatability		-	arc sec	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
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.		

- 1 Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
- 2 Resistance is measured by DC current with standard 0.5m cable.
- 3 Inductance is measured by current frequency of 1kHz.
- 4 The value is based on ABI optical SIN/COS encoder (4096x interpolation) under 330V bus voltage.
- 5 Runout specification define in the datasheet is based on constant loading and temperature condition (the value in parenthesis is optional).
- 6 Please refer to the illustration for different mountings.
- 7 Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
- The contents of datasheet are subject to change without prior notice.

Dimension



Torque-Speed Curve

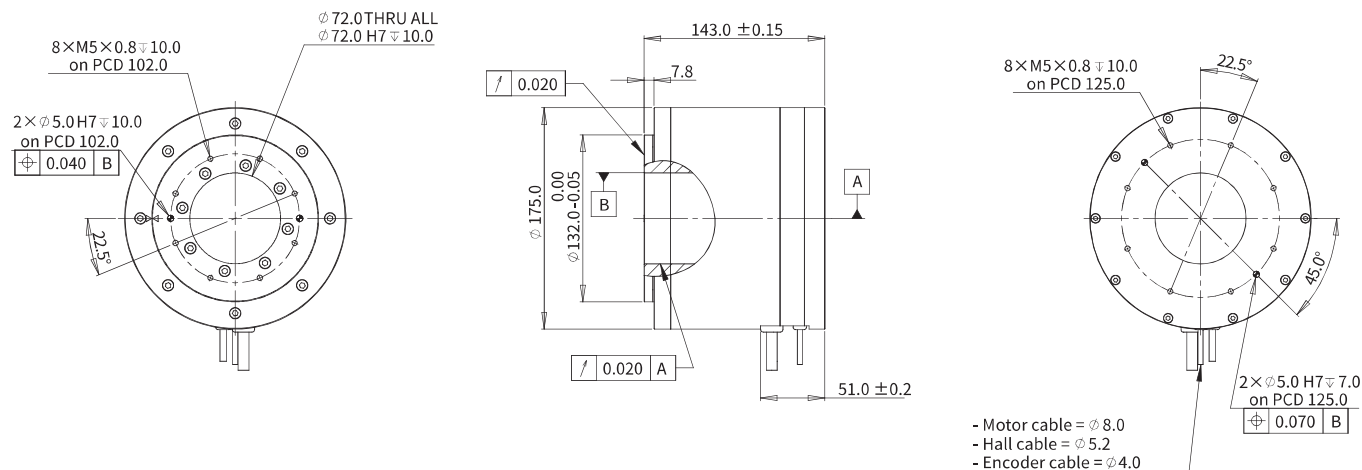


ADR175-B143

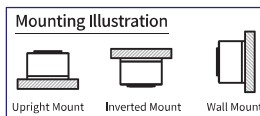
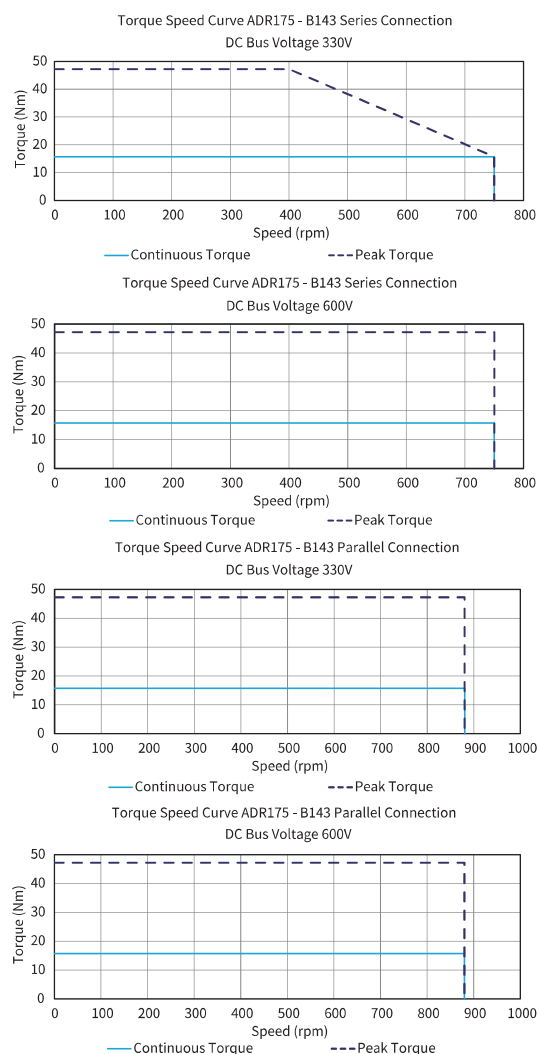
ADR175-B143					
Performance Parameters		Symbol	Unit	Series	Parallel
Continuous Torque @100°C ❶		T _{cn}	Nm	15.7	15.7
Peak Torque		T _{pk}	Nm	47.2	47.2
Torque Constant ±10%		K _t	Nm/Arms	3.93	1.97
Back EMF constant ±10%		K _e	Vpeak/rpm	0.336	0.168
Motor Constant @25°C		K _m	Nm/Sqrt(W)	1.40	1.41
Resistance (L-L) @25°C ±10% ❷		R ₂₅	Ω	5.27	1.30
Inductance (L-L) ±20% ❸		L	mH	37.00	9.70
Electrical time constant		τ _e	ms	7.02	7.46
Continuous Current @100°C ❶		I _{cn}	Arms	4.0	8.0
Peak Current		I _{pk}	Arms	12.0	24.0
Continuous Power Dissipation @100°C ❶		P _n	W	163.1	160.9
Max. Coil Temperature		T _{max}	°C	100.0	100.0
Thermal Dissipation Constant ❹		K _{thn}	W/°C	2.2	2.1
Max. Bus Voltage		U _{bus}	Vdc	600.0	600.0
Pole Number		p	-	16	16
Rec. Max Speed @Peak Torque ❺		Ω _{max}	rpm	400	880
Rec. Max Speed @Continuous Torque ❻		Ω _{max}	rpm	750	880
Mechanical Parameters					
Overall Mass		m _n	kg	10.0	10.0
Rotor Inertia		J _r	kg·m²	5.422E-03	5.422E-03
Axial Runout ❷		-	μm	20	20
Radial Runout ❸		-	μm	20	20
Max Axial Load (Upright Mounting) ❹		-	N	1256	1256
Max Axial Load (Inverted / Wall mounting)		-	N	84	84
Max Moment Load (Upright Mounting)		-	Nm	65	65
Max Moment Load (Inverted / Wall Mounting)		-	Nm	7.2	7.2
Encoder Parameters					
ABI Optical Incremental Encoder (SIN/COS)		-	lines / rev	5071	5071
ABI Optical Incremental Encoder Digital Resolution (80x)		-	counts / rev	405680	405680
ABI Optical Incremental Encoder Digital Resolution (160x)		-	counts / rev	811360	811360
ABI Optical Incremental Encoder Digital Resolution (400x)		-	counts / rev	2028400	2028400
ATOM DX Optical Incremental Encoder		-	lines / rev	10200	10200
ATOM DX Optical Incremental Encoder (80x)		-	counts / rev	816000	816000
Accuracy with Error Mapping ❹		-	arc sec	+/-4	+/-4
Repeatability ❶		-	arc sec	+/-2	+/-2
Other Information					
Insulation Class		Class B (130°C)			
Protection Grade		IP40			
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.			

- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② Resistance is measured by DC current with standard 0.5m cable.
 ③ Inductance is measured by current frequency of 1kHz.
 ④ The value is based on ABI optical SIN/COS encoder (4096x interpolation) under 330V bus voltage.
 ⑤ Runout specification define in the datasheet is based on constant loading and temperature condition (the value in parenthesis is optional).
 ⑥ Please refer to the illustration for different mountings.
 ⑦ Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
 The contents of datasheet are subject to change without prior notice.

Dimension



Torque-Speed Curve

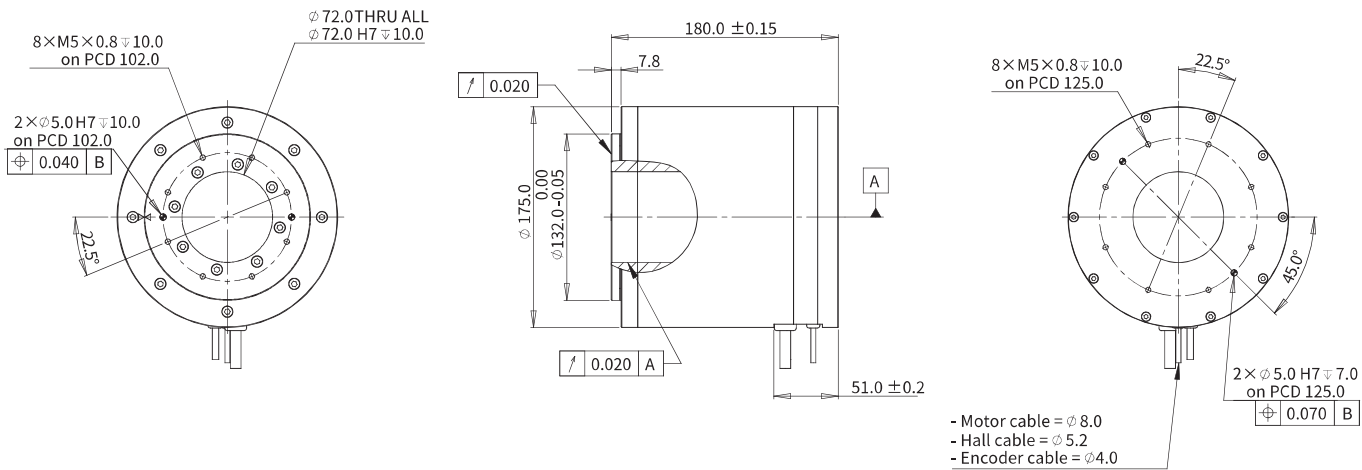


ADR175-B180

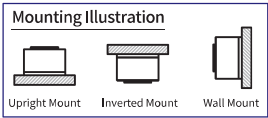
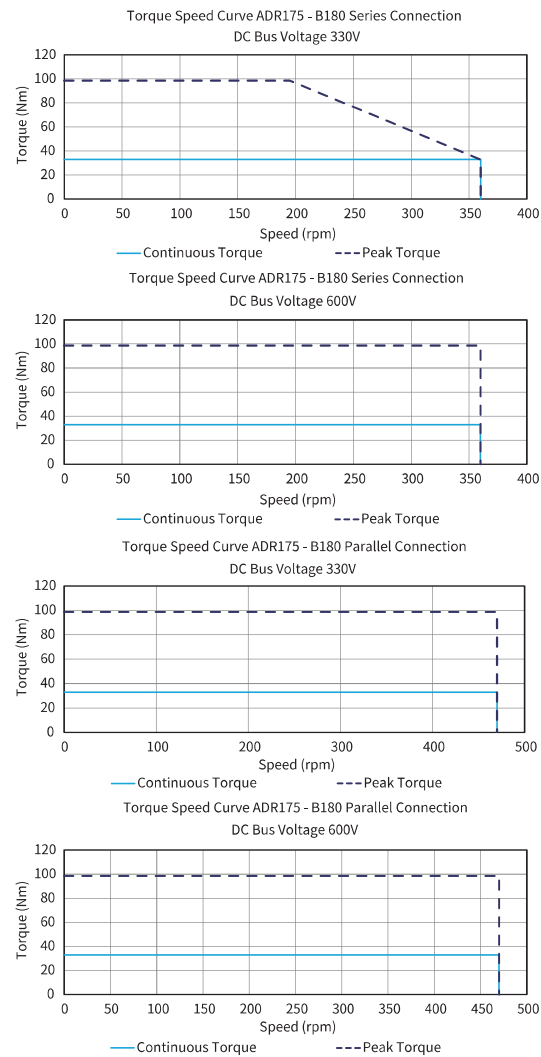
ADR175-B180				
Performance Parameters		Symbol	Unit	Series
Continuous Torque @100°C ❶		T _{cn}	Nm	32.9
Peak Torque		T _{pk}	Nm	98.6
Torque Constant ±10%		K _t	Nm/Arms	8.22
Back EMF constant ±10%		K _e	Vpeak/rpm	0.703
Motor Constant @25°C		K _m	Nm/Sqrt(W)	2.33
Resistance (L-L) @25°C ±10% ❷		R ₂₅	Ω	8.30
Inductance (L-L) ±20% ❸		L	mH	72.00
Electrical time constant		τ _e	ms	8.67
Continuous Current @100°C ❶		I _{cn}	Arms	4.0
Peak Current		I _{pk}	Arms	12.0
Continuous Power Dissipation @100°C ❶		P _{cn}	W	256.8
Max. Coil Temperature		T _{max}	°C	100.0
Thermal Dissipation Constant ❶		K _{thn}	W/°C	3.4
Max. Bus Voltage		U _{bus}	Vdc	600.0
Pole Number		p	-	16
Rec. Max Speed @Peak Torque ❹		Ω _{max}	rpm	195
Rec. Max Speed @Continuous Torque ❹		Ω _{max}	rpm	360
Mechanical Parameters				
Overall Mass		m _n	kg	11.6
Rotor Inertia		J _r	kg·m ²	7.621E-03
Axial Runout ❺		-	μm	20
Radial Runout ❺		-	μm	20
Max Axial Load (Upright Mounting) ❻		-	N	1256
Max Axial Load (Inverted / Wall mounting)		-	N	84
Max Moment Load (Upright Mounting)		-	Nm	65
Max Moment Load (Inverted / Wall Mounting)		-	Nm	7.2
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)		-	lines / rev	5071
ABI Optical Incremental Encoder Digital Resolution (80x)		-	counts / rev	405680
ABI Optical Incremental Encoder Digital Resolution (160x)		-	counts / rev	811360
ABI Optical Incremental Encoder Digital Resolution (400x)		-	counts / rev	2028400
ATOM DX Optical Incremental Encoder		-	lines / rev	10200
ATOM DX Optical Incremental Encoder (80x)		-	counts / rev	816000
Accuracy with Error Mapping ❷		-	arc sec	+/-4
Repeatability ❷		-	arc sec	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
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.
- ❷ Resistance is measured by DC current with standard 0.5m cable.
- ❸ Inductance is measured by current frequency of 1kHz.
- ❹ The value is based on ABI optical SIN/COS encoder (4096x interpolation) under 330V bus voltage.
- ❺ Runout specification define in the datasheet is based on constant loading and temperature condition (the value in parenthesis is optional).
- ❻ Please refer to the illustration for different mountings.
- ❼ Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
- The contents of datasheet are subject to change without prior notice.

Dimension



Torque-Speed Curve

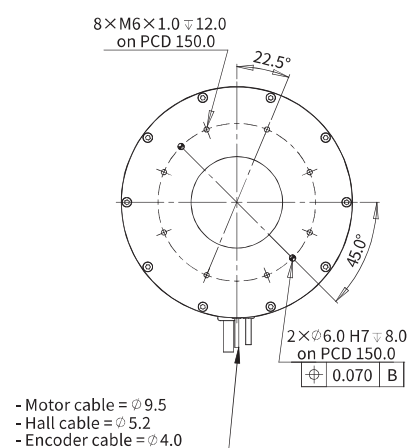
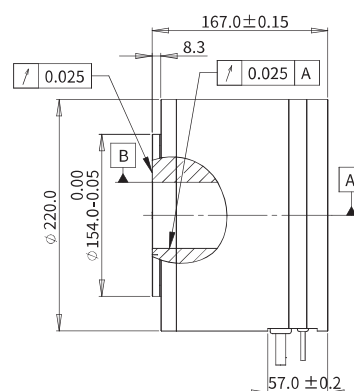
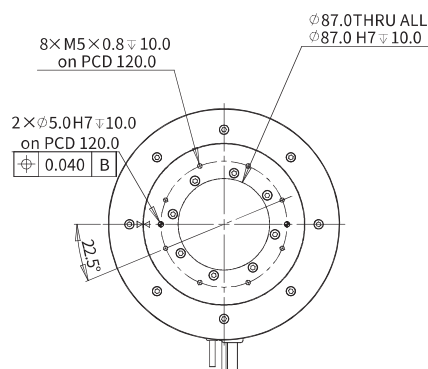


ADR220-B167

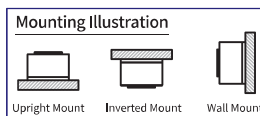
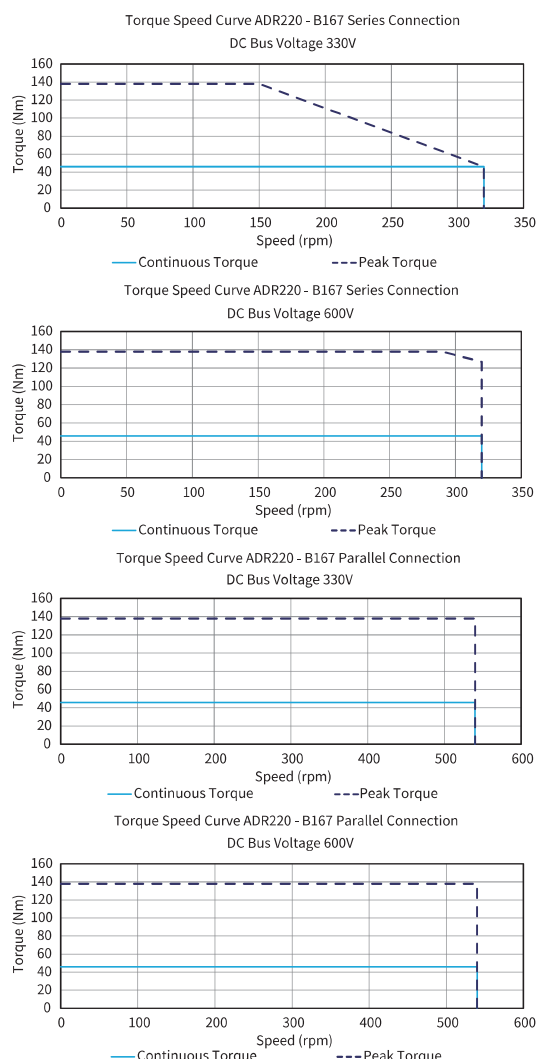
ADR220-B167					
Performance Parameters		Symbol	Unit	Series	Parallel
Continuous Torque @100°C ❶		T _{cn}	Nm	46.0	46.0
Peak Torque		T _{pk}	Nm	137.9	137.9
Torque Constant ±10%		K _t	Nm/Arms	8.51	2.84
Back EMF constant ±10%		K _e	Vpeak/rpm	0.727	0.242
Motor Constant @25°C		K _m	Nm/Sqrt(W)	2.87	2.69
Resistance (L-L) @25°C ±10% ❷		R ₂₅	Ω	5.87	0.7
Inductance (L-L) ±20% ❸		L	mH	53.60	6.30
Electrical time constant		τ _e	ms	9.13	8.51
Continuous Current @100°C ❹		I _{cn}	Arms	5.40	16.20
Peak Current		I _{pk}	Arms	16.2	48.6
Continuous Power Dissipation @100°C ❺		P _n	W	331.0	375.5
Max. Coil Temperature		T _{max}	°C	100.0	100.0
Thermal Dissipation Constant ❻		K _{thn}	W/°C	4.4	5.0
Max. Bus Voltage		U _{bus}	Vdc	600.0	600.0
Pole Number		p	-	24	24
Rec. Max Speed @Peak Torque ❼		Ω _{max}	rpm	150	540
Rec. Max Speed @Continuous Torque ❽		Ω _{max}	rpm	320	540
Mechanical Parameters					
Overall Mass		m _n	kg	15.6	15.6
Rotor Inertia		J _r	kg·m²	1.786E-02	1.786E-02
Axial Runout ❹		-	μm	25	25
Radial Runout ❹		-	μm	25	25
Max Axial Load (Upright Mounting) ❹		-	N	1669	1669
Max Axial Load (Inverted / Wall mounting)		-	N	105	105
Max Moment Load (Upright Mounting)		-	Nm	85	85
Max Moment Load (Inverted / Wall Mounting)		-	Nm	9.4	9.4
Encoder Parameters					
ABI Optical Incremental Encoder (SIN/COS)		-	lines / rev	5071	5071
ABI Optical Incremental Encoder Digital Resolution (80x)		-	counts / rev	405680	405680
ABI Optical Incremental Encoder Digital Resolution (160x)		-	counts / rev	811360	811360
ABI Optical Incremental Encoder Digital Resolution (400x)		-	counts / rev	2028400	2028400
ATOM DX Optical Incremental Encoder		-	lines / rev	10200	10200
ATOM DX Optical Incremental Encoder (80x)		-	counts / rev	816000	816000
Accuracy with Error Mapping ❹		-	arc sec	+/-4	+/-4
Repeatability ❶		-	arc sec	+/-2	+/-2
Other Information					
Insulation Class		Class B (130°C)			
Protection Grade		IP40			
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.			

- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② Resistance is measured by DC current with standard 0.5m cable.
 ③ Inductance is measured by current frequency of 1kHz.
 ④ The value is based on ABI optical SIN/COS encoder (4096x interpolation) under 330V bus voltage.
 ⑤ Runout specification define in the datasheet is based on constant loading and temperature condition (the value in parenthesis is optional).
 ⑥ Please refer to the illustration for different mountings.
 ⑦ Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
 The contents of datasheet are subject to change without prior notice.

Dimension



Torque-Speed Curve



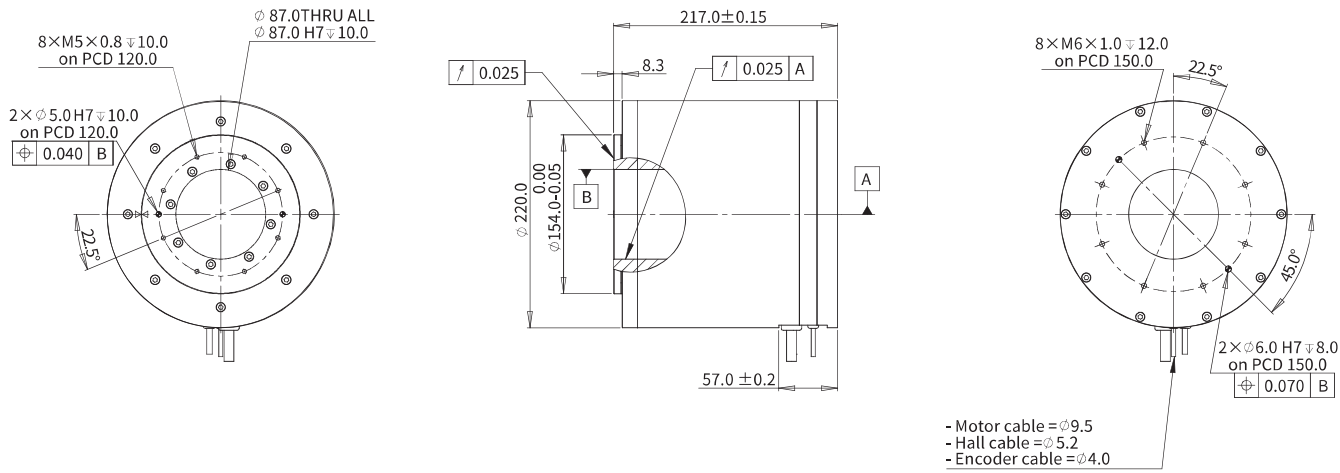
ADR220-B217

Introduction
Sizing Guide
Frequently Asked Questions
Linear Motors
Voice Coil Motors
Direct Drive Rotary Motors
Motion Control of Gantry Stages

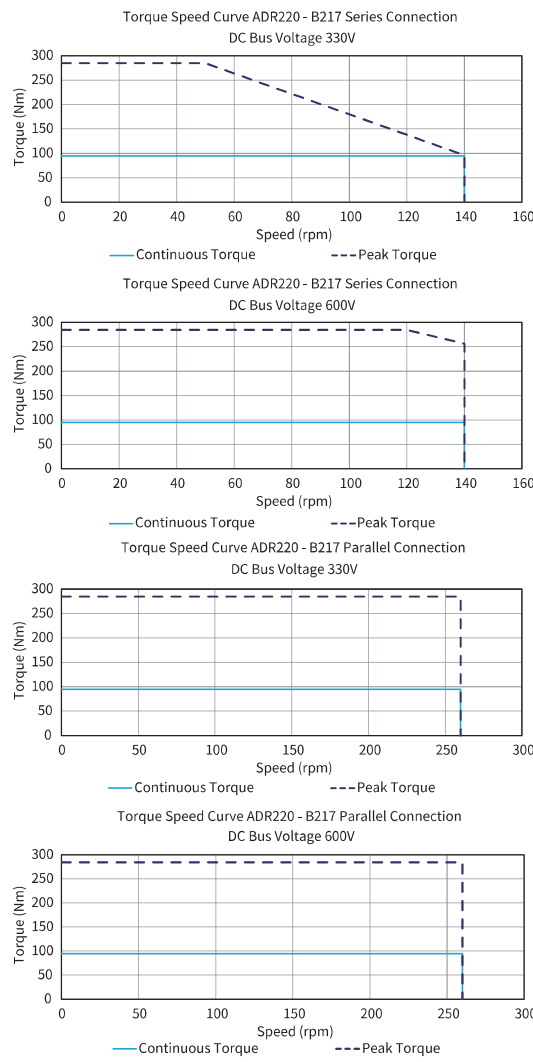
ADR220-B217					
Performance Parameters		Symbol	Unit	Series	Parallel
Continuous Torque @100°C ①		T _{cn}	Nm	94.9	94.9
Peak Torque		T _{pk}	Nm	284.6	284.6
Torque Constant ±10%		K _t	Nm/Arms	17.57	5.86
Back EMF constant ±10%		K _e	V _{peak} /rpm	1.502	0.501
Motor Constant @25°C		K _m	Nm/√ _q rt(W)	4.47	4.37
Resistance (L-L) @25°C ±10% ②		R ₂₅	Ω	10.32	1.20
Inductance (L-L) ±20% ③		L	mH	106.70	11.90
Electrical time constant		τ _e	ms	10.34	9.92
Continuous Current @100°C ④		I _{cn}	Arms	5.40	16.20
Peak Current		I _{pk}	Arms	16.2	48.6
Continuous Power Dissipation @100°C ④		P _{cn}	W	581.9	608.9
Max. Coil Temperature		T _{max}	°C	100.0	100.0
Thermal Dissipation Constant ⑤		K _{thn}	W/°C	7.8	8.1
Max. Bus Voltage		U _{bus}	Vdc	600.0	600.0
Pole Number		p	-	24	24
Rec. Max Speed @Peak Torque ⑥		Ω _{max}	rpm	50	260
Rec. Max Speed @Continuous Torque ⑥		Ω _{max}	rpm	140	260
Mechanical Parameters					
Overall Mass		m _n	kg	23.4	23.4
Rotor Inertia		J _r	kg · m ²	2.522E-02	2.522E-02
Axial Runout ⑦		-	μm	25	25
Radial Runout ⑦		-	μm	25	25
Max Axial Load (Upright Mounting) ⑧		-	N	1669	1669
Max Axial Load (Inverted / Wall mounting)		-	N	105	105
Max Moment Load (Upright Mounting)		-	Nm	85	85
Max Moment Load (Inverted / Wall Mounting)		-	Nm	9.4	9.4
Encoder Parameters					
ABI Optical Incremental Encoder (SIN/COS)		-	lines / rev	5071	5071
ABI Optical Incremental Encoder Digital Resolution (80x)		-	counts / rev	405680	405680
ABI Optical Incremental Encoder Digital Resolution (160x)		-	counts / rev	811360	811360
ABI Optical Incremental Encoder Digital Resolution (400x)		-	counts / rev	2028400	2028400
ATOM DX Optical Incremental Encoder		-	lines / rev	10200	10200
ATOM DX Optical Incremental Encoder (80x)		-	counts / rev	816000	816000
Accuracy with Error Mapping ⑨		-	arc sec	+/-4	+/-4
Repeatability ⑩		-	arc sec	+/-2	+/-2
Other Information					
Insulation Class		Class B (130°C)			
Protection Grade		IP40			
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.			

- 1 Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - 2 Resistance is measured by DC current with standard 0.5m cable.
 - 3 Inductance is measured by current frequency of 1kHz.
 - 4 The value is based on ABI optical SIN/COS encoder (4096x interpolation) under 330V bus voltage.
 - 5 Runout specification define in the datasheet is based on constant loading and temperature condition (the value in parenthesis is optional).
 - 6 Please refer to the illustration for different mountings.
 - 7 Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
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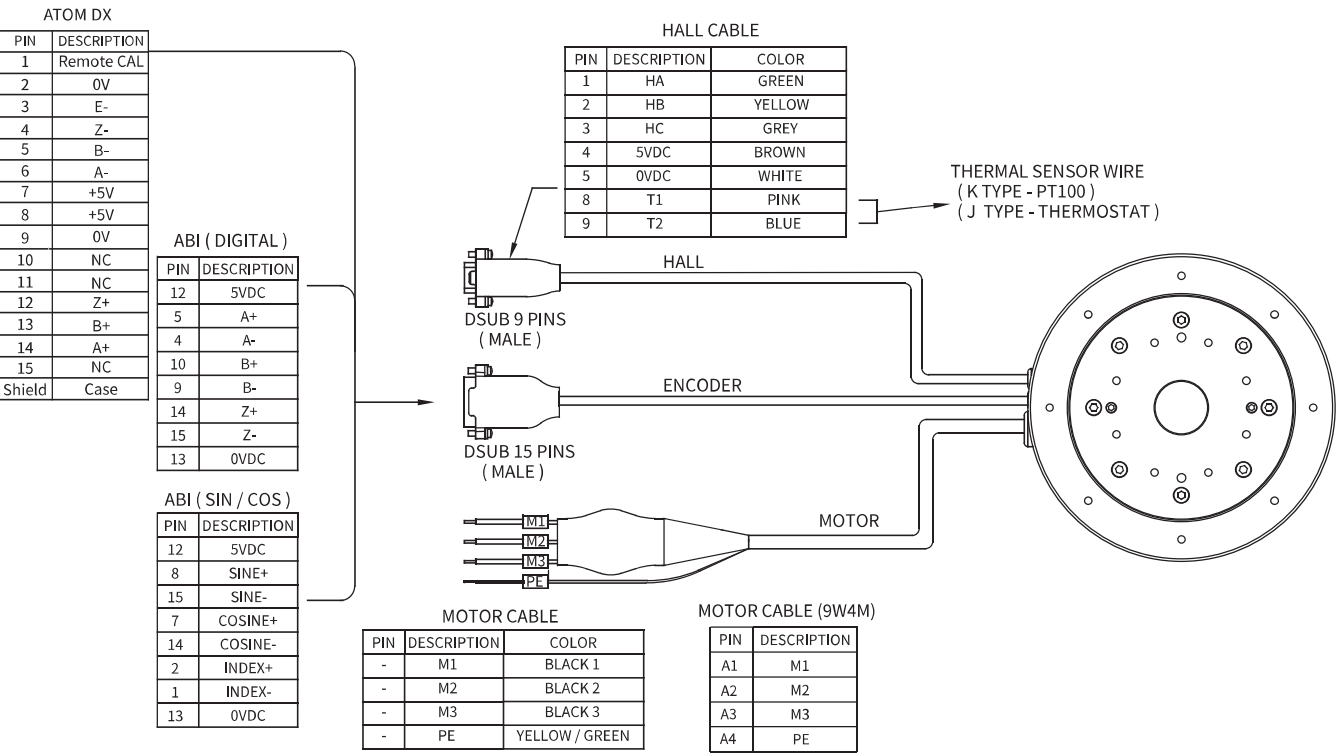
Dimension



Torque-Speed Curve



Motor Cable Connection



Part Numbering

ADR110-B136-S-J-H9D-0.5-FB-AB-3005-SINCOS-P15-0RB

Motor Model:
ADR110

Motor Height:
B113 / B136

Winding Code:
S = Series / P = Parallel

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

Sensor Cable:
H9D / NH

Design Control Code:
0RB

Runout:
P15

Interpolation:
SINCOS / 80X / 160X / 400X

Encoder:
ABI:AB-3005 / ATOM DX:RSF2

Power Cable:
FB / 9W4M

Cable Length (m):
0.5

- ① H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
- ② NH = Without Built-in Hall Sensor C/W Flying Leads
- ③ FB = With Ferrite Bead C/W Flying Leads
- ④ 9W4M = Without Ferrite Bead C/W D-Sub 9W4 Male Connector
- ⑤ This item should be empty when ATOM encoder is selected
- ⑥ P15 = Axial Runout 15µm, Radial Runout is 15µm
- ⑦ 0RB = Standard Model (for more options, please consult cust-service@akribis-sys.com)

ADR-B Series

ADR135-B121-S-J-H9D-0.5-FB-AB-4103-SINCOS-P15-ORB

Motor Model:
ADR135

Motor Height:
B121 / B148

Winding Code:
S = Series / P = Parallel

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

Sensor Cable:
H9D / NH

Design Control Code:
ORB

Runout:
P15

Interpolation:
SINCOS / 80X / 160X / 400X

Encoder:
ABI:AB-4103 / ATOM DX:R5G2

Power Cable:
FB / 9W4M

Cable Length (m):
0.5

- ① H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
- ② NH = Without Built-in Hall Sensor C/W Flying Leads
- ③ FB = With Ferrite Bead C/W Flying Leads
- ④ 9W4M = Without Ferrite Bead C/W D-Sub 9W4 Male Connector
- ⑤ This item should be empty when ATOM encoder is selected
- ⑥ P15 = Axial Runout 15µm, Radial Runout is 15µm
- ⑦ ORB = Standard Model (for more options, please consult cust-service@akribis-sys.com)

ADR175-B180-P-J-NH-0.5-FB-AB-5071-SINCOS-P20-ORB

Motor Model:
ADR175 / ADR220

Motor Height:
ADR175-B143 / B180
ADR220-B167 / B217

Winding Code:
S = Series / P = Parallel

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

Sensor Cable:
H9D / NH

Design Control Code:
ORB

Runout:
P20 / P25

Interpolation:
SINCOS / 80X / 160X / 400X

Encoder:
ABI:AB-5071 / ATOM DX:R5F2

Power Cable:
FB / 9W4M

Cable Length (m):
0.5

- ① H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
- ② NH = Without Built-in Hall Sensor C/W Flying Leads
- ③ FB = With Ferrite Bead C/W Flying Leads
- ④ 9W4M = Without Ferrite Bead C/W D-Sub 9W4 Male Connector
- ⑤ This item should be empty when ATOM encoder is selected
- ⑥ ADR175 : P20 = Axial Runout 20µm, Radial Runout is 20µm
ADR220 : P25 = Axial Runout 25µm, Radial Runout is 25µm
- ⑦ ORB = Standard Model (for more options, please consult cust-service@akribis-sys.com)