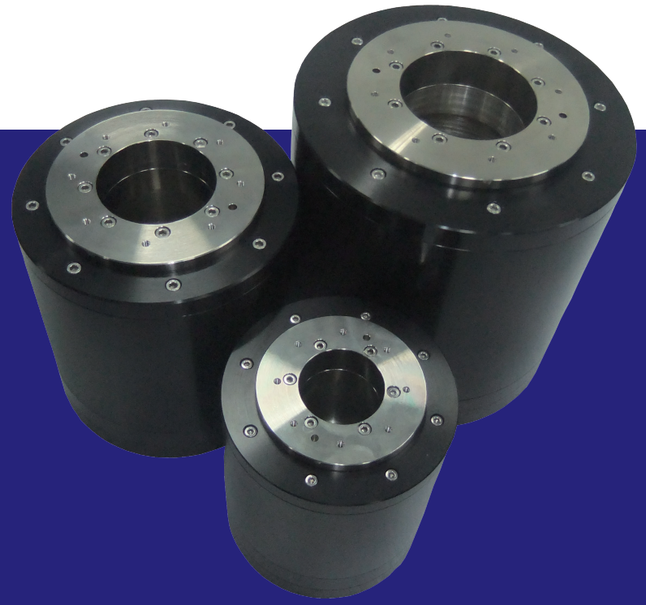

ADR-B SERIES

- Direct drive brushless motor
- Fully integrated with encoder and bearing
- Low cogging torque
- Precise homing through index pulse
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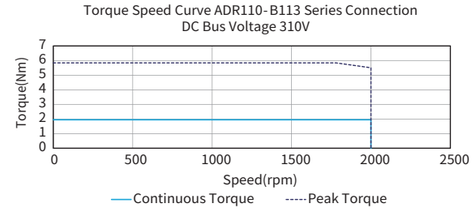
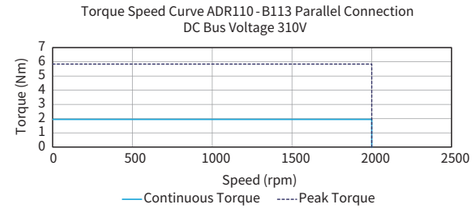
ADR110-B113

ADR110-B113				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C[1]	T_{cn}	Nm	1.9	1.9
Peak Torque	T_{pk}	Nm	5.8	5.8
Torque Constant ±10%	K_t	Nm/Arms	0.65	0.32
Back EMF constant ±10%	K_e	Vpeak/rpm	0.055	0.028
Motor Constant @25°C	K_m	Nm/Sqrt(W)	0.30	0.30
Resistance (L-L) @25°C ±10%[2]	R_{25}	Ω	3.20	0.80
Inductance (L-L) ±20%[3]	L	mH	17.15	4.29
Electrical time constant	τ_e	ms	5.36	5.36
Continuous Current @100°C[1]	I_{cn}	Arms	3.0	6.0
Peak Current	I_{pk}	Arms	9.0	18.0
Continuous Power Dissipation @100°C[1]	P_{cn}	W	55.7	55.7
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant[1]	K_{thn}	W/°C	0.7	0.7
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	p	-	16	16
Rec. Max Speed @230V AC[4]	Ω_{max}	rpm	1700	2000
Mechanical Parameters				
Overall Mass	m_n	kg	3.20	3.20
Rotor Inertia	J_r	kg·m²	3.086E-04	3.086E-04
Axial Runout[5]	-	μm	15	15
Radial Runout[5]	-	μm	15	15
Max Axial Load (Upright Mounting)[6]	-	N	439	439
Max Axial Load (Inverted / Wall mounting)	-	N	35	35
Max Moment Load (Upright Mounting)	-	Nm	25	25
Max Moment Load (Inverted / Wall Mounting)	-	Nm	2.8	2.8
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)	-	lines / rev	3005	3005
ABI Optical Incremental Encoder Digital Resolution (80x)	-	counts / rev	240400	240400
ABI Optical Incremental Encoder Digital Resolution (160x)	-	counts / rev	480800	480800
ABI Optical Incremental Encoder Digital Resolution (400x)	-	counts / rev	1202000	1202000
Accuracy with Error Mapping[7]	-	arc sec	+/-5.4	+/-5.4
Repeatability[7]	-	arc sec	+/-2.7	+/-2.7
Other Information				
Insulation Class			Class B (130°C)	
Protection Grade			IP40	
Compliance with Global Standards			RoHS, CE, UL (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.	

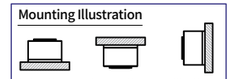
[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
[2] Resistance is measured by DC current with standard 3 m cable.
[3] Inductance is measured by current frequency of 1 kHz.
[4] The value is based on ABI optical SIN/COS encoder (4096x interpolation) under maximum bus voltage.
[5] The runout 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 subjected to change.

■ Torque-Speed Curve

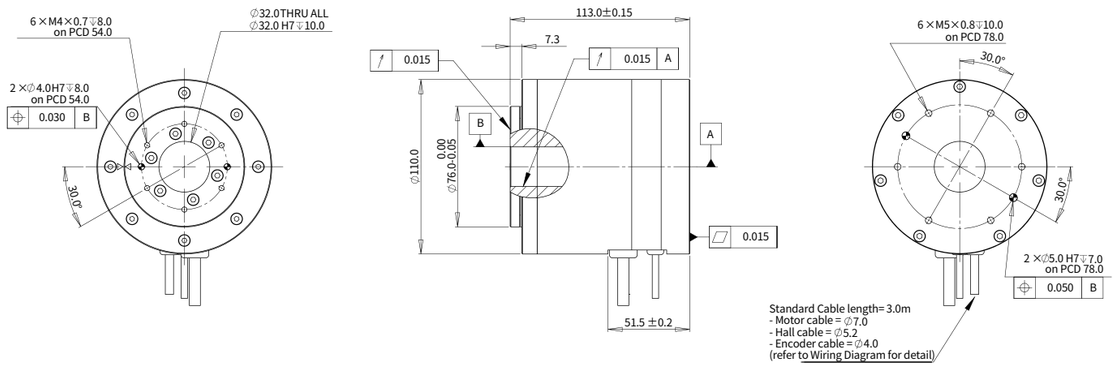




Mounting Illustration



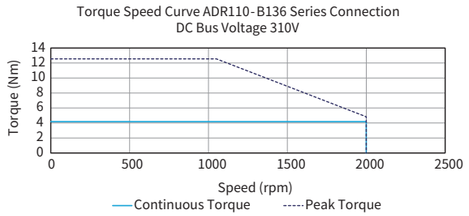
■ Dimension

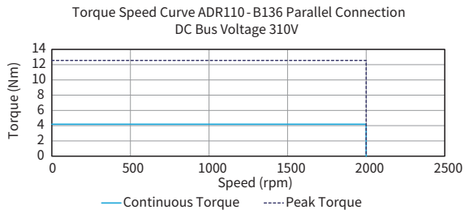


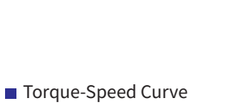
ADR110-B136

ADR110-B136				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C [1]	T_{cn}	Nm	4.2	4.2
Peak Torque	T_{pk}	Nm	12.6	12.6
Torque Constant ±10%	K_t	Nm/Arms	1.40	0.70
Back EMF constant ±10%	K_e	Vpeak/rpm	0.119	0.060
Motor Constant @25°C	K_m	Nm/Sqrt(W)	0.51	0.52
Resistance (L-L) @25°C ±10% [2]	R_{25}	Ω	4.90	1.21
Inductance (L-L) ±20% [3]	L	mH	26.26	6.49
Electrical time constant	τ_e	ms	5.36	5.36
Continuous Current @100°C [1]	I_{cn}	Arms	3.0	6.0
Peak Current	I_{pk}	Arms	9.0	18.0
Continuous Power Dissipation @100°C [1]	P_{cn}	W	85.3	84.2
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant [1]	K_{thn}	W/°C	1.1	1.1
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	p	-	16	16
Rec. Max Speed @230V AC [4]	Ω_{max}	rpm	1000	2000
Mechanical Parameters				
Overall Mass	m_n	kg	4.60	4.60
Rotor Inertia	J_r	kg·m²	4.419E-04	4.419E-04
Axial Runout [5]	-	μm	15	15
Radial Runout [5]	-	μm	15	15
Max Axial Load (Upright Mounting) [6]	-	N	439	439
Max Axial Load (Inverted / Wall mounting)	-	N	35	35
Max Moment Load (Upright Mounting)	-	Nm	25	25
Max Moment Load (Inverted / Wall Mounting)	-	Nm	2.8	2.8
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)	-	lines / rev	3005	3005
ABI Optical Incremental Encoder Digital Resolution (80x)	-	counts / rev	240400	240400
ABI Optical Incremental Encoder Digital Resolution (160x)	-	counts / rev	480800	480800
ABI Optical Incremental Encoder Digital Resolution (400x)	-	counts / rev	1202000	1202000
Accuracy with Error Mapping [7]	-	arc sec	+/-5.4	+/-5.4
Repeatability [7]	-	arc sec	+/-2.7	+/-2.7
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
Compliance with Global Standards		RoHS, CE, UL (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.		

■ Torque-Speed Curve

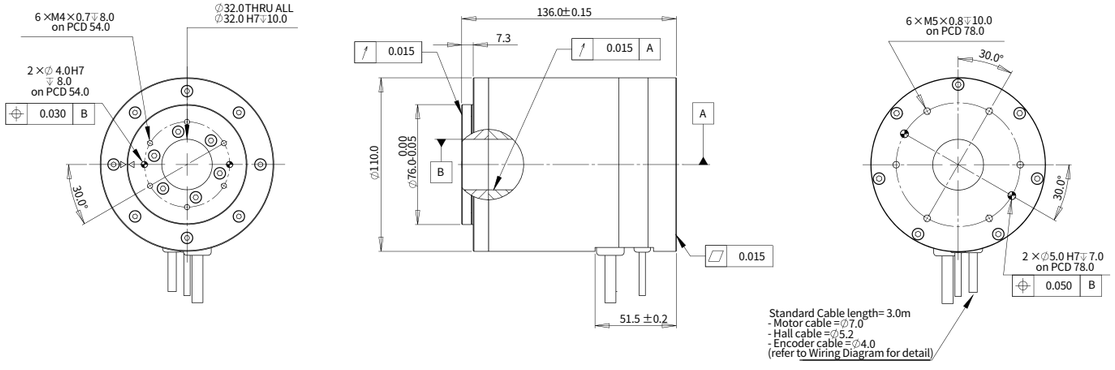






[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
[2] Resistance is measured by DC current with standard 3 m cable.
[3] Inductance is measured by current frequency of 1 kHz.
[4] The value is based on ABI optical SIN/COS encoder (4096x interpolation) under maximum bus voltage.
[5] The runout 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 subjected to change.

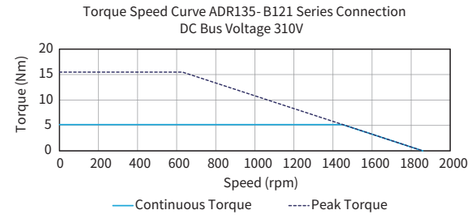
■ Dimension

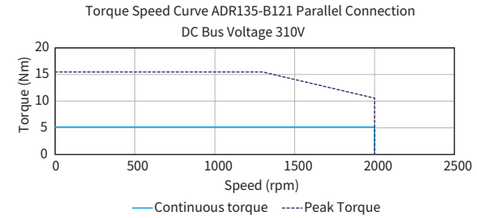


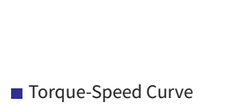
ADR135-B121

ADR135-B121				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C [1]	T_{cn}	Nm	5.2	5.2
Peak Torque	T_{pk}	Nm	15.5	15.5
Torque Constant ±10%	K_t	Nm/Arms	1.72	0.86
Back EMF constant ±10%	K_e	Vpeak/rpm	0.147	0.074
Motor Constant @25°C	K_m	Nm/Sqrt(W)	0.55	0.55
Resistance (L-L) @25°C ±10% [2]	R_{25}	Ω	6.60	1.65
Inductance (L-L) ±20% [3]	L	mH	45.30	11.20
Electrical time constant	τ_e	ms	6.86	6.79
Continuous Current @100°C [1]	I_{cn}	Arms	3.0	6.0
Peak Current	I_{pk}	Arms	9.0	18.0
Continuous Power Dissipation @100°C [1]	P_{cn}	W	114.9	114.9
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant [1]	K_{thn}	W/°C	1.5	1.5
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	p	-	16	16
Rec. Max Speed @230V AC [4]	Ω_{max}	rpm	630	1350
Mechanical Parameters				
Overall Mass	m_n	kg	3.90	3.90
Rotor Inertia	J_r	kg·m²	9.916E-04	9.916E-04
Axial Runout [5]	-	μm	15	15
Radial Runout [5]	-	μm	15	15
Max Axial Load (Upright Mounting) [6]	-	N	604	604
Max Axial Load (Inverted / Wall mounting)	-	N	56	56
Max Moment Load (Upright Mounting)	-	Nm	45	45
Max Moment Load (Inverted / Wall Mounting)	-	Nm	5.0	5.0
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)	-	lines / rev	4103	4103
ABI Optical Incremental Encoder Digital Resolution (80x)	-	counts / rev	328240	328240
ABI Optical Incremental Encoder Digital Resolution (160x)	-	counts / rev	656480	656480
ABI Optical Incremental Encoder Digital Resolution (400x)	-	counts / rev	1641200	1641200
Accuracy with Error Mapping [7]	-	arc sec	+/-4	+/-4
Repeatability [7]	-	arc sec	+/-2	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
Compliance with Global Standards		RoHS, CE, UL (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.		

■ Torque-Speed Curve

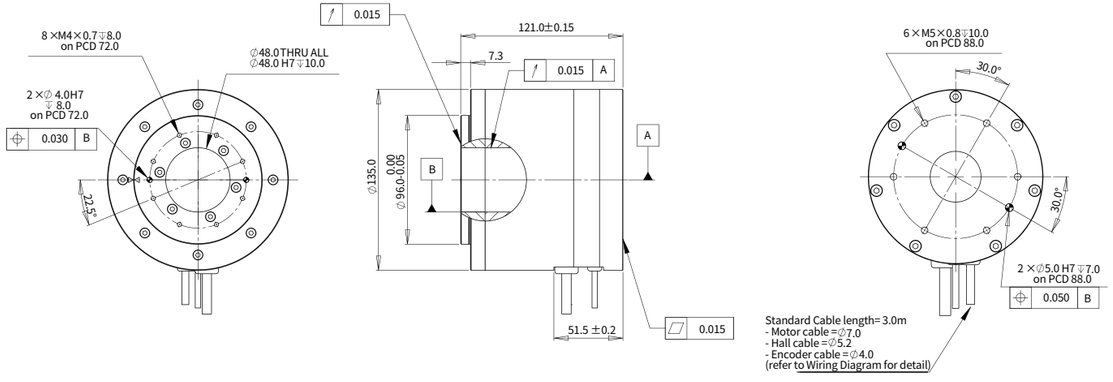






[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
[2] Resistance is measured by DC current with standard 3 m cable.
[3] Inductance is measured by current frequency of 1 kHz.
[4] The value is based on ABI optical SIN/COS encoder (4096x interpolation) under maximum bus voltage.
[5] The runout 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 subjected to change.

■ Dimension

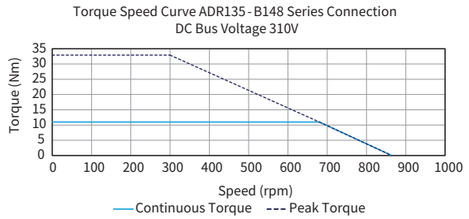


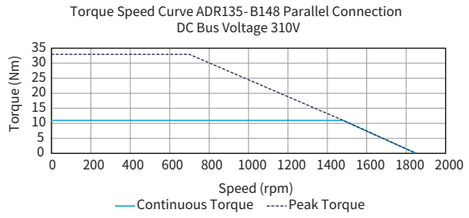
ADR-B Series

ADR135-B148

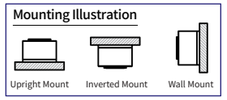
ADR135-B148				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C[1]	T_{cn}	Nm	11.0	11.0
Peak Torque	T_{pk}	Nm	32.9	32.9
Torque Constant ±10%	K_t	Nm/Arms	3.66	1.83
Back EMF constant ±10%	K_e	Vpeak/rpm	0.313	0.156
Motor Constant @25°C	K_m	Nm/Sqrt(W)	0.91	0.91
Resistance (L-L) @25°C ±10%[2]	R_{25}	Ω	10.70	2.70
Inductance (L-L) ±20%[3]	L	mH	72.76	18.63
Electrical time constant	τ_e	ms	6.80	6.90
Continuous Current @100°C[1]	I_{cn}	Arms	3.0	6.0
Peak Current	I_{pk}	Arms	9.0	18.0
Continuous Power Dissipation @100°C[1]	P_{cn}	W	186.2	187.9
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant[1]	K_{thn}	W/°C	2.5	2.5
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	p	-	16	16
Rec. Max Speed @230V AC[4]	Ω_{max}	rpm	330	745
Mechanical Parameters				
Overall Mass	m_n	kg	5.70	5.70
Rotor Inertia	J_r	kg·m²	1.332E-03	1.332E-03
Axial Runout[5]	-	μm	15	15
Radial Runout[5]	-	μm	15	15
Max Axial Load (Upright Mounting)[6]	-	N	604	604
Max Axial Load (Inverted / Wall mounting)	-	N	56	56
Max Moment Load (Upright Mounting)	-	Nm	45	45
Max Moment Load (Inverted / Wall Mounting)	-	Nm	5.0	5.0
Encoder Parameters				
ABI Optical Incremental Encoder (SIN/COS)	-	lines / rev	4103	4103
ABI Optical Incremental Encoder Digital Resolution (80x)	-	counts / rev	328240	328240
ABI Optical Incremental Encoder Digital Resolution (160x)	-	counts / rev	656480	656480
ABI Optical Incremental Encoder Digital Resolution (400x)	-	counts / rev	1641200	1641200
Accuracy with Error Mapping[7]	-	arc sec	+/-4	+/-4
Repeatability[7]	-	arc sec	+/-2	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
Compliance with Global Standards		RoHS, CE, UL (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.		

■ Torque-Speed Curve



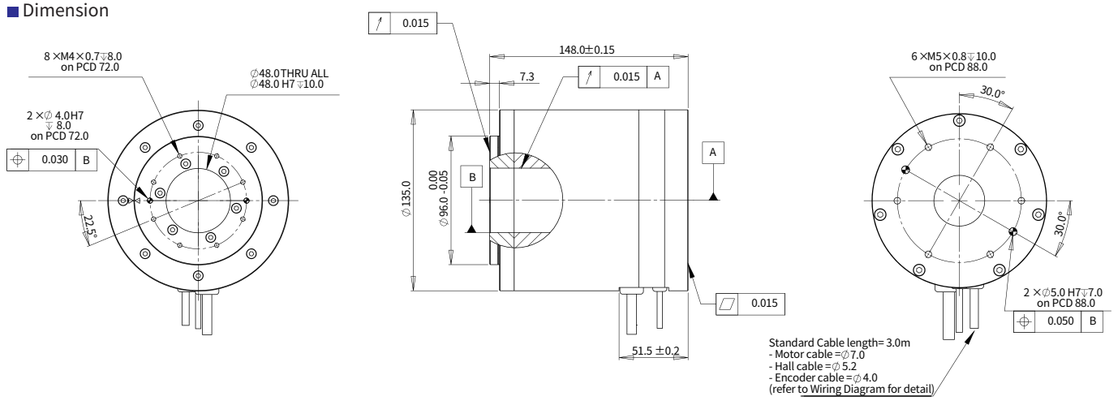


Mounting Illustration



[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
[2] Resistance is measured by DC current with standard 3 m cable.
[3] Inductance is measured by current frequency of 1 kHz.
[4] The value is based on ABI optical SIN/COS encoder (4096x interpolation) under maximum bus voltage.
[5] The runout 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 subjected to change.

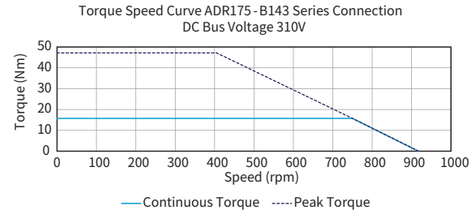
■ Dimension

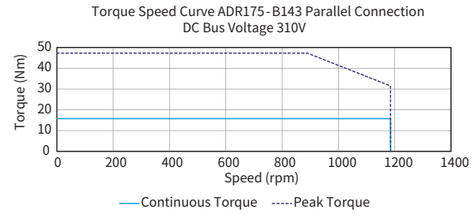


ADR175-B143

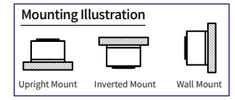
ADR175-B143				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C[1]	T_{cn}	Nm	15.7	15.7
Peak Torque	T_{pk}	Nm	47.2	47.2
Torque Constant ±10%	K_t	Nm/Arms	3.93	1.97
Back EMF constant ±10%	K_e	Vpeak/rpm	0.336	0.168
Motor Constant @25°C	K_m	Nm/Sqrt(W)	1.40	1.41
Resistance (L-L) @25°C ±10%[2]	R_{25}	Ω	5.27	1.30
Inductance (L-L) ±20%[3]	L	mH	45.72	11.27
Electrical time constant	τ_e	ms	8.67	8.67
Continuous Current @100°C[1]	I_{cn}	Arms	4.0	8.0
Peak Current	I_{pk}	Arms	12.0	24.0
Continuous Power Dissipation @100°C[1]	P_{cn}	W	163.1	160.9
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant[1]	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 @230V AC[4]	Ω_{max}	rpm	400	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[5]	-	μm	20	20
Radial Runout[5]	-	μm	20	20
Max Axial Load (Upright Mounting)[6]	-	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
Accuracy with Error Mapping[7]	-	arc sec	+/-4	+/-4
Repeatability[7]	-	arc sec	+/-2	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
Compliance with Global Standards		RoHS, CE, UL (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.		

■ Torque-Speed Curve



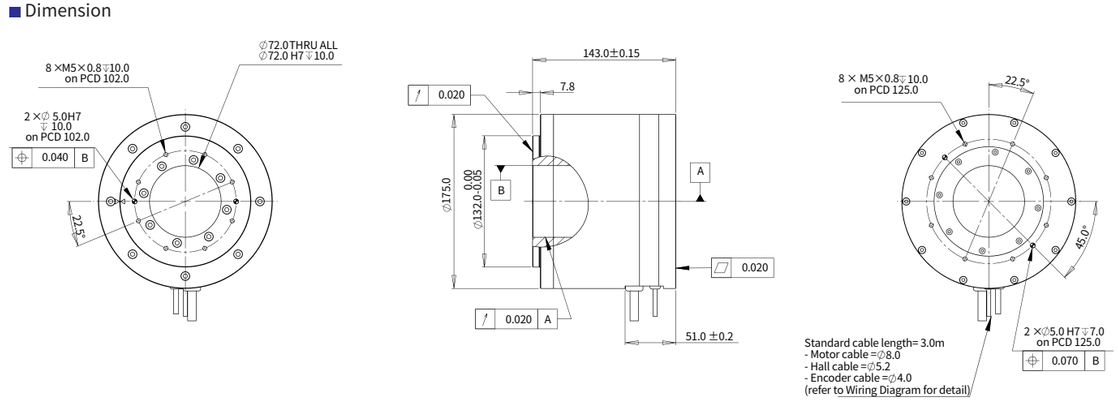


Mounting Illustration



[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
[2] Resistance is measured by DC current with standard 3 m cable.
[3] Inductance is measured by current frequency of 1 kHz.
[4] The value is based on ABI optical SIN/COS encoder (4096x interpolation) under maximum bus voltage.
[5] The runout 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 subjected to change.

■ Dimension

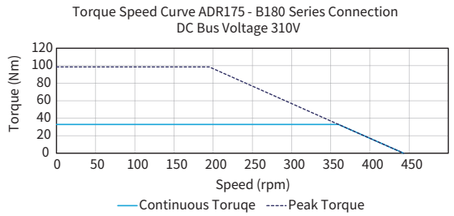


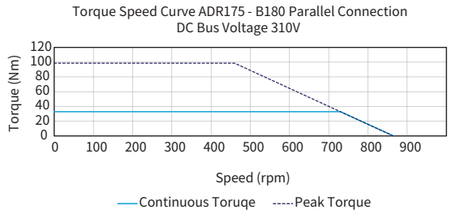
Introduction | Sizing Guide | Frequently Asked Questions | Linear Motors | Voice Coil Motors | Direct Drive Rotary Motors | Motion Control of Gantry Stages | Akribis systems

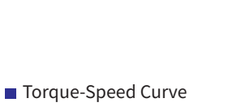
ADR175-B180

ADR175-B180				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C[1]	T_{cn}	Nm	32.9	32.9
Peak Torque	T_{pk}	Nm	98.6	98.6
Torque Constant ±10%	K_t	Nm/Arms	8.22	4.11
Back EMF constant ±10%	K_e	Vpeak/rpm	0.703	0.351
Motor Constant @25°C	K_m	Nm/Sqrt(W)	2.33	2.30
Resistance (L-L) @25°C ±10%[2]	R_{25}	Ω	8.30	2.13
Inductance (L-L) ±20%[3]	L	mH	72.00	18.51
Electrical time constant	τ_e	ms	8.67	8.67
Continuous Current @100°C[1]	I_{cn}	Arms	4.0	8.0
Peak Current	I_{pk}	Arms	12.0	24.0
Continuous Power Dissipation @100°C[1]	P_{cn}	W	256.8	264.2
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant[1]	K_{thn}	W/°C	3.4	3.5
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	p	-	16	16
Rec. Max Speed @230V AC[4]	Ω_{max}	rpm	195	470
Mechanical Parameters				
Overall Mass	m_n	kg	11.6	11.6
Rotor Inertia	J_r	kg·m²	7.621E-03	7.621E-03
Axial Runout[5]	-	μm	20	20
Radial Runout[5]	-	μm	20	20
Max Axial Load (Upright Mounting)[6]	-	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
Accuracy with Error Mapping[7]	-	arc sec	+/-4	+/-4
Repeatability[7]	-	arc sec	+/-2	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
Compliance with Global Standards		RoHS, CE, UL (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.		

■ Torque-Speed Curve







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[6] Please refer to the illustration for different mountings.
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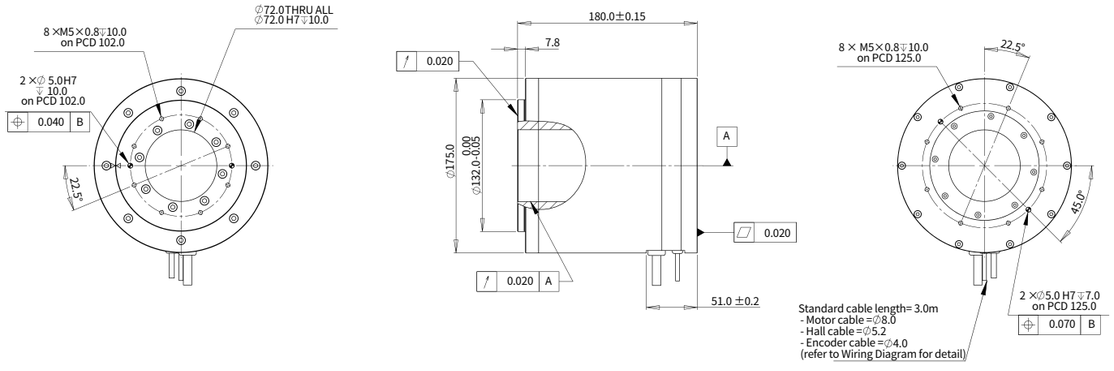
The contents of datasheet are subjected to change.

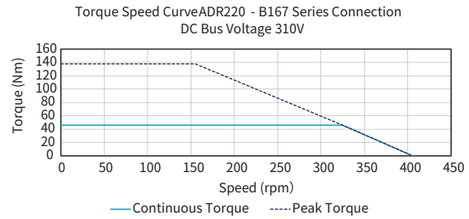
■ Dimension

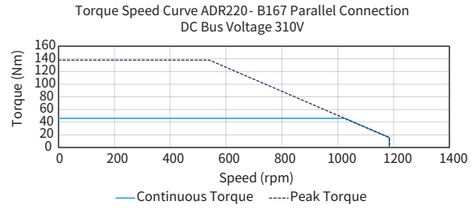


ADR220-B167

ADR220-B167				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C[1]	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%[2]	R_{25}	Ω	5.87	0.74
Inductance (L-L) ±20%[3]	L	mH	53.60	6.30
Electrical time constant	τ_e	ms	9.13	8.51
Continuous Current @100°C[1]	I_{cn}	Arms	5.40	16.20
Peak Current	I_{pk}	Arms	16.2	48.6
Continuous Power Dissipation @100°C[1]	P_{cn}	W	331.0	375.5
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant[1]	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 @230V AC[4]	Ω_{max}	rpm	150	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[5]	-	μm	25	25
Radial Runout[5]	-	μm	25	25
Max Axial Load (Upright Mounting)[6]	-	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
Accuracy with Error Mapping[7]	-	arc sec	+/-4	+/-4
Repeatability[7]	-	arc sec	+/-2	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
Compliance with Global Standards		RoHS, CE, UL (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.		

■ Torque-Speed Curve





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[4] The value is based on ABI optical SIN/COS encoder (4096x interpolation) under maximum bus voltage.
[5] The runout value in parenthesis is optional.
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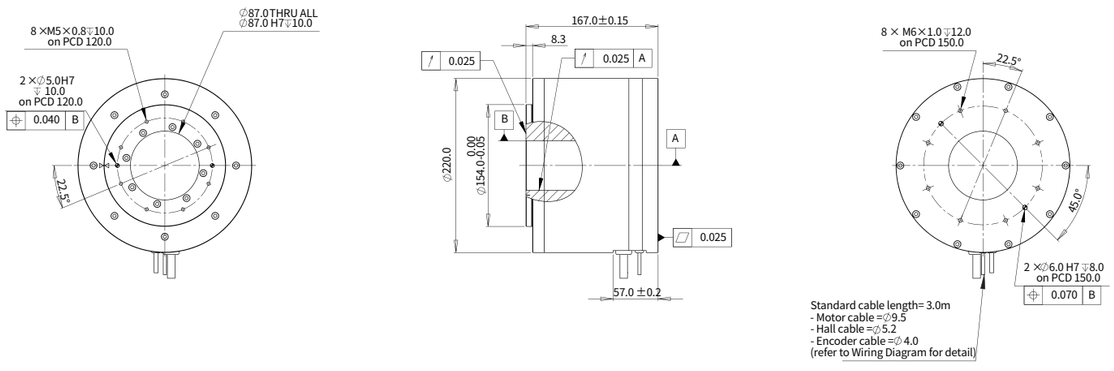
[7] Based on ABI optical SIN/COS encoder (4096x interpolation) with standard runout.
The contents of datasheet are subjected to change.

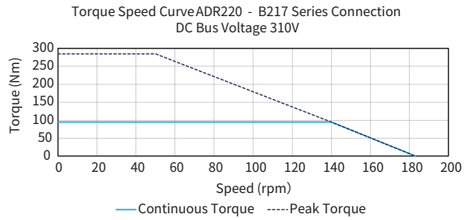
■ Dimension

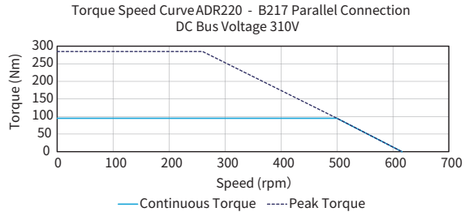


ADR220-B217

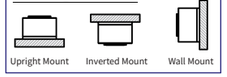
ADR220-B217				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100°C[1]	T_{cn}	Nm	94.9	94.9
Peak Torque	T_{pk}	Nm	284.6	284.6
Torque Constant ±10%	K_t	Nm/Arms	17.57	5.86
Back EMF constant ±10%	K_e	Vpeak/rpm	1.502	0.501
Motor Constant @25°C	K_m	Nm/Sqrt(W)	4.47	4.37
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[1]	I_{cn}	Arms	5.40	16.20
Peak Current	I_{pk}	Arms	16.2	48.6
Continuous Power Dissipation @100°C[1]	P_{cn}	W	581.9	608.9
Max. Coil Temperature	T_{max}	°C	100.0	100.0
Thermal Dissipation Constant[1]	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 @230V AC[4]	Ω_{max}	rpm	50	260
Mechanical Parameters				
Overall Mass	m_n	kg	23.4	23.4
Rotor Inertia	J_r	$kg \cdot m^2$	2.522E-02	2.522E-02
Axial Runout[5]	-	μm	25	25
Radial Runout[5]	-	μm	25	25
Max Axial Load (Upright Mounting)[6]	-	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
Accuracy with Error Mapping[7]	-	arc sec	+/-4	+/-4
Repeatability[7]	-	arc sec	+/-2	+/-2
Other Information				
Insulation Class		Class B (130°C)		
Protection Grade		IP40		
Compliance with Global Standards		RoHS, CE, UL (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.		

■ Torque-Speed Curve





Mounting Illustration



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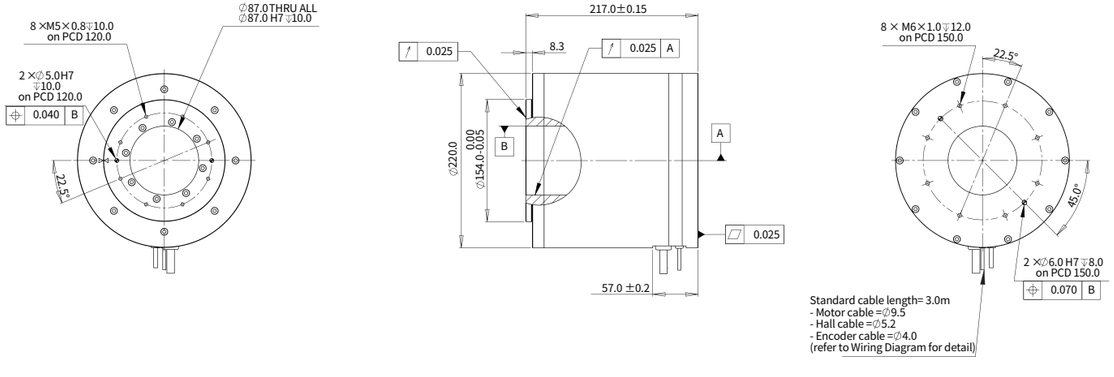
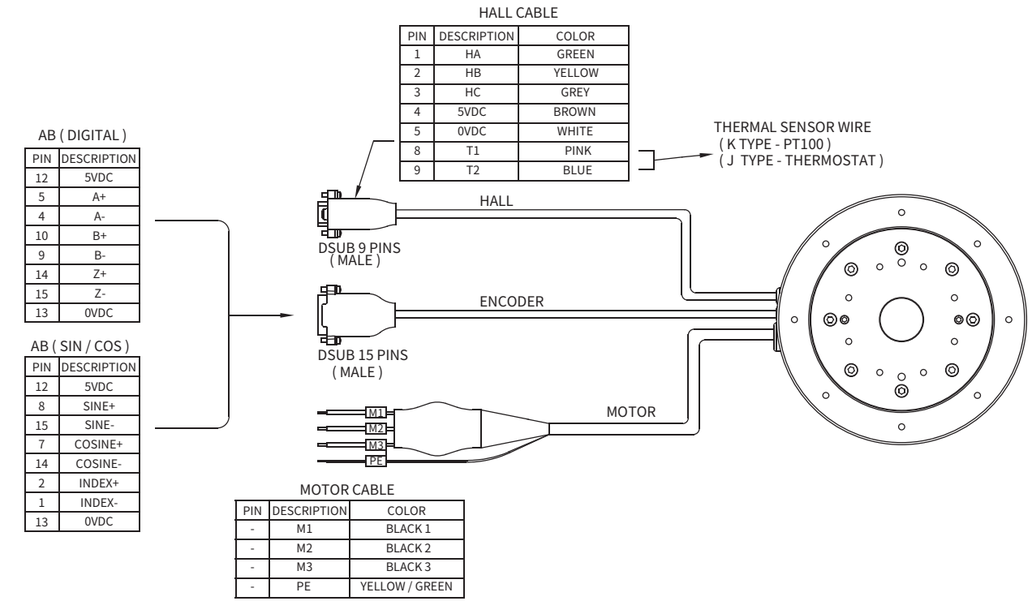
■ Dimension



Motor Cable Connection



Part Numbering

ADR110-B136-S-J-H9D-3.0-FB-AB-3005-SINCOS-P15

- Motor: ADR110
- Model: B113 / B136
- Winding: S=Series / P=Parallel
- Thermal Sensor: J=Thermostat(standard) / K=PT100(RTD)
- Hall Cable Options: H9D[1] / NH[2]
- Cable Length (m): 3.0
- Motor Cable Options: FB[3]
- Encoder Options: AB-3005
- Interpolation Options: SINCOS 80X / 160X / 400X
- Runout: P15[4]

[1] H9D = With Built-in hall sensor, comes with 9-Pins D-Sub Connector.
[2] NH = Without Built-in Hall Sensor but with Thermal Sensor.
[3] FB = With ferrite bead.
[4] P15 = Axial Runout 15um, Radial Runout is 15um.

ADR-B Series

ADR135-B121-S-J-H9D-3.0-FB-AB-4103-SINCOS-P15

- Motor: ADR135
- Model: B121 / B148
- Winding: S=Series / P=Parallel
- Thermal Sensor: J=Thermostat(standard) / K=PT100(RTD)
- Hall Cable Options: H9D[1] / NH[2]
- Cable Length (m): 3.0
- Motor Cable Options: FB[3]
- Encoder Options: AB-4103
- Interpolation Options: SINCOS 80X / 160X / 400X
- Runout:[4] P15

❶ H9D = With Built-in hall sensor, comes with 9-Pins D-Sub Connector.
❷ NH = Without Built-in Hall Sensor but with Thermal Sensor.
❸ FB = With ferrite bead.
❹ P15 = Axial Runout 15um, Radial Runout is 15um.

ADR175-B180-P-J-NH-3.0-FB-AB-5071-SINCOS-P20

- Motor: ADR175 / ADR220
- Model: ADR175-B143 / B180 ADR220-B167 / B217
- Winding: S=Series / P=Parallel
- Thermal Sensor: J=Thermostat(standard) / K=PT100(RTD)
- Hall Cable Options: H9D[1] / NH[2]
- Cable Length (m): 3.0
- Motor Cable Options: FB[3]
- Encoder Options: AB-5071
- Interpolation Options: SINCOS 80X / 160X / 400X
- Runout:[4] P20 P25

❶ H9D = With Built-in hall sensor, comes with 9-Pins D-Sub Connector.
❷ NH = Without Built-in Hall Sensor but with Thermal Sensor.
❸ FB = With ferrite bead.
❹ ADR175 : P20 = Axial Runout 20um, Radial Runout is 20um.
ADR220 : P25 = Axial Runout 25um, Radial Runout is 25um.

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