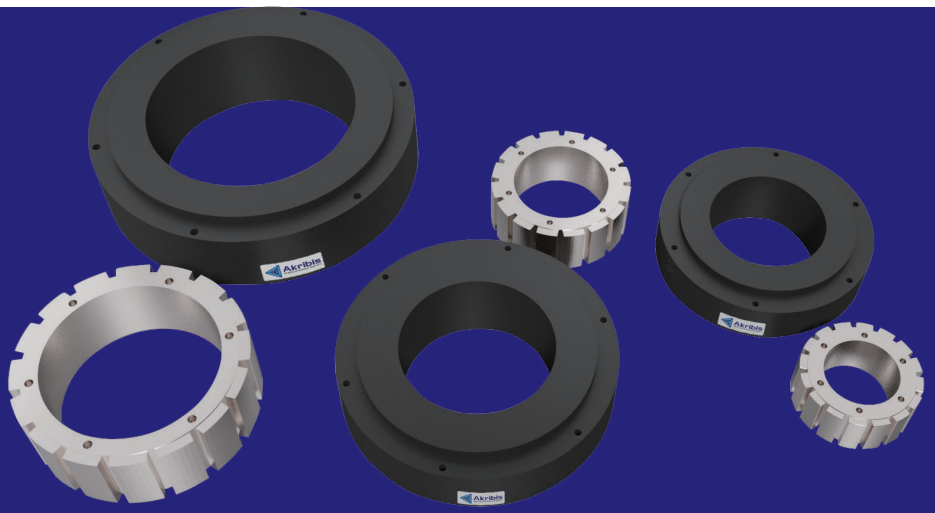


ADR-P SERIES

- Ironcore technology with low cogging torque
- Low speed and high speed windings
- Direct drive brushless frameless motor
- High torque density

EN-26.3.1

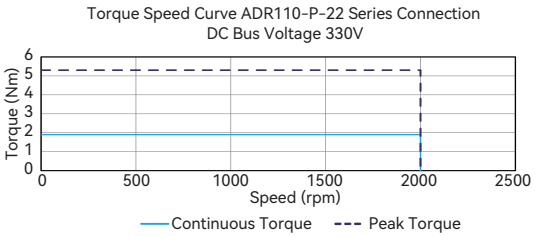
Akribis systems

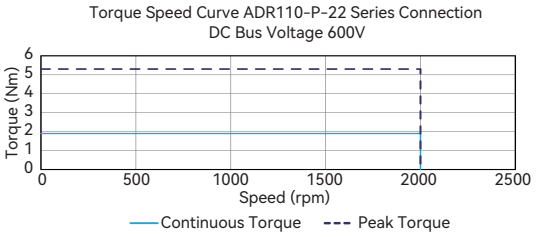
ADR110-P-22

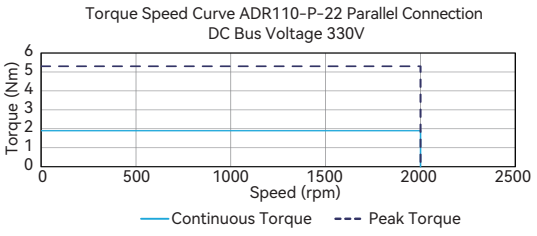
ADR110-P-22				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	1.9	1.9
Peak Torque	T_{pk}	Nm	5.3	5.3
Torque Constant ±10%	K_t	Nm/Arms	0.65	0.32
Back EMF Constant ±10%	K_e	Vpeak/rpm	0.055	0.028
Motor Constant @25℃	K_m	Nm/Sqrt(W)	0.32	0.29
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	2.74	0.86
Inductance (L-L) ±20% ❸	L	mH	10.2	2.7
Electrical Time Constant	τ_e	ms	3.7	3.1
Continuous Current @100℃ ❶	I_{cn}	Arms	3.0	6.0
Peak Current	I_{pk}	Arms	9.0	18.0
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	47.7	59.9
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	0.64	0.79
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	16	16
Mechanical Parameters				
Rotor Mass	m	kg	0.25	0.25
Stator Mass	m	kg	0.88	0.88
Rotor Inertia	J_r	kg·m²	1.463E-04	1.463E-04
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

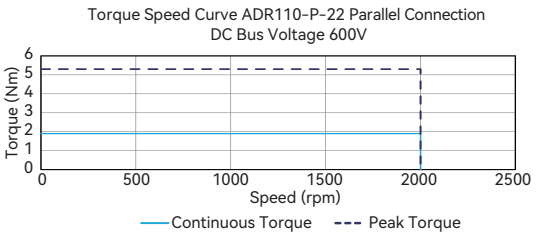
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

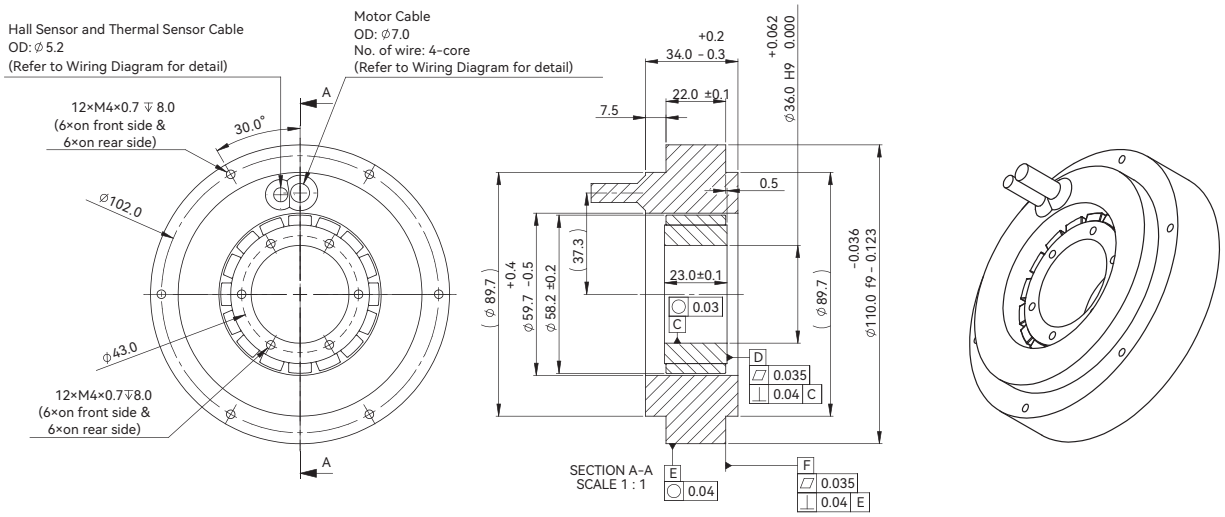








Dimension



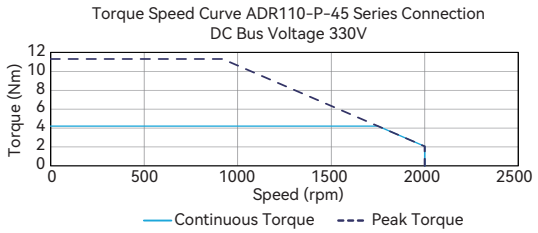
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

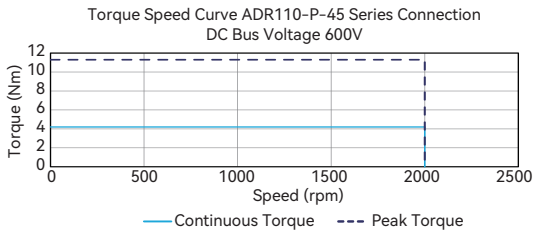
ADR110-P-45

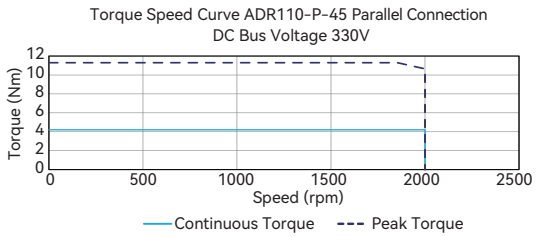
ADR110-P-45				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	4.2	4.2
Peak Torque	T_{pk}	Nm	11.3	11.3
Torque Constant ±10%	K_t	Nm/Arms	1.40	0.70
Back EMF Constant ±10%	K_e	Vpeak/rpm	0.119	0.060
Motor Constant @25℃	K_m	Nm/Sqrt(W)	0.51	0.49
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	4.90	1.37
Inductance (L-L) ±20% ❸	L	mH	23.50	6.49
Electrical Time Constant	τ_e	ms	4.80	4.73
Continuous Current @100℃ ❶	I_{cn}	Arms	3.0	6.0
Peak Current	I_{pk}	Arms	9.0	18.0
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	85.3	95.4
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	1.137	1.271
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	16	16
Mechanical Parameters				
Rotor Mass	m	kg	0.40	0.40
Stator Mass	m	kg	1.80	1.80
Rotor Inertia	J_r	$kg{\cdot}m^2$	2.990E-04	2.990E-04
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.		

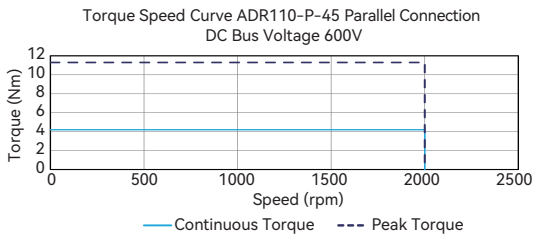
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

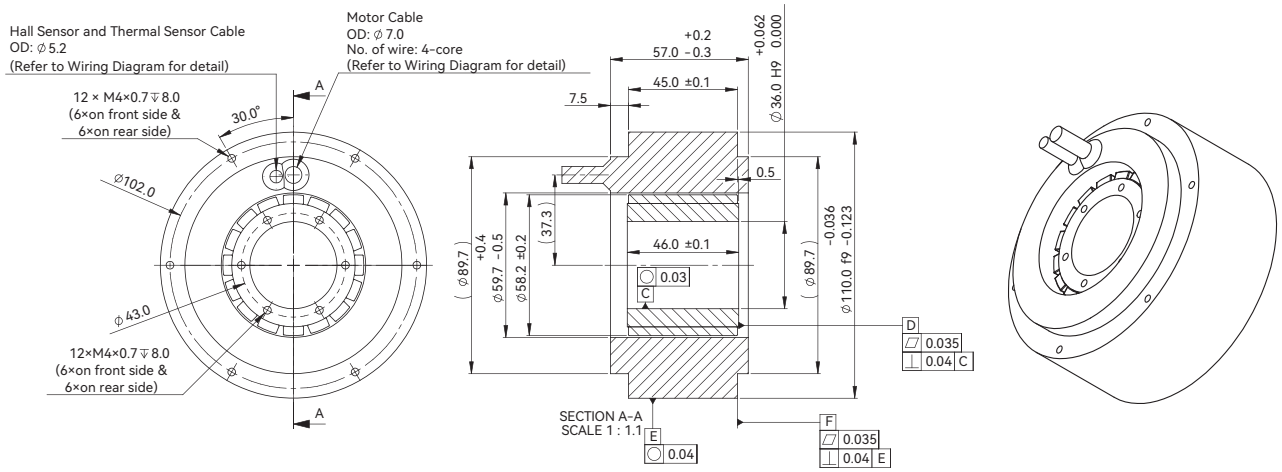








Dimension



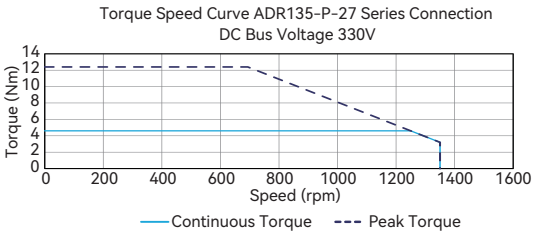
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

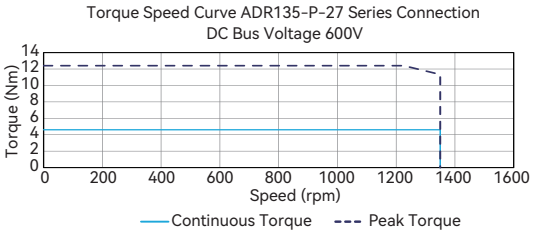
ADR135-P-27

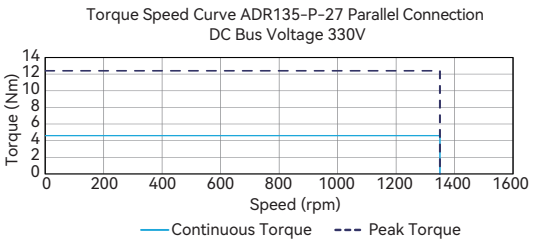
ADR135-P-27				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	4.6	4.6
Peak Torque	T_{pk}	Nm	12.4	12.4
Torque Constant ±10%	K_t	Nm/Arms	2.0	1.0
Back EMF Constant ±10%	K_e	Vpeak/rpm	0.171	0.086
Motor Constant @25℃	K_m	Nm/Sqrt(W)	0.68	0.65
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	5.81	1.59
Inductance (L-L) ±20% ❸	L	mH	39.51	10.47
Electrical Time Constant	τ_e	ms	6.8	6.6
Continuous Current @100℃ ❶	I_{cn}	Arms	2.3	4.6
Peak Current	I_{pk}	Arms	6.9	13.8
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	59.4	65.0
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	0.79	0.87
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	16	16
Mechanical Parameters				
Rotor Mass	m	kg	0.45	0.45
Stator Mass	m	kg	1.45	1.45
Rotor Inertia	J_r	$kg{\cdot}m^2$	4.243E-04	4.243E-04
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

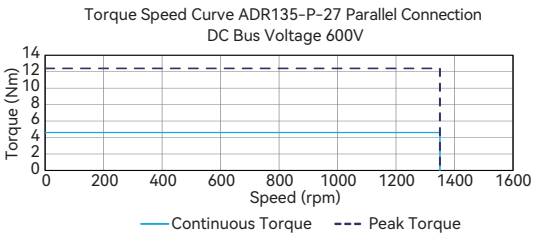
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

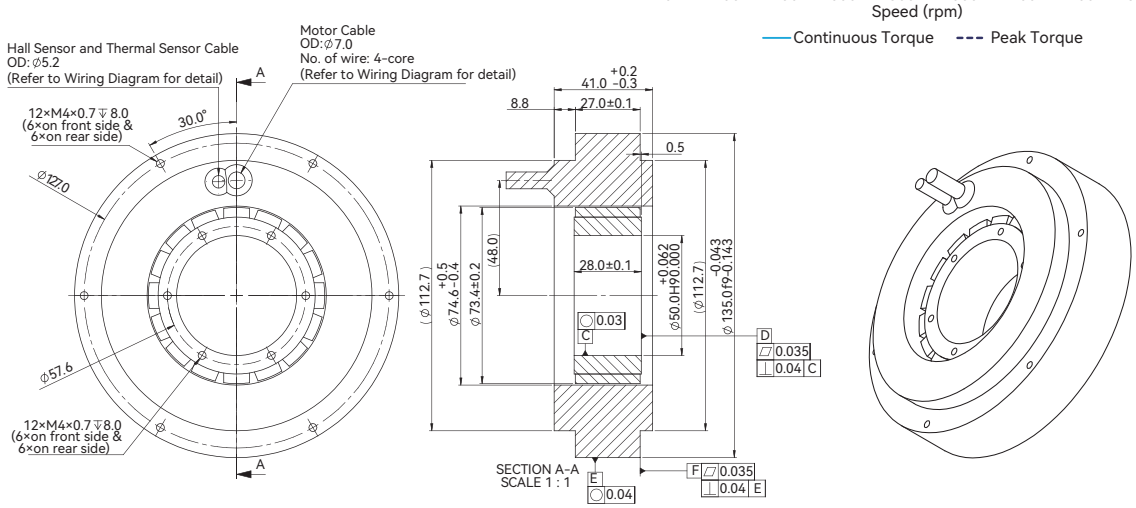








Dimension



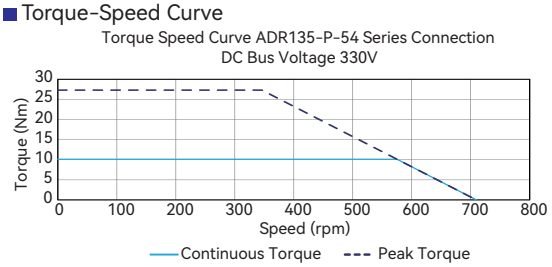
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

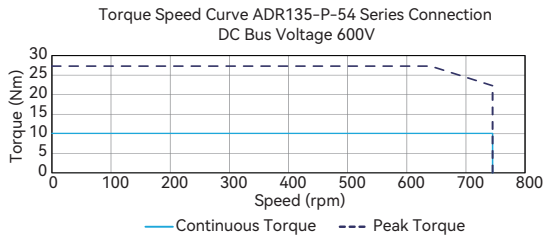
ADR135-P-54

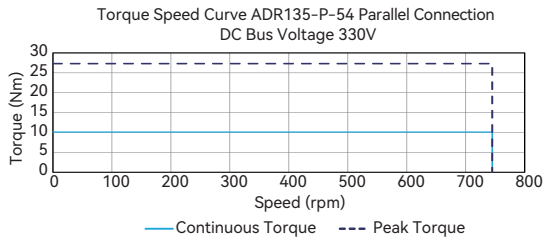
ADR135-P-54				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	10.1	10.1
Peak Torque	T_{pk}	Nm	27.3	27.3
Torque Constant ±10%	K_t	Nm/Arms	4.4	2.2
Back EMF Constant ±10%	K_e	Vpeak/rpm	0.376	0.188
Motor Constant @25℃	K_m	Nm/Sqrt(W)	1.12	1.11
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	10.32	2.63
Inductance (L-L) ±20% ❸	L	mH	89.98	21.84
Electrical Time Constant	τ_e	ms	8.7	8.3
Continuous Current @100℃ ❶	I_{cn}	Arms	2.3	4.6
Peak Current	I_{pk}	Arms	6.9	13.8
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	106.0	108.0
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	1.41	1.44
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	16	16
Mechanical Parameters				
Rotor Mass	m	kg	0.90	0.90
Stator Mass	m	kg	3.00	3.00
Rotor Inertia	J_r	kg·m²	8.463E-04	8.463E-04
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

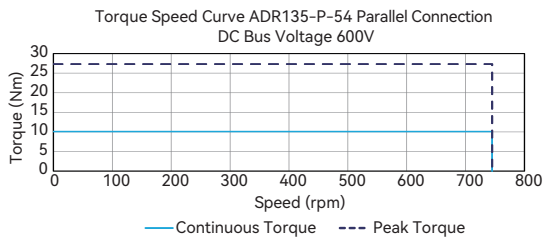
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

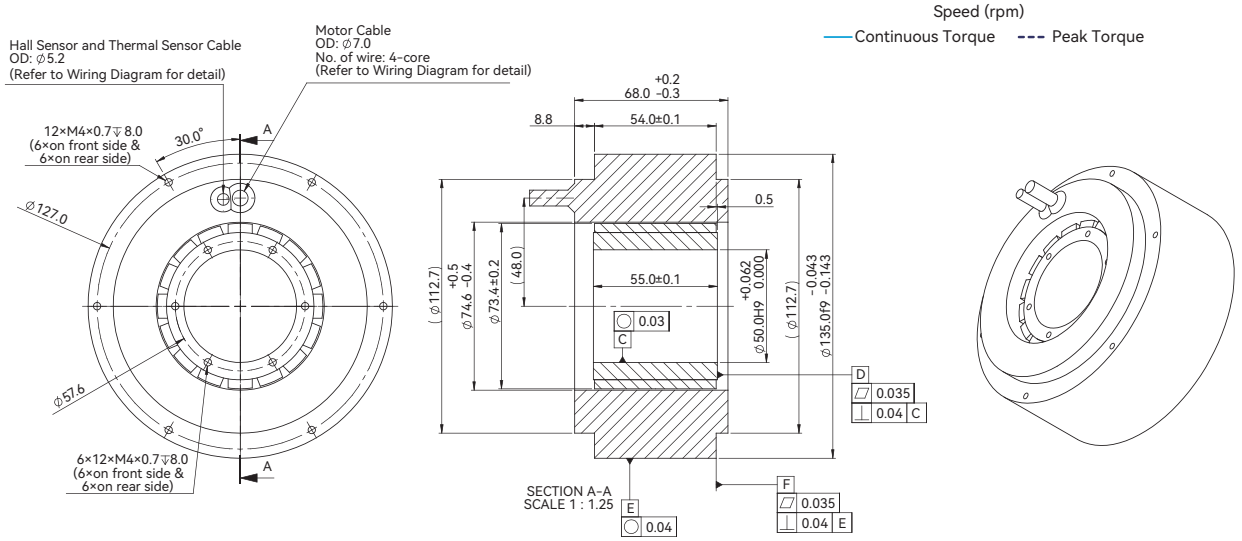








Dimension



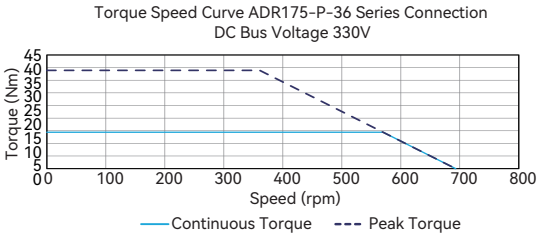
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

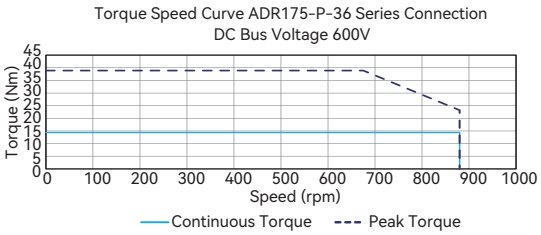
ADR175-P-36

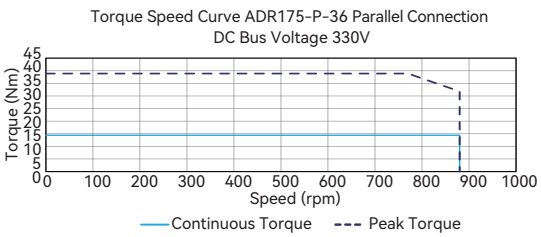
ADR175-P-36				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	14.4	14.4
Peak Torque	T_{pk}	Nm	38.9	38.9
Torque Constant ±10%	K_t	Nm/Arms	4.5	2.3
Back EMF Constant ±10%	K_e	Vpeak/rpm	0.385	0.192
Motor Constant @25℃	K_m	Nm/Sqrt(W)	1.66	1.66
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	4.91	1.23
Inductance (L-L) ±20% ❸	L	mH	42.57	10.64
Electrical Time Constant	τ_e	ms	8.67	8.67
Continuous Current @100℃ ❶	I_{cn}	Arms	3.2	6.4
Peak Current	I_{pk}	Arms	9.6	19.2
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	97.2	97.2
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	1.30	1.30
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	16	16
Mechanical Parameters				
Rotor Mass	m	kg	1.10	1.10
Stator Mass	m	kg	3.50	3.50
Rotor Inertia	J_r	kg·m²	2.453E-03	2.453E-03
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

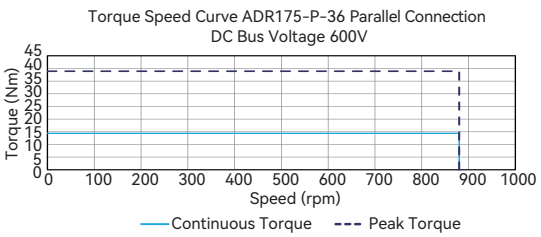
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

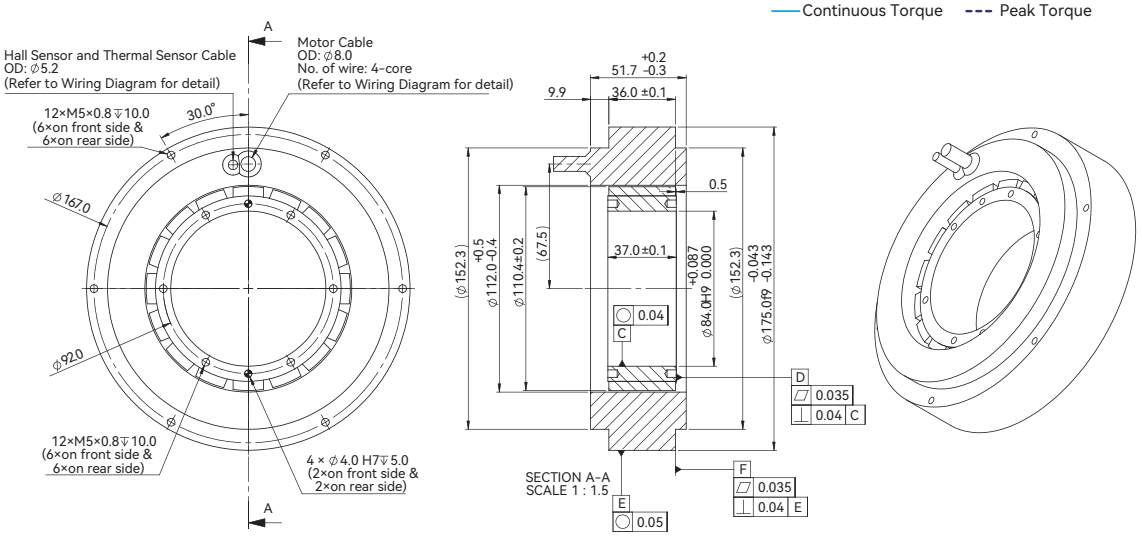








Dimension



Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

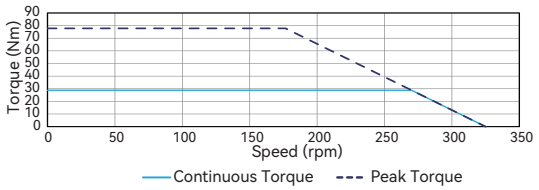
ADR175-P-72

ADR175-P-72				
Performance Parameters	Symbol	Unit	Series	Parallel
Continuous Torque @100℃ ❶	T_{cn}	Nm	28.8	28.8
Peak Torque	T_{pk}	Nm	77.8	77.8
Torque Constant ±10%	K_t	Nm/Arms	9.6	4.8
Back EMF Constant ±10%	K_e	Vpeak/rpm	0.821	0.410
Motor Constant @25℃	K_m	Nm/Sqrt(W)	2.74	2.74
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	8.18	2.05
Inductance (L-L) ±20% ❸	L	mH	70.92	17.73
Electrical Time Constant	τ_e	ms	8.67	8.67
Continuous Current @100℃ ❶	I_{cn}	Arms	3.0	6.0
Peak Current	I_{pk}	Arms	9.0	18.0
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	142.3	142.3
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	1.90	1.90
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	16	16
Mechanical Parameters				
Rotor Mass	m	kg	2.10	2.10
Stator Mass	m	kg	5.90	5.90
Rotor Inertia	J_r	kg·m²	4.892E-03	4.892E-03
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

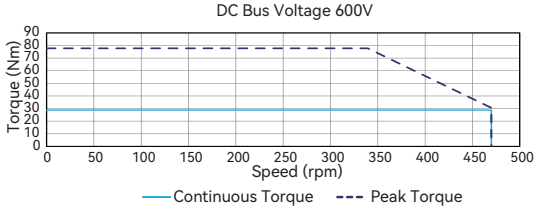
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

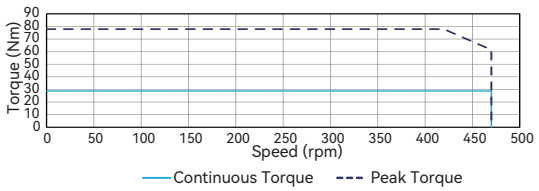
Torque Speed Curve ADR175-P-72 Series Connection
DC Bus Voltage 330V



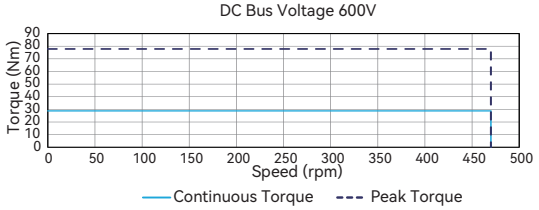
Torque Speed Curve ADR175-P-72 Series Connection
DC Bus Voltage 600V



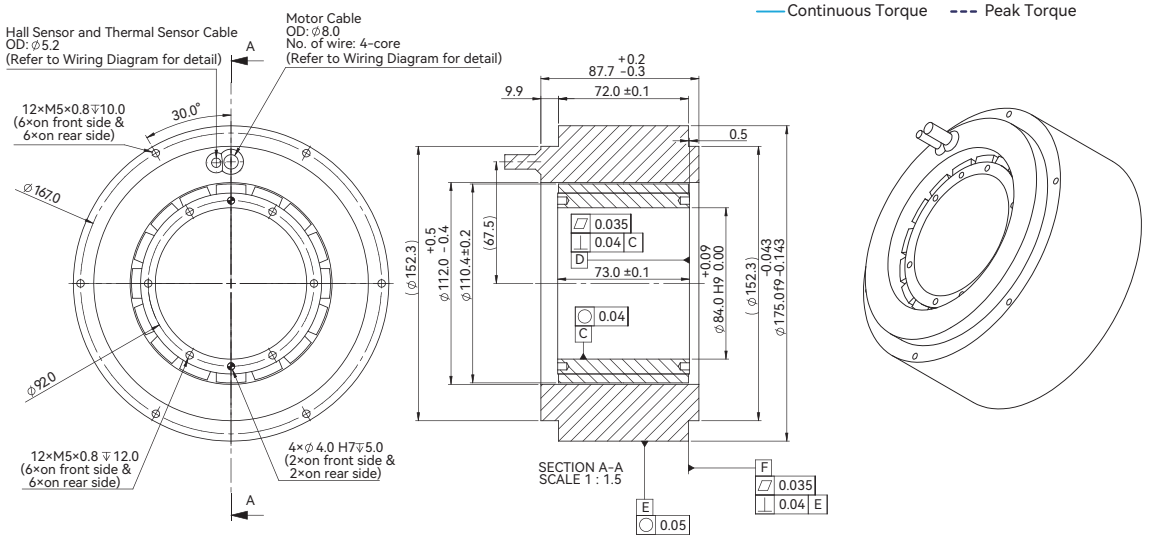
Torque Speed Curve ADR175-P-72 Parallel Connection
DC Bus Voltage 330V



Torque Speed Curve ADR175-P-72 Parallel Connection
DC Bus Voltage 600V



Dimension



Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

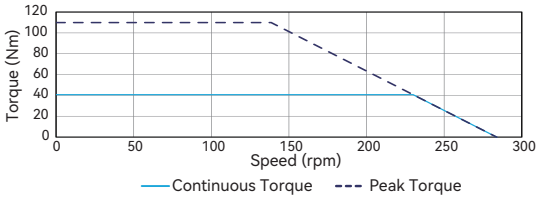
ADR220-P-50

ADR220-P-50				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	40.7	40.7
Peak Torque	T_{pk}	Nm	109.9	109.9
Torque Constant ±10%	K_t	Nm/Arms	11.0	3.7
Back EMF Constant ±10%	K_e	Vpeak/rpm	0.94	0.31
Motor Constant @25℃	K_m	Nm/Sqrt(W)	3.73	3.73
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	5.81	0.65
Inductance (L-L) ±20% ❸	L	mH	57.62	6.40
Electrical Time Constant	τ_e	ms	9.92	9.92
Continuous Current @100℃ ❶	I_{cn}	Arms	3.7	11.1
Peak Current	I_{pk}	Arms	11.1	33.3
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	153.8	153.8
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	2.1	2.1
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	24	24
Mechanical Parameters				
Rotor Mass	m	kg	2.30	2.30
Stator Mass	m	kg	7.50	7.50
Rotor Inertia	J_r	kg·m²	9.249E-03	9.249E-03
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

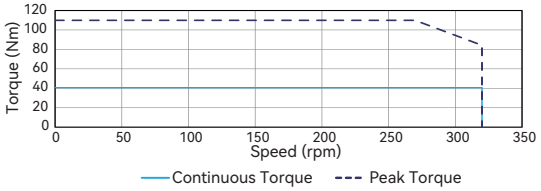
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

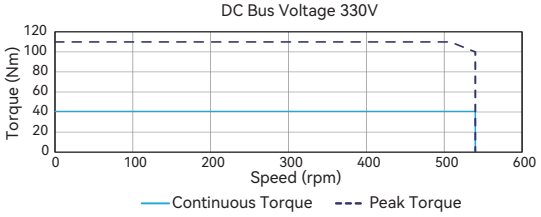
Torque Speed Curve ADR220-P-50 Series Connection
DC Bus Voltage 330V



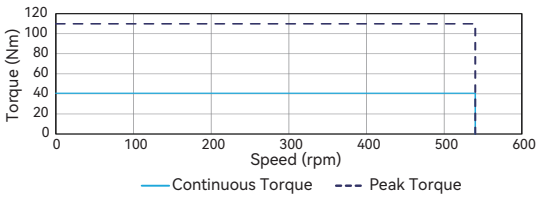
Torque Speed Curve ADR220-P-50 Series Connection
DC Bus Voltage 600V



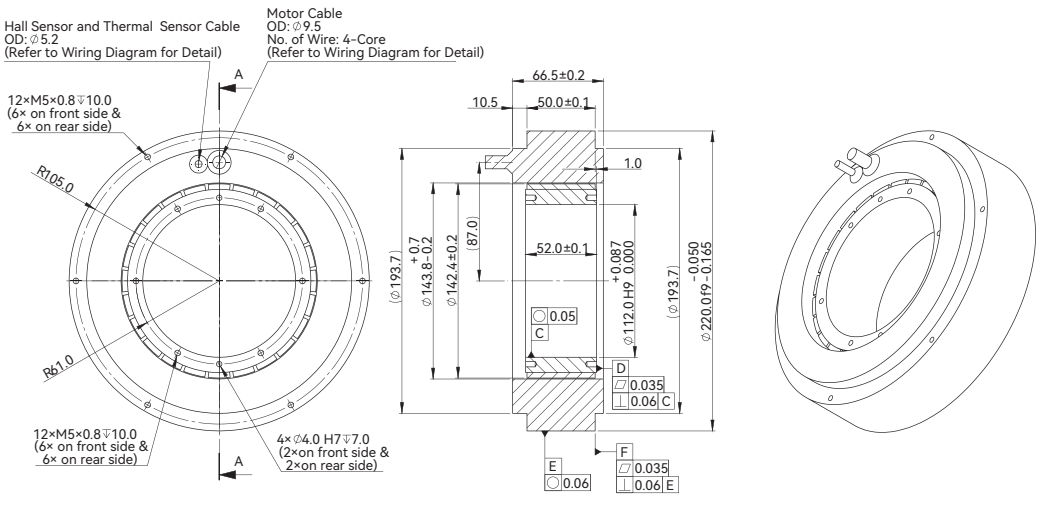
Torque Speed Curve ADR220-P-50 Parallel Connection
DC Bus Voltage 330V



Torque Speed Curve ADR220-P-50 Parallel Connection
DC Bus Voltage 600V



Dimension



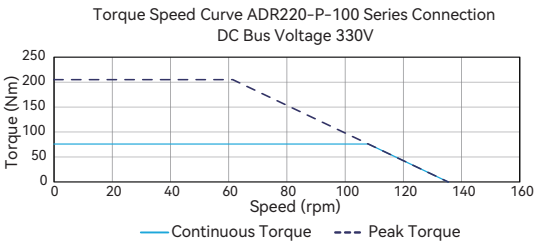
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

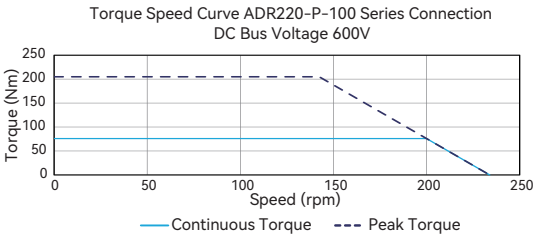
ADR220-P-100

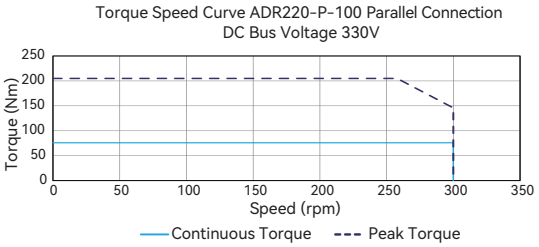
ADR220-P-100				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	75.9	75.9
Peak Torque	T_{pk}	Nm	204.9	204.9
Torque Constant ±10%	K_t	Nm/Arms	23.0	7.7
Back EMF Constant ±10%	K_e	Vpeak/rpm	1.97	0.66
Motor Constant @25℃	K_m	Nm/Sqrt(W)	5.99	5.99
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	9.83	1.09
Inductance (L-L) ±20% ❸	L	mH	97.48	10.83
Electrical Time Constant	τ_e	ms	9.92	9.92
Continuous Current @100℃ ❶	I_{cn}	Arms	3.3	9.9
Peak Current	I_{pk}	Arms	9.9	29.7
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	207.0	207.0
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	2.8	2.8
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	24	24
Mechanical Parameters				
Rotor Mass	m	kg	4.50	4.50
Stator Mass	m	kg	15.00	15.00
Rotor Inertia	J_r	kg·m²	1.831E-02	1.831E-02
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

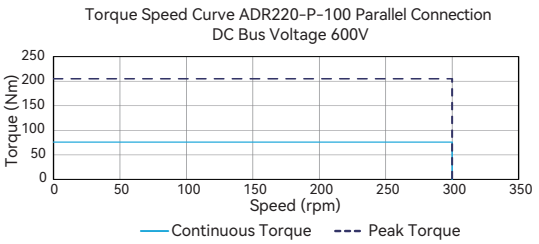
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

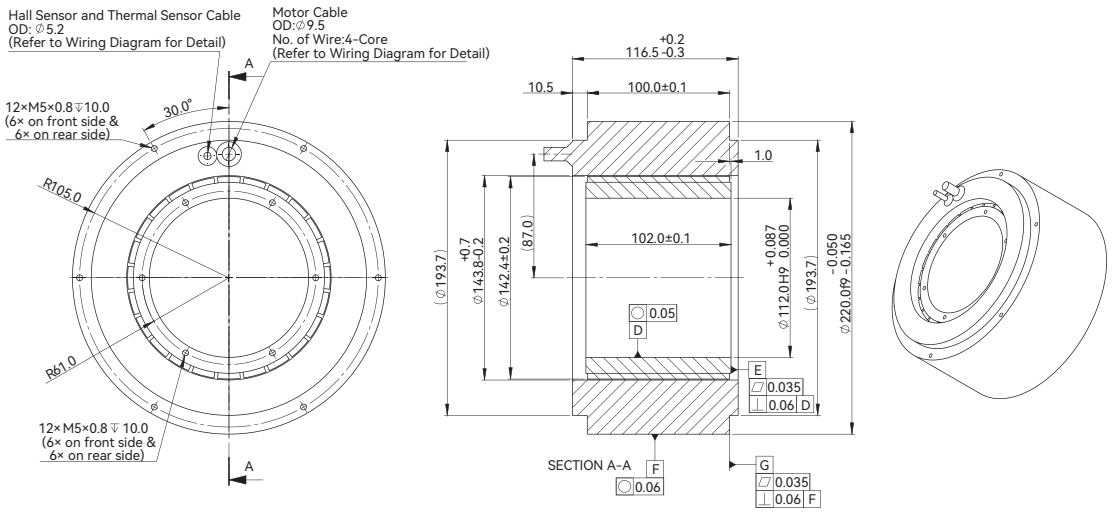








Dimension



Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

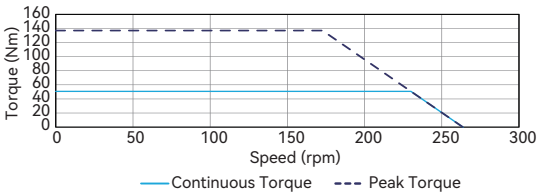
ADR280-P-40

ADR280-P-40				
Performance Parameters	Symbol	Unit	Series	Parallel
Continuous Torque @100℃ ❶	T_{cn}	Nm	50.7	50.7
Peak Torque	T_{pk}	Nm	137.0	137.0
Torque Constant ±10%	K_t	Nm/Arms	11.8	5.9
Back EMF Constant ±10%	K_e	Vpeak/rpm	1.0	0.5
Motor Constant @25℃	K_m	Nm/Sqrt(W)	4.6	4.6
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	4.4	1.1
Inductance (L-L) ±20% ❸	L	mH	25.2	6.6
Electrical Time Constant	τ_e	ms	5.7	6.0
Continuous Current @100℃ ❶	I_{cn}	Arms	4.3	8.6
Peak Current	I_{pk}	Arms	12.9	25.8
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	157.3	157.3
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	2.1	2.1
Max. Bus Voltage	U_{bus}	Vdc	600	600
Pole Number	2P	-	28	28
Mechanical Parameters				
Rotor Mass	m	kg	2.50	2.50
Stator Mass	m	kg	7.51	7.51
Rotor Inertia	J_r	kg·m²	2.147E-02	2.147E-02
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

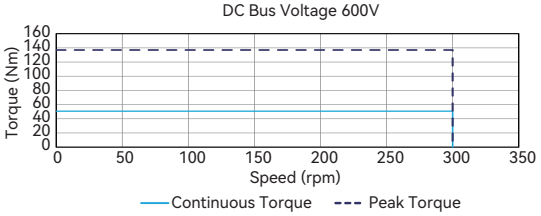
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

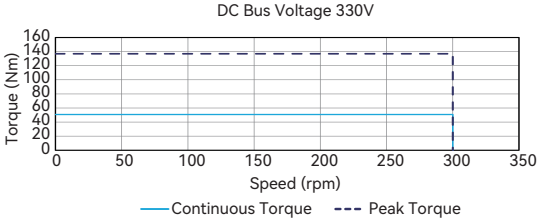
Torque Speed Curve ADR280-P-40 Series Connection
DC Bus Voltage 330V



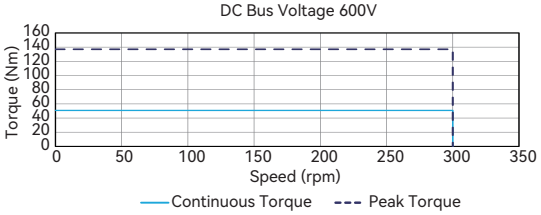
Torque Speed Curve ADR280-P-40 Series Connection
DC Bus Voltage 600V



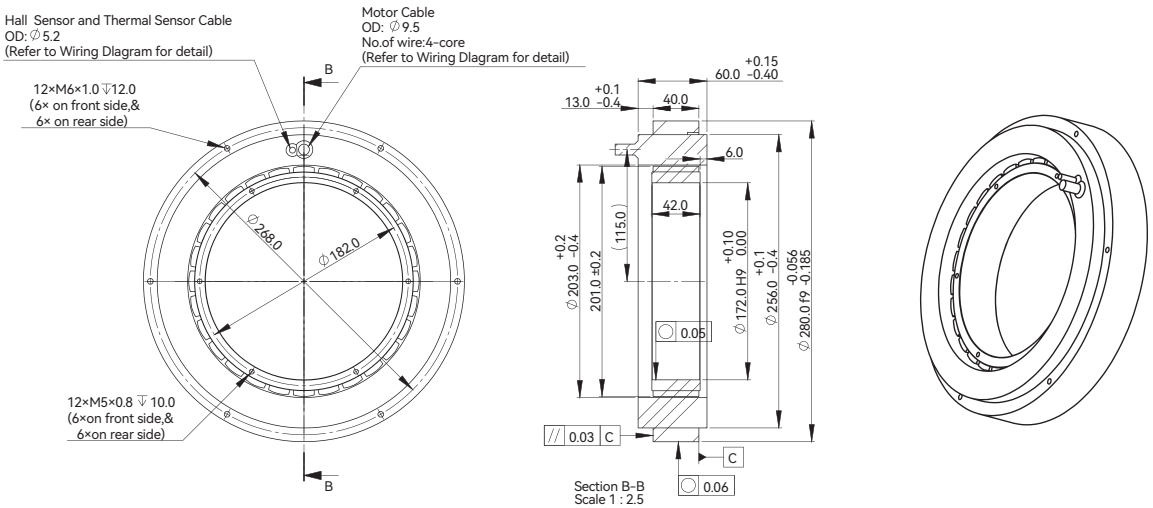
Torque Speed Curve ADR280-P-40 Parallel Connection
DC Bus Voltage 330V



Torque Speed Curve ADR280-P-40 Parallel Connection
DC Bus Voltage 600V



Dimension



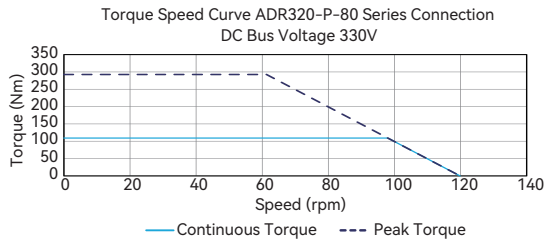
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

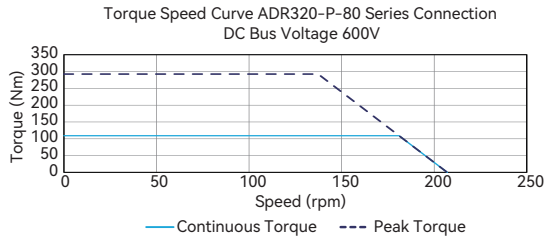
ADR320-P-80

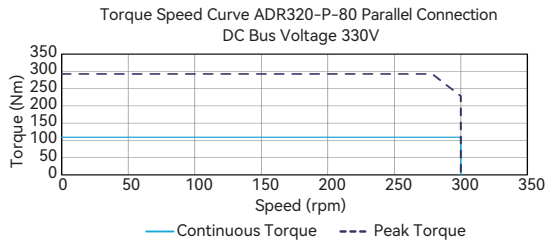
ADR320-P-80				
Performance Parameters	Symbol	Unit	Series	Parallel
Continuous Torque @100℃ ❶	T_{cn}	Nm	108.4	108.4
Peak Torque	T_{pk}	Nm	292.6	292.6
Torque Constant ±10%	K_t	Nm/Arms	25.2	8.4
Back EMF Constant ±10%	K_e	Vpeak/rpm	2.2	0.7
Motor Constant @25℃	K_m	Nm/Sqrt(W)	7.6	7.6
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	7.3	0.8
Inductance (L-L) ±20% ❸	L	mH	30.0	3.3
Electrical Time Constant	τ_e	ms	4.1	4.1
Continuous Current @100℃ ❶	I_{cn}	Arms	4.3	12.9
Peak Current	I_{pk}	Arms	12.9	38.7
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	260.6	260.6
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	3.5	3.5
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	42	42
Mechanical Parameters				
Rotor Mass	m	kg	6.5	6.5
Stator Mass	m	kg	15.5	15.5
Rotor Inertia	J_r	kg·m²	8.15E-02	8.15E-02
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

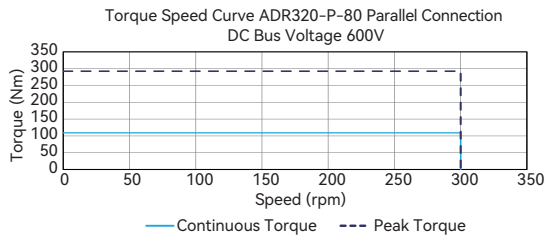
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

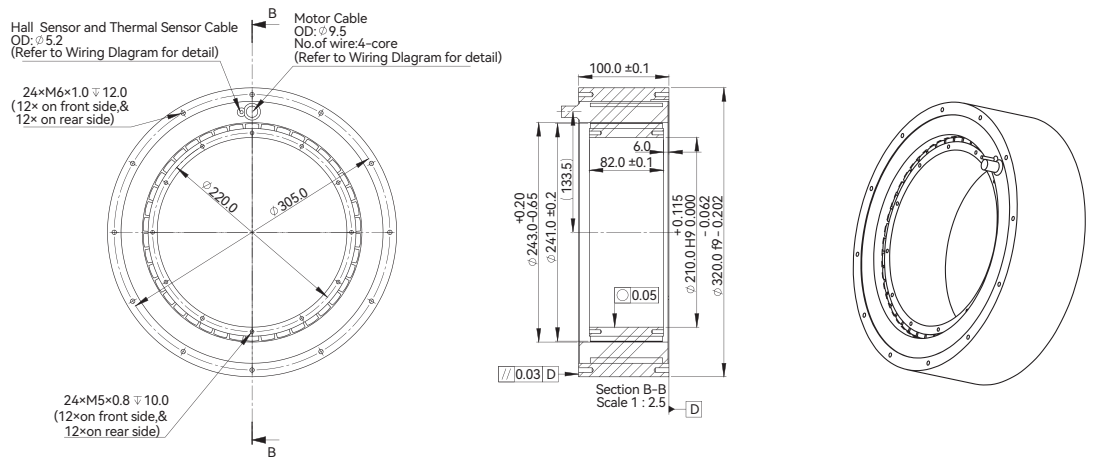








Dimension



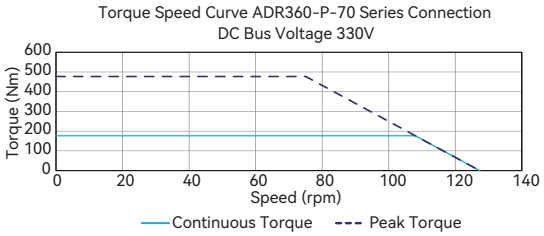
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

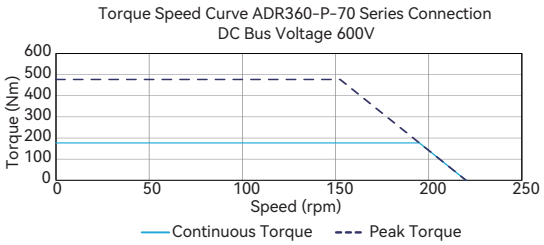
ADR360-P-70

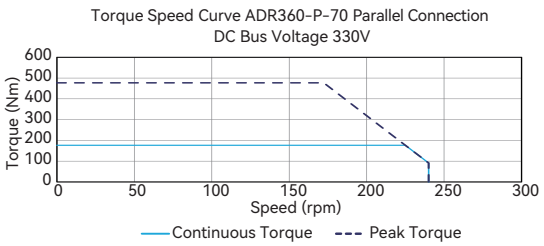
ADR360-P-70				
Performance Parameters	**Symbol**	**Unit**	**Series**	**Parallel**
Continuous Torque @100℃ ❶	T_{cn}	Nm	176.7	176.7
Peak Torque	T_{pk}	Nm	477.0	477.0
Torque Constant ±10%	K_t	Nm/Arms	24.2	12.1
Back EMF Constant ±10%	K_e	Vpeak/rpm	2.07	1.03
Motor Constant @25℃	K_m	Nm/Sqrt(W)	11.56	11.56
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	2.92	0.73
Inductance (L-L) ±20% ❸	L	mH	30.37	7.59
Electrical Time Constant	τ_e	ms	10.40	10.40
Continuous Current @100℃ ❶	I_{cn}	Arms	7.3	14.6
Peak Current	I_{pk}	Arms	21.9	43.8
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	300.9	300.9
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	4.0	4.0
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	32	32
Mechanical Parameters				
Rotor Mass	m	kg	7.30	7.30
Stator Mass	m	kg	17.50	17.50
Rotor Inertia	J_r	$kg{\cdot}m^2$	1.145E-01	1.145E-01
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

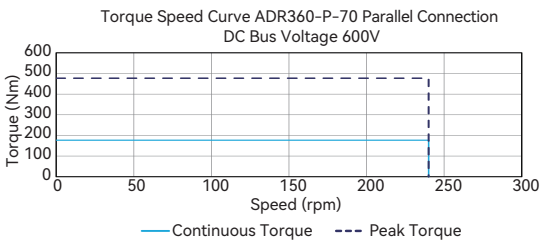
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

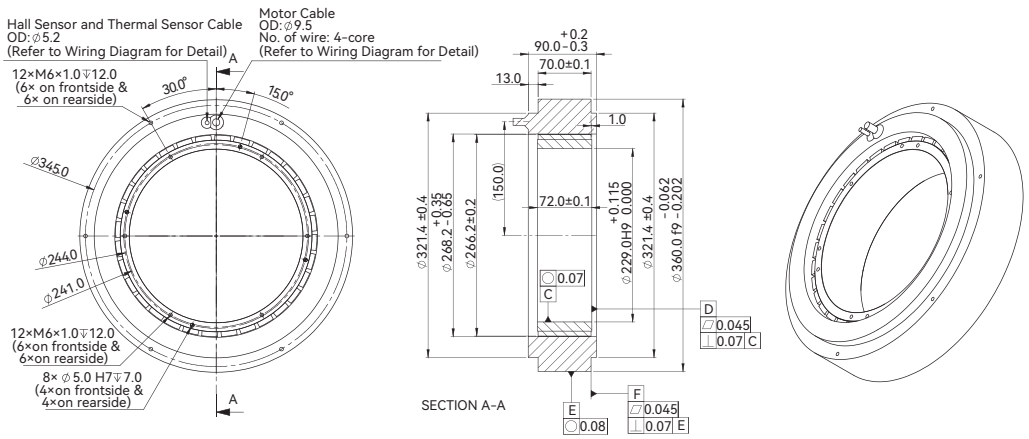








Dimension



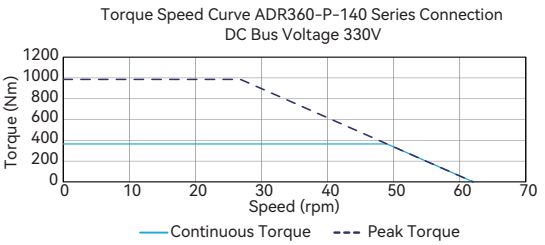
Note:
❶ User to ensure the concentricity of stator and rotor to be within 0.15mm when mounted;
❷ User to ensure flatness of mounting surface within 0.015/300mm;
❸ User to ensure perpendicularity of rotor inner bore relative to datum F within 0.1mm when mounted;
❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

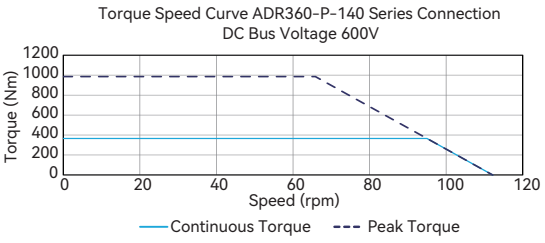
ADR360-P-140

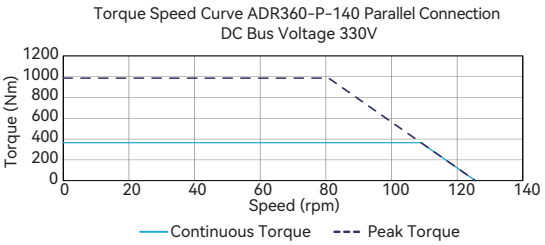
ADR360-P-140				
Performance Parameters	Symbol	Unit	Series	Parallel
Continuous Torque @100℃ ❶	T_{cn}	Nm	365.0	365.0
Peak Torque	T_{pk}	Nm	985.5	985.5
Torque Constant ±10%	K_t	Nm/Arms	50.0	25.0
Back EMF Constant ±10%	K_e	Vpeak/rpm	4.3	2.1
Motor Constant @25℃	K_m	Nm/Sqrt(W)	18.0	18.0
Resistance (L-L) @25℃ ±10% ❷	R_{25}	Ω	5.14	1.29
Inductance (L-L) ±20% ❸	L	mH	53.46	13.36
Electrical Time Constant	τ_e	ms	10.40	10.40
Continuous Current @100℃ ❶	I_{cn}	Arms	7.3	14.6
Peak Current	I_{pk}	Arms	21.9	43.8
Continuous Power Dissipation @100℃ ❶	P_{cn}	W	529.6	529.6
Max. Coil Temperature	t_{max}	℃	100	100
Thermal Dissipation Constant ❶	K_{th}	W/℃	7.1	7.1
Max. Bus Voltage	U_{bus}	Vdc	600.0	600.0
Pole Number	2P	-	32	32
Mechanical Parameters				
Rotor Mass	m	kg	13.80	13.80
Stator Mass	m	kg	33.00	33.00
Rotor Inertia	J_r	$kg{\cdot}m^2$	2.272E-01	2.272E-01
Other Information				
Insulation Class		Class B (130℃)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS, CE		
Ambient Temperature	Operation	0℃ to 40℃ (non-freezing)		
	Storage	-15℃ to 70℃ (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.		

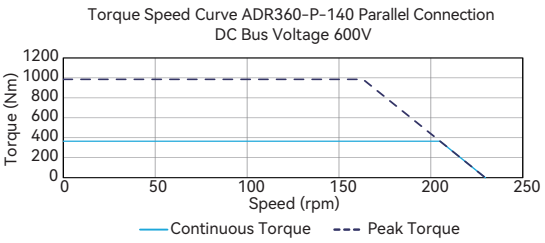
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m cable.
❸ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

Torque-Speed Curve

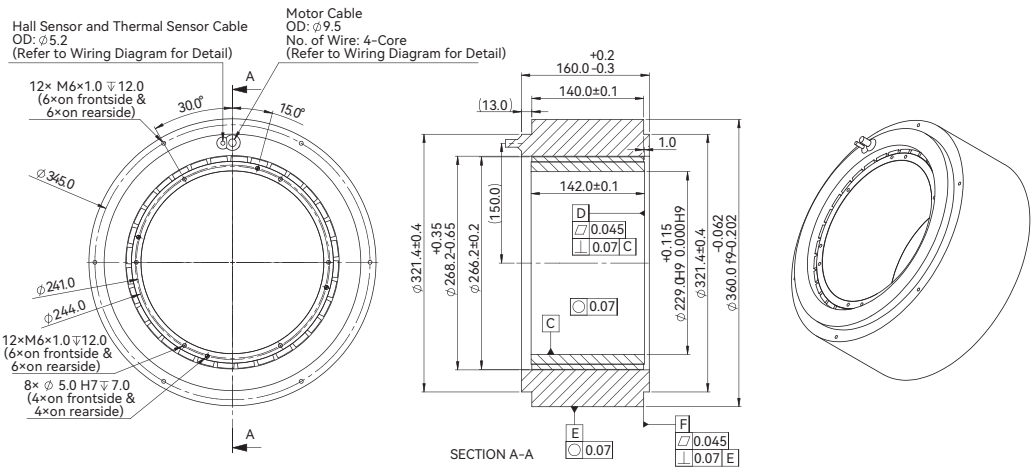








Dimension



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❹ The cable diameter tolerance +0.3, and cable length tolerance +60.0

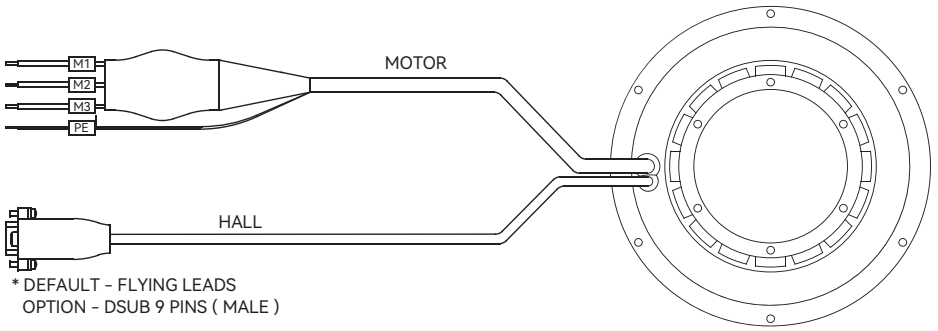
Motor Cable Connection

MOTOR CABLE (9W4M)

PIN	DESCRIPTION
A1	M1
A2	M2
A3	M3
A4	PE

MOTOR CABLE

PIN	DESCRIPTION	COLOR
-	M1	BLACK 1
-	M2	BLACK 2
-	M3	BLACK 3
-	PE	YELLOW / GREEN



* DEFAULT - FLYING LEADS
OPTION - DSUB 9 PINS (MALE)

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
(K TYPE - PT100)
(J TYPE - THERMOSTAT)

Part Numbering

ADR175-P-36-S-J-NH-0.5-FB

Motor Model:
ADR110-P-22 / ADR110-P-45
ADR135-P-27 / ADR135-P-54
ADR175-P-36 / ADR175-P-72
ADR 220-P-50 / ADR220-P-100
ADR280-P-40 / ADR320-P-80
ADR 360-P-70 / ADR360-P-140

Winding Code:
S = Series / P = Parallel

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

Power Cable:
❹ FB / ❺ NFB / ❻ 9W4M

Cable Length (m):
0.5

Sensor Cable:
❶ HF / ❷ NH / ❸ H9D

❶ HF = With Built-in Hall Sensor & Hall Cable C/W Flying Leads
❷ NH = Without Built-in Hall Sensor C/W Flying Leads
❸ H9D = With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
❹ FB = With Ferrite Bead C/W Flying Leads
❺ NFB = Without Ferrite Bead C/W Flying Leads
❻ 9W4M = Without Ferrite Bead C/W D-Sub 9W4 Male Connector