

ADR-T SERIES

- ▶ Compact design
- ▶ Large center bore
- ▶ Direct drive technology
- ▶ High torque density
- ▶ Low cogging effect
- ▶ High rotating speed
- ▶ Cost effective

ADR50-T-14

ADR50-T-14				
Performance Parameters	Symbol	Unit	Series	Parallel
Continuous Torque (NC) @130°C ^①	T _{cn}	Nm	0.48	0.48
Peak Torque	T _{pk}	Nm	1.44	1.44
Torque Constant ±10%	K _t	Nm/Arms	0.21	0.11
Back EMF Constant ±10%	K _e	Vpeak/rpm	0.02	0.01
Motor Constant @25°C	K _m	Nm/Sqrt(W)	0.10	0.09
Resistance (L-L) 25°C ±10% ^②	R ₂₅	Ω	3.30	0.86
Inductance (L-L) ±20% ^③	L	mH	1.25	0.32
Electrical Time Constant	T _e	ms	0.38	0.37
Continuous Current (NC) @130°C ^①	I _{cn}	Arms	2.3	4.5
Peak Current	I _{pk}	Arms	7.9	15.8
Continuous Power Dissipation (NC) @130°C ^①	P _{cn}	W	35	37
Max. Coil Temperature	t _{max}	°C	130	130
Thermal Dissipation Constant (NC) ^④	K _{thn}	W/°C	0.34	0.35
Max. Bus Voltage	U _{bus}	Vdc	48	48
Pole Number	2 _p	-	20	20
Max. Speed @continuous torque ^⑤	Ω _{max}	rpm	600	2500
Max. Speed @peak torque ^⑥	Ω _{max}	rpm	1750	3000

Mechanical Parameters				
Overall Mass (NC)	m _n	kg	0.12	0.12
Rotor Inertia	J _r	kg·m ²	1.12E-05	1.12E-05

Other Information				
Insulation Class	Class B (130°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
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 0.5 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 max. bus voltage.
- The contents of datasheet are subject to change without prior notice.

ADR80-T-20

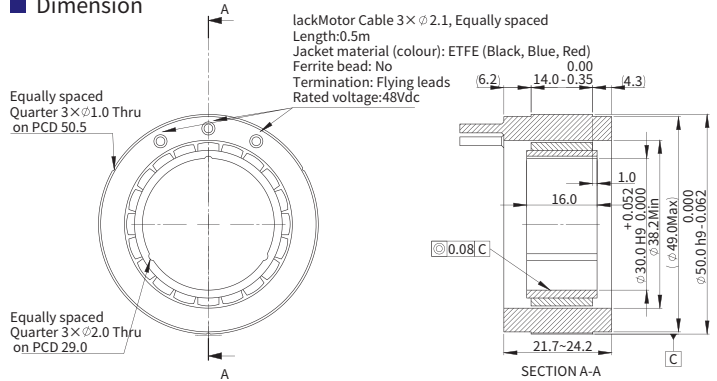
ADR80-T-20				
Performance Parameters	Symbol	Unit	Series	Parallel
Continuous Torque (NC) @130°C ^①	T _{cn}	Nm	1.41	1.41
Peak Torque	T _{pk}	Nm	4.22	4.22
Torque Constant ±10%	K _t	Nm/Arms	0.32	0.16
Back EMF Constant ±10%	K _e	Vpeak/rpm	0.03	0.01
Motor Constant @25°C	K _m	Nm/Sqrt(W)	0.27	0.26
Resistance (L-L) 25°C ±10% ^②	R ₂₅	Ω	0.95	0.25
Inductance (L-L) ±20% ^③	L	mH	1.15	0.29
Electrical Time Constant	T _e	ms	1.21	1.16
Continuous Current (NC) @130°C ^①	I _{cn}	Arms	4.4	8.8
Peak Current	I _{pk}	Arms	15.2	30.4
Continuous Power Dissipation (NC) @130°C ^①	P _{cn}	W	39	41
Max. Coil Temperature	t _{max}	°C	130	130
Thermal Dissipation Constant (NC) ^④	K _{thn}	W/°C	0.37	0.39
Max. Bus Voltage	U _{bus}	Vdc	48	48
Pole Number	2 _p	-	16	16
Max. Speed @continuous torque ^⑤	Ω _{max}	rpm	800	2800
Max. Speed @peak torque ^⑥	Ω _{max}	rpm	1200	3000

Mechanical Parameters				
Overall Mass (NC)	m _n	kg	0.58	0.58
Rotor Inertia	J _r	kg·m ²	4.80E-05	4.80E-05

Other Information				
Insulation Class	Class B (130°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
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.			

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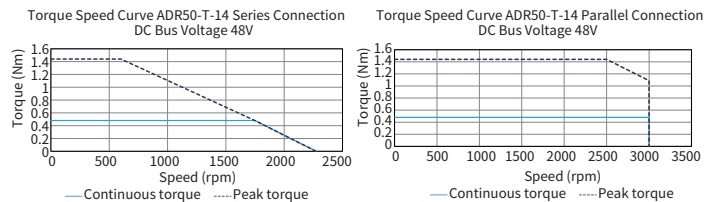
Dimension



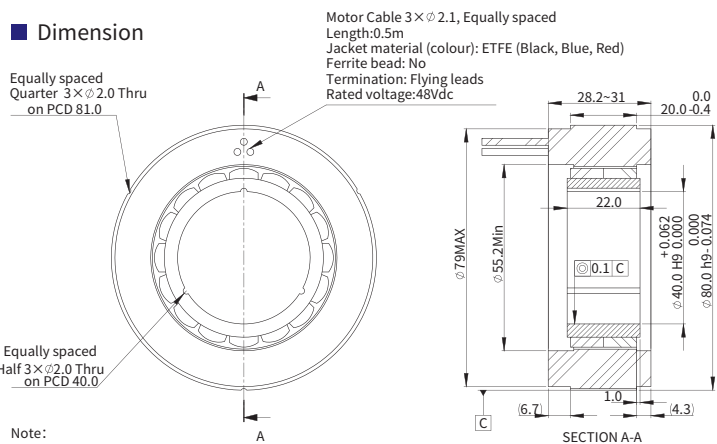
Note:

- ① The concentricity of stator and rotor to be within 0.08mm when mounted;
- ② User to ensure flatness of mounting surface within 0.01/300mm;
- ③ Comes without temperature sensor;
- ④ Motor must be used with a Variable Frequency Driver;
- ⑤ Cable diameter within +/-0.3mm tolerance, cable length within +/-30.0mm tolerance;
- ⑥ Certain specifications in the drawing are subjected to change;
- ⑦ Customers need to connect ground wire by themselves.
- ⑧ No epoxy on either end.

Torque-Speed Curve



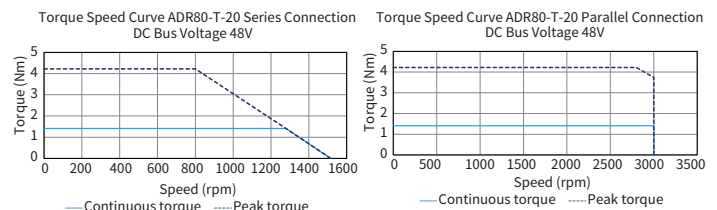
Dimension



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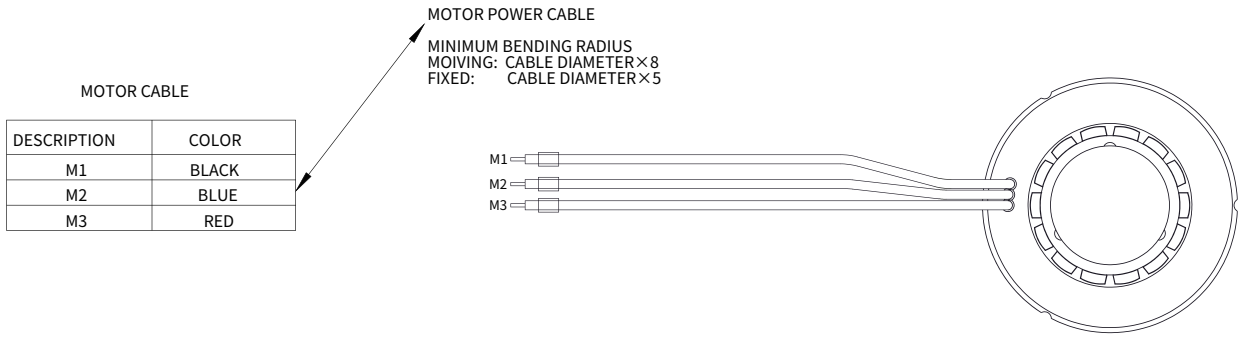
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Motor Cable Connection

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



Part Numbering

