

CUBEMARS

ROBOTIC MOTOR SOLUTION

PRODUCT CATALOG



AGV



EXOSKELETON



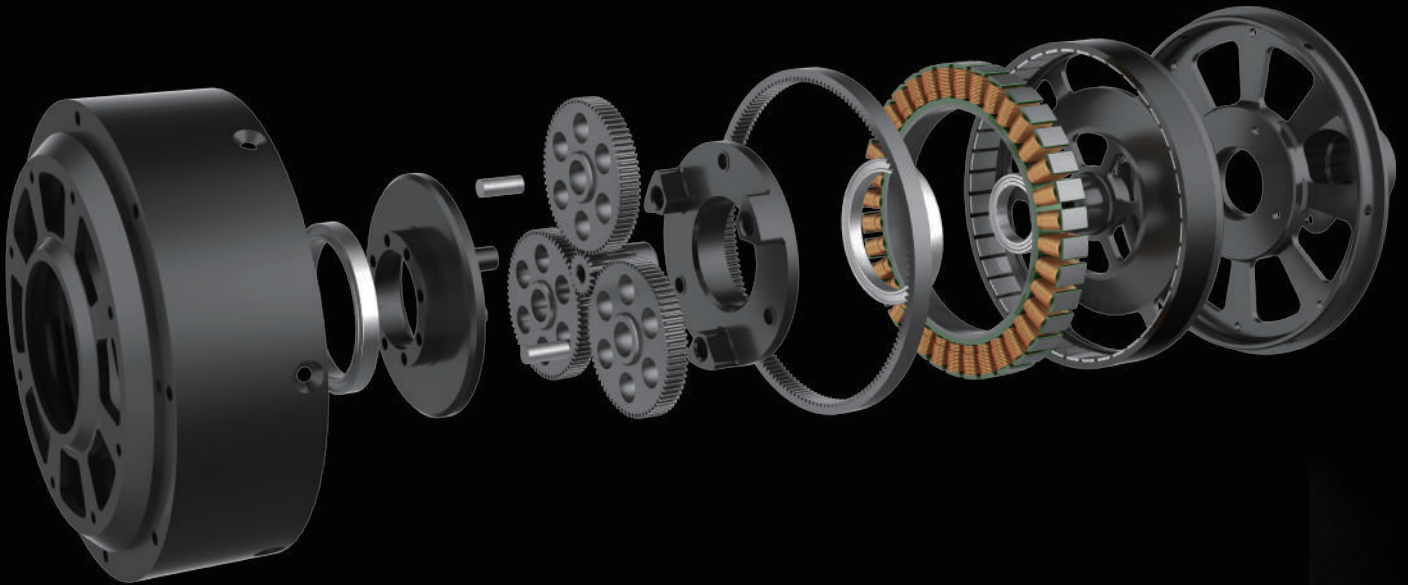
ROBOT ARM



LEGGED ROBOT

CUBEMARS

MOTIVATE ADVANCED ROBOTIC SYSTEM



CONTENT

01/

Highly Integrated Actuator

AK Series P02-13

AKE Series P14-17

AKA Series P18-20

02/

Frameless Motor

RI Series P21-26

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RO Series P31-34

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03/

Outrunner Torque Motor

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04/

Gimbal Motor

G Series P43-52

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Underwater Thruster

W Series P64-66

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DW Series P70-73

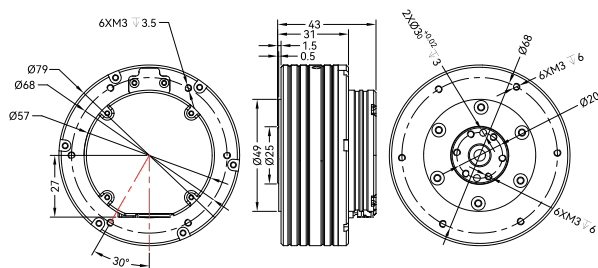
AK Series Robotic Actuation Module

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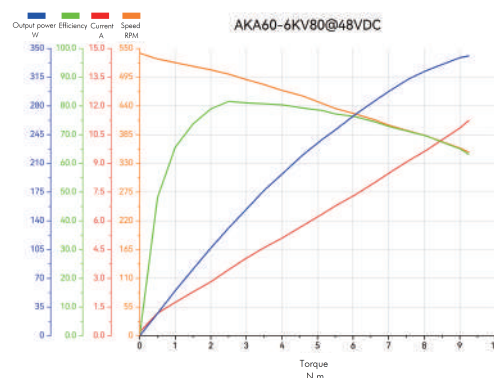


AK60-6 V3.0 KV80, $\Phi 79 \times 43$ mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Foot Robots, Exoskeleton Robots, AGV	Pole pairs	14
Driving way	FOC	Reduction ratio	6:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.2
Winding type	Star	Backlash (°)	0.55
Insulation class	C	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	500V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	55
Insulation resistance	500V10MΩ	Basic load rating (dyn. C_r) N	3150
Phase	3	Basic load ratings (stat. C_{dr}) N	4500

ELECTRIC PARAMETERS

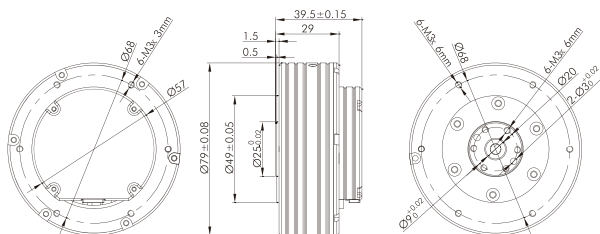
Rated voltage (V)	24/48	Ke (V/krpm)	12.5
Rated torque (Nm)	3	Phase to Phase resistance (mΩ)	595
Rated speed (rpm)	233/490	Phase to Phase inductance (μH)	676
Rated current (ADC)	3.8	Inertia (gcm ²)	243.5
Peak torque (Nm)	9	Km (Nm/√W)	0.15
Peak current (ADC)	0.3/11.2	Mechanical time constant (ms)	0.81
Kv (rpm/V)	80	Electrical time constant (ms)	0.69
Kt (Nm/A)	0.135	Weight (g)	380
		Maximum torque weight ratio (Nm/kg)	23.68

CONNECTOR (WITH DRIVER)

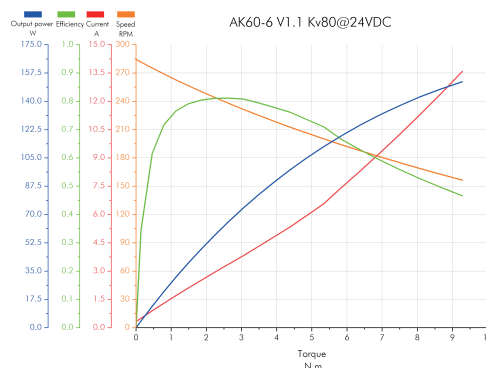
POWER+CAN connector	XT30PW(2+2)-M	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	-
Inner loop encoder type	Magnetic encode	Outer ring encoder resolution	-
		Number of encoder	1

AK60-6 V1.1 KV80, $\Phi 79 \times 39.5 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Legged Robot, Exoskeleton, AGV	Pole pairs	14
Driving way	FOC	Reduction ratio	6:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.2
Winding type	Star	Backlash (°)	0.55
Insulation class	C	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	500V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	55
Insulation resistance	500V10MΩ	Basic load rating (dyn. C_r) N	3150
Phase	3	Basic load ratings (stat. C_{dr}) N	4500

ELECTRIC PARAMETERS

Rated voltage (V)	24	K_e (V/krpm)	12.8
Rated torque (Nm)	3	Phase to Phase resistance (mΩ)	605
Rated speed (rpm)	233	Phase to Phase inductance (μH)	415
Rated current (ADC)	3.8	Inertia (gcm ²)	243.5
Peak torque (Nm)	9	K_m (Nm/√W)	0.17
Peak current (ADC)	13.1	Mechanical time constant (ms)	0.81
K_v (rpm/V)	80	Electrical time constant (ms)	0.69
K_t (Nm/A)	0.135	Weight (g)	368
		Maximum torque weight ratio (Nm/kg)	24.46

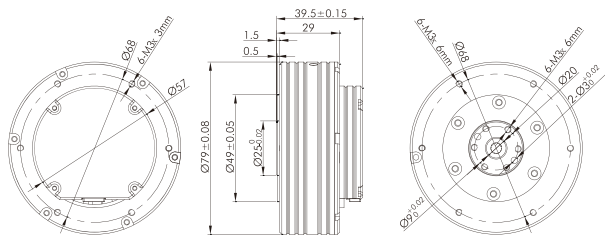
CONNECTOR (WITH DRIVER)

CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	-
Power connector	XT30PW-M	Outer ring encoder resolution	-
Inner loop encoder type	Magnetic encoder	Number of encoder	1

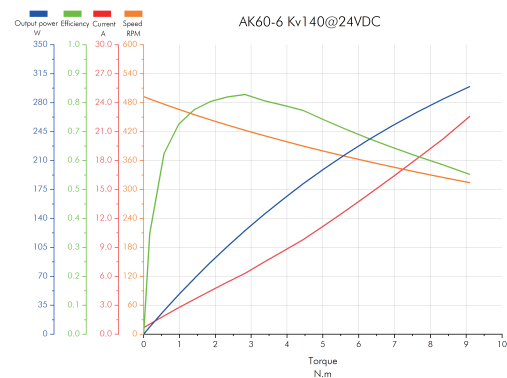
AK60-6 V1.1

KV140, $\Phi 79 \times 39.5 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Legged Robot, Exoskeleton, AGV	Pole pairs	14
Driving way	FOC	Reduction ratio	6:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.2
Winding type	Delta	Backlash (°)	0.55
Insulation class	C	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	500V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	60
Insulation resistance	500V10MΩ	Basic load rating (dyn. C _r) N	3150
Phase	3	Basic load ratings (stat. C ₀) N	4500

ELECTRIC PARAMETERS

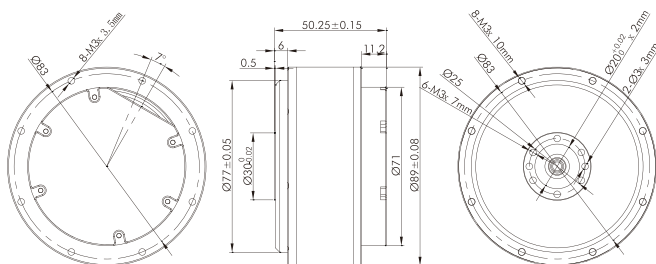
Rated voltage (V)	24	Ke (V/krpm)	7.5
Rated torque (Nm)	3	Phase to Phase resistance (mΩ)	202
Rated speed (rpm)	420	Phase to Phase inductance (μH)	138
Rated current (ADC)	6.5	Inertia (gcm ²)	243.5
Peak torque (Nm)	9	Km (Nm/√W)	0.17
Peak current (ADC)	22.7	Mechanical time constant (ms)	0.81
Kv (rpm/V)	140	Electrical time constant (ms)	0.68
Kt (Nm/A)	0.078	Weight (g)	368
		Maximum torque weight ratio (Nm/kg)	24.46

CONNECTOR (WITH DRIVER)

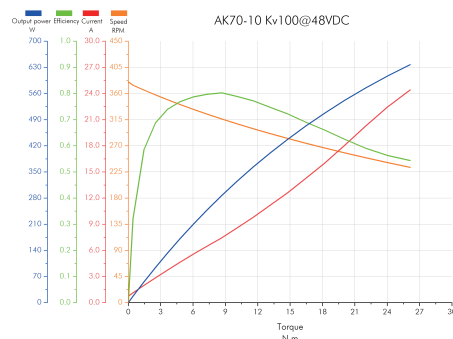
CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	-
Power connector	XT30PW-M	Outer ring encoder resolution	-
Inner loop encoder type	Magnetic encoder	Number of encoder	1

AK70-10 KV100, Ø89*50.25mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Legged Robot,Exoskeleton,AGV	Pole pairs	21
Driving way	FOC	Reduction ratio	10:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.48
Winding type	Delta	Backlash (°)	0.12
Insulation class	H	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	1000V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	58
Insulation resistance	1000V10MΩ		
Phase	3	Basic load rating (dyn. C) N	2000
		Basic load ratings (stat. C ₀) N	2520

ELECTRIC PARAMETERS

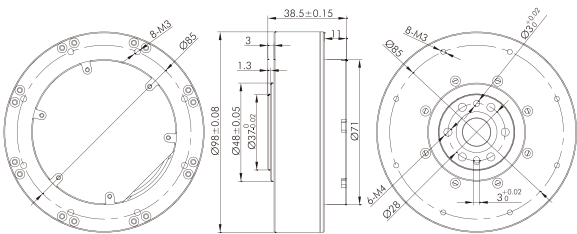
Rated voltage (V)	24/48	Ke (V/krpm)	11.2
Rated torque (Nm)	8.3	Phase to Phase resistance (mΩ)	272
Rated speed (rpm)	148/310	Phase to Phase inductance (μH)	113
Rated current (ADC)	7.2	Inertia (gcm ²)	414
Peak torque (Nm)	24.8	Km (Nm/√W)	0.24
Peak current (ADC)	23.2	Mechanical time constant (ms)	0.74
Kv (rpm/V)	100	Electrical time constant (ms)	0.42
Kt (Nm/A)	0.123	Weight (g)	521
		Maximum torque weight ratio (Nm/kg)	47.6

CONNECTOR (WITH DRIVER)

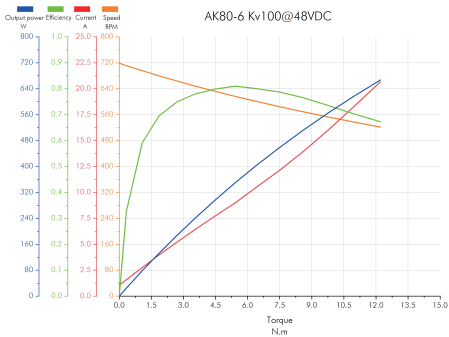
CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	-
Power connector	XT30PW-M	Outer ring encoder resolution	-
Inner loop encoder type	Magnetic encoder	Number of encoder	1

AK80-6 KV100, Φ98*38.5mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Legged Robot, Exoskeleton, AGV	Pole pairs	21
Driving way	FOC	Reduction ratio	6:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.36
Winding type	Delta	Backlash (°)	0.22
Insulation class	H	Temperature sensor	None
Insulation High-voltage	1000V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	55
Insulation resistance	1000V10MΩ	Basic load rating (dyn. C _r) N	2760
Phase	3	Basic load ratings (stat. C _{0r}) N	2810

ELECTRIC PARAMETERS

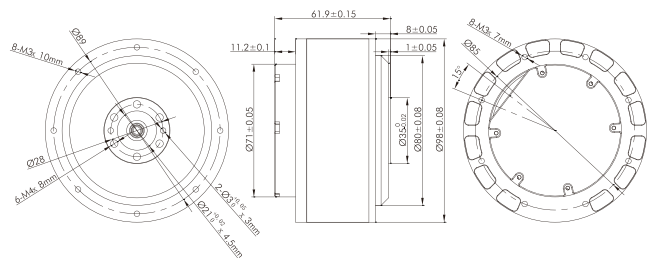
Rated voltage (V)	48	Ke (V/krpm)	10.5
Rated torque (Nm)	6	Phase to Phase resistance (mΩ)	170
Rated speed (rpm)	603	Phase to Phase inductance (μH)	57
Rated current (ADC)	9.7	Inertia (gcm ²)	607
Peak torque (Nm)	12	Km (Nm/√W)	0.25
Peak current (ADC)	20	Mechanical time constant (ms)	0.94
Kv (rpm/V)	100	Electrical time constant (ms)	0.34
Kt (Nm/A)	0.105	Weight (g)	485
		Maximum torque weight ratio (Nm/kg)	24

CONNECTOR (WITH DRIVER)

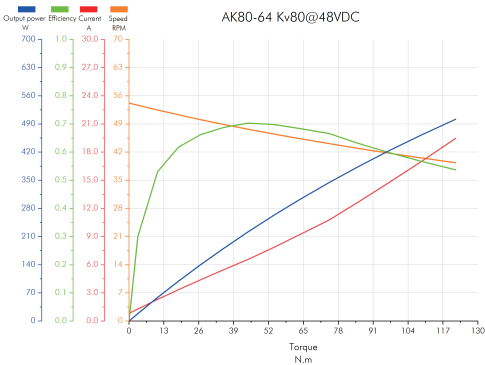
CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	-
Power connector	XT30PW-M	Outer ring encoder resolution	-
Inner loop encoder type	Magnetic encoder	Number of encoder	1

AK80-64 KV80, $\Phi 98 \times 61.9 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

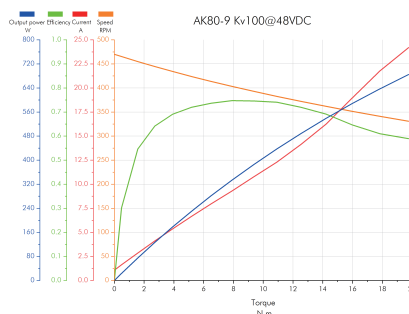
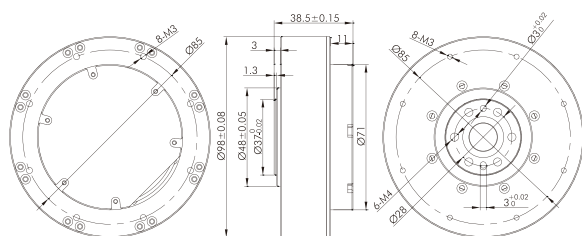
Application	Legged Robot, Exoskeleton, AGV	Pole pairs	21
Driving way	FOC	Reduction ratio	64:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	4.7
Winding type	Delta	Backlash (°)	0.18
Insulation class	H	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	1000V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	60
Insulation resistance	1000V10M Ω	Basic load rating (dyn. C) N	2000
Phase	3	Basic load ratings (stat. C ₀) N	2520

ELECTRIC PARAMETERS

Rated voltage (V)	24/48	Ke (V/krpm)	13.7
Rated torque (Nm)	48	Phase to Phase resistance (m Ω)	220
Rated speed (rpm)	23/48	Phase to Phase inductance (μH)	133.5
Rated current (ADC)	7	Inertia (gcm ²)	564.5
Peak torque (Nm)	120	Km (Nm/ $\sqrt{\text{W}}$)	0.29
Peak current (ADC)	19	Mechanical time constant (ms)	0.67
Kv (rpm/V)	80	Electrical time constant (ms)	0.61
Kt (Nm/A)	0.136	Weight (g)	850
		Maximum torque weight ratio (Nm/kg)	141.2

CONNECTOR (WITH DRIVER)

CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	-
Power connector	XT30PW-M	Outer ring encoder resolution	-
Inner loop encoder type	Magnetic encoder	Number of encoder	1

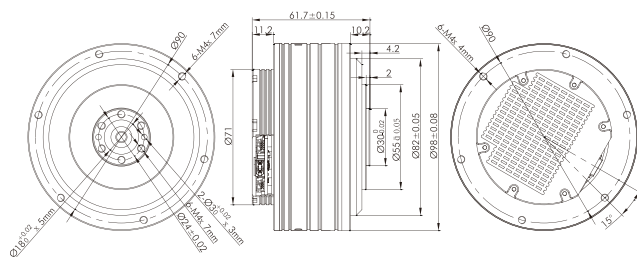


Application	Legged Robot,Exoskeleton,AGV	Pole pairs	21
Driving way	FOC	Reduction ratio	9:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.51
Winding type	Delta	Backlash (")	0.19
Insulation class	H	Temperature sensor	None
Insulation High-voltage	1000V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	55
Insulation resistance	1000V10MΩ		
Phase	3	Basic load rating (dyn. C _r) N	2760
		Basic load ratings (stat. C _{0r}) N	2810

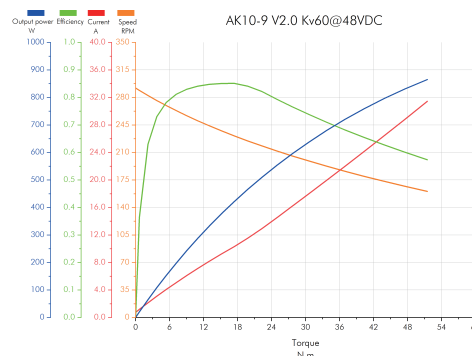
Rated voltage (V)	48	Ke (V/krpm)	10.5
Rated torque (Nm)	9	Phase to Phase resistance (mΩ)	170
Rated speed (rpm)	390	Phase to Phase inductance (μH)	57
Rated current (ADC)	10.3	Inertia (gcm ²)	607
Peak torque (Nm)	18	Km (Nm/√W)	0.25
Peak current (ADC)	22.3	Mechanical time constant (ms)	0.94
Kv (rpm/V)	100	Electrical time constant (ms)	0.34
Kt (Nm/A)	0.105	Weight (g)	485
		Maximum torque weight ratio (Nm/kg)	37

CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	-
Power connector	XT30PW-M	Outer ring encoder resolution	-
Inner loop encoder type	Magnetic encoder	Number of encoder	1

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Legged Robot,Exoskeleton,AGV	Pole pairs	21
Driving way	FOC	Reduction ratio	9:1
Operation ambient temperature	-20℃~50℃	Back drive(Nm)	0.8
Winding type	Star	Backlash (°)	0.33
Insulation class	C	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	1000V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	65
Insulation resistance	1000V10MΩ		
Phase	3	Basic load rating (dyn. C) N	2000
		Basic load ratings (stat. C ₀) N	2520

ELECTRIC PARAMETERS

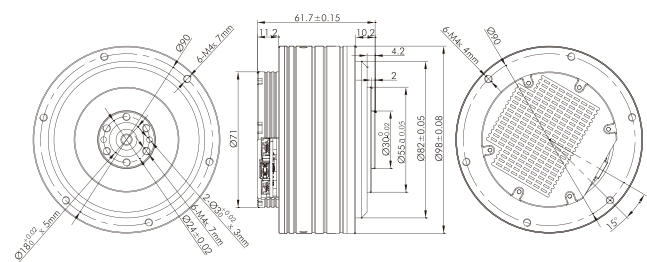
Rated voltage (V)	24/48	Ke (V/krpm)	17.2
Rated torque (Nm)	18	Phase to Phase resistance (mΩ)	195
Rated speed (rpm)	109/228	Phase to Phase inductance (μH)	181
Rated current (ADC)	10.6	Inertia (gcm ²)	1002
Peak torque (Nm)	48	Km (Nm/√W)	0.45
Peak current (ADC)	29.8	Mechanical time constant (ms)	0.50
Kv (rpm/V)	60	Electrical time constant (ms)	0.93
Kt (Nm/A)	0.198	Weight (g)	960
		Maximum torque weight ratio (Nm/kg)	50

CONNECTOR (WITH DRIVER)

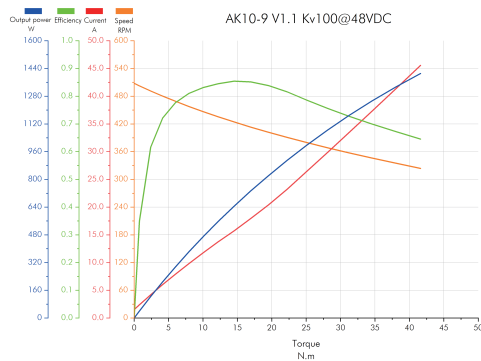
CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	Magnetic encoder
Power connector	XT30PW-M	Outer ring encoder resolution	15bit
Inner loop encoder type	Magnetic encoder	Number of encoder	2

AK10-9 V2.0 KV100, Φ98*61.7mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Legged Robot, Exoskeleton, AGV	Pole pairs	21
Driving way	FOC	Reduction ratio	9:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.8
Winding type	Delta	Backlash (°)	0.33
Insulation class	C	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	1000V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	70
Insulation resistance	1000V10MΩ	Basic load rating (dyn. C) N	2000
Phase	3	Basic load ratings (stat. C ₀) N	2520

ELECTRIC PARAMETERS

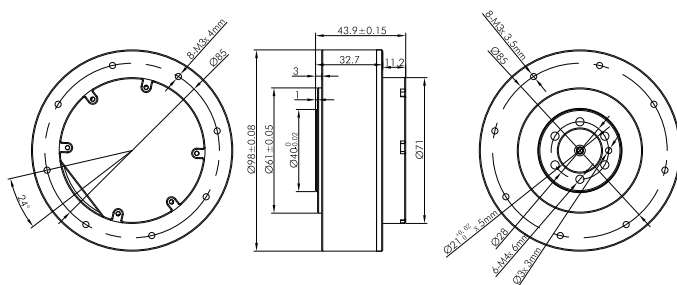
Rated voltage (V)	24/48	Ke (V/krpm)	9.9
Rated torque (Nm)	15	Phase to Phase resistance (mΩ)	65.5
Rated speed (rpm)	205/421	Phase to Phase inductance (μH)	60
Rated current (ADC)	16.2	Inertia (gcm ²)	1002
Peak torque (Nm)	38	Km (Nm/√W)	0.45
Peak current (ADC)	41.2	Mechanical time constant (ms)	0.51
Kv (rpm/V)	100	Electrical time constant (ms)	0.92
Kt (Nm/A)	0.114	Weight (g)	960
		Maximum torque weight ratio (Nm/kg)	39.6

CONNECTOR (WITH DRIVER)

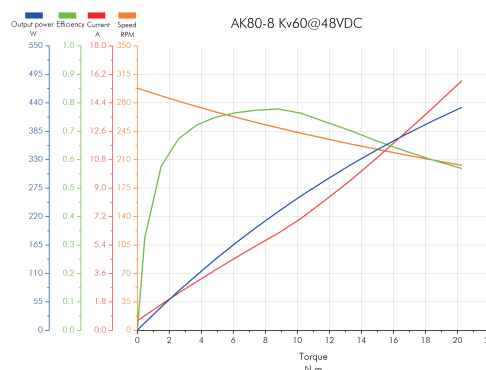
CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	Magnetic encoder
Power connector	XT30PW-M	Outer ring encoder resolution	15bit
Inner loop encoder type	Magnetic encoder	Number of encoder	2

AK80-8 KV60, $\Phi 98 \times 43.9$ mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Legged Robot, Exoskeleton, AGV	Pole pairs	21
Driving way	FOC	Reduction ratio	8:1
Operation ambient temperature	-20°C~50°C	Back drive(Nm)	0.75
Winding type	Star	Backlash (°)	0.38
Insulation class	C	Temperature sensor	NTC MF51B 103F3950
Insulation High-voltage	1000V 5mA/2s	Noise dB 65CM away the motor (Environment 45dB@1200rpm)	50
Insulation resistance	1000V10MΩ	Basic load rating (dyn. C) N	2000
Phase	3	Basic load ratings (stat. C ₀) N	2520

ELECTRIC PARAMETERS

Rated voltage (V)	48	Ke (V/krpm)	19.8
Rated torque (Nm)	10	Phase to Phase resistance (mΩ)	430
Rated speed (rpm)	243	Phase to Phase inductance (μH)	214
Rated current (ADC)	6.9	Inertia (gcm ²)	608.6
Peak torque (Nm)	25	Km (Nm/√W)	0.30
Peak current (ADC)	21	Mechanical time constant (ms)	0.66
Kv (rpm/V)	60	Electrical time constant (ms)	0.5
Kt (Nm/A)	0.199	Weight (g)	570
		Maximum torque weight ratio (Nm/kg)	35

CONNECTOR (WITH DRIVER)

CAN connector	A1257WR-S-4P	Inner ring encoder resolution	14bit
UART connector	A1257WR-S-3P	Outer ring encoder type	Magnetic encoder
Power connector	XT30PW-M	Outer ring encoder resolution	15bit
Inner loop encoder type	Magnetic encoder	Number of encoder	2

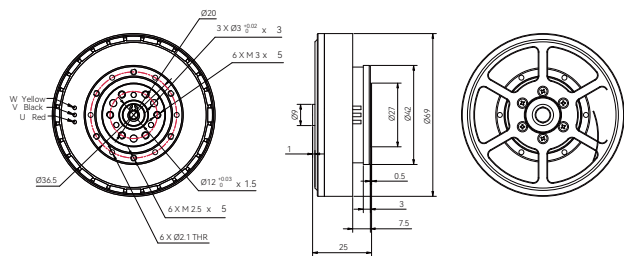
AKE Series Robotic Actuation Module

AKE60-8	15
AKE90-8	16
AKE80-8	17

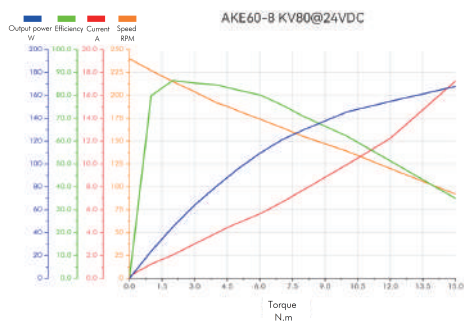


AKE60-8 KV80, $\Phi 69 \times 25 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION

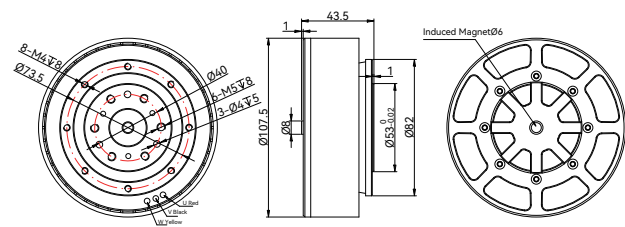


SPECIFICATIONS

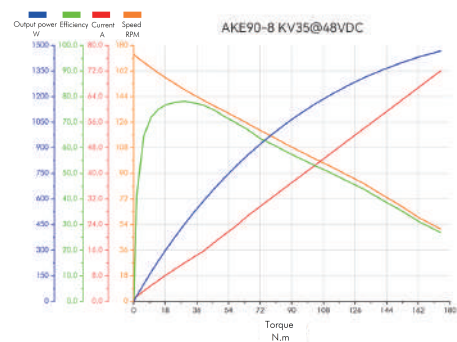
Application	Cobot Arm	Peak torque (Nm)	12.5
Driving way	FOC	Peak current (ADC)	12
Operation ambient temperature (°C)	-20~50	Kv (rpm/V)	80
Winding type	star	Kt (Nm/A)	0.13
Insulation class	F	Ke (V/krpm)	12.5
Insulation High-voltage (V)	500	Phase to Phase resistance (mΩ)	577
Insulation Resistance (MΩ)	10	Phase to Phase inductance (μH)	704
Pole pairs	14	Inertia (gcm ²)	32
Arcmin	9	Km (Nm/√W)	0.15
Rated voltage (V)	24	Mechanical time constant (ms)	1.2
No-load speed (rpm)	240	Electrical time constant (ms)	1.7
Rated torque (Nm)	5	Weight (g)	260
Rated speed (rpm)	180	Maximum torque weight ratio (Nm/kg)	46
Rated current (ADC)	4.8	Reduction Ratio	8:1

AKE90-8 KV35, $\Phi 107.5 \times 43.5\text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION

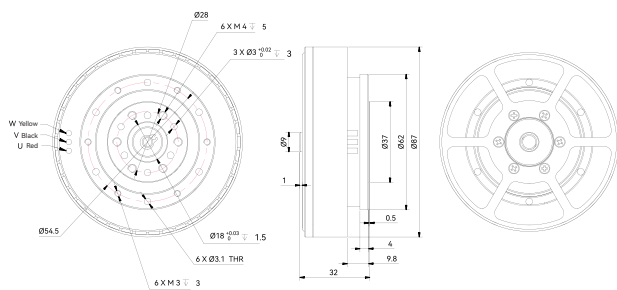


SPECIFICATIONS

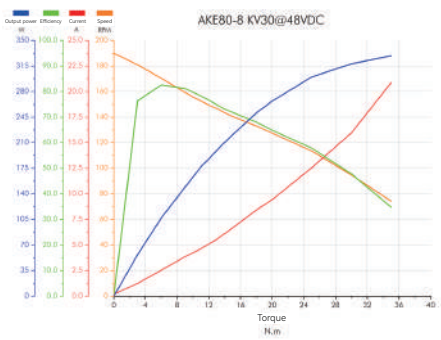
Application	Cobot Arm	Peak torque (Nm)	170
Driving way	FOC	Peak current (ADC)	72
Operation ambient temperature (°C)	-20~50	Kv (rpm/V)	35
Winding type	delta	Kt (Nm/A)	0.272
Insulation class	H	Ke (V/krpm)	0.0285
Insulation High-voltage (V)	1000	Phase to Phase resistance (mΩ)	164
Insulation Resistance (MΩ)	10	Phase to Phase inductance (μH)	235
Pole pairs	21	Inertia (gcm ²)	3377.08
Arcmin	9	Km (Nm/√W)	0.67372
Rated voltage (V)	48	Mechanical time constant (ms)	2.18
No-load speed (rpm)	210	Electrical time constant (ms)	1.4329
Rated torque (Nm)	55	Weight (g)	1400
Rated speed (rpm)	120	Maximum torque weight ratio (Nm/kg)	121.4
Rated current (ADC)	21	Reduction Ratio	8:1

AKE80-8 KV30, $\phi 87*32\text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot Arm	Peak torque (Nm)	30
Driving way	FOC	Peak current (ADC)	12
Operation ambient temperature (°C)	-20~50	Kv (rpm/V)	30
Winding type	star	Kt (Nm/A)	0.32
Insulation class	F	Ke (V/krpm)	33
Insulation High-voltage (V)	500	Phase to Phase resistance (mΩ)	870
Insulation Resistance (MΩ)	10	Phase to Phase inductance (μH)	990
Pole pairs	21	Inertia (gcm ²)	143
Arcmin	9	Km (Nm/√W)	0.34
Rated voltage (V)	48	Mechanical time constant (ms)	2.3
No-load speed (rpm)	195	Electrical time constant (ms)	1.13
Rated torque (Nm)	12	Weight (g)	570
Rated speed (rpm)	150	Maximum torque weight ratio (Nm/kg)	52
Rated current (ADC)	4.8	Reduction Ratio	8:1

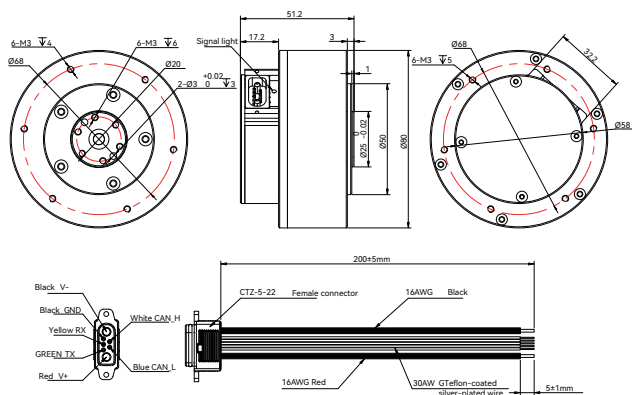
AKA Series Robotic Actuation Module

AKA60-6	19
AKA10-9	20

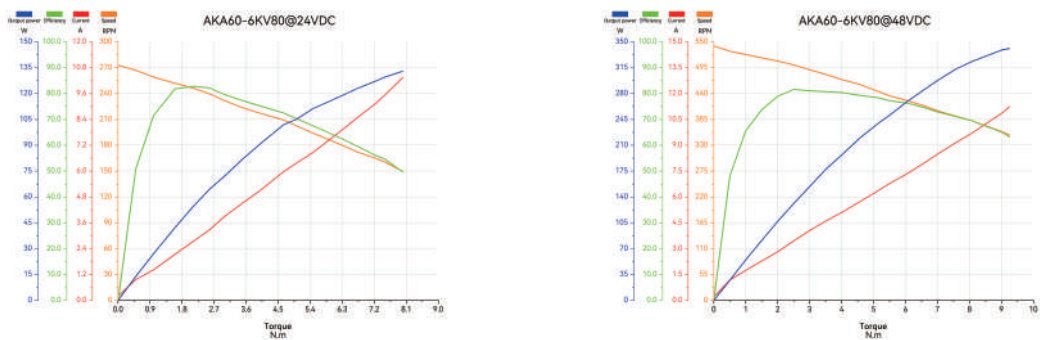


AKA60-6 KV80, $\phi 80 \times 51.2\text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION

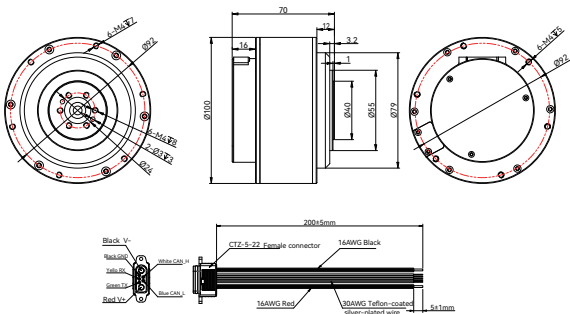


SPECIFICATIONS

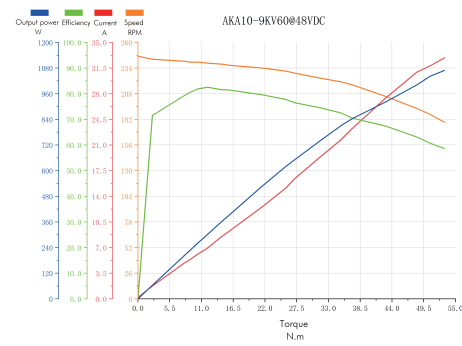
Application	AGV、Wheeled Robot	Rated current (ADC)	11.2
Driving way	FOC	Peak torque (Nm)	9
Operation ambient temperature (°C)	-20~50	Peak current (ADC)	11.2
Winding type	star	Kv (rpm/V)	80
Insulation class	H	Kt (Nm/A)	0.11937
Insulation High-voltage (V)	500	Ke (V/krpm)	0.0125
Insulation Resistance (MΩ)	10	Phase to Phase resistance (mΩ)	595
Pole pairs	14	Phase to Phase inductance (μH)	675
Arcmin	9	Inertia (gcm ²)	331.91
Rated voltage (V)	24/48	Km (Nm/√W)	0.1541
No-load speed (rpm)	320/640	Mechanical time constant (ms)	2.5
Rated torque (Nm)	3	Electrical time constant (ms)	1.13
Rated speed (rpm)	200/400	Weight (g)	460

AKA10-9 KV60, Φ100*70mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	AGV、Wheeled Robot	Rated current (ADC)	10.6
Driving way	FOC	Peak torque (Nm)	53
Operation ambient temperature (°C)	-20~50	Peak current (ADC)	32
Winding type	star	Kv (rpm/V)	60
Insulation class	C	Kt (Nm/A)	0.16
Insulation High-voltage (V)	1000	Ke (V/krpm)	0.0167
Insulation Resistance (MΩ)	10	Phase to Phase resistance (mΩ)	248
Pole pairs	21	Phase to Phase inductance (μH)	235
Arcmin	9	Inertia (gcm ²)	1002
Rated voltage (V)	48	Km (Nm/√W)	0.32
No-load speed (rpm)	320	Mechanical time constant (ms)	1.90
Rated torque (Nm)	18	Electrical time constant (ms)	0.94
Rated speed (rpm)	109	Weight (g)	1060

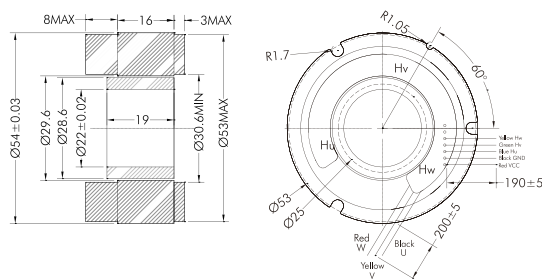
RI Series Frameless Inrunner Torque Motor

RI50	22
RI60	23
RI70	24
RI80	25
RI100	26

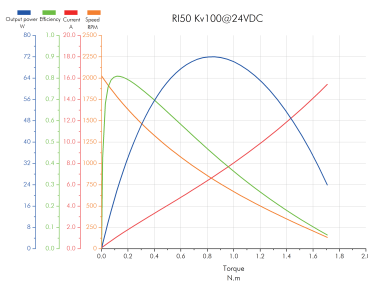


RI50 KV100, $\Phi 54 \times 27 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot arm/exoskeleton	Insulation class	C
Driving way	FOC	Insulation High-voltage	500V 5mA/2s
Operation ambient temperature	-20°C~50°C	Insulation resistance	500V10MΩ
Winding type	star	Phase	3
		Pole pairs	7

ELECTRIC PARAMETERS

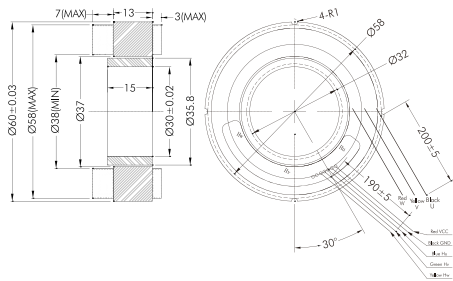
Rated voltage (V)	24/36/48	Ke (V/krpm)	11.41
No-load speed (rpm)	2004/3006/4008	Phase to Phase resistance (mΩ)	1420
Rated torque (Nm)	0.58	Phase to Phase inductance (μH)	1500
Rated speed (rpm)	1090/1860/2600	Inertia (gcm ²)	22.8
Rated current (ADC)	4.8	Km (Nm/√W)	0.1007
Peak torque (Nm)	1.67	Mechanical time constant (ms)	0.22
Peak current (ADC)	14.8	Electrical time constant (ms)	1.06
Kv (rpm/V)	100	Weight (g)	180.8
Kt (Nm/A)	0.120	Maximum torque weight ratio (Nm/kg)	9.24

CONNECTOR

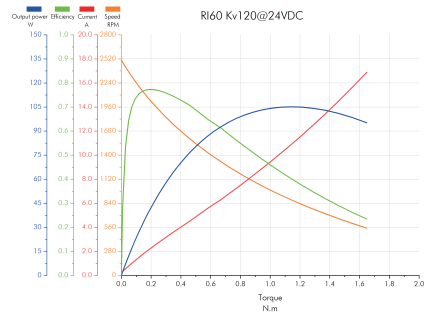
U	Black+18#Silicone Wire	Hv	Green+30#Silicone Wire
V	Yellow+18#Silicone Wire	Hw	Yellow+30#Silicone Wire
W	Red+18#Silicone Wire	VCC GND	Red+30#Silicone Wire
Hu	Blue+30#Silicone Wire		Black+30#Silicone Wire
		correspondence	Hu-U Hv-V Hw-W

RI60 KV120, $\Phi 60 \times 23\text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot arm/exoskeleton	Insulation class	C
Driving way	FOC	Insulation High-voltage	500V 5mA/2s
Operation ambient temperature	-20°C~50°C	Insulation resistance	500V10MΩ
Winding type	delta	Phase	3
		Pole pairs	14

ELECTRIC PARAMETERS

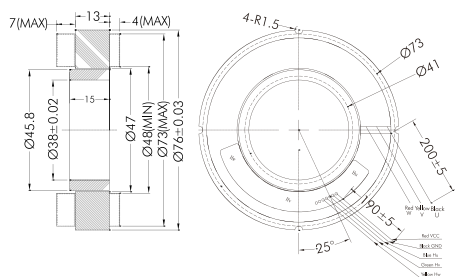
Rated voltage (V)	24/36/48	Ke (V/krpm)	9.03
No-load speed (rpm)	2532/3798/5064	Phase to Phase resistance (mΩ)	900
Rated torque (Nm)	0.57	Phase to Phase inductance (μH)	877.5
Rated speed (rpm)	1440/2320/3190	Inertia (gcm ²)	33.05
Rated current (ADC)	5.6	Km (Nm/√W)	0.1054
Peak torque (Nm)	1.63	Mechanical time constant (ms)	0.30
Peak current (ADC)	16.8	Electrical time constant (ms)	0.98
Kv (rpm/V)	120	Weight (g)	155.9
Kt (Nm/A)	0.100	Maximum torque weight ratio (Nm/kg)	10.46

CONNECTOR

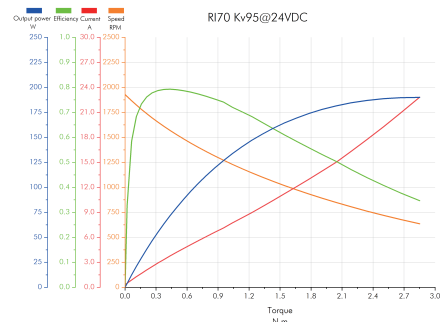
U	Black+18#Silicone Wire	Hv	Green+30#Silicone Wire
V	Yellow+18#Silicone Wire	Hw	Yellow+30#Silicone Wire
W	Red+18#Silicone Wire	VCC GND	Red+30#Silicone Wire
Hu	Blue+30#Silicone Wire		Black+30#Silicone Wire
		correspondence	Hu-U Hv-V Hw-W

RI70 KV95, $\Phi 76 \times 24 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot arm/exoskeleton	Insulation class	C
Driving way	FOC	Insulation High-voltage	1000V 5mA/2s
Operation ambient temperature	-20°C~50°C	Insulation resistance	1000V10MΩ
Winding type	delta	Phase	3
		Pole pairs	14

ELECTRIC PARAMETERS

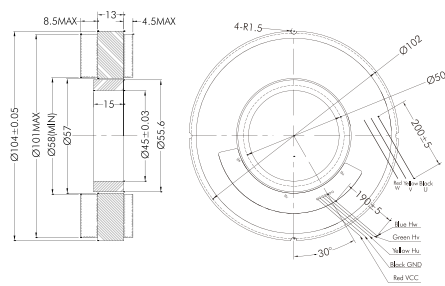
Rated voltage (V)	24/36/48	Ke (V/krpm)	11.69
No-load speed (rpm)	1956/2934/3912	Phase to Phase resistance (mΩ)	418
Rated torque (Nm)	0.94	Phase to Phase inductance (μH)	622.7
Rated speed (rpm)	1270/1990/2710	Inertia (gcm ²)	92.15
Rated current (ADC)	7.1	Km (Nm/√W)	0.2011
Peak torque (Nm)	2.68	Mechanical time constant (ms)	0.23
Peak current (ADC)	21	Electrical time constant (ms)	1.49
Kv (rpm/V)	95	Weight (g)	270.4
Kt (Nm/A)	0.130	Maximum torque weight ratio (Nm/kg)	9.91

CONNECTOR

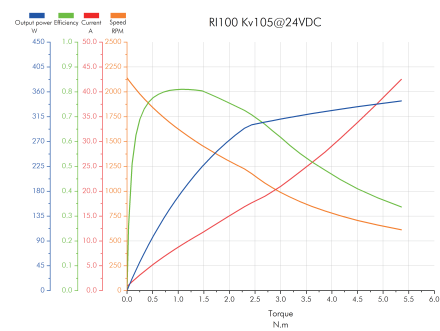
U	Black+16#Silicone Wire	Hv	Green+30#Silicone Wire
V	Yellow+16#Silicone Wire	Hw	Yellow+30#Silicone Wire
W	Red+16#Silicone Wire	VCC GND	Red+30#Silicone Wire
Hu	Blue+30#Silicone Wire		Black+30#Silicone Wire
		correspondence	Hu-U Hv-V Hw-W
		CCW correspondence	eg: Hu-U Hv-V Hw-W

RI100 KV105, Φ104*26mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot arm/exoskeleton	Insulation class	C
Driving way	FOC	Insulation High-voltage	1000V 5mA/2s
Operation ambient temperature	-20°C~50°C	Insulation resistance	1000V10MΩ
Winding type	delta	Phase	3
		Pole pairs	14

ELECTRIC PARAMETERS

Rated voltage (V)	24/36/48	Ke (V/krpm)	10.47
No-load speed (rpm)	2184/3276/4368	Phase to Phase resistance (mΩ)	126
Rated torque (Nm)	1.76	Phase to Phase inductance (μH)	366.7
Rated speed (rpm)	1370/2100/2825	Inertia (gcm ²)	215.5
Rated current (ADC)	13.6	Km (Nm/√W)	0.3634
Peak torque (Nm)	4.95	Mechanical time constant (ms)	0.16
Peak current (ADC)	38.6	Electrical time constant (ms)	2.91
Kv (rpm/V)	105	Weight (g)	500
Kt (Nm/A)	0.129	Maximum torque weight ratio (Nm/kg)	9.9

CONNECTOR

U	Black+16#Silicone Wire	Hv	Green+30#Silicone Wire
V	Yellow+16#Silicone Wire	Hw	Blue+30#Silicone Wire
W	Red+16#Silicone Wire	VCC GND	Red+30#Silicone Wire
Hu	Yellow+30#Silicone Wire	correspondence	Black+30#Silicone Wire
			Hu-U Hv-V Hw-W

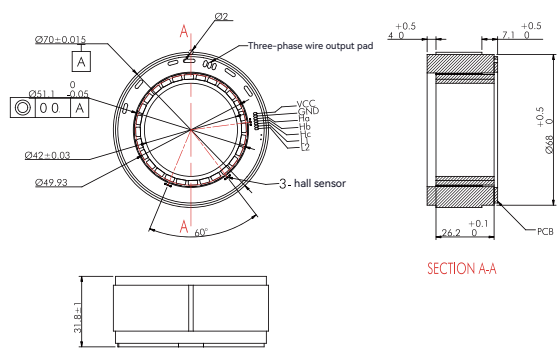
RI-PH Series Frameless Inrunner Torque Motor

RI75-PH	28
RI85-PH	29
RI115-PH	30

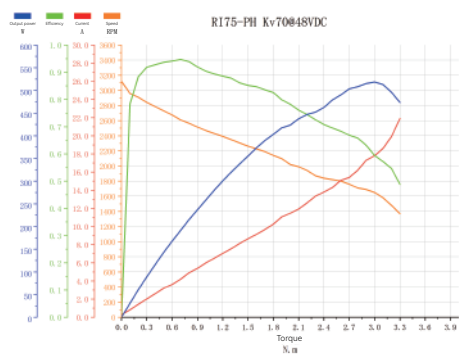


RI75-PH_{KV70, φ70*31.8mm}

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



CHARACTERISTICS OVERVIEW

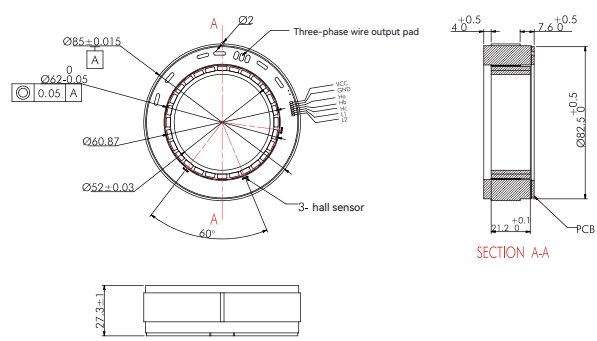
Hall Distribution Angle	120 electrical degrees
Dielectric Strength	1000VAC/1S
Insulation Resistance	100MΩ, 500VDC
Operating Environment	-20°C~+85°C
Insulation Class	Class H

ELECTRIC PARAMETERS

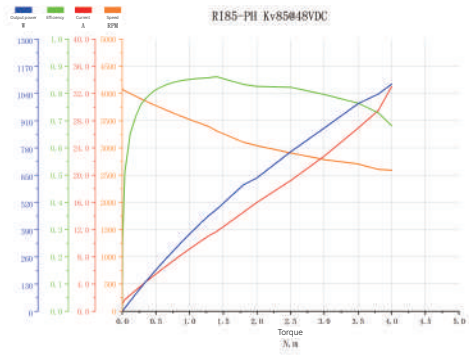
Motor Weight (g)	348
Voltage (V)	48
Continuous Torque (N·m)	1.2
Peak Torque (N·m)	3.8
Max Speed at Continuous Torque (RPM)	2365
Continuous Current (A)	7.28
Peak Current (A)	24.2 (Ref)
Torque Constant (N·m/A)	0.143
Back EMF Constant (V/RPM)	0.015
Speed Constant (RPM/V)	70
Motor Constant (N·m/√w)	0.203
Inertia (g·cm²)	416
Number of Pole Pairs	14
Phase Resistance (mΩ)	495
Phase Inductance (μH)	673
Maximum Torque-to-Weight Ratio (N·m/kg)	11.8
Electrical Time Constant (ms)	0.0013
Electromechanical Time Constant (ms)	0.001

RI85-PH KV85, $\phi 85 \times 27.3 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



CHARACTERISTICS OVERVIEW

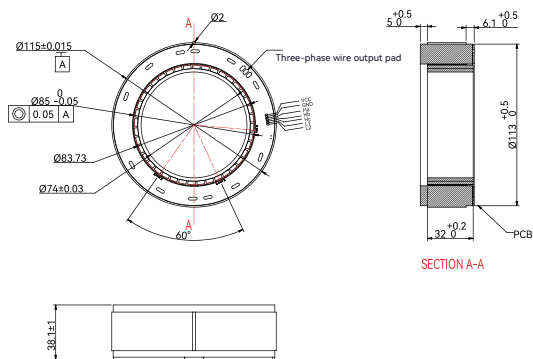
Hall Distribution Angle	120 electrical degrees
Dielectric Strength	1000VAC/1S
Insulation Resistance	100M Ω , 500VDC
Operating Environment	-20°C~+85°C
Insulation Class	Class H

ELECTRIC PARAMETERS

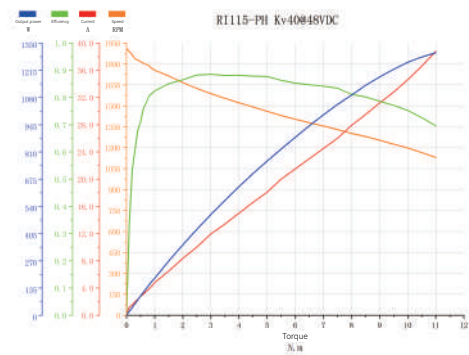
Motor Weight (g)	411
Voltage (V)	48
Continuous Torque (N·m)	2
Peak Torque (N·m)	5
Max Speed at Continuous Torque (RPM)	3042
Continuous Current (A)	16
Peak Current (A)	44 (Ref)
Torque Constant (N·m/A)	0.13
Back EMF Constant (V/RPM)	0.011
Speed Constant (RPM/V)	85
Motor Constant (N·m/ $\sqrt{w}$)	0.299
Inertia (g·cm ²)	652
Number of Pole Pairs	14
Phase Resistance (m Ω)	138.5
Phase Inductance (μ H)	239.4
Maximum Torque-to-Weight Ratio (N·m/kg)	11.6
Electrical Time Constant (ms)	0.0017
Electromechanical Time Constant (ms)	0.0007

RI115-PH KV40, $\phi 115 \times 38.1 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



CHARACTERISTICS OVERVIEW

Hall Distribution Angle	120 electrical degrees
Dielectric Strength	1000VAC/1S
Insulation Resistance	100M Ω , 500VDC
Operating Environment	-20°C~+85°C
Insulation Class	Class H

ELECTRIC PARAMETERS

Motor Weight (g)	1108
Voltage (V)	48
Continuous Torque (N·m)	5.5
Peak Torque (N·m)	16
Max Speed at Continuous Torque (RPM)	1430
Continuous Current (A)	17.8
Peak Current (A)	52 (Ref)
Torque Constant (N·m/A)	0.29
Back EMF Constant (V/RPM)	0.025
Speed Constant (RPM/V)	40
Motor Constant (N·m/ $\sqrt{w}$)	0.66
Inertia (g·cm ²)	3461
Number of Pole Pairs	20
Phase Resistance (m Ω)	134
Phase Inductance (μ H)	245
Maximum Torque-to-Weight Ratio (N·m/kg)	15
Electrical Time Constant (ms)	0.0018
Electromechanical Time Constant (ms)	0.0008

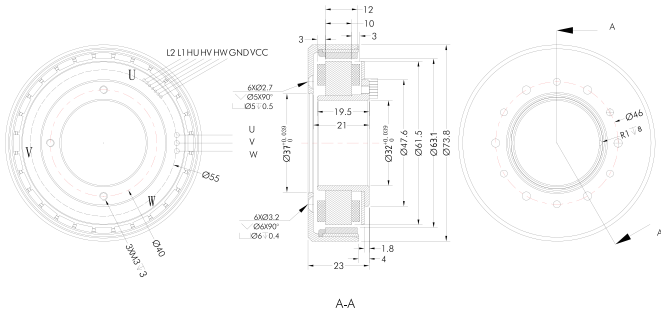
RO Series Frameless Outrunner Torque Motor

RO60	32
RO80	33
RO100	34

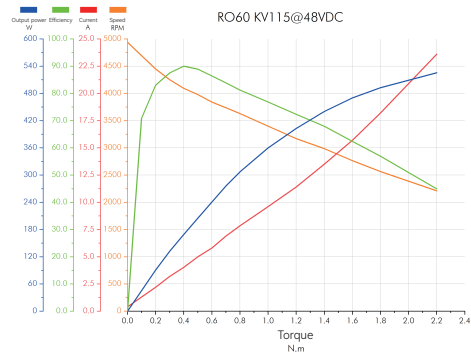


RO60 KV115, $\Phi 73.8 \times 23\text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

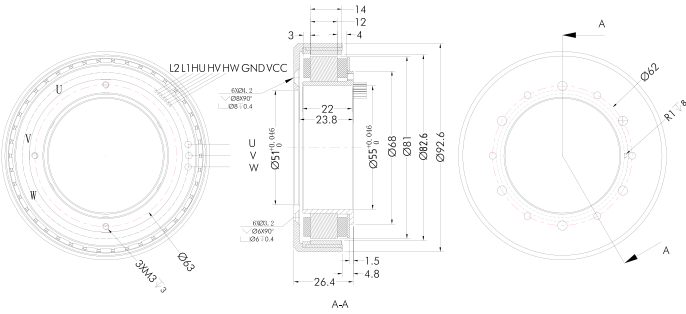
Application	Cobot Arm、Exoskeleton
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	F
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

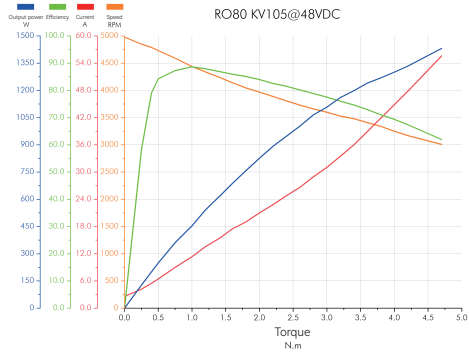
Rated voltage (V)	48
No-load speed (rpm)	5230
Rated torque (Nm)	0.8
Rated speed (rpm)	4200
Rated current (ADC)	8.5
Peak torque (Nm)	2.4
Peak current (ADC)	40
Kv (rpm/V)	115
Kt (Nm/A)	0.094
Ke (V/krpm)	8.28
Phase to Phase resistance (mΩ)	300
Phase to Phase inductance (μH)	395
Inertia (gcm ²)	841
Km (Nm/√W)	0.17
Mechanical time constant (ms)	2.86
Electrical time constant (ms)	1.32
Weight (g)	248
Maximum torque weight ratio (Nm/kg)	10

RO80 KV105, $\Phi 92.6 \times 26.4 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

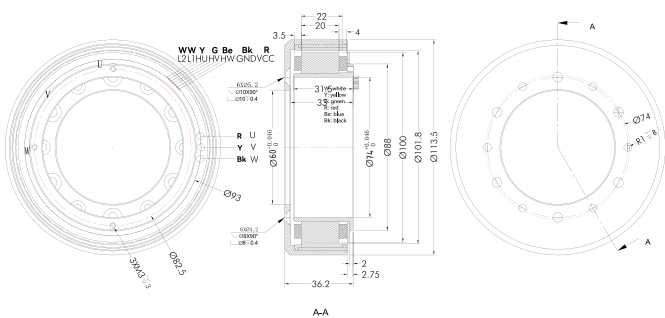
Application	Cobot Arm, Exoskeleton
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	Delta
Insulation class	F
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10M Ω
Phase	3
Pole pairs	21

ELECTRIC PARAMETERS

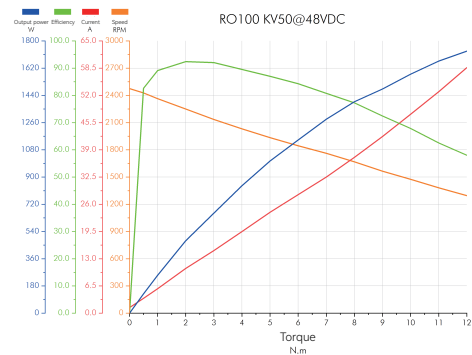
Rated voltage (V)	48
No-load speed (rpm)	4800
Rated torque (Nm)	1.3
Rated speed (rpm)	4000
Rated current (ADC)	15
Peak torque (Nm)	4.5
Peak current (ADC)	55
Kv (rpm/V)	105
Kt (Nm/A)	0.087
Ke (V/krpm)	9.07
Phase to Phase resistance (m Ω)	120
Phase to Phase inductance (μH)	103
Inertia (gcm ²)	1859
Km (Nm/ $\sqrt{\text{W}}$)	0.251147367
Mechanical time constant (ms)	2.95
Electrical time constant (ms)	0.86
Weight (g)	345
Maximum torque weight ratio (Nm/kg)	13

RO100 KV50, $\Phi 113.5 \times 36.2 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot Arm、Exoskeleton
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	F
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	21

ELECTRIC PARAMETERS

Rated voltage (V)	48
No-load speed (rpm)	2450
Rated torque (Nm)	4
Rated speed (rpm)	2000
Rated current (ADC)	20
Peak torque (Nm)	12
Peak current (ADC)	62
Kv (rpm/V)	50
Kt (Nm/A)	0.200
Ke (V/krpm)	18.67
Phase to Phase resistance (mΩ)	143
Phase to Phase inductance (μH)	137
Inertia (gcm ²)	4845
Km (Nm/√W)	0.528885885
Mechanical time constant (ms)	1.73
Electrical time constant (ms)	0.96
Weight (g)	685
Maximum torque weight ratio (Nm/kg)	17

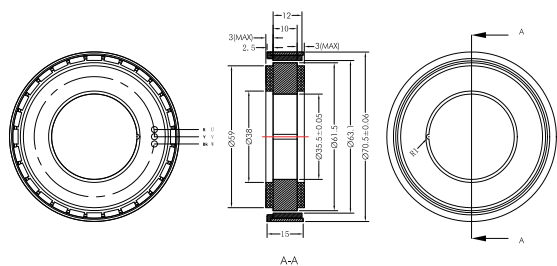
RO LITE Series Frameless Outrunner Torque Motor

RO60 LITE	36
RO80 LITE	37
RO100 LITE	38

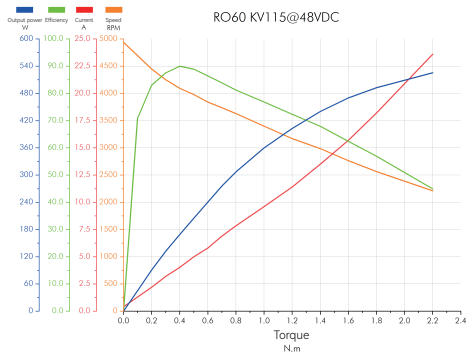


RO60 LITE KV115, $\phi 70.5 \times 15\text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot Arm、Exoskeleton
Driving Way	FOC
Operation Ambient Temperature (°C)	-20~50
Winding Type	Star
Insulation Class	F
Insulation High-Voltage (V)	500
Insulation Resistance (mΩ)	10
Cogging Torque (mN.m)	15
Pole Pairs	14
Rotor Weight (g)	70
Lead-Out	"Three-Phase Motor Lead-Out Enameled Wire Straight Out 100±5mm Tinned 5±2mm"

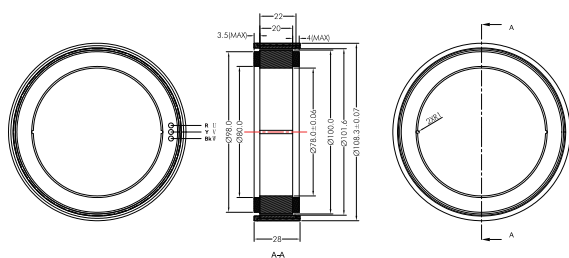
ELECTRIC PARAMETERS

Rated Voltage (V)	48
No-Load Speed (rpm)	5520
Rated Torque (Nm)	0.8
Rated Speed (rpm)	4200
Rated Current (ADC)	8.5
Peak Torque (Nm)	2.4
Peak Current (ADC)	40
Kv (rpm/V)	115
Kt (Nm/A)	0.094
Stator Weight (g)	125
Ke (V/krpm)	8.28
Phase To Phase Resistance (mΩ)	300
Phase To Phase Inductance (μH)	395
Inertia (gcm ²)	800
Km (Nm/√W)	0.17
Mechanical Time Constant (ms)	2.86
Electrical Time Constant (ms)	1.32
Weight (g)	195

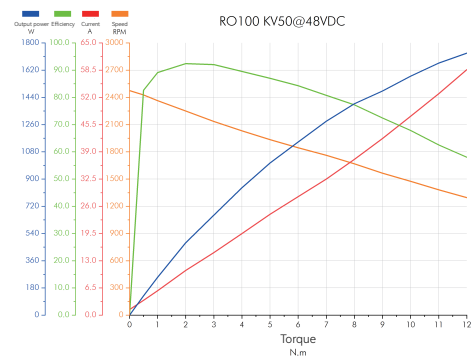
Rated Voltage (V)	48
No-Load Speed (rpm)	5040
Rated Torque (Nm)	1.3
Rated Speed (rpm)	3600
Rated Current (ADC)	15
Peak Torque (Nm)	4
Peak Current (ADC)	50
Kv (rpm/V)	105
Kt (Nm/A)	0.087
Stator Weight (g)	180
Ke (V/krpm)	9.07
Phase To Phase Resistance (mΩ)	120
Phase To Phase Inductance (μH)	103
Inertia (gcm ²)	1600
Km (Nm/√W)	0.25
Mechanical Time Constant (ms)	2.95
Electrical Time Constant (ms)	0.86
Weight (g)	265

RO100 LITE KV55, $\phi 108.3 \times 28 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Cobot Arm
Driving Way	FOC
Operation Ambient Temperature (°C)	-20~50
Winding Type	star
Insulation Class	F
Insulation High-Voltage (V)	500
Insulation Resistance (mΩ)	10
Cogging Torque (mN.m)	55
Pole Pairs	21
Rotor Weight (g)	190
Lead-Out	"Three-Phase Motor Lead-Out Enameled Wire Straight Out 100±5mm Tinned 5±2mm"

ELECTRIC PARAMETERS

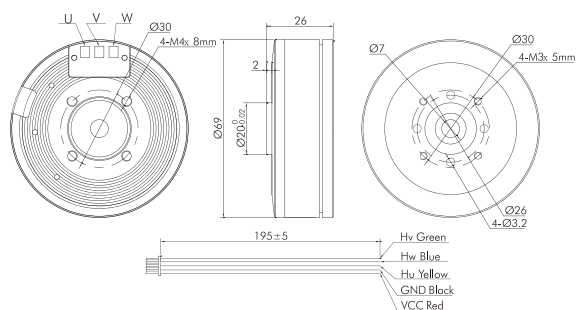
Rated Voltage (V)	48
No-Load Speed (rpm)	2550
Rated Torque (Nm)	4
Rated Speed (rpm)	2000
Rated Current (ADC)	20
Peak Torque (Nm)	12
Peak Current (ADC)	62
Kv (rpm/V)	53
Kt (Nm/A)	0.2
Stator Weight (g)	335
Ke (V/krpm)	18.67
Phase To Phase Resistance (mΩ)	143
Phase To Phase Inductance (μH)	137
Inertia (gcm ²)	5290
Km (Nm/√W)	0.53
Mechanical Time Constant (ms)	1.73
Electrical Time Constant (ms)	0.96
Weight (g)	525

R Series Outrunner Torque Motor

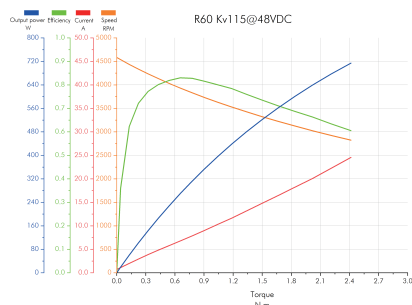
R60	40
R80	41
R100	42



PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Exoskeleton
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

CONNECTOR

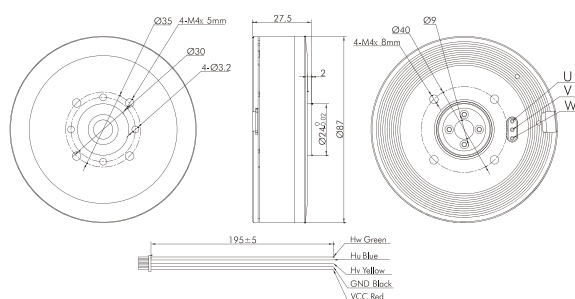
Motor Phase U V W	Reference engineering drawing
Hall sensor port	Reference engineering drawing
VCC, GND, Hu, Hv, Hw	
Correspondence	Hu-U Hv-V Hw-W

ELECTRIC PARAMETERS

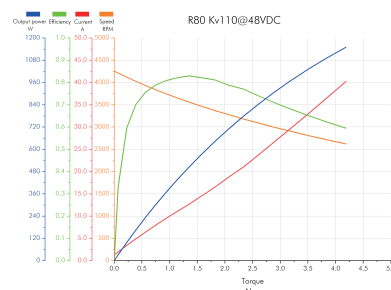
Rated voltage (V)	48	Ke (V/krpm)	9.82
No-load speed (rpm)	4656	Phase to Phase resistance (mΩ)	235
Rated torque (Nm)	0.75	Phase to Phase inductance (μH)	183
Rated speed (rpm)	3845	Inertia (gcm ²)	363.74
Rated current (ADC)	7.6	Km (Nm/√W)	0.2022
Peak torque (Nm)	2.3	Mechanical time constant (ms)	0.89
Peak current (ADC)	23.2	Electrical time constant (ms)	0.78
Kv (rpm/V)	97	Weight (g)	248
Kt (Nm/A)	0.098	Maximum torque weight ratio (Nm/kg)	9.3

R80 KV110, $\Phi 87 \times 27.5 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Exoskeleton
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	delta
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10MΩ
Phase	3
Pole pairs	21

CONNECTOR

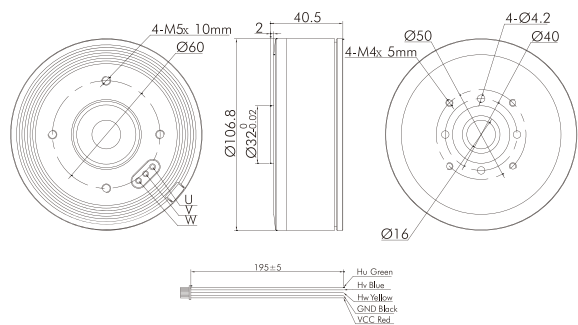
Motor Phase U V W	Reference engineering drawing
Hall sensor port	Reference engineering drawing
VCC, GND, Hu, Hv, Hw	
Correspondence	Hu-U Hv-V Hw-W

ELECTRIC PARAMETERS

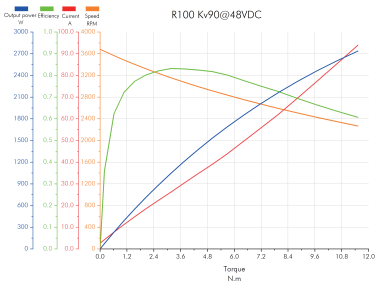
Rated voltage (V)	48	Ke (V/krpm)	10.58
No-load speed (rpm)	4320	Phase to Phase resistance (mΩ)	125
Rated torque (Nm)	1.3	Phase to Phase inductance (μH)	87
Rated speed (rpm)	3580	Inertia (gcm ²)	759.98
Rated current (ADC)	12.3	Km (Nm/√W)	0.3026
Peak torque (Nm)	4	Mechanical time constant (ms)	0.83
Peak current (ADC)	38.6	Electrical time constant (ms)	0.70
Kv (rpm/V)	90	Weight (g)	354
Kt (Nm/A)	0.107	Maximum torque weight ratio (Nm/kg)	11.3

R100 KV90, Φ106.8*40.5mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Exoskeleton
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	delta
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10MΩ
Phase	3
Pole pairs	21

CONNECTOR

Motor Phase U V W	Reference engineering drawing
Hall sensor port	Reference engineering drawing
VCC, GND, Hu, Hv, Hw	
Correspondence	Hu-U Hv-V Hw-W

ELECTRIC PARAMETERS

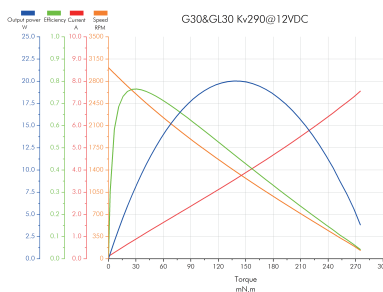
Rated voltage (V)	48	Ke (V/krpm)	12.21
No-load speed (rpm)	3740	Phase to Phase resistance (mΩ)	51
Rated torque (Nm)	3.7	Phase to Phase inductance (μH)	33
Rated speed (rpm)	3080	Inertia (gcm ²)	2505.4
Rated current (ADC)	30.1	Km (Nm/√W)	0.5447
Peak torque (Nm)	11	Mechanical time constant (ms)	0.84
Peak current (ADC)	90.5	Electrical time constant (ms)	0.65
Kv (rpm/V)	78	Weight (g)	731
Kt (Nm/A)	0.123	Maximum torque weight ratio (Nm/kg)	16.4

G Series Inrunner Gimbal Motor

G30	44
G35	45
G40	46
G60	48
G80	50
G100	52



ANALYTICAL GRAPH OF MOTOR OPERATION

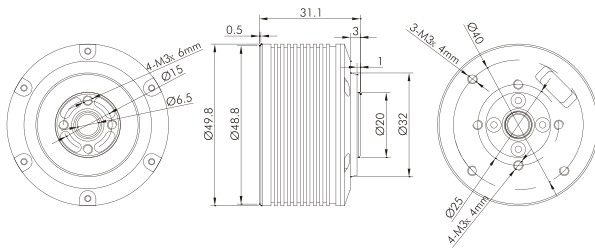


ELECTRIC PARAMETERS

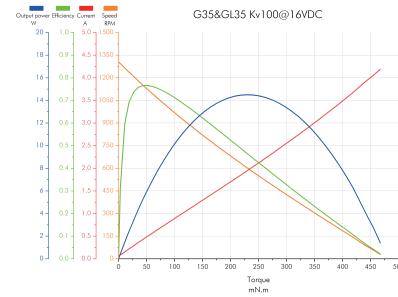
Rated voltage (V)	12
No-load speed (rpm)	3060
Rated torque (Nm)	0.08
Rated speed (rpm)	1990
Rated current (ADC)	2.13
Peak torque (Nm)	0.28
Peak current (ADC)	7.4
Kv (rpm/V)	255
Kt (Nm/A)	0.038
Ke (V/krpm)	3.73
Phase to Phase resistance ($m\Omega$)	1530
Phase to Phase inductance (μH)	330
Inertia (gcm^2)	24.2
Km (Nm/ $\sqrt{W}$)	0.0307
Mechanical time constant (ms)	2.56
Electrical time constant (ms)	0.22
Weight (g)	41
Maximum torque weight ratio (Nm/kg)	6.83

G35 KV100, $\Phi 49.8 \times 31.1 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

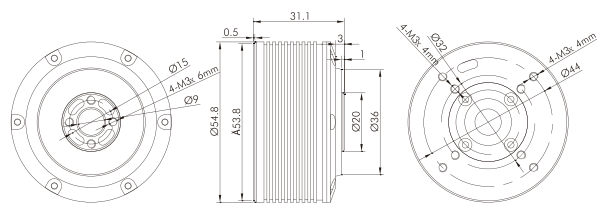
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10M Ω
Phase	3
Pole pairs	7

ELECTRIC PARAMETERS

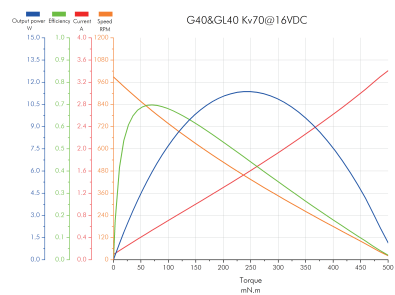
Rated voltage (V)	16
No-load speed (rpm)	1320
Rated torque (Nm)	0.15
Rated speed (rpm)	815
Rated current (ADC)	1.3
Peak torque (Nm)	0.46
Peak current (ADC)	4
Kv (rpm/V)	82.5
Kt (Nm/A)	0.115
Ke (V/krpm)	11.54
Phase to Phase resistance (m Ω)	3600
Phase to Phase inductance (μH)	2100
Inertia (gcm ²)	61
Km (Nm/ $\sqrt{\text{W}}$)	0.0606
Mechanical time constant (ms)	1.66
Electrical time constant (ms)	0.58
Weight (g)	90
Maximum torque weight ratio (Nm/kg)	5.11

G40 KV70, $\Phi 54.8 \times 31.1$ mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

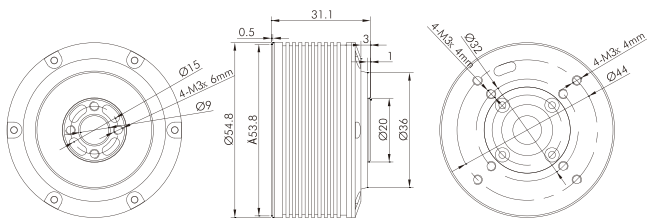
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

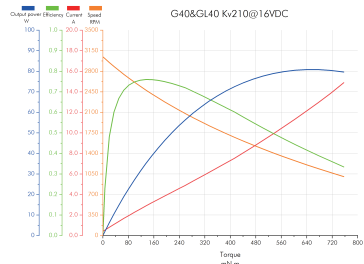
Rated voltage (V)	16
No-load speed (rpm)	1015
Rated torque (Nm)	0.25
Rated speed (rpm)	430
Rated current (ADC)	1.62
Peak torque (Nm)	0.5
Peak current (ADC)	3.3
Kv (rpm/V)	70
Kt (Nm/A)	0.150
Ke (V/krpm)	15.00
Phase to Phase resistance (mΩ)	4500
Phase to Phase inductance (μH)	1800
Inertia (gcm ²)	74
Km (Nm/√W)	0.0707
Mechanical time constant (ms)	1.48
Electrical time constant (ms)	0.40
Weight (g)	107
Maximum torque weight ratio (Nm/kg)	4.67

G40 KV210, $\Phi 54.8 \times 31.1 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

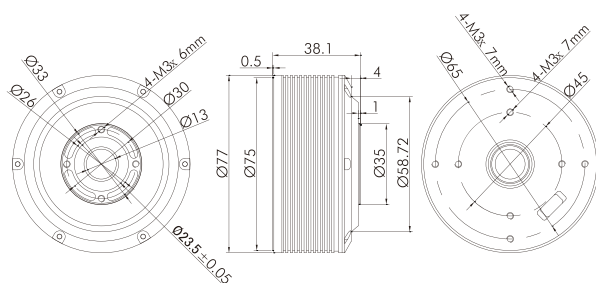
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10M Ω
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

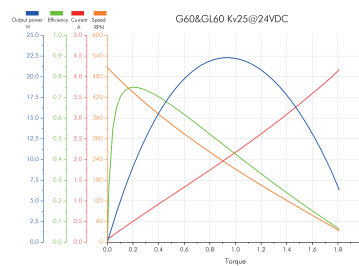
Rated voltage (V)	16
No-load speed (rpm)	3120
Rated torque (Nm)	0.25
Rated speed (rpm)	2100
Rated current (ADC)	4.9
Peak torque (Nm)	0.75
Peak current (ADC)	14.9
Kv (rpm/V)	210
Kt (Nm/A)	0.050
Ke (V/krpm)	4.88
Phase to Phase resistance (m Ω)	500
Phase to Phase inductance (μ H)	180
Inertia (gcm ²)	74
Km (Nm/ $\sqrt$ W)	0.0707
Mechanical time constant (ms)	1.48
Electrical time constant (ms)	0.36
Weight (g)	107
Maximum torque weight ratio (Nm/kg)	7.01

G60 KV25, $\Phi 77 \times 38.1 \text{ mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

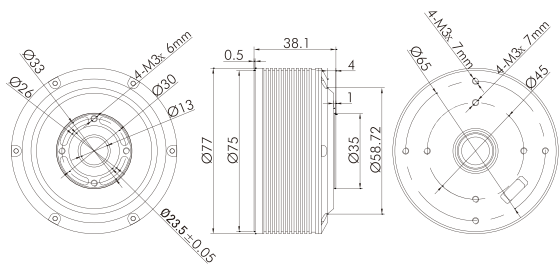
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10M Ω
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

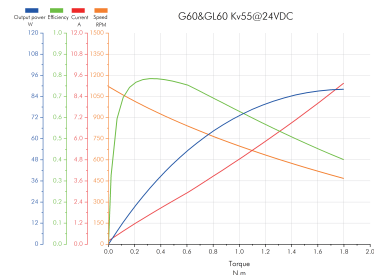
Rated voltage (V)	24
No-load speed (rpm)	516
Rated torque (Nm)	0.6
Rated speed (rpm)	310
Rated current (ADC)	1.35
Peak torque (Nm)	1.75
Peak current (ADC)	4
Kv (rpm/V)	25
Kt (Nm/A)	0.450
Ke (V/krpm)	44.30
Phase to Phase resistance (m Ω)	5500
Phase to Phase inductance (μH)	2720
Inertia (gcm ²)	355
Km (Nm/ $\sqrt{\text{W}}$)	0.1919
Mechanical time constant (ms)	0.96
Electrical time constant (ms)	0.49
Weight (g)	230
Maximum torque weight ratio (Nm/kg)	7.61

G60 KV55, Φ77*38.1mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

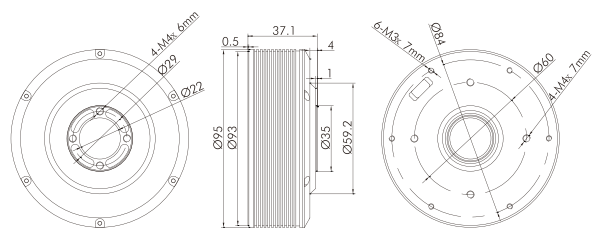
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

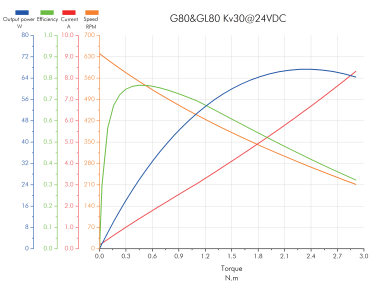
Rated voltage (V)	24
No-load speed (rpm)	1140
Rated torque (Nm)	0.6
Rated speed (rpm)	840
Rated current (ADC)	2.93
Peak torque (Nm)	1.75
Peak current (ADC)	8.9
Kv (rpm/V)	55
Kt (Nm/A)	0.205
Ke (V/krpm)	20.05
Phase to Phase resistance (mΩ)	1200
Phase to Phase inductance (μH)	900
Inertia (gcm ²)	355
Km (Nm/√W)	0.1871
Mechanical time constant (ms)	1.01
Electrical time constant (ms)	0.75
Weight (g)	226
Maximum torque weight ratio (Nm/kg)	7.74

G80 KV30, Ø95*37.1mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

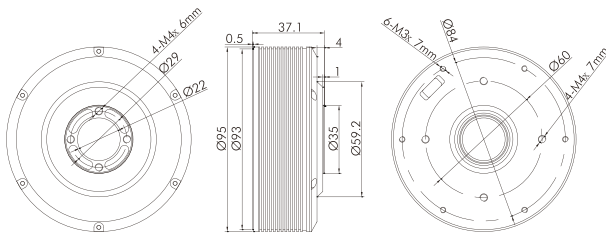
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10MΩ
Phase	3
Pole pairs	21

ELECTRIC PARAMETERS

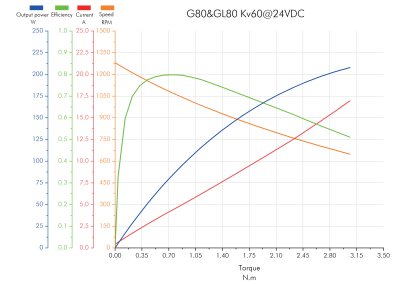
Rated voltage (V)	24
No-load speed (rpm)	1300
Rated torque (Nm)	1
Rated speed (rpm)	1010
Rated current (ADC)	5.6
Peak torque (Nm)	2.9
Peak current (ADC)	16.3
Kv (rpm/V)	60
Kt (Nm/A)	0.178
Ke (V/krpm)	17.47
Phase to Phase resistance (mΩ)	450
Phase to Phase inductance (μH)	270
Inertia (gcm ²)	650
Km (Nm/√W)	0.2653
Mechanical time constant (ms)	0.92
Electrical time constant (ms)	0.60
Weight (g)	315
Maximum torque weight ratio (Nm/kg)	9.21

G80 KV60, $\Phi 95 \times 37.1 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

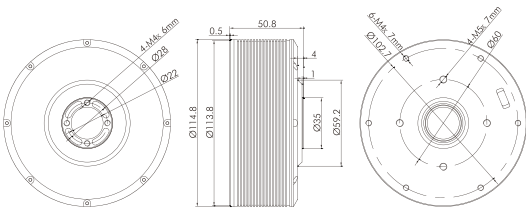
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10M Ω
Phase	3
Pole pairs	21

ELECTRIC PARAMETERS

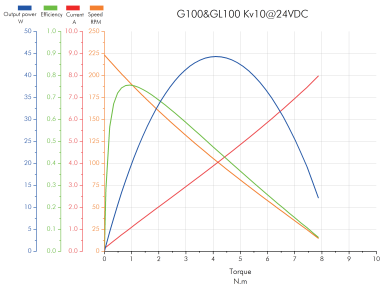
Rated voltage (V)	24
No-load speed (rpm)	650
Rated torque (Nm)	1
Rated speed (rpm)	450
Rated current (ADC)	2.8
Peak torque (Nm)	2.9
Peak current (ADC)	8.2
Kv (rpm/V)	30
Kt (Nm/A)	0.356
Ke (V/krpm)	35.27
Phase to Phase resistance (m Ω)	1800
Phase to Phase inductance (μH)	1100
Inertia (gcm ²)	650
Km (Nm/ $\sqrt{\text{W}}$)	0.2653
Mechanical time constant (ms)	0.92
Electrical time constant (ms)	0.61
Weight (g)	315
Maximum torque weight ratio (Nm/kg)	9.21

G100 KV10, Φ114.8*50.8mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10MΩ
Phase	3
Pole pairs	20

ELECTRIC PARAMETERS

Rated voltage (V)	24
No-load speed (rpm)	223
Rated torque (Nm)	3
Rated speed (rpm)	130
Rated current (ADC)	2.9
Peak torque (Nm)	7.7
Peak current (ADC)	7.8
Kv (rpm/V)	10
Kt (Nm/A)	1.030
Ke (V/krpm)	102.4
Phase to Phase resistance (mΩ)	2650
Phase to Phase inductance (μH)	2350
Inertia (gcm ²)	2310
Km (Nm/√W)	0.6327
Mechanical time constant (ms)	0.58
Electrical time constant (ms)	0.89
Weight (g)	698
Maximum torque weight ratio (Nm/kg)	11.03

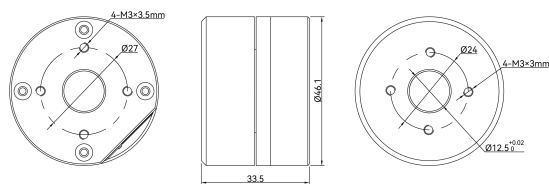
GL Series Outrunner Gimbal Motor

GL40II	54
GL30	55
GL35	56
GL40	57
GL60	59
GL80	61
GL100	63

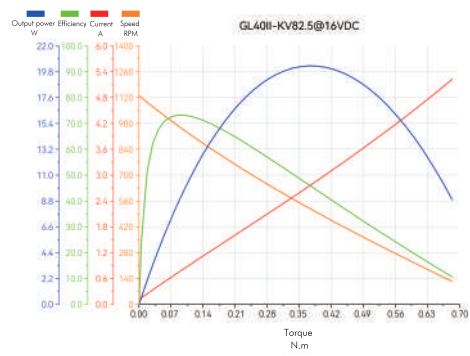


GL40II KV82.5, $\phi 46.1 \times 33.5 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

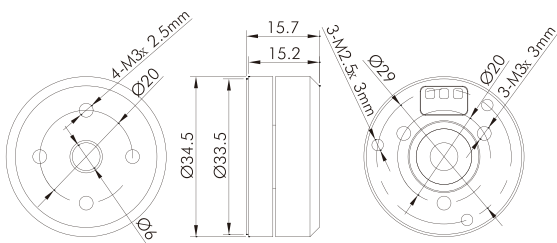
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

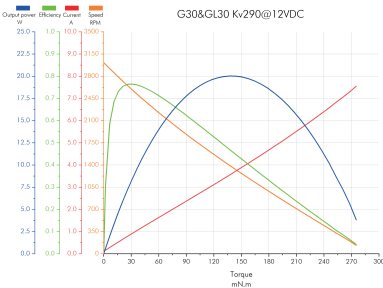
Rated voltage (V)	16
No-load speed (rpm)	1388
Rated torque (Nm)	0.25
Rated speed (rpm)	697
Rated current (ADC)	1.88
Peak torque (Nm)	0.68
Peak current (ADC)	5.22
Kv (rpm/V)	82.5
Kt (Nm/A)	0.11
Ke (V/krpm)	0.0115
Phase to Phase resistance (mΩ)	3000
Phase to Phase inductance (μH)	1320
Inertia (gcm ²)	0.794578
Km (Nm/√W)	0.06392
Mechanical time constant (ms)	2.045
Electrical time constant (ms)	0.44
Weight (g)	112
Maximum torque weight ratio (Nm/kg)	60.71

GL30 KV290, $\Phi 34.5 \times 15.7 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

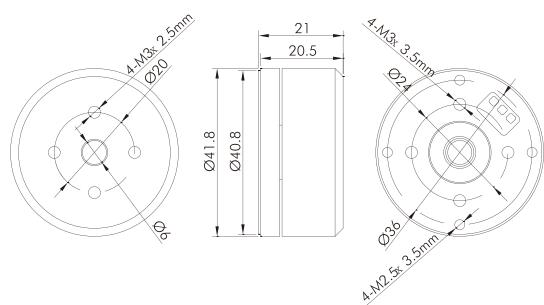
Application	
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	7

ELECTRIC PARAMETERS

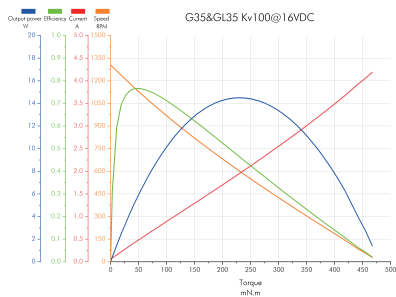
Rated voltage (V)	12
No-load speed (rpm)	3060
Rated torque (Nm)	0.08
Rated speed (rpm)	1990
Rated current (ADC)	2.13
Peak torque (Nm)	0.28
Peak current (ADC)	7.4
Kv (rpm/V)	290
Kt (Nm/A)	0.038
Ke (V/krpm)	3.73
Phase to Phase resistance (mΩ)	1530
Phase to Phase inductance (μH)	330
Inertia (gcm ²)	24.2
Km (Nm/√W)	0.0307
Mechanical time constant (ms)	2.56
Electrical time constant (ms)	0.22
Weight (g)	41
Maximum torque weight ratio (Nm/kg)	6.83

GL35 KV100, $\Phi 41.8 \times 21$ mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

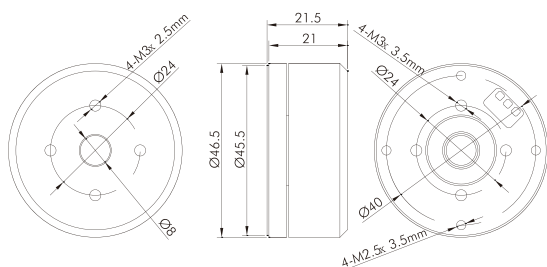
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10M Ω
Phase	3
Pole pairs	7

ELECTRIC PARAMETERS

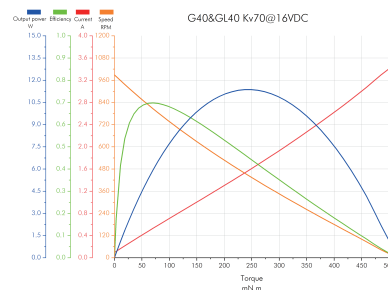
Rated voltage (V)	16
No-load speed (rpm)	1320
Rated torque (Nm)	0.15
Rated speed (rpm)	815
Rated current (ADC)	1.3
Peak torque (Nm)	0.46
Peak current (ADC)	4
Kv (rpm/V)	100
Kt (Nm/A)	0.115
Ke (V/krpm)	11.54
Phase to Phase resistance (m Ω)	3600
Phase to Phase inductance (μ H)	2100
Inertia (gcm ²)	61
Km (Nm/ $\sqrt$ W)	0.0606
Mechanical time constant (ms)	1.66
Electrical time constant (ms)	0.58
Weight (g)	90
Maximum torque weight ratio (Nm/kg)	5.11

GL40 KV70, $\Phi 46.5 \times 21.5$ mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

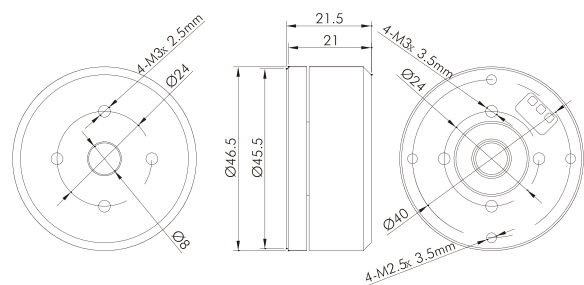
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10M Ω
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

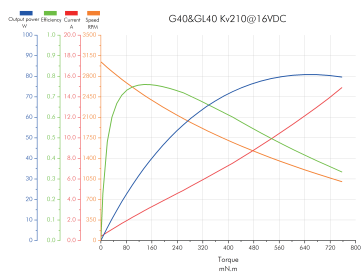
Rated voltage (V)	16
No-load speed (rpm)	1015
Rated torque (Nm)	0.25
Rated speed (rpm)	430
Rated current (ADC)	1.62
Peak torque (Nm)	0.5
Peak current (ADC)	3.3
Kv (rpm/V)	70
Kt (Nm/A)	0.150
Ke (V/krpm)	15.00
Phase to Phase resistance (m Ω)	4500
Phase to Phase inductance (μ H)	1800
Inertia (gcm ²)	74
Km (Nm/ $\sqrt$ W)	0.0707
Mechanical time constant (ms)	1.48
Electrical time constant (ms)	0.40
Weight (g)	107
Maximum torque weight ratio (Nm/kg)	4.67

GL40 KV210, Φ46.5*21.5mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

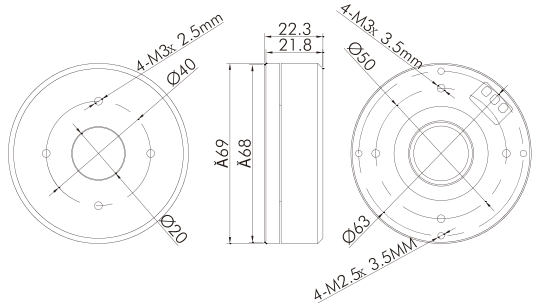
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

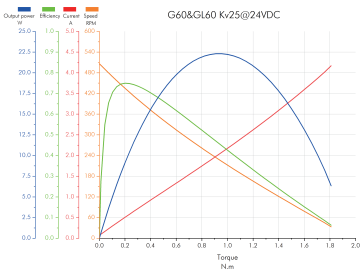
Rated voltage (V)	16
No-load speed (rpm)	3120
Rated torque (Nm)	0.25
Rated speed (rpm)	2100
Rated current (ADC)	4.9
Peak torque (Nm)	0.75
Peak current (ADC)	14.9
Kv (rpm/V)	210
Kt (Nm/A)	0.050
Ke (V/krpm)	4.88
Phase to Phase resistance (mΩ)	500
Phase to Phase inductance (μH)	180
Inertia (gcm ²)	74
Km (Nm/√W)	0.0707
Mechanical time constant (ms)	1.48
Electrical time constant (ms)	0.36
Weight (g)	107
Maximum torque weight ratio (Nm/kg)	7.01

GL60 KV25, $\Phi 69 \times 22.3 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

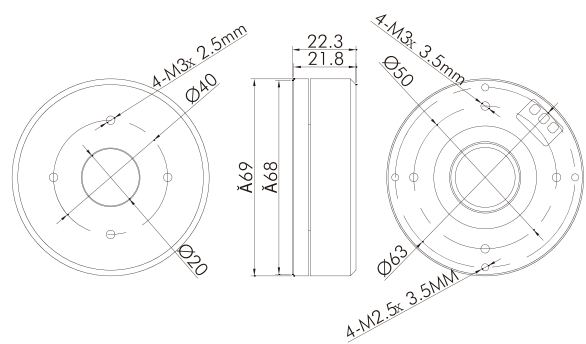
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

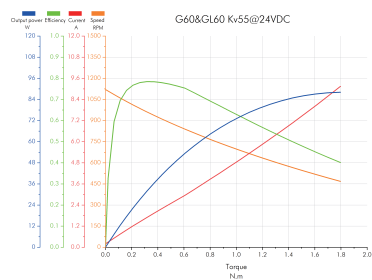
Rated voltage (V)	24
No-load speed (rpm)	516
Rated torque (Nm)	0.6
Rated speed (rpm)	310
Rated current (ADC)	1.35
Peak torque (Nm)	1.75
Peak current (ADC)	4
Kv (rpm/V)	25
Kt (Nm/A)	0.450
Ke (V/krpm)	44.30
Phase to Phase resistance (mΩ)	5500
Phase to Phase inductance (μH)	2720
Inertia (gcm ²)	355
Km (Nm/√W)	0.1919
Mechanical time constant (ms)	0.96
Electrical time constant (ms)	0.49
Weight (g)	230
Maximum torque weight ratio (Nm/kg)	7.61

GL60 KV55, Ø69*22.3mm

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

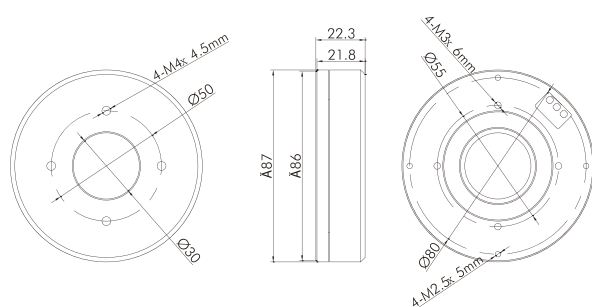
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	500V 5mA/2s
Insulation resistance	500V10MΩ
Phase	3
Pole pairs	14

ELECTRIC PARAMETERS

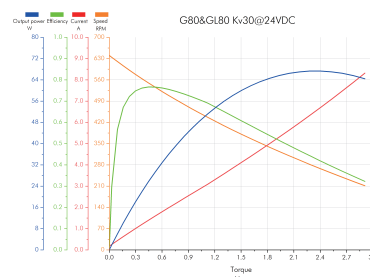
Rated voltage (V)	24
No-load speed (rpm)	1140
Rated torque (Nm)	0.6
Rated speed (rpm)	840
Rated current (ADC)	2.93
Peak torque (Nm)	1.75
Peak current (ADC)	8.9
Kv (rpm/V)	55
Kt (Nm/A)	0.205
Ke (V/krpm)	20.05
Phase to Phase resistance (mΩ)	1200
Phase to Phase inductance (μH)	900
Inertia (gcm ²)	355
Km (Nm/√W)	0.1871
Mechanical time constant (ms)	1.01
Electrical time constant (ms)	0.75
Weight (g)	226
Maximum torque weight ratio (Nm/kg)	7.74

GL80 KV30, $\Phi 87 \times 22.3 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

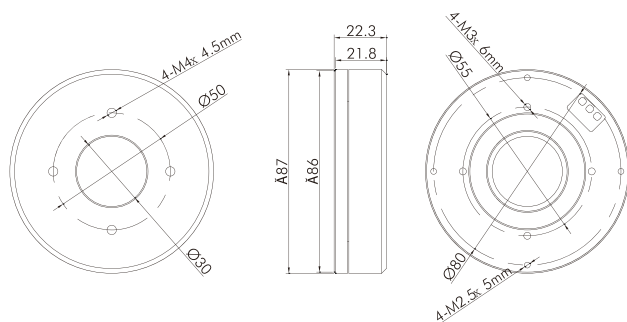
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10MQ
Phase	3
Pole pairs	21

ELECTRIC PARAMETERS

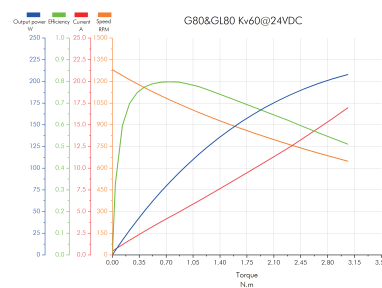
Rated voltage (V)	24
No-load speed (rpm)	650
Rated torque (Nm)	1
Rated speed (rpm)	450
Rated current (ADC)	2.8
Peak torque (Nm)	2.9
Peak current (ADC)	8.2
Kv (rpm/V)	30
Kt (Nm/A)	0.356
Ke (V/krpm)	35.27
Phase to Phase resistance (mΩ)	1800
Phase to Phase inductance (μH)	1100
Inertia (gcm ²)	650
Km (Nm/√W)	0.2653
Mechanical time constant (ms)	0.92
Electrical time constant (ms)	0.61
Weight (g)	315
Maximum torque weight ratio (Nm/kg)	9.21

GL80 KV60, $\Phi 87 \times 22.3 \text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

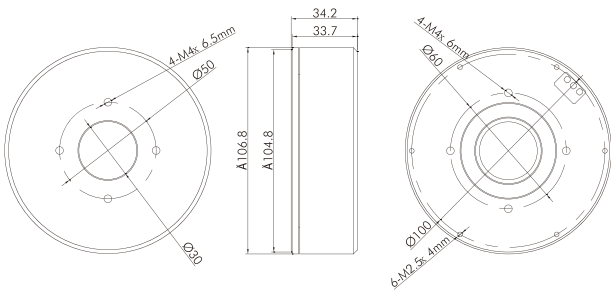
Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10MΩ
Phase	3
Pole pairs	21

ELECTRIC PARAMETERS

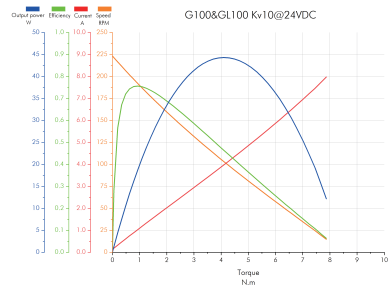
Rated voltage (V)	24
No-load speed (rpm)	1300
Rated torque (Nm)	1
Rated speed (rpm)	1010
Rated current (ADC)	5.6
Peak torque (Nm)	2.9
Peak current (ADC)	16.3
Kv (rpm/V)	60
Kt (Nm/A)	0.178
Ke (V/krpm)	17.47
Phase to Phase resistance (mΩ)	450
Phase to Phase inductance (μH)	270
Inertia (gcm ²)	650
Km (Nm/√W)	0.2653
Mechanical time constant (ms)	0.92
Electrical time constant (ms)	0.60
Weight (g)	315
Maximum torque weight ratio (Nm/kg)	9.21

GL100 KV10, $\Phi 106.8 \times 34.2\text{mm}$

PRODUCT DRAWING



ANALYTICAL GRAPH OF MOTOR OPERATION



SPECIFICATIONS

Application	Gimbal, Radar
Driving way	FOC
Operation ambient temperature	-20°C~50°C
Winding type	star
Insulation class	H
Insulation High-voltage	1000V 5mA/2s
Insulation resistance	1000V10M Ω
Phase	3
Pole pairs	20

ELECTRIC PARAMETERS

Rated voltage (V)	24
No-load speed (rpm)	223
Rated torque (Nm)	3
Rated speed (rpm)	130
Rated current (ADC)	2.9
Peak torque (Nm)	7.7
Peak current (ADC)	7.8
Kv (rpm/V)	10
Kt (Nm/A)	1.030
Ke (V/krpm)	102.4
Phase to Phase resistance (m Ω)	2650
Phase to Phase inductance (μ H)	2350
Inertia (gcm ²)	2310
Km (Nm/ $\sqrt$ W)	0.6327
Mechanical time constant (ms)	0.58
Electrical time constant (ms)	0.89
Weight (g)	698
Maximum torque weight ratio (Nm/kg)	11.03

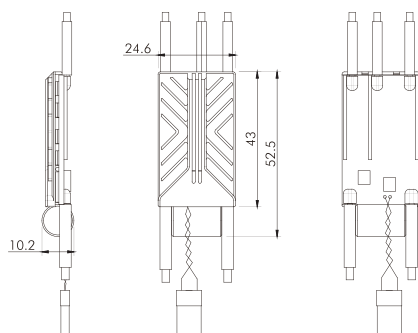
Underwater Thruster

W30	65
SW7	67
SW12	68
SW17	69
DW10	70
DW15	71
DW20	72
DW25	73



W30 KV320, $\Phi 100 \times 108 \text{mm}$

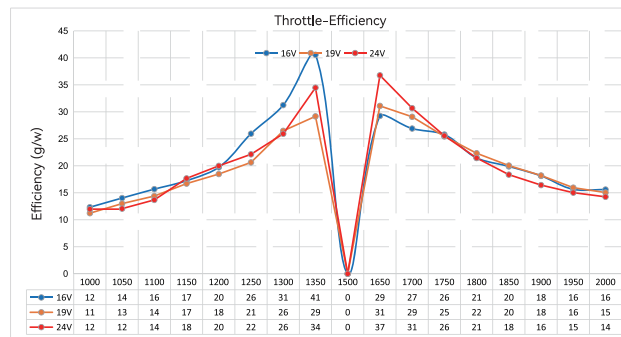
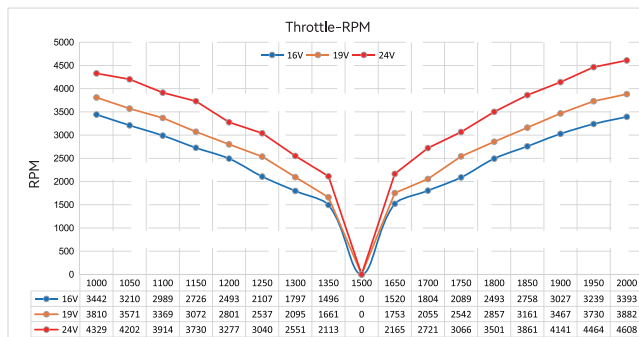
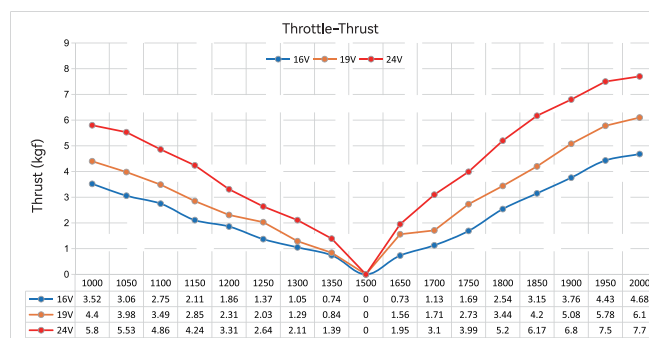
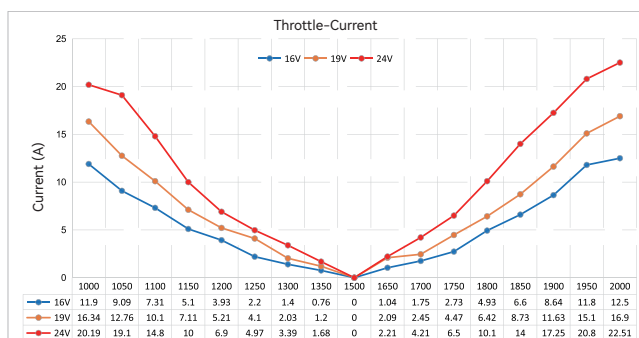
PRODUCT DRAWING



SPECIFICATIONS

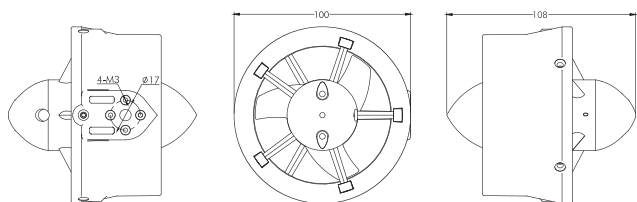
Voltage	4-6S
Continuous current	45A
Instant current	50A (10s)
Standby loss	$\leq 50 \text{mA}$
Throttle flash frequency	400Hz
Motor wires	Black 16AWG 100mm*3p
Power wires	Red/Black 14AWG 200mm
Signal wires	PVC JR 3p
Throttle range	1000-2000us
Weight	32.5g

PERFORMANCE CURVES



W30 KV320, $\Phi 100 \times 108 \text{mm}$

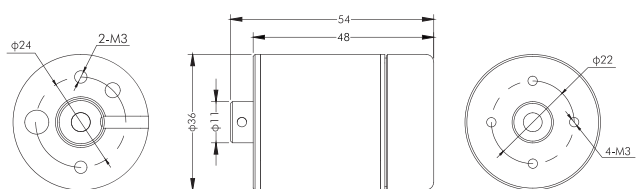
PRODUCT DRAWING



SPECIFICATIONS

Type	W30
Dimension	$\Phi 100 \times 108 \text{mm}$
Forward thrust	6.7kgf-7.7kgf
Backward thrust	5.0kgf-5.8kgf
Rate power	480W
Rated current	22A
Weight in air	420g
Weight in water	200g
Max. depth	200m
Wire configuration x length	18AWG*1000mm
Motor	W30 KV320
Battery(Lipo) recommend	6S (4.2V)
ESC	W30 ESC-8S-45A
Propeller	W30 Purple PC propeller
Package Weight	710g

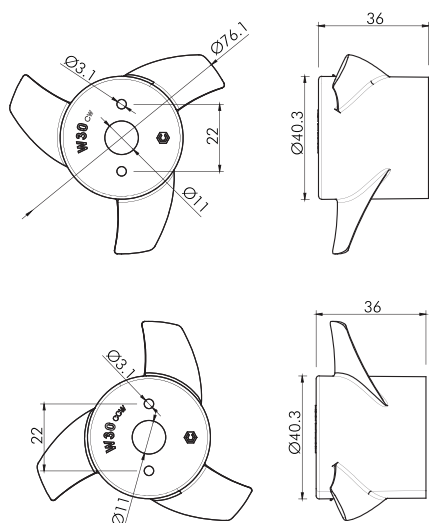
PRODUCT DRAWING



SPECIFICATIONS

W30 Purple PC propeller	W30 KV320
Rated current	22A
No-load current@10V	0.5A
No-load RPM@10V	3200rpm
Inductance	125uH
Max. current	30A/180s
Max. power	720W/180s
Internal resistance	220mΩ
Rated power	480W
Weight	270g
Winding wire temperature-resistant	C级 220°C
Wire configuration x length	18AWG*1000mm
Max. depth	200m
Slot/Pole	12N14P
Winding hi-pot	500V/5s
Package weight	580g

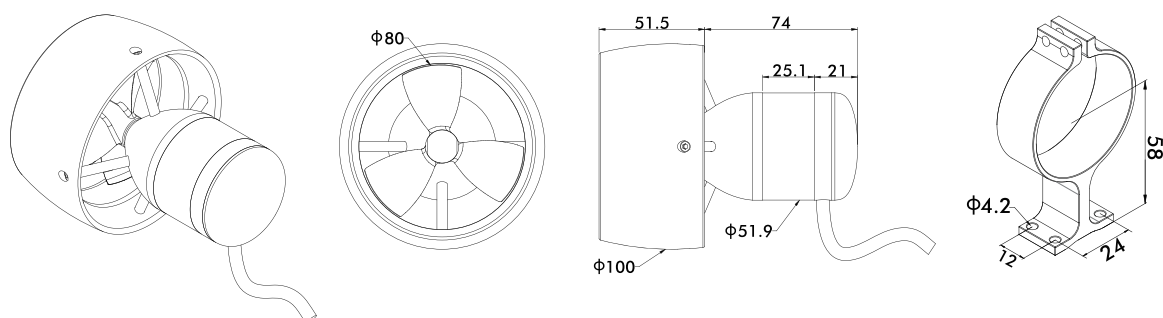
PRODUCT DRAWING



SPECIFICATIONS

Dimension	$\Phi 76.1 \times 36 \text{mm}$
Pitch	3.6 inch
Weight	12g

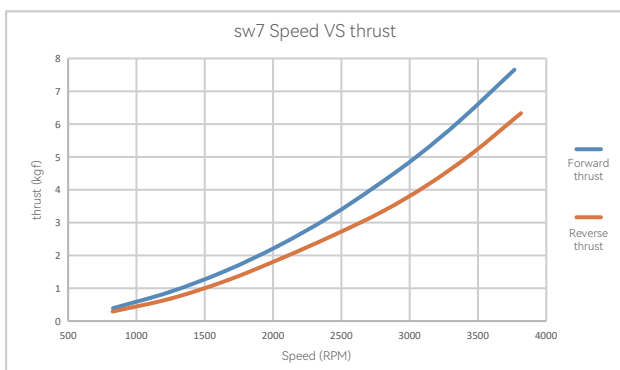
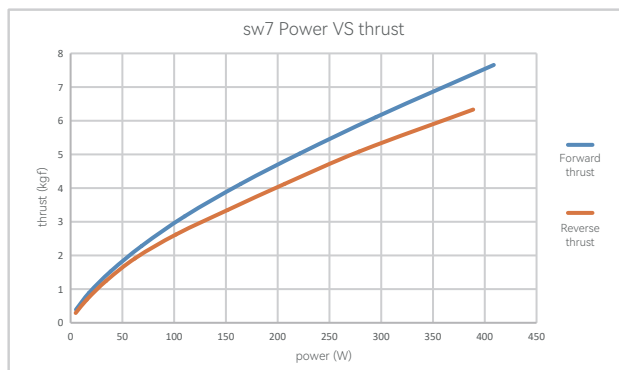
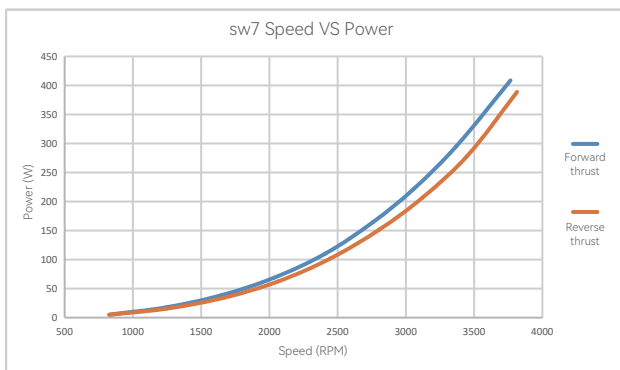
PRODUCT DRAWING



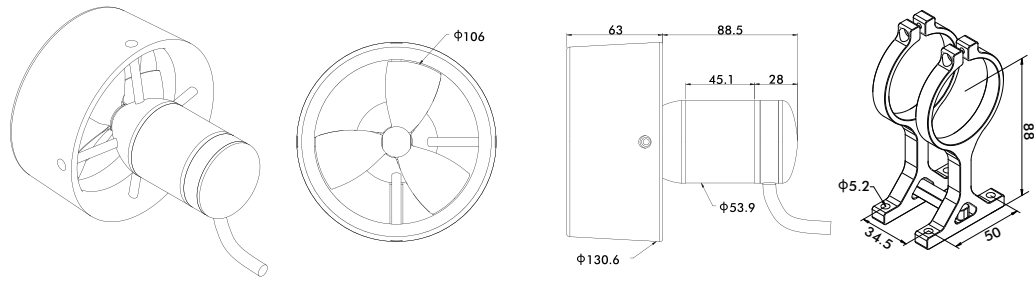
SPECIFICATIONS

Application	Unmanned surface vehicle, Electric surfboard Handheld thruster, etc.	Propeller specifications	φ80mm
Rated Power	360W	Main shaft sealing method	Low-resistance dynamic seal
Rated Voltage	36V	Main body structure	Two-stage sealing chamber
Maximum mooring thrust	≥7kgf	Cable specifications	TPU (Matte) φ6.5mm- 3*18AWG- 1.5M
Applicable water depth	0-30M	Driver	External
Material of the nozzle	POM	Weight	700g(in air) / 395g(underwater)
Material of the shell	Aluminum Alloy	Environmental Conditions	0-50°C (Storage) / 0-40°C (Operation)
Material of the propeller	Aluminum Alloy	Usage Tips	Rinse with clean water promptly after use.

PERFORMANCE CURVES



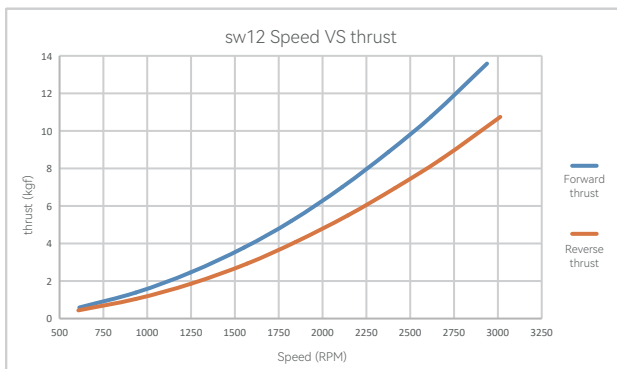
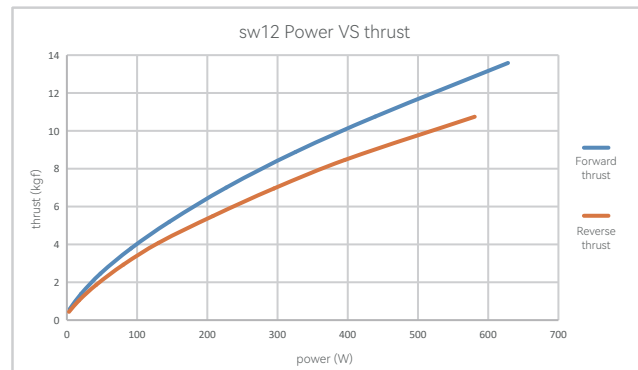
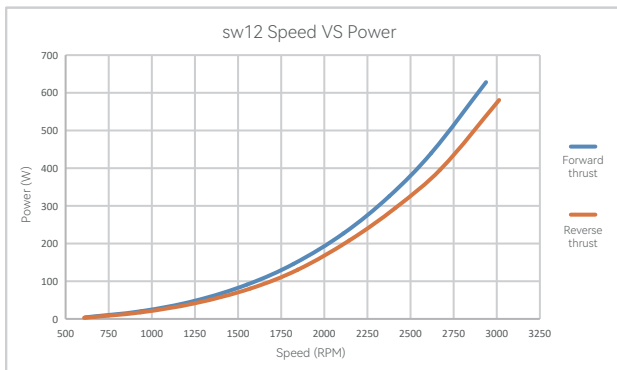
PRODUCT DRAWING



SPECIFICATIONS

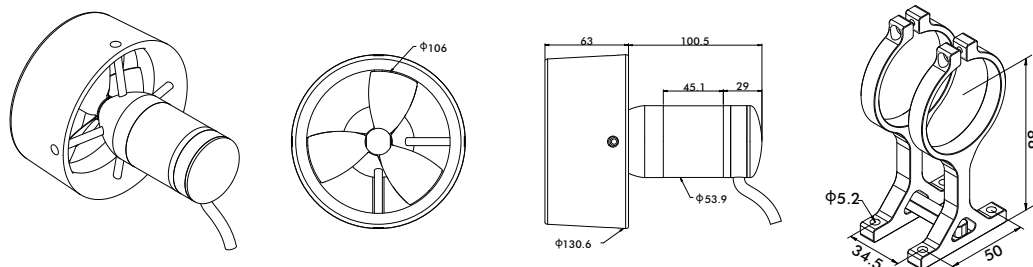
Application	Unmanned surface vehicle, Electric surfboard Handheld thruster, etc.	Propeller specifications	φ106mm
Rated Power	520W	Main shaft sealing method	Low-resistance dynamic seal
Rated Voltage	48V	Main body structure	Two-stage sealing chamber
Maximum mooring thrust	≥12kgf	Cable specifications	TPU (Glossy) φ8mm- 3*16AWG- 1.5M
Applicable water depth	0-30M	Driver	External
Material of the nozzle	POM	Weight	1180g(in air)/ 640g(underwater)
Material of the shell	Aluminum Alloy	Environmental Conditions	0-50°C (Storage) / 0-40°C (Operation)
Material of the propeller	Aluminum Alloy	Usage Tips	Rinse with clean water promptly after use.

PERFORMANCE CURVES



SW17

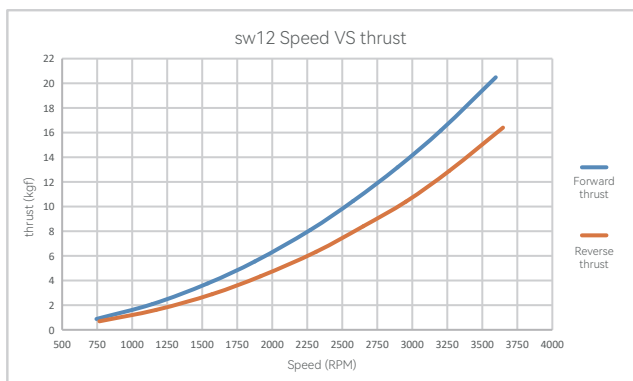
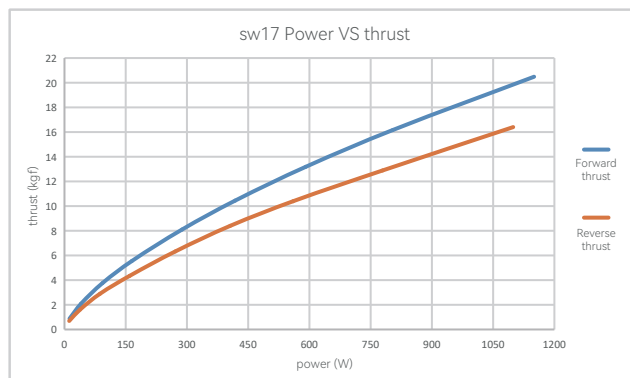
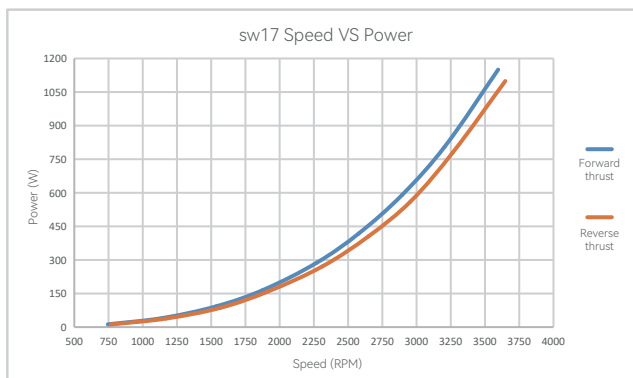
PRODUCT DRAWING



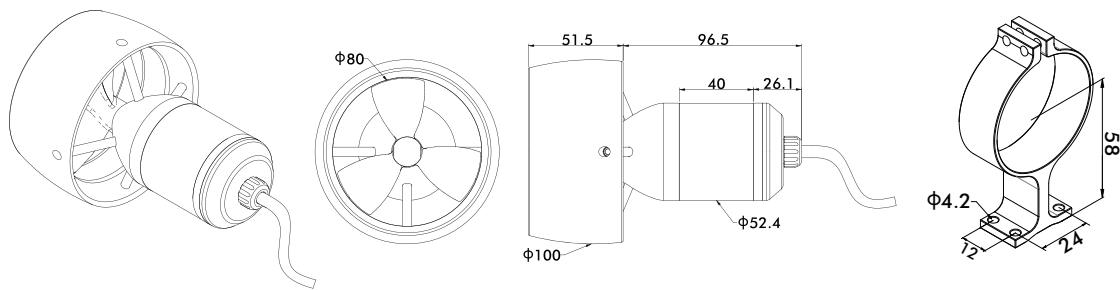
SPECIFICATIONS

Application	Unmanned surface vehicle, Electric surfboard Handheld thruster, etc.	Propeller specifications	φ106mm
Rated Power	870W	Main shaft sealing method	Low-resistance dynamic seal
Rated Voltage	48V	Main body structure	Two-stage sealing chamber
Maximum mooring thrust	≥17kgf	Cable specifications	TPU (Glossy) φ8.5mm- 3*14AWG- 1.5M
Applicable water depth	0-30M	Driver	External
Material of the nozzle	POM	Weight	1350g(in air)/ 775g(underwater)
Material of the shell	Aluminum Alloy	Environmental Conditions	0-50°C (Storage) / 0-40°C (Operation)
Material of the propeller	Aluminum Alloy	Usage Tips	Rinse with clean water promptly after use.

PERFORMANCE CURVES



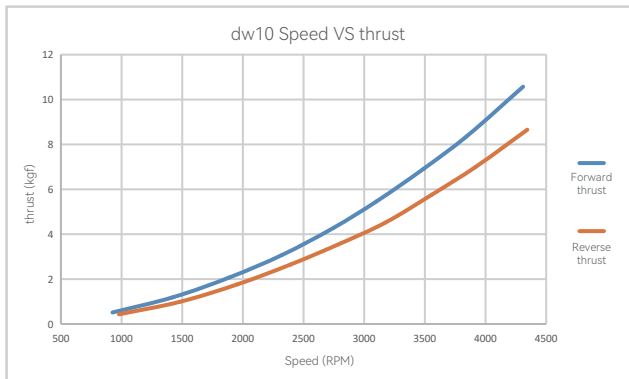
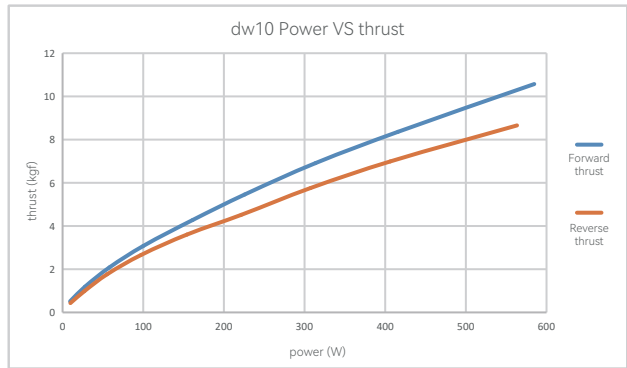
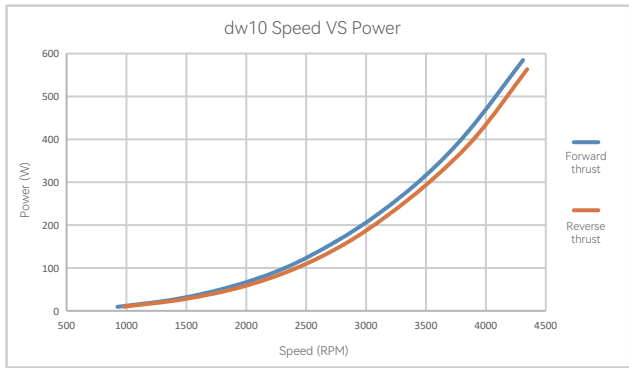
PRODUCT DRAWING



SPECIFICATIONS

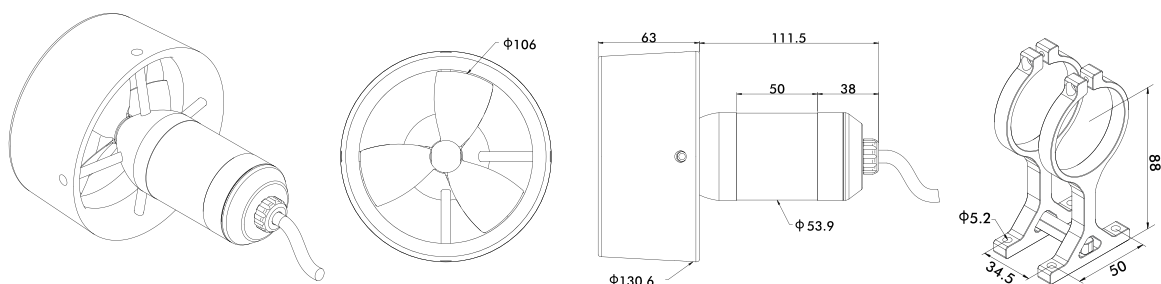
Application	Unmanned surface vehicle Electric surfboard, ROV, etc.	Propeller specifications	$\phi 80\text{mm}$
Rated Power	540W	Main shaft sealing method	Low-resistance dynamic seal
Rated Voltage	36V	Main body structure	Two-stage sealing chamber
Maximum mooring thrust	$\geq 10\text{kgf}$	Cable specifications	TPU (Glossy) $\phi 8\text{mm}$ - 3*16AWG- 1.5M
Applicable water depth	0-350M	Driver	External
Material of the nozzle	POM	Weight	845g(in air)/ 480g(underwater)
Material of the shell	Aluminum Alloy	Environmental Conditions	0-50°C (Storage) / 0-40°C (Operation)
Material of the propeller	Aluminum Alloy	Usage Tips	Rinse with clean water promptly after use.

PERFORMANCE CURVES



DW15

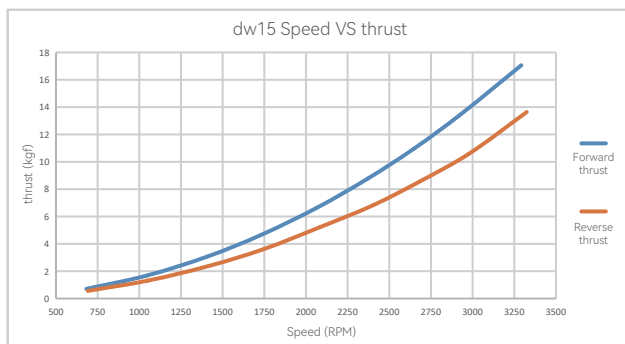
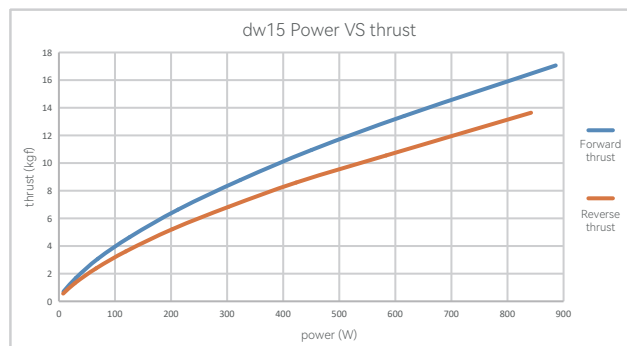
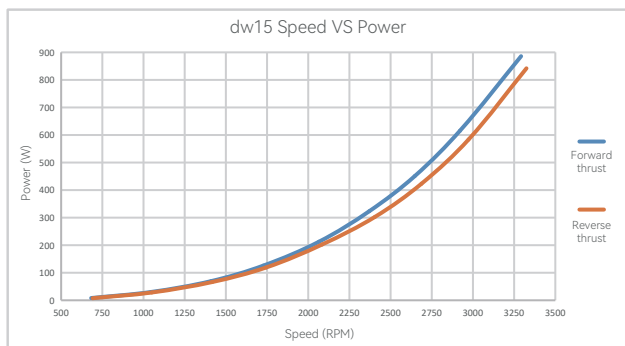
PRODUCT DRAWING



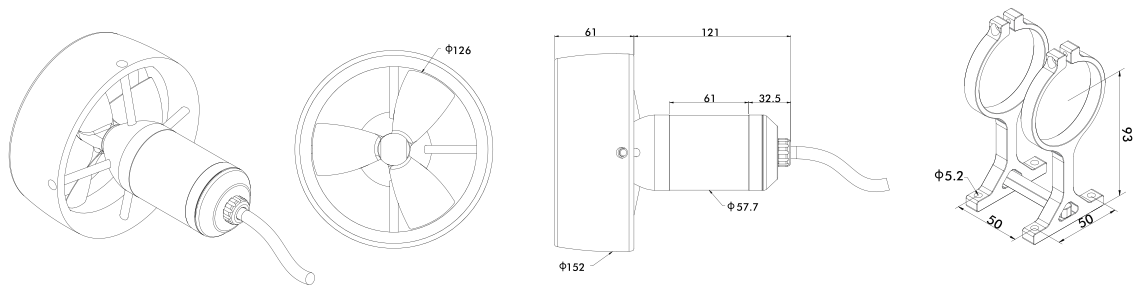
SPECIFICATIONS

Application	Unmanned surface vehicle Electric surfboard, ROV, etc.	Propeller specifications	$\Phi 106\text{mm}$
Rated Power	750W	Main shaft sealing method	Low-resistance dynamic seal
Rated Voltage	48V	Main body structure	Two-stage sealing chamber
Maximum mooring thrust	$\geq 15\text{kgf}$	Cable specifications	TPU (Glossy) $\Phi 8\text{mm}$ - 3*16AWG- 1.5M
Applicable water depth	0-350M	Driver	External
Material of the nozzle	POM	Weight	1260g(in air) / 735g(underwater)
Material of the shell	Aluminum Alloy	Environmental Conditions	0-50°C (Storage) / 0-40°C (Operation)
Material of the propeller	Aluminum Alloy	Usage Tips	Rinse with clean water promptly after use.

PERFORMANCE CURVES



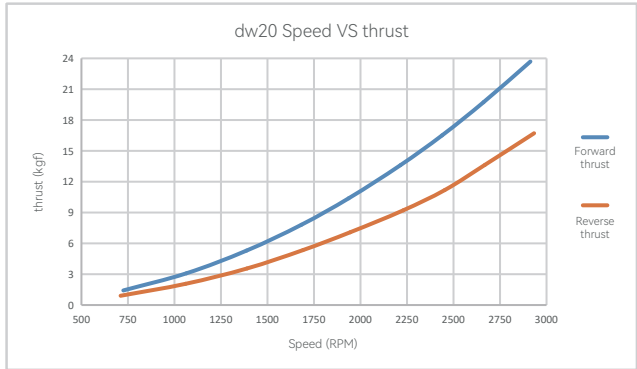
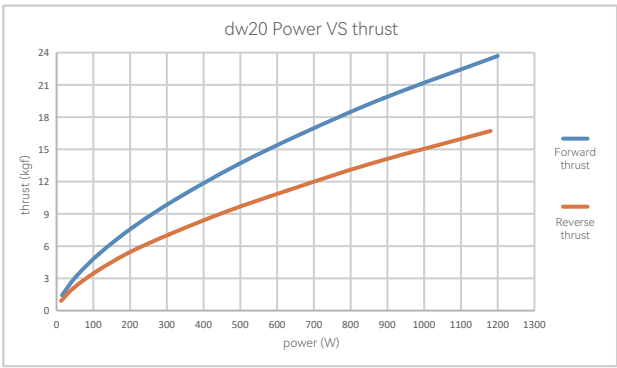
PRODUCT DRAWING



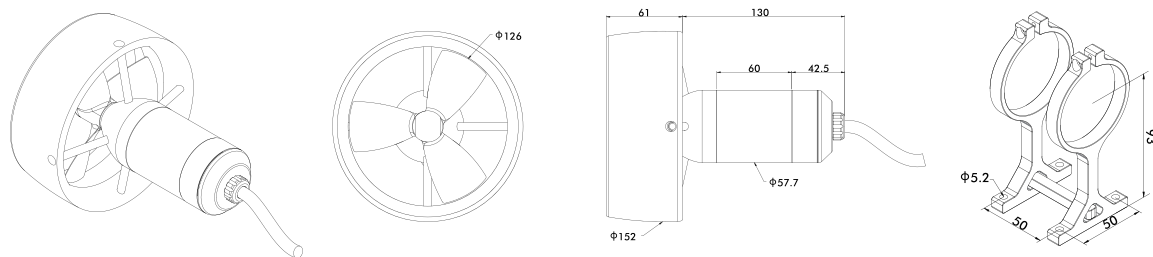
SPECIFICATIONS

Application	Unmanned surface vehicle Electric surfboard, ROV, etc.	Propeller specifications	φ126mm
Rated Power	910W	Main shaft sealing method	Low-resistance dynamic seal
Rated Voltage	48V	Main body structure	Two-stage sealing chamber
Maximum mooring thrust	≥20kgf	Cable specifications	TPU (Matte) φ9mm- 3*13AWG- 1.5M
Applicable water depth	0-350M	Driver	External
Material of the nozzle	POM	Weight	1630g(in air)/ 950g(underwater)
Material of the shell	Aluminum Alloy	Environmental Conditions	0-50°C (Storage) / 0-40°C (Operation)
Material of the propeller	Aluminum Alloy	Usage Tips	Rinse with clean water promptly after use.

PERFORMANCE CURVES



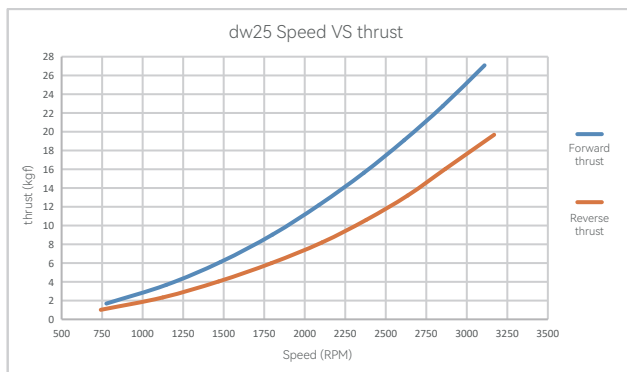
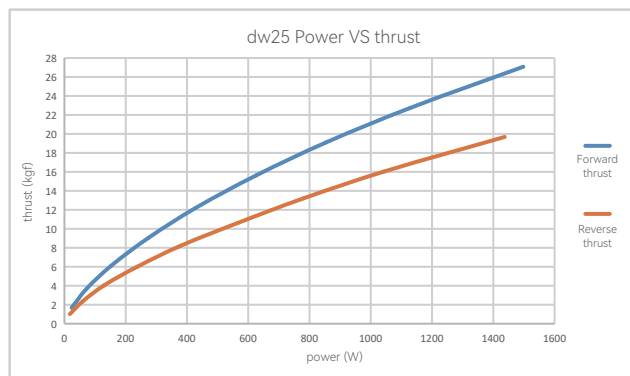
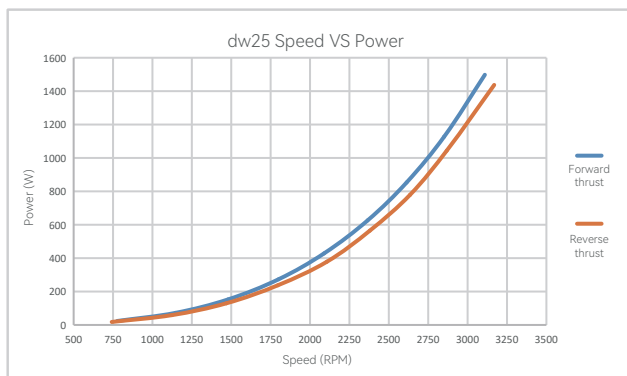
PRODUCT DRAWING



SPECIFICATIONS

Application	Unmanned surface vehicle Electric surfboard, ROV, etc.	Propeller specifications	φ126mm
Rated Power	1315W	Main shaft sealing method	Low-resistance dynamic seal
Rated Voltage	48V	Main body structure	Two-stage sealing chamber
Maximum mooring thrust	≥25kgf	Cable specifications	TPU (Matte) φ9.5mm- 3*12AWG- 1.5M
Applicable water depth	0-350M	Driver	External
Material of the nozzle	POM	Weight	1790g(in air) / 995g(underwater)
Material of the shell	Aluminum Alloy	Environmental Conditions	0-50°C (Storage) / 0-40°C (Operation)
Material of the propeller	Aluminum Alloy	Usage Tips	Rinse with clean water promptly after use.

PERFORMANCE CURVES





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