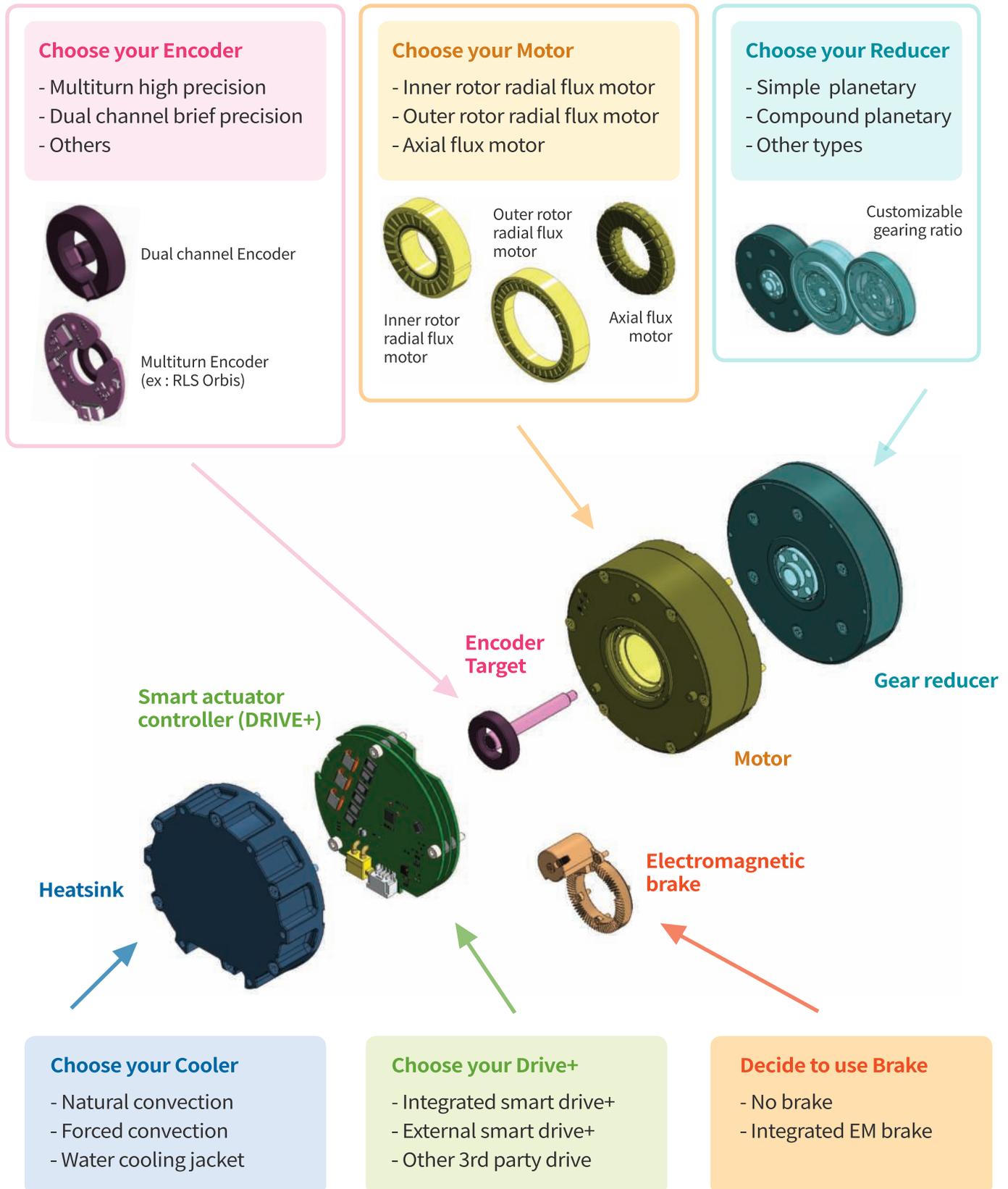


# We Create Exactly What You Need

## Tailored Solutions through Our Customizable Component System

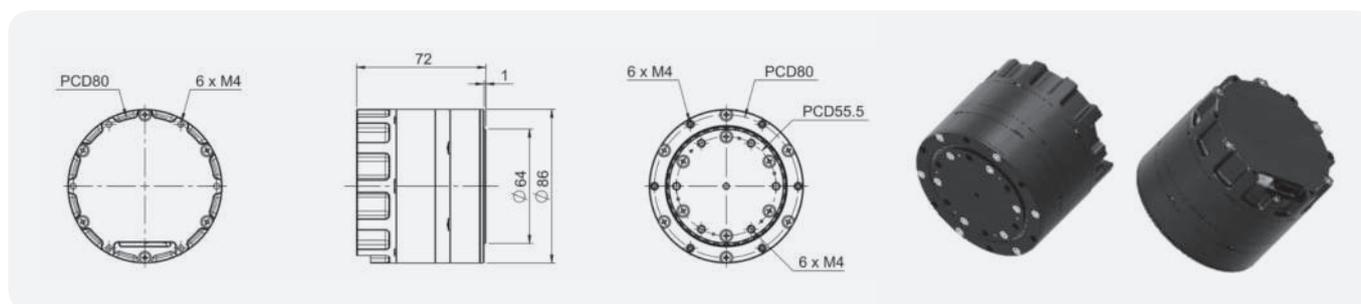


# I XXX Inner Rotor Actuator Series

Inner Rotor Power (W)

NOAH-I400Components Combination Example

400W Inner rotor motor + Planetary Reducer + Dual channel encoder + Integrated smart drive+



## Development plan of standard line-up

Items		Inner Rotor RFPM Type							
		I-880		I-720		I-410		I-520	
Actuator	Target	COBOT	AMR	COBOT	AMR	COBOT	AMR	COBOT	AMR
		Industrial	Industrial	Industrial	Industrial	Industrial	Mid	Industrial	Mid
		Heavy	-	Heavy	-	Mid	-	Mid	-
	Outer Dia. [mm]	146	146	120	120	110	110	92	92
Nominal Torque [Nm]	382.509	76.502	183.6	34.425	55.601	16.68	71.429	21.429	
Nominal Speed [rpm]	40	200	37.5	200	60	200	60	200	
Motor	Type	Inner rotor RFPM		Inner rotor RFPM		Inner rotor RFPM		Inner rotor RFPM	
	Outer Dia. [mm]	130		104		94		76	
	Nominal Voltage [VDC]	48		48		48		48	
	Nominal Power [W]	1885		848		411		528	
	Nominal Torque [Nm]	9		2.7		1.402		1.801	
	Nominal Speed [rpm]	2200		3000		2800		2800	
Reducer	Type	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary
	Ratio	50	10	80	15	46.667	14	46.667	14

Items		Inner Rotor RFPM Type							
		I-400		I-300		I-200		I-100	
Actuator	Target	COBOT	COBOT	COBOT	COBOT	COBOT	AMR	COBOT	COBOT
		Industrial	Industrial	Industrial	Industrial	Industrial	Mid	Industrial	Industrial
		Light	Light	Light	Light	Light	-	Light	Light
	Outer Dia. [mm]	148	86	68	68	68	68	58	58
Nominal Torque [Nm]	40.279	32.549	30.335	24.513	20.19	8.157	10.145	8.198	
Nominal Speed [rpm]	80.808	100	80.808	100	80.808	200	80.808	100	
Motor	Type	Inner rotor RFPM		Inner rotor RFPM		Inner rotor RFPM		Inner rotor RFPM	
	Outer Dia. [mm]	76		60		60		50	
	Nominal Voltage [VDC]	48		48		48		48	
	Nominal Power [W]	401		302		201		101	
	Nominal Torque [Nm]	1.276		0.801		0.64		0.321	
	Nominal Speed [rpm]	3000		3600		3000		3000	
Reducer	Type	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary	Compound Planetary
	Ratio	37.125	30	44.55	36	37.125	15	37.125	30

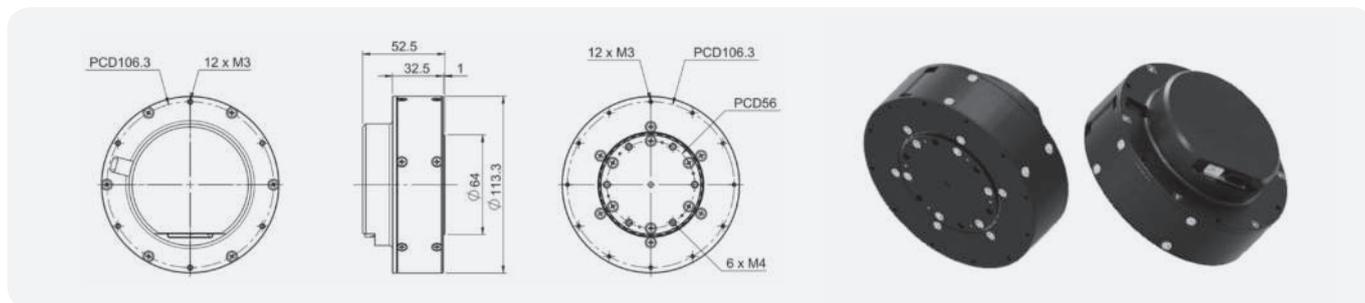
\*\*\* This specification sheet is subject to change based on application or user requirements.

# O XXX Outer Rotor Actuator Series

Outer Rotor Power (W)

NOAH-O400Components Combination Example

400W Outer rotor motor + Planetary Reducer + Dual channel encoder + Integrated smart drive+



## Development plan of standard line-up

Items		Outer Rotor RFPM Type							
		O-3000		O-1800		O-1000		O-500	
Actuator	Target	Leg	AMR	Leg	AMR	Leg	AMR	Leg	AMR
		Industrial	Heavy	Dynamic	Heavy	Dynamic	Heavy	Dynamic	Mid
		Humanoid	-	Humanoid	-	Humanoid	-	Humanoid	-
	Outer Dia. [mm]	205.3	205.3	155.3	155.3	155.3	155.3	155.3	155.3
Nominal Torque [Nm]	243.507	76.502	146.104	73.052	81.169	40.585	40.585	20.292	
Nominal Speed [rpm]	100	200	100	200	100	200	100	200	
Motor	Type	Outer rotor RFPM		Outer rotor RFPM		Outer rotor RFPM		Outer rotor RFPM	
	Outer Dia. [mm]	200		150		150		150	
	Nominal Voltage [VDC]	48		48		48		48	
	Nominal Power [W]	3000		1800		1000		500	
	Nominal Torque [Nm]	28.648		11.459		6.366		3.183	
	Nominal Speed [rpm]	1000		1500		1500		1500	
Reducer	Type	Compound	Simple	Compound	Simple	Compound	Simple	Compound	Simple
	Ratio	Planetary	Planetary	Planetary	Planetary	Planetary	Planetary	Planetary	Planetary
		10	5	15	7.5	15	7.5	15	7.5

Items		Outer Rotor RFPM Type					
		O-400		O-200		O-100	
Actuator	Target	AMR	AMR	AMR	AMR	AMR	AMR
		Dynamic	Mid	Dynamic	Light	Dynamic	Light
		Humanoid	-	Humanoid	-	Humanoid	-
	Outer Dia. [mm]	113.3	113.3	98	98	79	79
Nominal Torque [Nm]	29.836	16.274	14.955	8.157	7.515	4.099	
Nominal Speed [rpm]	109.091	200	109.091	200	109.091	200	
Motor	Type	Outer rotor RFPM		Outer rotor RFPM		Outer rotor RFPM	
	Outer Dia. [mm]	108		85		66	
	Nominal Voltage [VDC]	48		48		48	
	Nominal Power [W]	401		201		101	
	Nominal Torque [Nm]	2.553		1.28		0.643	
	Nominal Speed [rpm]	1500		1500		1500	
Reducer	Type	Compound	Simple	Compound	Simple	Compound	Simple
	Ratio	Planetary	Planetary	Planetary	Planetary	Planetary	Planetary
		13.75	7.5	13.75	7.5	13.75	7.5

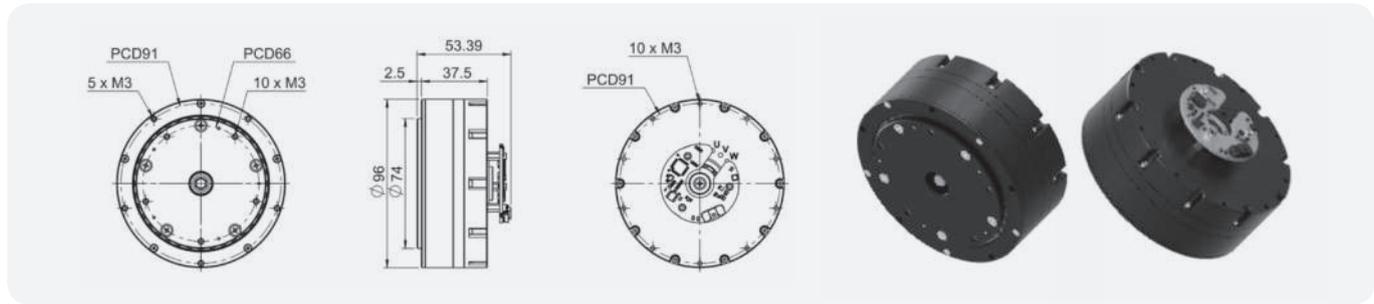
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# A XXX Axial Flux Actuator Series

Axial Flux Power (W)

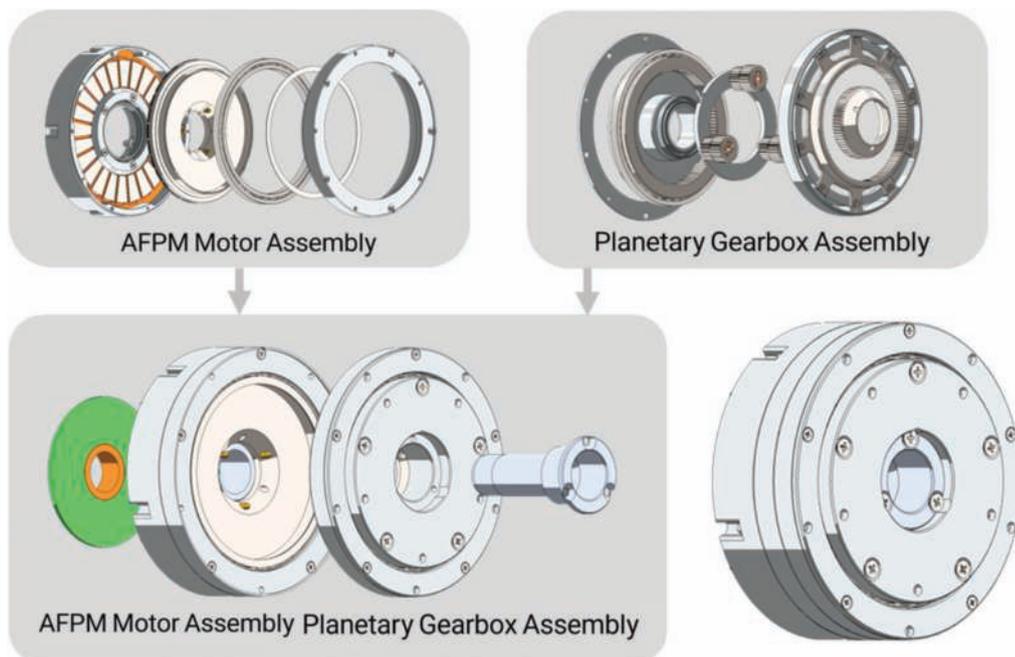
NOAH-A400Components Combination Example

400W Axial flux motor + Planetary Reducer + Multiturn encoder +External smart drive+



## Development plan of standard line-up

Items		AFPM Type		
		A-1800	A-400	A-200
Actuator	Target	AMR	Robot Arm	Robot Arm
		Heavy	Humanoid	Humanoid
		-	-	-
	Outer Dia. [mm]	TBD	96	96
	Nominal Torque [Nm]	72	32	16
	Nominal Speed [rpm]	200	104	104
Motor	Type	AFPM	AFPM	AFPM
	Outer Dia. [mm]	TBD	80	TBD
	Nominal Voltage [VDC]	48	48	48
	Nominal Power [W]	1800	410	200
	Nominal Torque [Nm]	11	1.4	0.7
	Nominal Speed [rpm]	1500	2800	2800
Reducer	Type	Compound	Compound	Compound
		Planetary	Planetary	Planetary
	Ratio	7.5	27	27



\*\*\* This specification sheet is subject to change based on application or user requirements.

# Smart Actuator Controller (Drive+)

Drive+ is a product optimized for developing robots equipped with **Physical AI** technology

## Multi Core

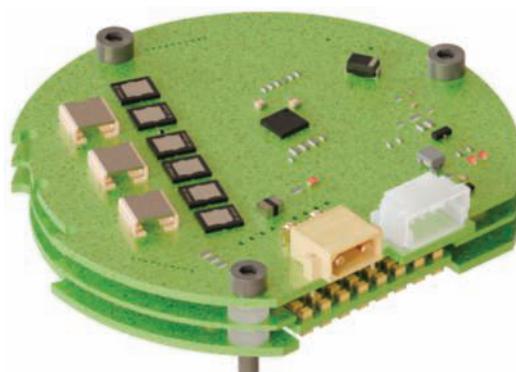
Handles control algorithms, sensor data, robotic systems simultaneously, offering both scalability and flexibility

## Dual Encoder

Encoders on motor and reducer outputs ensure precise control without the need for additional cables

## Integrated IMU.

IMU and encoder sensors enable knee shock mitigation and gravity compensation through precise motion tracking.



## Intelligence Control

Fast and accuracy disturbance observer. Flexible impedance control

Development plan of standard line-up

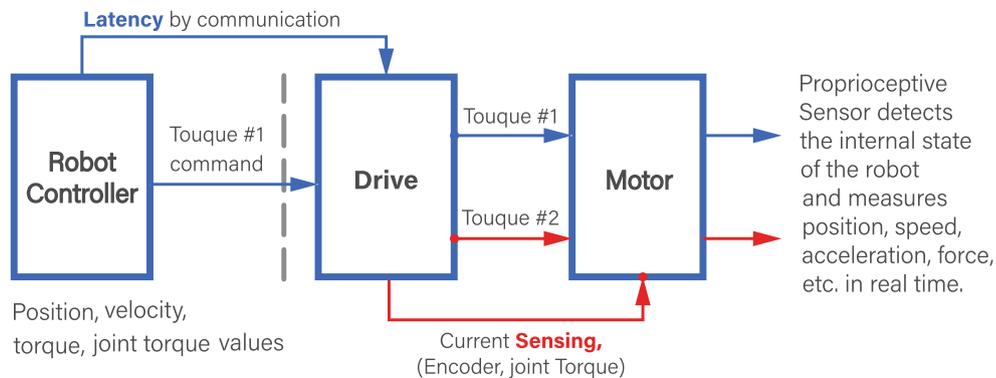
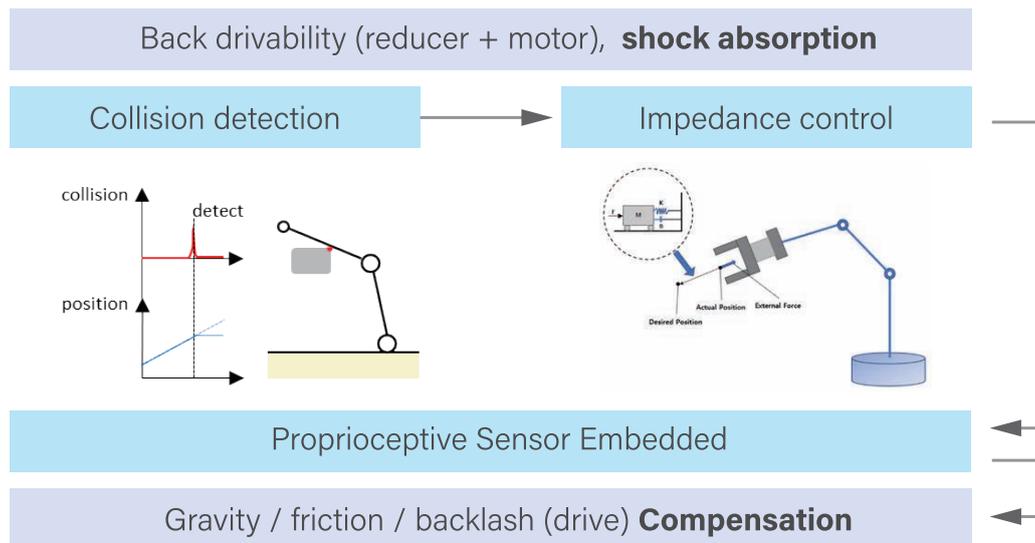
Items		Circular Type		
		2kW	400W	200W
Actuator Controller	Maximum peak output power	4kW	1.2kW	600W
	Continuous output power	400W	400W	200W
	Nominal supply voltage	48V	48V	48V
	Maximum supply voltage	60V	60V	60V
	Nominal Current	52.5A <sub>rms</sub>	10.5A <sub>rms</sub>	5.25A <sub>rms</sub>
	Peak Current	105A <sub>rms</sub>	30.5A <sub>rms</sub>	15.75A <sub>rms</sub>
	Supported Communication Standard	RS485/CAN/EtherCAT	RS485/CAN/EtherCAT	RS485/CAN/EtherCAT
	Number of Phases	3S	3S	3S
	Supported motors	PMSM	PMSM	PMSM
	Integrated Encoder 1	Absolute Single Turn (14bit/Magnetic)	Absolute Single Turn (14bit/Magnetic)	Absolute Single Turn (14bit/Magnetic)
	Integrated Encoder 2	Absolute Single Turn (14bit/Magnetic)	Absolute Single Turn (14bit/Magnetic)	Absolute Single Turn (14bit/Magnetic)
	Hardware protections	Overcurrent, Overvoltage, Undervoltage, Overtemperature		
	Dimensions	Ø 101mm	Ø 74mm	Ø 52mm
	Operating temperature (ambient air)	0~40°C (inside the enclosure)	0~40°C (inside the enclosure)	0~40°C (inside the enclosure)
	Brake power output	10W	10W	10W
Brake peak current	0.5A	0.5A	0.5A	

\*\*\* This specification sheet is subject to change based on application or user requirements.

# Advancing Robotics Performance

We are leading the Robotics Revolution with Innovative Actuator Technologies

## HI GENRNM Smart Actuator Technologies



Proprioceptive Actuator



High Torque density motor

Low inertia leg

Low Gear Ratio Transmission

- | We provide innovative actuators based on highly back-drivable QDD, combining RFPM motors with Inner and Outer rotor and AFPM motors to deliver customized solutions optimized for robotics.
- | Smart Actuators revolutionize Robot development by drastically reducing time, resources, and costs, embedding Intelligence through Physical AI in AI-driven environments.