



@Ufactory2013



@UFACTORY-UF



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UFACTORY **XARM**
Cost-effective Service Robot

About Us



History

UFACTORY specialized in developing and manufacturing consumer robotics systems. Founded by a group of geeks who have experience in artificial intelligence and the will to change the robot ecosystem, UFACTORY is devoted to popularizing the industrial technology and to providing the high cost-performance products and integrated solutions for the industry and consumers through long-term innovation and technological accumulation.

So far, our products are sold in more than 80 countries and regions. Many mainstream media and agencies praised our robot series highly. We are aiming to make people believe that humanity is going to benefit from robots in our daily life, and that they will become a necessary item for everybody in the future.

UFACTORY **XARM**

KICKSTARTER

Funded \$870,000+

UFACTORY **UARM**

INDIEGOGO

Funded \$1,000,000+

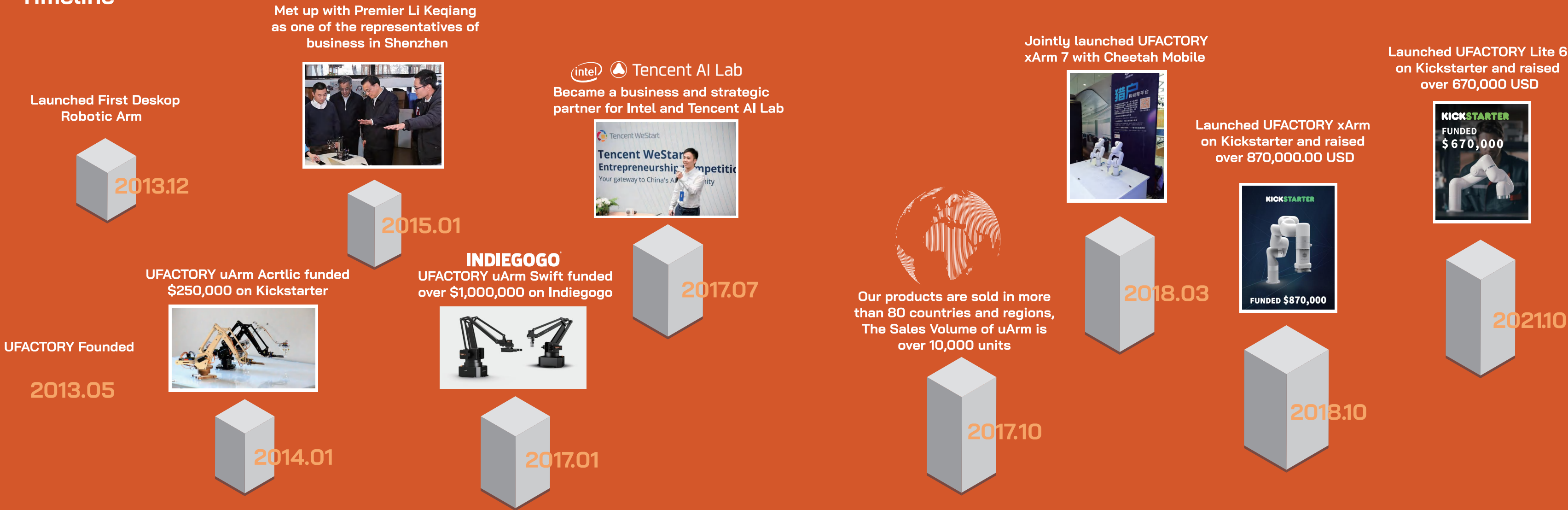
UFACTORY LITE 6

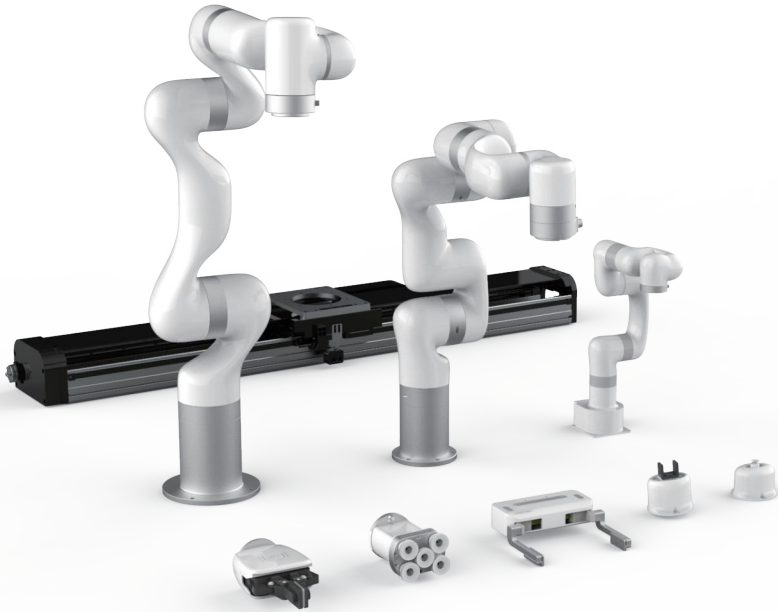
KICKSTARTER

Funded \$670,000+

Achievement

Timeline





TOP5 BEST HIGHLIGHTS

Easy to use

Due to the easy-to-use control software UFACTORY Studio, the robot is easy to be taught by hand as well as programmed by dedicated graphical user interface. A specific task can be achieved in 10 minutes.

Portable and lightweight

Crafted from the carbon fiber, the robot weight is 50% off, which also means not only significant weight reduction for your entire system, but also easier deployment.

Cost-effective

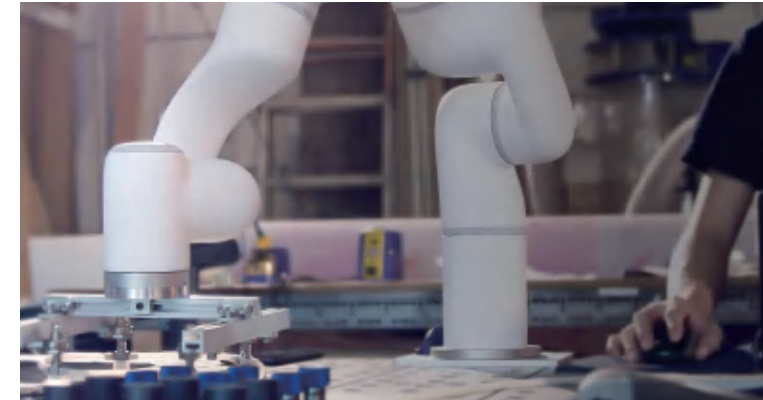
Compared to traditional industrial robotic arms, UFACTORY robots not only reduce 1/2 of your operating costs but also keep your competitive edge and improve your return on investment with outstanding performance.

Multi-Accessories

Our robots work with a range of accessories to easily achieve the application you need. Furthermore, official accessories provide you a seamless integration.

Powerful Joints

The robot employs high-performance harmonic drive, plus brushless motor and multi-turn absolute encoder, which are the guarantee of stability and repeatability.



01 UFACTORY xArm

A multi-axis robot perfectly balances power and size

Ideal for:

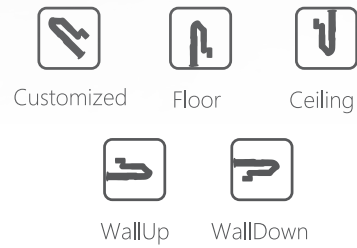
- Machine Tending
- Bin Picking
- Mobile Platform
- Lab Automation
- Robotic Research

02 UFACTORY Lite 6

Our smallest table-top 6 axis robot arm

Ideal for:

- Lab Automation
- Robotic Research
- Coffee Machine
- Touchscreen or Keyboard Testing



PERFORMANCE

*Ambient Temperature Range	0-50℃
Power Consumption	Typical 200 W, Max 500 W
Input Power Supply	24V DC, 20.8A

PHYSICAL

Footprint	Ø 126 mm
Materials	Aluminum, Carbon Fiber
Base Mounting Dimension	M5*5

SPECIFICATION

	xArm 5	xArm 6	xArm 7
Payload(kg)	3kg	5kg	3.5kg
Reach (mm)	700mm	700mm	700mm
Degrees of Freedom	5	6	7
Repeatability (mm)	±0.1mm	±0.1mm	±0.1mm
Maximum Speed (m/s)	1m/s	1m/s	1m/s
Weight (kg) (robot arm only)	11.3kg	12.5kg	14.3kg

FEATURES

Robot Mounting	Any
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NOTES:

The working temperature of the robot is 0-50 °C. When the joints is continuously oper atedat high speeds, please lower the ambient temperature.

I/O PORTS

Control Box	DI*16 (Digital In)	DO*16 (Digital Out)	AI*2 (Analog In)	AO*2 (Analog Out)
End Effector	DI*2	DO*2	AI*2	RS485*1

COMMUNICATION (ROBOTIC ARM)

Robot Base Communication Protocol	self-defined
Robot Base Communication Mode	RS-485
End Effector Communication Protocol	Modbus RTU
End Effector Communication Mode	RS-485

COMMUNICATION (CONTROL BOX)

Communication Protocol	Modbus TCP
Communication Mode	Ethernet

MOVEMENT

		xArm 5	xArm 6	xArm 7
Maximum Speed		180°/s	180°/s	180°/s
Working Range	Joint 1	±360°	±360°	±360°
	Joint 2	-117~116°	-117~116°	-117~116°
	Joint 3	-219~10°	-219~10°	±360°
	Joint 4	-97°~180°	±360°	-6~225°
	Joint 5	±360°	-97°~180°	±360°
	Joint 6		±360°	-97°~180°
	Joint 7			±360°



xArm AC Control Box



SPECIFICATION	
Input	100-240VAC 50/60Hz
Output	24VDC 20.8A
Weight	3.9kg
Dimension(L*W*H)	285*135*101mm
Control Box IO	CI*8+DI*8 CO*8+DO*8 2*AI 2*AO (Digital Input) (Digital Output) (Analog Input) (Analog Output)
Communication Mode	Ethernet, RS485 Master*1

xArm DC Control Box



SPECIFICATION	
Input	24-72V DC
Output	24VDC 672Wmax
Weight	2.6kg
Dimension(L*W*H)	262*160*76mm
Control Box IO	CI*8+DI*8 CO*8+DO*8 2*AI 2*AO (Digital Input) (Digital Output) (Analog Input) (Analog Output)
Communication Mode	Ethernet, RS485 Master*1

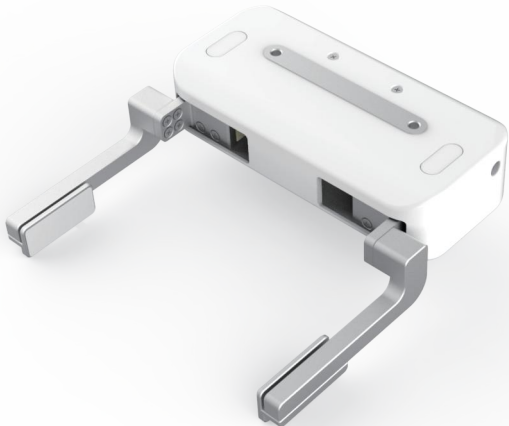
End Effector: Gripper



SPECIFICATION

Rated Supply Voltage	24V DC	Stroke	84mm
Weight	802g	Communication Mode	RS-485
Peak Current	1.5A	Communication Protocol	Modbus RTU
Maximum Gripping Force	30N	Feedback	Position
Working Range (with default fingers)	0-84mm	Finger Type	Switchable
Absolute Maximum Supply Voltage		28V DC	
Static Power Consumption (minimum power consumption)		1.5W	
Programmable Gripping Specification		Position, Speed	

End Effector: BIO Gripper G2



SPECIFICATION

Rated Supply Voltage	24V DC	State Indicator	Working Status, Power
Weight	790g (Including Adapter)	Communication Mode	RS-485
Peak Current	1.5A	Communication Protocol	Modbus RTU
Maximum Gripping Force	20N	Feedback	Drop Detection Pick-up Detection
Working Range (with default fingers)	71-150mm	Finger Type	Switchable
Absolute Maximum Supply Voltage		28V DC	
Static Power Consumption (minimum power consumption)		0.96W	
Programmable Gripping Specification		Speed (0-4000)/Position (71-150mm)/Force (1-100%)	

End Effector: 6 Axis Force Torque Sensor

The 6-axis force torque sensor extends automation possibilities. The force resolution is up to 10g which enables xArm to carry out tasks that require the sensitivity and dexterity of the human hand.



SPECIFICATION

SPECIFICATION				
	Fx,Fy	Fz		Tx, Ty, Tz
Load capacity	150N	200N		4Nm
Resolution	100mN	150mN		5mNm
Hysteresis	2.5%FS	1%FS		1%FS
Crosstalk	3%FS	3%FS		3%FS
Overload capacity	Fx,Fy	Fz+	Fz-	Tx, Ty, Tz
	150%	1.5	300%	1.5
Dimension(L*W*H)	75*75*58.5mm		Weight	450g

Direct-Drive Linear Motor

The direct-drive linear motor effectively expands the working range of xArm, and the all-in-one control box offers easier access to use.



Ceiling



Wall



Floor

SPECIFICATION

AC Control Box Pro		Direct-Drive Linear Motor			
Supply Voltage	100-240V AC 50/60Hz	Travel	700mm	Maximum Load	200kg
Output	48V DC 10.4A	Motor Type	Direct Drive	Rated Torque	63N
Control Type	Position, Speed	Supply Voltage	48V DC	Encoder	Incremental
Weight	4.5kg	Rated Current	3A	Repeatability	±5um
Dimension(L*W*H)	262*185*176mm	Maximum Speed	1m/s	Mounting Angle	Horizontal
		Weight	20.5kg	Dimension(L*W*H)	1093*213*114mm

End Effector: Vacuum Gripper



BUILT-IN ELECTRIC VACUUM WITH PRESSURE FEEDBACK

Built-in electric vacuum saves on maintenance cost by eliminating external tanks, and pressure sensor offers a safety way that ensures movement is safe and precise



CONFIGURABLE SUCTION CUPS

Suction cups can be easily changed, fitting to your application needs

SPECIFICATION	
Rated Supply Voltage	24V DC
Absolute Maximum Supply Voltage	28V DC
Max negative pressure	-55kPa
Air flow (L/min)	>4L/min
Weight (g)	610g
Dimensions(L*W*H)	122.5*91.6*75mm
Payload (kg)	≤5kg
Noise Level(30cm away)	<65dB
Quiescent Current(mA)	20mA
Peak Current(mA)	500mA
Communication Mode	Digital IO
State Indicator	Power, Working Status
Feedback	Air Pressure (Low or Normal)

End Effector: Camera Module

To simplify the connection between RealSense camera and robot arm, developers can spend more time developing applications.



SPECIFICATIONS	
Sensor	Intel® RealSense™ D435(Not included)
Installation	Aluminium Camera Stand
Operating Temperature	0~50°C
Weight	<200g

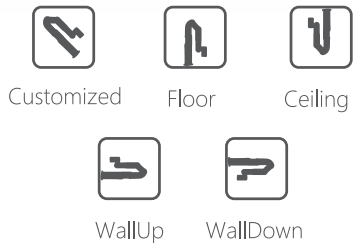
Installation Package

Safely install your robot with simple and solid installation tools.



SPECIFICATIONS	
Materials	Aluminium alloy
Weight	1300g

UFACTORY 850



PERFORMANCE

*Ambient Temperature Range	0-50℃
Power Consumption	Typical 240 W, Max 1000 W
Input Power Supply	48V DC, 20.8A

PHYSICAL

Footprint	Ø 190 mm
Materials	Aluminum, Carbon Fiber
Base Mounting Dimension	M8*4

SPECIFICATION

Payload(kg)	5kg
Reach (mm)	850mm
Degrees of Freedom	6
Repeatability (mm)	±0.02mm
Maximum Speed (m/s)	1m/s
Weight (kg) (robot arm only)	20kg

FEATURES

Robot Mounting	Any
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NOTES:

The working temperature of the robot is 0-50 °C. When the joints is continuously operatedat high speeds, please lower the ambient temperature.

I/O PORTS

Control Box	DI*16 (Digital In)	DO*16 (Digital Out)	AI*2 (Analog In)	AO*2 (Analog Out)
End Effector	DI*2	DO*2	AI*2	RS485*1

COMMUNICATION (ROBOTIC ARM)

Robot Base Communication Protocol	self-defined
Robot Base Communication Mode	RS-485
End Effector Communication Protocol	Modbus RTU
End Effector Communication Mode	RS-485

COMMUNICATION (CONTROL BOX)

Communication Protocol	Modbus TCP
Communication Mode	Ethernet

MOVEMENT

	Working Range	Maximum Speed
Joint 1	±360°	180°/s
Joint 2	-132° ~ 132°	180°/s
Joint 3	-242° ~ 3.5°	180°/s
Joint 4	±360°	180°/s
Joint 5	-124° ~ 124°	180°/s
Joint 6	±360°	180°/s



UFACTORY 850 AC Control Box



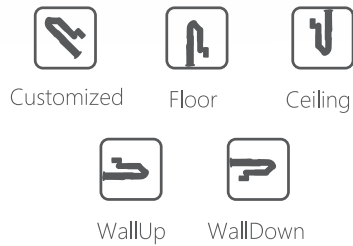
SPECIFICATION	
Input	100-240VAC 50/60Hz
Output	48VDC 1000Wmax
Weight	4.8kg
Dimension(L*W*H)	345*135*101mm
Control Box IO	CI*8+DI*8 CO*8+DO*8 2*AI 2*AO (Digital Input) (Digital Output) (Analog Input) (Analog Output)
Communication Mode	Ethernet, RS485 Master*1

UFACTORY 850 DC Control Box



SPECIFICATION	
Input	48-72VDC
Output	48VDC 960Wmax
Weight	2.8kg
Dimension(L*W*H)	262*160*76mm
Control Box IO	CI*8+DI*8 CO*8+DO*8 2*AI 2*AO (Digital Input) (Digital Output) (Analog Input) (Analog Output)
Communication Mode	Ethernet, RS485 Master*1

UFACTORY Lite 6



PERFORMANCE

*Ambient Temperature Range	0-50℃
Power Consumption	Typical 150 W, Max 350 W
Input Power Supply	24V DC, 14.66A
Repeatability	±0.5mm

SPECIFICATION

DoF	6
Payload	600g
Reach	440mm

COMMUNICATION

Robot Communication Protocol	Modbus TCP
Communication Mode	Ethernet, RS485 Master*1, RS485 Slave*1
Developing Environment	Python/C++/ROS/ROS2
GUI	UFACTORY Studio

MOVEMENT

Maximum Joint Speed	180°/s
Maximum Tool Speed (Cartesian)	500mm/s

I/O PORTS

Control Box	CI*8	CO*8	AI*2	AO*2
End Effector	TI*2	TO*2	AI*2 /RS485*1(alternative)	

PHYSICAL

EOAT	ISO9409-1-50
Footprint	130*140 mm
Materials	Aluminum, Carbon Fiber
Base Mounting Dimension	M5*4 (114*114mm)
Robot Mounting	Any
Gearbox	Harmonic Drive
Motor Type	BLDC
Control Box	Build-in
Weight	8kg

MOVEMENT

	Working Range	Maximum Speed
Joint 1	±360°	180°/s
Joint 2	±150°	180°/s
Joint 3	-3.5°~300°	180°/s
Joint 4	±360°	180°/s
Joint 5	±124°	180°/s
Joint 6	±360°	180°/s



Gripper Lite



SPECIFICATION

Input Power Supply	24V DC
Stroke	16mm(Switchable fingers)
Gripping Force	5N
Weight	350g
Communication Mode	I/O
Feedback	NA

Vacuum Gripper Lite



SPECIFICATION

Input Power Supply	24V DC
Vacuum Level	-40Kpa
Weight	250g
Communication Mode	I/O
Feedback	Pick-Up Detection (on/off)