



PRODUCT INTRODUCTION BROCHURE

安思疆科技产品介绍

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ANGSTRONG TECHNOLOGY



Shenzhen Angstrong Technology Co., Ltd., founded in June 2018, is a leading provider of high-performance AI-powered 3D visual perception technology solutions. Headquartered in Shenzhen, the company has established branch offices in Nanjing, Shanghai, and the United States to expand its market reach.

Its core competitiveness lies in proprietary technologies covering both software and hardware, including complex optical system design & integration, optical component design, visual algorithms, AI algorithms, and key manufacturing processes.

Leveraging these technical strengths, Angstrong delivers comprehensive 3D sensing solutions—most notably 3D structured light systems and dToF LiDAR systems

Angstrong's mission is to empower millions of terminal devices with AI-powered 3D perception, and to build the foundational 3D perception infrastructure for the AI era. Our solutions are applied across a diverse range of industries, including consumer electronics (mobile phones, tablets, PCs), financial payments, smart home devices, robotics, security monitoring, autonomous driving, healthcare, and industrial measurement. To date, we have successfully rolled out commercial solutions in key sectors such as offline retail, service robotics, and security monitoring.



CORE TEAM MEMBERS

核心团队



AN LI
CEO / CO-FOUNDER

Master of Optical Engineering,
Zhejiang University

- Expert in 3D system design, proficient in geometric optics, diffractive optics, and complex system design
- First inventor of multiple core patents in structured light & periscope lens technologies; has published dozens of academic papers
- Formerly with Huawei 2012 Lab, bringing end-to-end expertise from concept development to mass production.



DR. YADONG LU
CTO / CO-FOUNDER

Doctor of Computational Mathematics, University of
Science and Technology of China

- Senior expert in 3D algorithms with years of deep engagement in multimedia engineering algorithms, machine vision, and AI
- Inventor of dozens of patents in 3D sensing technology.
- 10 years of experience at Huawei, including a tenure at Huawei 2012 Research Lab.



DR. JIANHUA JIANG
SVP / CO-FOUNDER

Master of Optical Engineering, Tsinghua University
Doctor of Optical Engineering, University of Alabama in Huntsville

- Pioneered the R&D of core 3D structured light algorithms, enabling mass production of over 5 consumer electronics models (e.g., Huawei flagship smartphones).
- Possesses profound hands-on experience in end-to-end core component design and supply chain management.
- Developed DOEMaster and GratingMaster design software, widely adopted by enterprises (Apple, Huawei) and academic institutions.



安思疆科技

智能门锁门禁解决方案

Smart Lock Access Control Solution

全规格 / 全场景 / 全功能

Full specifications / full scenarios / full functions

主流技术路径比较

SOLUTION	COMPARISON OF MAINSTREAM TECHNOLOGIES			
	FAKE BINOCULAR FACIAL RECOGNITION	STRUCTURED LIGHT 3D FACIAL RECOGNITION	PALM VEIN RECOGNITION	MULTISPECTRAL BINOCULAR FACIAL RECOGNITION
ALGORITHM REFINEMENT	General	High	High	High
SAFETY FACTOR	No 3D depth information, no multispectral	True 3D anti-forgery, financial-grade anti-forgery	Palm veins are difficult to replicate and not easy to steal	Multispectral, eliminate all kinds of material prosthetics
STABILITY	Stable	Very Stable	Very Stable	Stable
RECOGNITION SPEED	Fast	Fast	Extremely Fast	Fast
APPLICABLE SCOPE	Wide	Wide	Wide	Wide

CORE TECHNOLOGY RESERVES

安思疆门锁行业核心技术储备

ANGSTRONG'S CORE TECHNOLOGY RESERVES IN SMART LOCK INDUSTRY



结构光3D人脸识别

3D structured light facial recognition



Compared to traditional 2D facial recognition, 3D structured light facial recognition can distinguish flat images, videos, makeup, masks, and other spoofing attempts, delivering higher security and accuracy. It is applicable to application scenarios with high-level security requirements, such as the financial sector and private smart locks/access control systems.



掌静脉识别

Palm vein recognition



Palm vein recognition is a biometric technology based on the vascular network within the palm. It features high accuracy, high security, anti-interception, and anti-forgery capabilities. It has advantages such as being easy to use, contactless, and providing high-level privacy protection. It has broad application prospects in finance, access control, healthcare, education, public transportation, airport and border control, commercial and retail sectors, as well as in secondary development.



多光谱生物识别

Multispectral biometric recognition



Multispectral biometrics is a technology that leverages electromagnetic spectra of different wavelengths for biometric identification. It can distinguish between various states, including flat images, videos, makeup, and latex masks. The technology is user-friendly, convenient, contactless, and offers high privacy protection. It is suitable for application scenarios requiring medium to high security levels.

3D facial recognition / Palm vein recognition / High-definition peephole

无惧户外/复杂/极端场景

FEARLESS OF OUTDOOR/COMPLEX/EXTREME SCENES



Under sunlight intensity of up to 100,000 Lux at noon outdoors, it can recognize in both back-lit and direct-lit conditions.



Customized large FOV (Field of View) anti-glare lens. Paired with a 2-megapixel CMOS for clear imaging in all weather.



Capable of recognition in semi-outdoor areas like balconies and large halls.



Can operate stably in the temperature range of -25°C to 70°C.



金融支付级别安全保障

FINANCIAL PAYMENT LEVEL SECURITY GUARANTEE



公安一所
安全认证



BCTC金融支付级
安全认证

- In 2023, Angstrong's palm vein recognition technology successfully passed the testing and certification conducted by the First Institute of the Ministry of Public Security.
 - In 2024, Angstrong's 3D structured light facial recognition technology was certified by the Bank Card Testing Center (BCTC) of China UnionPay after passing its tests.
- Currently, Angstrong stands as the sole company to have obtained both national - level authoritative certifications for facial recognition and palm vein recognition. This accomplishment places its security protection on par with that of financial payment security standards.

- SECURITY PERFORMANCE ON PAR WITH IPHONE
- COMPLETELY PREVENTS ATTACKS FROM PROSTHETICS AND PICTURES
- OFFERS FULL-SCENARIO RECOGNITION CAPABILITIES
- PROVIDES A WIDE RANGE OF EXTREMELY INNOVATIVE SOLUTIONS



Palm vein recognition

安全与效率尽在“掌”握

PALM SCANNING UNLOCKING
THAT BALANCES SAFETY AND EFFICIENCY



THE FIRST PALM SCANNING MODULE WITHIN 5CM

- Self-developed palm vein camera with a FOV of V118° H90°, featuring a special design
- Ultra-low distortion lens, paired with a high-resolution CIS
- Can easily recognize the palm veins of the elderly and children, with a recognition distance of 5CM - 25CM



ULTRA-FAST UNLOCKING IN 0.6S

- Tencent's payment-level algorithms
- Unlocking in 0.6s by raising your hand



High-definition peephole

微光真彩 告别黑白

SUPER SENSITIVE COLOR ELECTRONIC PEEPHOLE



ULTRA-STRONG LENS

Adopts a large-aperture CMOS and AI algorithm to achieve true-color imaging even in light as low as 1 lux.



RGB TRUE COLOR

Restores true colors, prevents black-and-white images, reduces LED working time, and saves power.



EXTRA-LARGE FOV

163° ultra-large field of view, with both wide coverage and no distortion.



AI-ASSISTED CLEAR AND REAL-TIME CAPTURE

AI algorithm with a frame rate of up to 30fps, combined with a human-shaped outline, enables accurate capture.



LAG-FREE REAL-TIME DUAL-SCREEN LINKAGE

High-definition two-way call, with clear and real-time communication anytime, anywhere.

Ultra-clear, ultra-large,
ultra-wide

Hi, can you see
me?



ULTIMATE TECHNOLOGICAL INNOVATION

Driven by technological innovation, we strive for excellence and have developed a portfolio of innovative core technologies.

Our products boast smarter, more efficient recognition capabilities, a more compact form factor for easier integration, higher cost-effectiveness, and enhanced multi-functional integration.

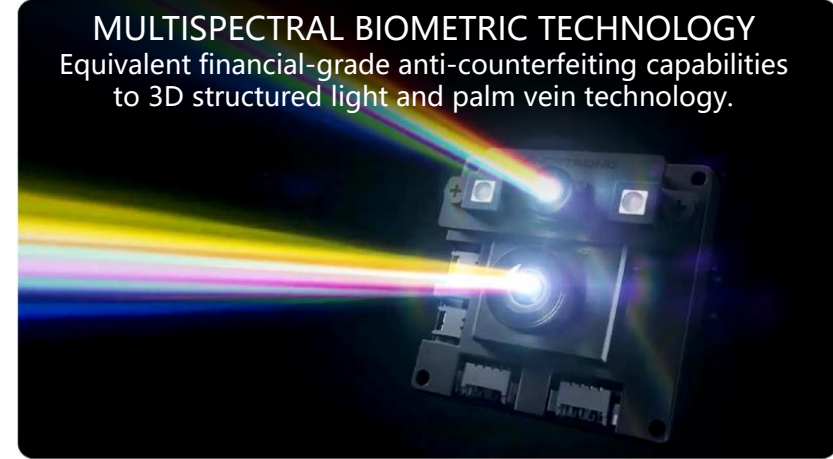
3D FACIAL RECOGNITION + PALM VEIN RECOGNITION + HIGH-DEFINITION PEEPHOLE
The first low-cost three-in-one module in industry.



QUASI-DIRECT LIGHT AND DOE INTEGRATED
Innovative design with excellent cost-performance.



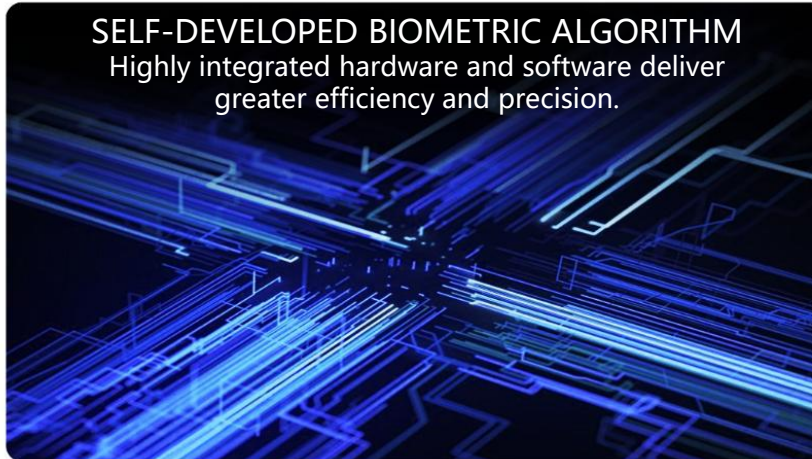
MULTISPECTRAL BIOMETRIC TECHNOLOGY
Equivalent financial-grade anti-counterfeiting capabilities to 3D structured light and palm vein technology.



LOW-POWER AI VISION BIOMETRIC CHIP
Machine learning algorithm enables seamless switching between palm and facial recognition, delivering ultra-fast identification with effortless intuitiveness.



SELF-DEVELOPED BIOMETRIC ALGORITHM
Highly integrated hardware and software deliver greater efficiency and precision.



SELF-DEVELOPED 3D SYSTEM SIMULATION PLATFORM
The core optical chip has undergone 5 tape-outs and 8 iterations.



Venus-Lite X

3D structured-light facial recognition and Palm vein recognition



STRONG ANTI-ENVIRONMENTAL INTERFERENCE

Adopts near -infrared light-emitting chips with a wavelength of 940nm, adaptable to all lighting conditions, including strong light and backlight environments.



ULTRA-SMALL VOLUME

The module is compact in size, facilitating its integration into various devices.



ULTRA-WIDE FOV

Supports a height range of 110-200cm, covering a wider range of people.

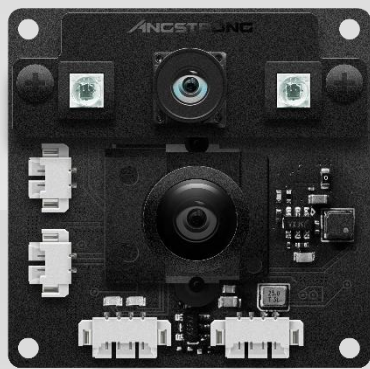


规格参数 Specification parameters

SPECIFICATION NAME	PARAMETER INDEX
Working Distance	0.4-0.9m
Power Consumption	Average power consumption for overall recognition < 0.45W
FOV	Facial recognition: H60.6±3° V76.2±3° Palm vein recognition: H60.6±3° V76.2±3°
Accuracy Error	Facial recognition: Pass rate 98.3%, false acceptance rate (FAR) 1 in 1,000,00 Face liveness detection: Pass rate 99%, false acceptance rate < 0.5% Palm vein recognition: Pass rate 98%, false acceptance rate one in a million Palm vein liveness detection: Pass rate 99%, false acceptance < 0.8%
Applicable Environment	Indoor, outdoor ≤ 80,000 lux
Transmission Interface	UART
Dimensions	89.8 X 19 X 16.5mm

Venus-PRO X

3D Facial Recognition + Palm Vein Recognition + High-definition Peephole



SELF-LEARNING AI CHIP

With self-developed AI algorithms
Automatically analyzes and learns human palm and user-identified features



MICRO-OPTICAL, TRUE-COLOR AND HIGH-DEFINITION PEEPHOLE
2-megapixel Enhanced fill-light & infrared multi-ring lights to ensure high clarity



MULTISPECTRAL BIOMETRIC IDENTIFICATION TECHNOLOGY

Combines color light source and infrared light source
Equipped with a more secure identification algorithm



TENCENT FINANCIAL PAYMENT ALGORITHM

Financial payment anti-fraud algorithm
Resistant to various types of pictures, video attacks, etc.



规格参数 Specification parameters

SPECIFICATION NAME	PARAMETER INDEX
Working Distance of Facial Recognition	0.35-1.0m
Working Distance of Palm Vein Recognition	5cm-25cm
Peephole FOV	H76° V136° D163°
Dual-Stream Output	Mobile: H264/265 1080P 25fps Rear Screen: MJPG 720P 25fps
Low-Light True-Capture	True capture in light conditions above 1 lux
Infrared Night Vision	Infrared night vision in light conditions below 1 lux
Applicable Environment	Indoor, Outdoor ($\leq 100,000$ lux)
Dimensions	38.00X38.00X15.80
Transmission Interface	UART、USB2.0

MORE OVERVIEW OF SMART DOOR LOCK PRODUCTS

更多门锁产品概览

MORE OVERVIEW OF SMART DOOR PRODUCTS

Meet all scene requirements for you to choose from.



VENUS-Lite P1

3D facial recognition and palm vein recognition module in financial level



VENUS-Lite X3

High-precision recognition module



VENUS-Lite X2

High-precision palm vein module, self-developed biometric camera



VENUS-Lite S

Financial-grade 3D facial recognition, extremely innovative ultra-small size



VENUS-PRO X

Multispectral face and palm vein recognition



VENUS-PRO E2

Multispectral face and palm vein recognition, 3D self-learning high-definition AI chip



VENUS-Lite X

3D facial recognition and palm vein recognition, extremely innovative ultra-small size



*For specific information, please consult with professional consultants from Angstrong to obtain the latest information



ANGSTRONG
安思疆科技

合作超 **50+** 高端门锁品牌

COOPERATE WITH OVER 50 HIGH-END DOOR LOCK BRANDS



保仕盾

BOSDON
保仕盾·智能锁



小智

XIAOZHI



汇泰龙

HUTLON 汇泰龙



GMT

GMT



VOC

VOC



TCL

TCL



鹿客

LOCKIN 鹿客



德施曼

DESMAN
德施曼·智能锁



小米

MI xiaomi



凯迪仕

Kaadas
凯迪仕·智能锁



乐橙

IMOU 乐橙



京东京造

京东京造



博克

BECK



因特

VINTE 因特



穿山甲

MANBI JIANYA



觅觅

觅觅



雅洁

ARCHIE



Xiaomi M30 Pro, M30, etc.



The Xiaomi M30 Series has redefined the security and convenience standards for smart locks through three key innovations: an AI dual-camera peephole, a large vibrant color display, and multi-biometric authentication.

With balanced configurations across the entire product line, the Pro model stands out as an all-around family option, thanks to its dual authentication (facial and palm vein). Meanwhile, the facial recognition variant delivers a flagship-level experience at a price point of RMB 2,799. For users seeking integration with the Xiaomi Smart Home ecosystem or prioritizing contactless operation, this series is currently the top-tier choice within the Xiaomi ecosystem.



Kaadas Q20 MPro, etc.



As a leading brand in China's smart lock industry, Kaadas Q20 MPro upholds the brand's legacy of premium quality and strong brand recognition. With its outstanding performance and sleek design, it has gained significant popularity among consumers—particularly resonating with users who pursue a high-quality lifestyle and prioritize family safety.

Equipped with Angstrong's Venus Lite X3 module, the Q20 MPro features palm vein recognition functionality. It also integrates seamlessly with Angstrong's multi-smart solutions.





Lockin V5 air, etc.



As a leading player in China's high-end smart lock market, the Lockin V5 Air has garnered widespread market attention and recognition for its outstanding performance and unique design since its launch. It inherits the premium-quality DNA of the V5 series, boasts strong competitiveness in the price segment above RMB 3,000, and once maintained a consistent top sales rank in this online price bracket.

Equipped with Angstrong's Venus Lite S module, the V5 Air features 3D structured light facial recognition functionality. It also integrates seamlessly with Angstrong's multi-smart solutions.



Desman Qilin R9, etc.



Desman's annual strategic new product—the AI-Powered Smart Butler Lock Qilin R9 (Spirit Edition)—has become the first AI-enabled smart lock to achieve blockbuster sales. Equipped with Angstrong's Venus-Lite X module, which integrates 3D structured light facial recognition and an AI palm vein module, it dominated its debut 618 shopping festival, securing dual titles as champion on Tmall's New Smart Door Lock Ranking and the Best-Selling Smart Door Locks (Over RMB 3,000) Ranking.





Only some of the partner brands are showcased.

值得信赖的智能门锁解决方案

TRUSTWORTHY INTELLIGENT DOOR LOCK SOLUTION

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Robot Vision Solution



安思疆科技

机器人视觉感知解决方案

Robot Vision Solution



全规格 / 全场景 / 全功能

Full specifications / full scenarios / full functions

主流技术路径比较

COMPARISON OF MAINSTREAM TECHNOLOGIES				
SOLUTION	 <i>BINOCULAR STEREO VISION</i>	 <i>STRUCTURED LIGHT 3D FACIAL RECOGNITION</i>	<i>ITOF-INDIRECT TIME OF FLIGHT</i>	<i>DTOF-DIRECT TIME OF FLIGHT</i>
Depth Resolution	~1M	>1M	~0.3M	QVGA
Algorithm Precision	Low	High	Low	Medium
Power Consumption	High	Low	Medium	Low
Limitations	Passive imaging poor robustness	Applicable distance < 10M	Low accuracy	Difficult to improve resolution
Application Scope	Good environment	High – precision 3D sensing	Low-precision 3D sensing	Medium-to-long-distance high- precision 3D sensing

PRECISE SENSING, EMPOWERING THE FUTURE

3D结构光技术路线

3D STRUCTURED LIGHT TECHNOLOGY



3D structured light technology actively projects high-density encoded light patterns. Combined with an infrared camera and supporting algorithms, it parses 3D environmental information in real time. This delivers centimeter-level spatial perception for the robotics industry, enabling high-precision obstacle avoidance and dynamic response—core capabilities for robots. It is particularly well-suited for complex scenarios involving restaurant service robots and industrial robots, facilitating their upgrade from "mechanical execution" to "autonomous decision-making".



HIGH-PRECISION OBSTACLE AVOIDANCE AND DYNAMIC RESPONSE

It enables millisecond-level 3D reconstruction, accurately identifying obstacles within the 5CM-10M range, including their contours, distances, and motion trajectories.

It supports multi-layer obstacle avoidance strategies with a misjudgment rate of less than 0.1%, ensuring the safety of human-robot collaboration.



INTELLIGENT PATH PLANNING AND MULTIMODAL NAVIGATION

Based on real-time spatial scanning to generate a 3D semantic map, combined with SLAM algorithms, it optimizes dynamic paths. Compared with traditional LiDAR solutions,

it improves traffic efficiency by 30%.



3D SCENE RECONSTRUCTION AND SEMANTIC UNDERSTANDING

It can quickly construct a centimeter-level point cloud model of the working area, assisting robots in identifying "operable areas". Combined with AI algorithms, it analyzes the semantic attributes of objects, enhancing the logic of autonomous task execution.

3D Structured Light

多图像融合 解锁超感知

MULTI IMAGE FUSION UNLOCKS HYPER PERCEPTION



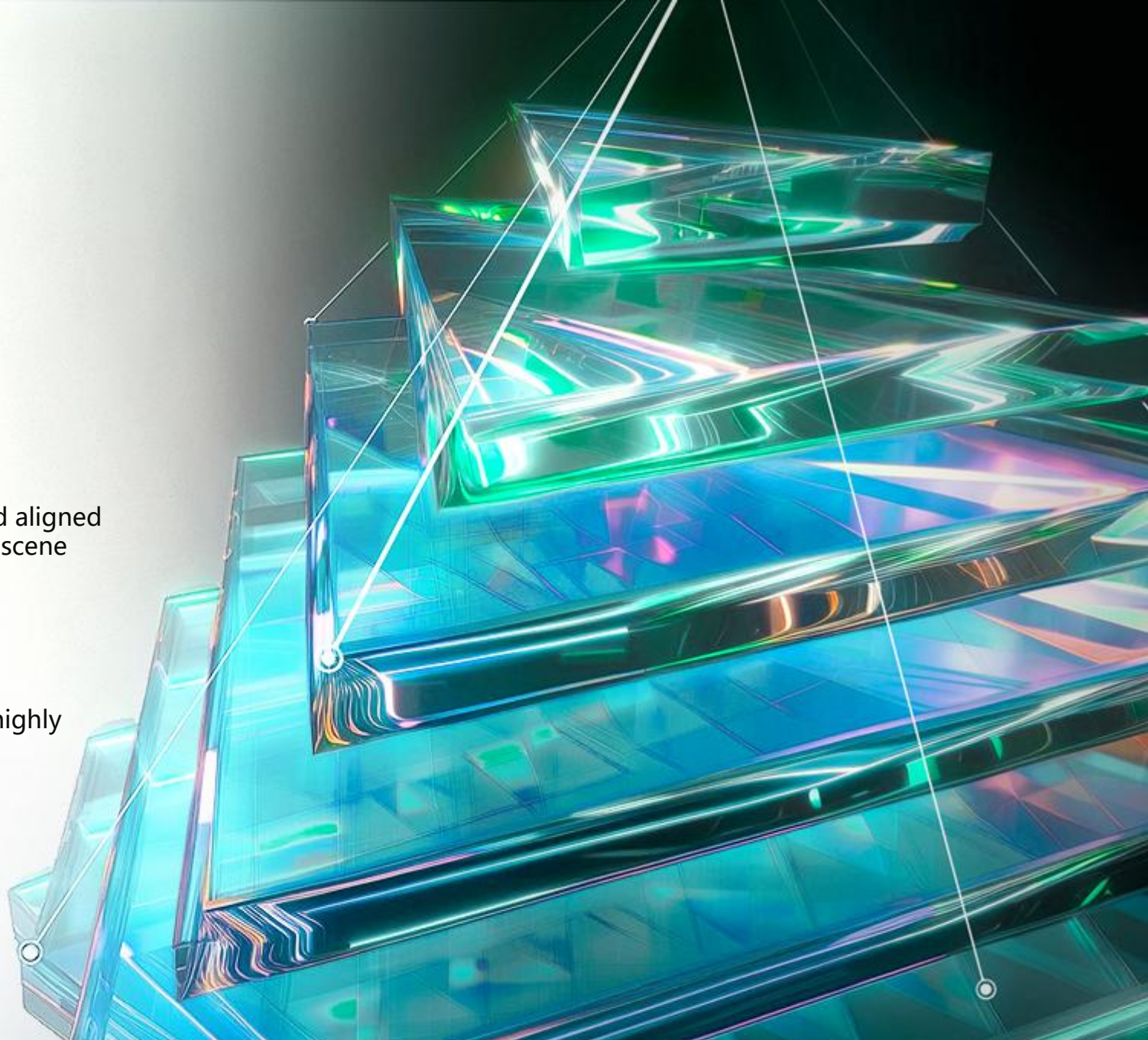
SEAMLESS FUSION OF DEPTH AND RGB IMAGES

Depth maps and RGB images are synchronized in time and aligned in space, meeting the intelligent detection needs of multi-scene image fusion.



ALGORITHM-ENHANCED SUPER PERCEPTION

The algorithm optimizes the perception of black objects, highly reflective objects, and semi-transparent objects, with performance leading the industry level.



3D Structured Light / Dtof Laser Radar

超高精度测距

ULTRA HIGH PRECISION RANGING



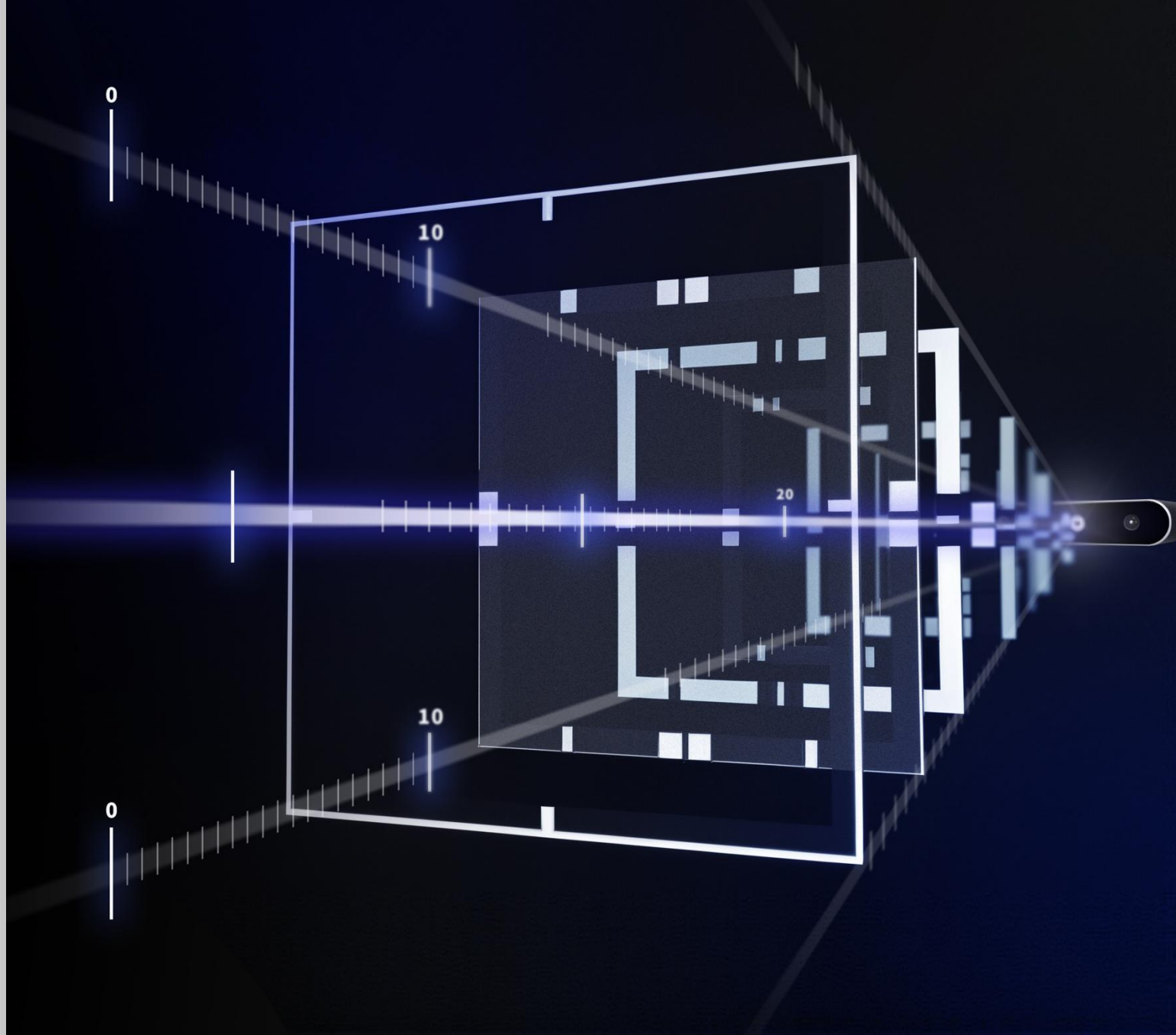
DUAL SUPPORT OF CHIP AND ALGORITHM

Angstrong provides professional depth-calculation chips and supporting algorithms, with ultra-high precision leading the industry level.



EFFICIENT VISUAL UPGRADE

Enhances the robot's performance in small-object detection, narrow-passage obstacle avoidance, etc.



3D Structured Light

多相机同时工作

MULTI CAMERA
SYNCHRONIZED OPERATION

Depth Image Output:
640*480/160*120@5/8/10/15/20FPS
Occupies less bandwidth,
enabling multiple cameras to work
simultaneously.



3D Structured Light

超大视场角

DEPTH IMAGE WITH LARGE
HORIZONTAL FOV

Depth Image FOV: 73.8°-138.8°
Meet the robot's ultra-wide viewing angle
requirements.



3D Structured Light

全环境适应性

HIGH ENVIRONMENTAL
ADAPTABILITY

Operating Temperature Range: -10~50°C
It is adaptable to complex environments such as
total darkness, strong indoor light, weak light,
backlight, and sidelight, as well as strong dust
interference, enabling round-the-clock operation.



ABSOLUTE PRECISION INTELLIGENT SENSING OF ALL THINGS

DToF激光雷达技术路线

DTOF LASER RADAR TECHNOLOGY

dToF (direct Time of Flight) LiDAR technology emits laser pulses and captures their reflected signals, generating high-precision 3D point cloud data in real time. It delivers centimeter-level environmental perception for robots, and serves as a core technology for obstacle avoidance, navigation, and spatial scanning in scenarios involving restaurant service robots and industrial robots. Compared to other sensors, its advantages include high precision, strong anti-interference capability, all-weather adaptability, and fast dynamic response—making it well-suited for complex environments.



HIGH-PRECISION OBSTACLE AVOIDANCE IN COMPLEX ENVIRONMENTS

It can scan obstacles in the range of 5CM to 200M in real-time, accurately identify their contours, distances, and motion trajectories with a misjudgment rate as low as 0.1%.

It has excellent anti-interference ability and can penetrate complex environments such as glass reflections, dust, and fog.



INTELLIGENT PATH PLANNING AND ANTI-INTERFERENCE VISUAL FUSION

LIDAR supports dynamic path optimization, improving traffic efficiency by 30% compared to traditional solutions. It also integrates ground texture recognition, magnetic track, and visual tag navigation, adapting to interferences like oil stains and reflections for robust navigation.



HIGH-RESOLUTION SPATIAL SCANNING AND 3D RECONSTRUCTION

LIDAR can quickly and accurately restore the details of the working area. In industrial scenarios, its ability to penetrate vegetation and obstructions allows it to obtain hidden structure data, providing reliable support for complex spatial inspections.

Dtof Laser Radar

避障导航二合一 加持高效通行

TWO IN ONE OBSTACLE AVOIDANCE AND
NAVIGATION

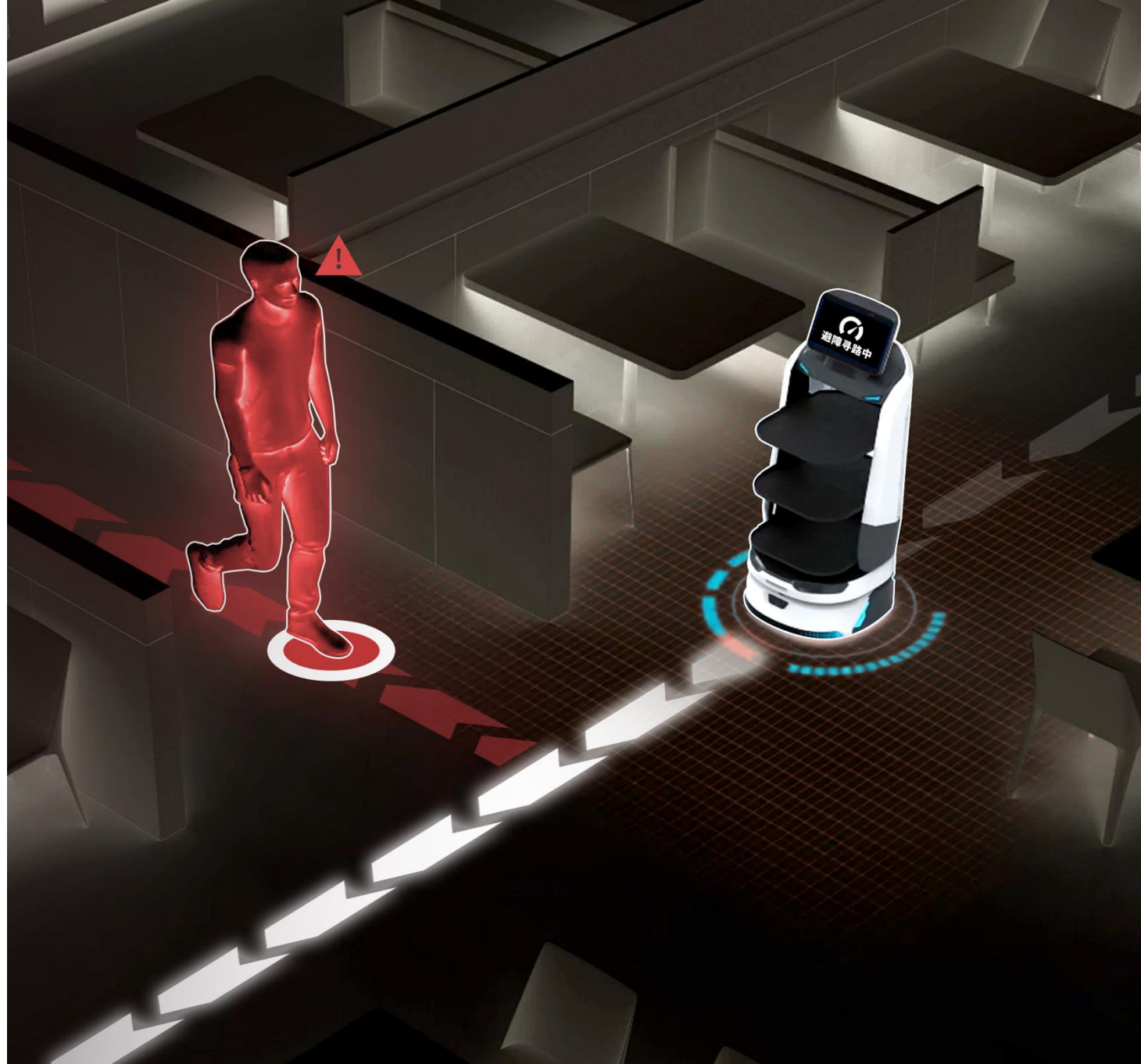


ODD-EVEN FRAME OUTPUT MODE

Combines obstacle avoidance and navigation functions
through an odd-even frame dual-output mode.

ODD FRAMES: With a resolution of 240×96 , they provide depth and point cloud information, enabling a clear view of obstacles ahead.

EVEN FRAMES: With a resolution of 240×8 , they offer depth and point cloud information, and can substitute for LiDAR for device navigation at distances up to 10M.



Nuwa-HP60C

High-precision 3D structured light module



ULTRA-WIDE FOV

The horizontal FOV of the depth image is 73.8°, meeting the large FOV requirements of robots.



HIGH-DEFINITION COLOR IMAGE

1920x1080@30fps color image output, meeting more application scenarios.



MULTI-CAMERA SYNCHRONIZATION

Occupies less bandwidth, enabling multiple cameras to work synchronously.

商用机器人
Commercial robot



工业机器人
Industrial robot



服务机器人
Sweeping robot



家用机器人
Household robot



SPECIFICATION NAME	PARAMETER INDEX
Working range	0.2-4m
Power consumption	< 2W
Depth image resolution	640×480
Depth FOV	H73.8° V58.8° ; D2C: H73.8° V51.7°
Color image resolution	640×480, 640×360
Color FOV	H80.9° V51.7° D88.9°
Accuracy error	2mm@1000mm
Transmission interface	Type C USB 2.0
Dimensions / mm	89.8 × 19 × 25

Ultra-Wide Field of View Series

Angstrong Robot Perception Solution

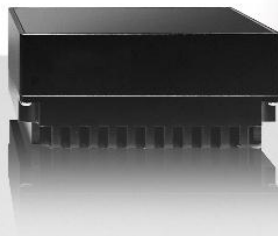
NUWA F110

110° Ultra-Wide Field of View



NUWA F135

135° Ultra-Wide Field of View



High-Precision Ranging

60cm wide baseline design, professional depth calculation chip and algorithm, with leading industry-level precision.



Ultra-Wide FOV for Depth Images

Horizontal/Vertical FOV 135°/110°, meeting the requirements of machines for large horizontal FOV scenarios, especially for base robots like AMRs.



Strong Perception Capability

Significantly optimized algorithm, with leading industry-level perception performance for black objects, highly reflective objects, and translucent objects.



Super Adaptability to Complex Environments

Wide temperature operation from -10~50°C, 940nm wavelength, excellent anti-environmental light and dust interference performance.

商用机器人
Commercial robot



工业机器人
Industrial robot



服务机器人
Sweeping robot



家用机器人
Household robot



规格名称

参数

Working Distance 0.2~4m (Recommended within 2m)

Power Consumption < 2W

Depth Image Resolution 640x400@20fps

Depth FOV Stitching : H135.0° x V50.9° / H73.8° x V110.0°

Color Image Resolution / Framerate 1600x1200@20fps(Max)

Color FOV Stitching : H150.0° x V68.0° / H88.0° x V120.0°

Transmission Interface Type C USB 3.0

Dimensions (mm) F135°: 44.0mm×56.0mm×25.0mm
F110°: 90.0mm×25.0mm×29.7mm

MORE OVERVIEW OF INTELLIGENT ROBOT PRODUCTS

MEET ALL SCENE REQUIREMENTS FOR YOU TO CHOOSE FROM.



NUWA-HP60C

High-precision 3D Structured Light Module, RGB Image Fusion



NUWA-HP60

High-precision 3D Structured Light Module



NUWA-X100

Ultra-wide View, 3D Structured Light Module



NUWA-XB40

Cost-effective 3D Structured Light Module



NUWA-HP60V

Vertical FOV High-precision 3D Structured Light Module



NUWA-LIDAR120

High-precision Consumer-grade LiDAR, Integrated Obstacle Avoidance and Navigation



*具体情况请咨询安思疆专业顾问，取得最新信息



PUDU CC1, T300, Hulu, etc.



PUDU CC1 offers multiple functions, including scrubbing, sweeping, vacuuming, mopping, fully automatic water refilling and sewage disposal, and autonomous navigation. It provides cleaning services for diverse scenarios such as office buildings, office spaces, residential complexes, and industrial parks. Additionally, Angstrong has empowered several PUDU products, including the industrial delivery robot T300 and the hospitality delivery robot Hulu.



reddot winner 2023



Zhao Cai Bao Pro delivery and service robot, etc.



Zhao Cai Bao Pro is an all-scenario delivery robot that integrates innovative design, efficient delivery, and human-centric interaction. It is equipped with over ten high-precision vision and LiDAR sensors. Combined with a full set of vision-LiDAR fusion SLAM algorithms, it delivers motion efficiency and mobility safety that far surpass those of similar products. Angstrong has empowered multiple robot products across various business segments of Orionstar.



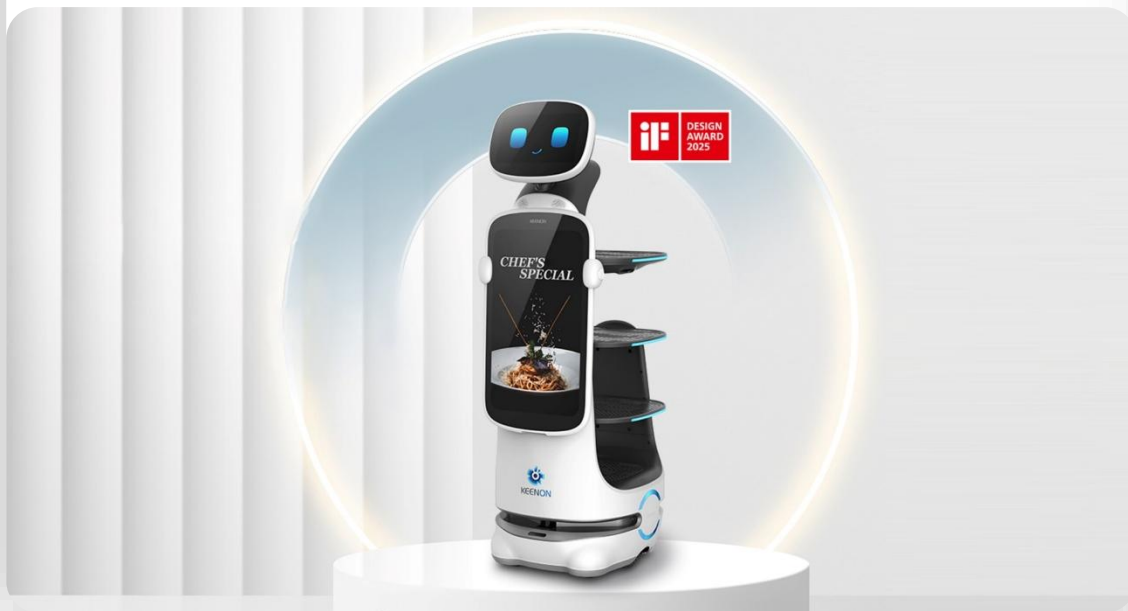


Keenon T10, W3 delivery robot etc.



Keenon T10 delivery robot innovatively combines high load-bearing capacity with flexible maneuverability. Paired with an intelligent vision system, it achieves a 99.99% delivery accuracy rate. Supported by Angstrong's Nuwa-HP60 3D structured light module, it is equipped with a 360° panoramic sensing system and six omni-directional sensors, enabling real-time perception of the surrounding environment. In complex scenarios such as corners and narrow passages, it can gracefully yield to pedestrians and collaborate seamlessly with other robots, truly realizing traffic-jam-free multi-robot coordination.

Keenon W3 functional delivery robot is also empowered by Angstrong's Nuwa-HP60 3D structured light module.



Yunji GeGe delivery robot, etc.



Yunji GeGe dual-bin delivery robot boasts an ultra-large capacity, capable of holding more takeout orders and parcels. The entire unit has been upgraded with enhanced obstacle avoidance capabilities, enabling it to adapt to various hotel environments. It also features fingerprint recognition for easy operation.

This product is equipped with Angstrong's Nuwa-HP60C high-precision 3D structured light module, which significantly enhances its obstacle avoidance, navigation, and route-planning capabilities. Additionally, its built-in RGB camera can provide real-time images for remote communication and visual data collection.



普渡机器人

ORIONSTAR
猎户星空

擎朗
KEENON

TMiRob
钛米机器人

云迹科技
YUNJI TECHNOLOGY

Geek+

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YOUIBOT
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