

RVC Series **3D Area Scanner**

RVC-I series

RVC-I540

Ultra-high-precision 3D Area Scanner

RVC-I540 ultra-high precision 3D area scanner, equipped with 5-megapixel high-definition lens, Z-axis single point repetition accuracy can reach up to micron level. It has excellent imaging effect on highly reflective workpieces, and is applied to test the products of precision 3C, the gaps, height difference and morphology detection of electronic components, and other application scenarios.

Aviation aluminum integrated fuselage
Provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



USB 3.0 data transmission

Integrated Body
stable and solid



Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume

Equipped with high-resolution lens
Reduce the image noise of point cloud

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

High brightness 3D Blu-ray module
Stabilization of light output
To achieve a stable and reliable scanning



Core Advantages

Ultra high precision **Stable and reliable**

Self-developed machine vision high precision calibration algorithm, single point repetition accuracy up to micron level.



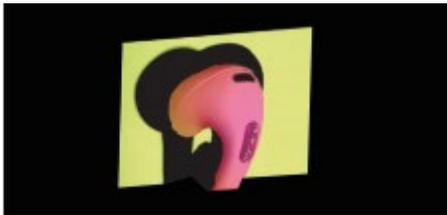
With IP65 protection level and a number of tests, it can operate stably in a harsh environment.



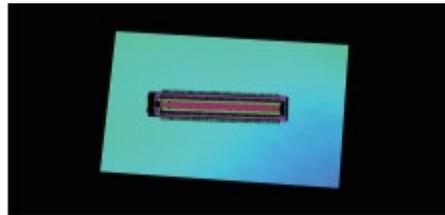
Anti-interference

HDR dynamic point cloud synthesis technology to effectively handle the presence of both black and bright white at the same time.

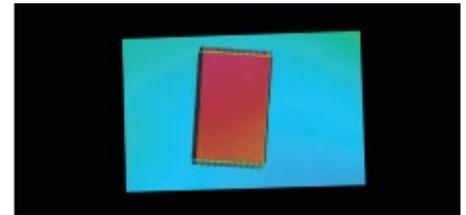
Point cloud display



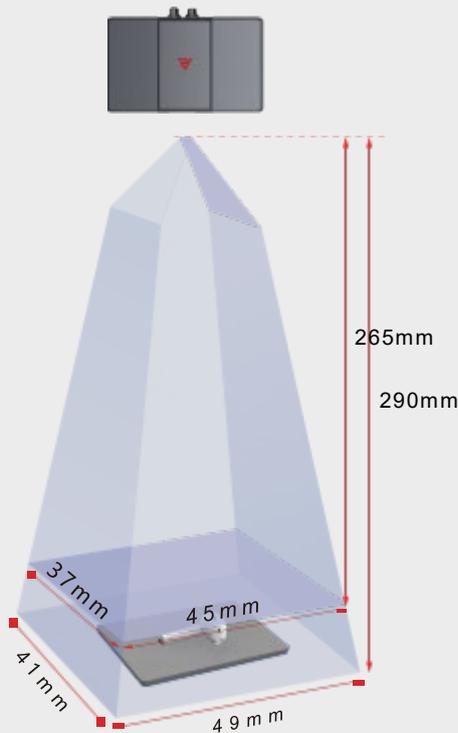
Headphone appearance gap detection point cloud



The connector detects the point cloud



IC component detection point cloud



Product reference data

model	RVC-I540
Minimum shooting time (sec / frame)	1.53
Resolution (MP)	5
Operating distance range (mm)	265~290
Near field of view (FOV) (mm)	45°37' @ 265
Far field of view (FOV) (mm)	49°41' @ 290
XY directional resolution (mm)	0.02
Z-axis single-point repetition accuracy (mm)	0.0023
Repeat accuracy of the Z-axis region (mm)	0.0007
illuminant source	LED
Communication interface	USB3.0
Camera weight (kg)	1.5
Camera size (mm)	220*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (% RH)	20~80 (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Windows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PC L/VisionPro



RVC-I3120

Micrometer-grade 3D Area Scanner

RVC-I3120 micron level 3D area scanner, it has ultra high precision micron level, shooting fast, prevent reflection. It is capable of detecting localized glue lines, screws, mountings, defects, etc. on various objects. Such as computer motherboards and cell phone frames. It can output the high-precision 3D point cloud data rapidly to determine quickly and accurately whether the product is qualified. It can improve the quality detection level and detection efficiency greatly.

Aviation aluminum integrated fuselage
Provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



USB 3.0 data transmission

Integrated Body
stable and solid



Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume

Equipped with high-resolution lens
Reduce the image noise of point cloud

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

High brightness 3D Blu-ray module
Stabilization of light output
To achieve a stable and reliable scanning



Core advantage

Ultra high precision

Self-developed machine vision high precision calibration algorithm, single point repetition accuracy up to 1.37 μ m.

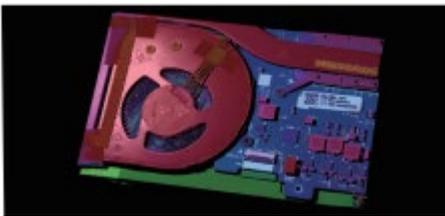
Fast shooting speed

The fastest can achieve the shooting speed of 0.67s / frame, effectively improve the detection efficiency.

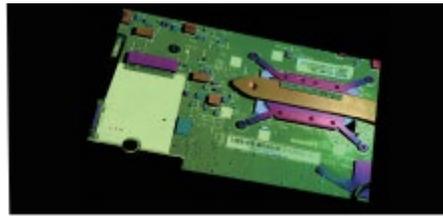
Anti-interference

HDR dynamic point cloud synthesis technology to effectively handle the presence of both black and bright white at the same time.

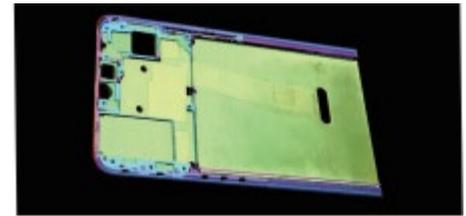
Point cloud display



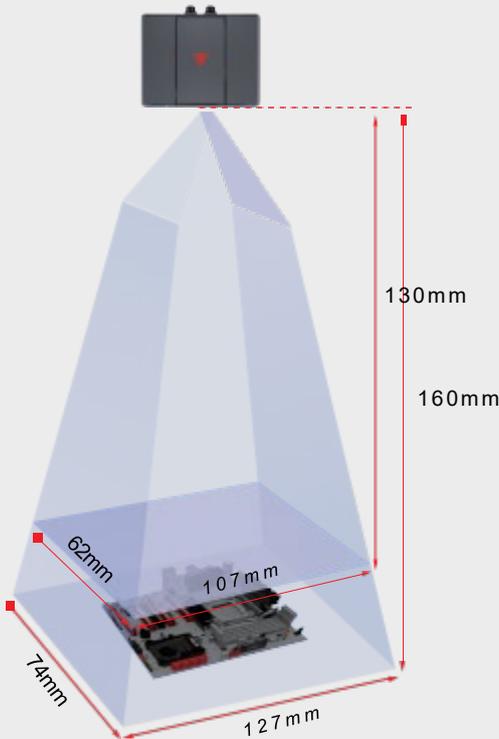
Computer mainboard detects point cloud



Circuit board screw detection point cloud



Mobile phone midboard detection point cloud



Product reference data

model	RVC-I3120
Minimum shooting time (sec / frame)	0.67
Resolution (MP)	3.2
Operating distance range (mm)	130~160
Near Field of View (FOV) (mm)	107*62 @ 130
Far Field of View (FOV) (mm)	127*74 @ 160
XY direction resolution (mm)	0.052~0.059
Z-axis single-point repetition accuracy (mm)	0.00137~0.00233
Repeat accuracy of the Z-axis region (mm)	0.00048~0.00083
illuminant source	blue LED
Communication interface	USB3.0
Camera weight (kg)	1
Camera size (mm)	180*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (% RH)	20~80 (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Win dows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PCL /VisionPro



RVC-I360

Micrometer-grade 3D Area Scanner

RVC-I360 micron level 3D area scanner, with ultra-high precision in the nanometer range can shoot fast and prevent reflection. It can detect flatness, height, segment difference, hole position, defects, etc. on PCBA boards, Li-ion batteries, earphones, cell phones, and other objects with complex structures, tiny details, and different shapes. It can quickly output high-quality 3D point cloud data with complete structure and rich details to meet the inspection and measurement needs of 3C, electronic components, automotive manufacturing and other high-precision industries.

Aviation aluminum integrated fuselage
Provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



USB 3.0 data transmission

Integrated Body
stable and solid



Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume

Equipped with high-resolution lens
Reduce the image noise of point cloud

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

High brightness 3D Blu-ray module
Stabilization of light output
To achieve a stable and reliable scanning



Core advantage

Ultra high precision

Self-developed machine vision high precision calibration algorithm, single point repetition accuracy up to submicron level.

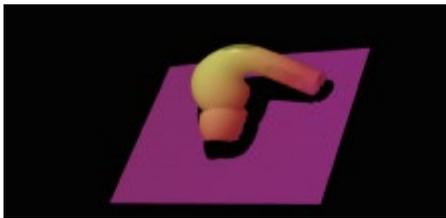
Fast shooting speed

The fastest can achieve the shooting speed of 0.72s / frame, effectively improve the detection efficiency.

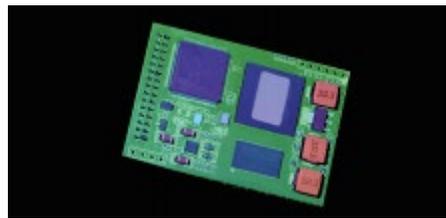
Anti-interference

HDR dynamic point cloud synthesis technology to effectively handle the presence of both black and bright white at the same time.

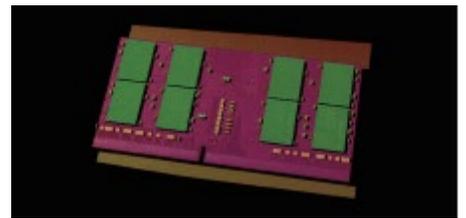
Point cloud display



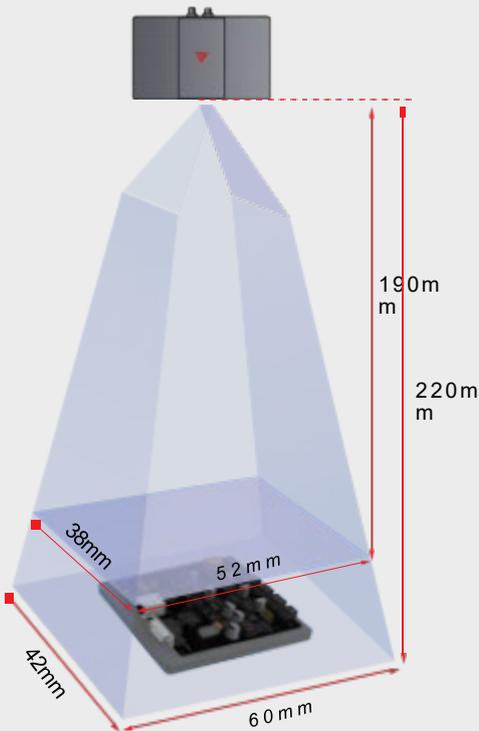
Headphone detection point cloud



The PCBA board detects the point cloud



The PCBA board detects the point cloud



Product reference data	
model	RVC-I360
Minimum shooting time (sec / frame)	0.72
Resolution(MP)	3.2
Operating distance range (mm)	190~220
Near Field of View (FOV) (mm)	52*38 @ 190
Far Field of View (FOV) (mm)	60*42 @ 220
XY direction resolution (mm)	0.026~0.027
Z-axis single-point repetition accuracy (mm)	0.0009~0.0022
Repeat accuracy of the Z-axis region (mm)	0.0002~0.0004
illuminant source	blue LED
Communication interface	USB3.0
Camera weight (kg)	1.5
Camera size (mm)	250*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (% RH)	20~80 (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Win dows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PCL /VisionPro



RVC-I5140

Ultra-high-precision 3D Area Scanner

RVC-I5140 ultra-high precision 3D area scanner, equipped with 5 megapixel HD lens. It supports 2D + 3D imaging. The scanner's Z-axis single-point repeatability can reach up to micron level, which can be applied to the defect detection of plastic parts, the height difference of the screws of PCBA, colloid detection and other application scenarios.

Aviation aluminum integrated fuselage
Provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



Gigabit Ethernet port data transfer

Integrated Body
stable and solid

Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume



Equipped with high-resolution lens
Reduce the image noise of point cloud

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

High brightness 3D Blu-ray module
Stabilization of light output
To achieve a stable and reliable scanning



Core advantage

Ultra high precision 2D + 3D imaging

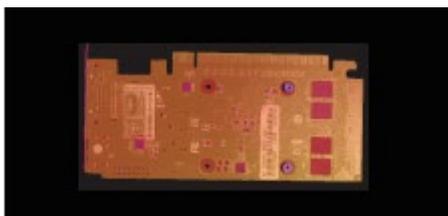
Self-developed machine vision high-precision calibration algorithm, single point repeat accuracy as high as 6 μm.

2D images and 3D point clouds can be output at one time for facilitate detection of applications.

Anti-interference

HDR dynamic point cloud synthesis technology to effectively handle the presence of both black and bright white.

Point cloud display



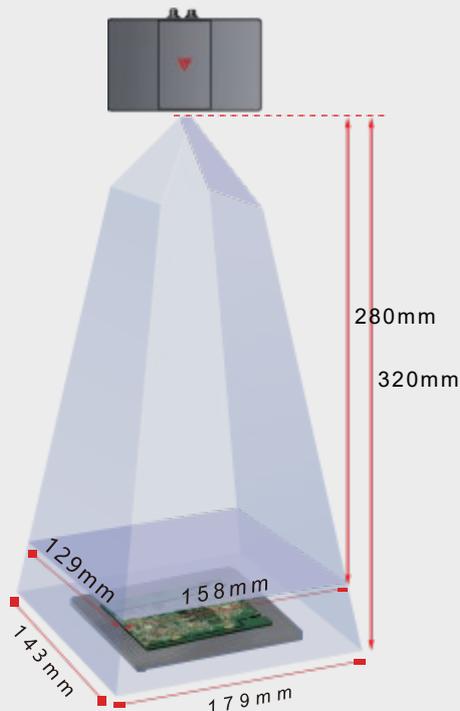
PCBA board screw hole detection point cloud



Cell phone center frame hole detection point cloud



Structural component hole detection point cloud



Product reference data

model	RVC-I5140
Minimum shooting time (sec / frame)	2.1
Resolution (MP)	5
Operating distance range (mm)	280~320
Near Field of View (FOV) (mm)	158*129 @ 280
Far Field of View (FOV) (mm)	179*143 @ 320
XY direction resolution (mm)	0.065-0.073
Z-axis single-point repetition accuracy (mm)	0.0069~0.0103
Repeat accuracy of the Z-axis region (mm)	0.0005~0.0011
illuminant source	blue LED
Communication interface	Gigabit Ethernet
Camera weight (kg)	1.5
Camera size (mm)	220*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (RH)	20~80% (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Windows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PCL/VisionPro



RVC-I3240

High-precision 3D Area Scanner

RVC-I3240 high-precision 3D area scanner, shoots with high precision, high speed, anti-reflective. It can be completely imaging of metal, plastic and other objects, output of high-quality 3D point cloud data efficiently, for glue line, foreign objects, defects, and other detection items. Widely used in 3C digital, automobile, home appliances and other machine assembly scenarios.

Aviation aluminum integrated fuselage
Provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



USB 3.0 data transmission

Integrated Body
stable and solid



Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume

Equipped with high-resolution lens
Reduce the image noise of point cloud

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

High brightness 3D Blu-ray module
Stabilization of light output
To achieve a stable and reliable scanning



Core advantage

High-accuracy

Self-developed machine vision high-precision calibration algorithm, single point repeat accuracy as high as 4 μ m.

Fast shooting fast

The fastest can achieve 0.8s / frame shooting speed, effectively improve the efficiency of industrial detection.

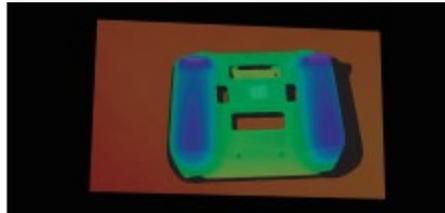
Anti-interference

HDR dynamic point cloud synthesis technology to effectively handle the presence of both black and bright white at the same time.

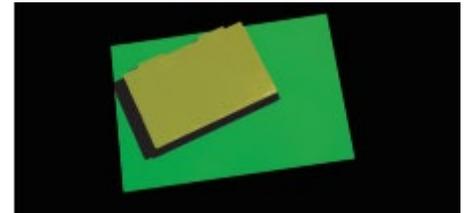
Point cloud display



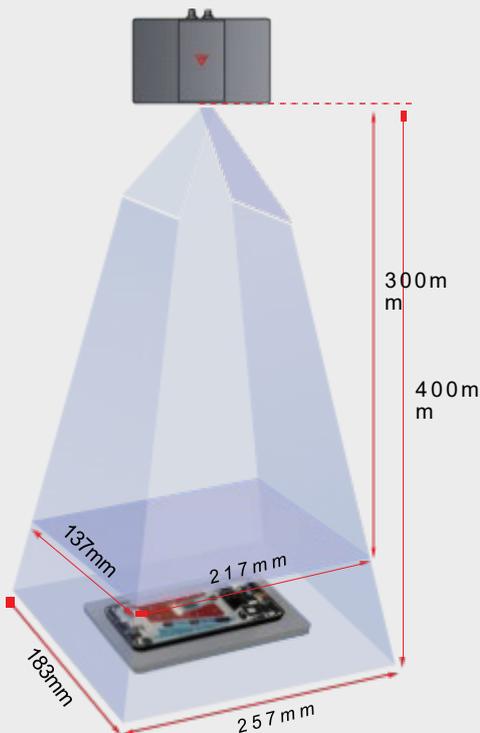
The mobile phone in the box detection point cloud



The plastic remote control shell detects the point cloud



Lithium battery surface defect detection point cloud



Product reference data

model	RVC-I3240
Minimum shooting time (sec / frame)	0.8
Resolution (MP)	3.2
Operating distance range (mm)	300~400
Near Field of View (FOV) (mm)	217*137 @ 300
Far Field of View (FOV) (mm)	257*183 @ 400
XY direction resolution (mm)	0.103~0.134
Z-axis single-point repetition accuracy (mm)	0.004~0.006
Repeat accuracy of the Z-axis region (mm)	0.001~0.003
illuminant source	blue LED
Communication interface	USB3.0
Camera weight (kg)	1.5
Camera size (mm)	220*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (% RH)	20~80 (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Win dows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PCL /VisionPro



RVC-I5180

Micrometer-grade 3D Area Scanner

RVC-I5180 micron-level 3D area scanner, equipped with 5 megapixel high-definition lens, with micron-level ultra-high precision, 180mm depth of field. It can be used to detect the size, spacing, hole position, defects, flatness and other inspection items of all kinds of workpieces with different materials and sizes. This scanner is suitable for automotive parts and components mounting holes position and size inspection, glue line inspection, concrete block flatness inspection and other scenarios.

Aviation aluminum integrated fuselage provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



Gigabit Ethernet port data transfer

Integrated Body
stable and solid

Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume



Equipped with high-resolution lens
Reduce the image noise of point cloud

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

High brightness 3D Blu-ray module
Stabilization of light output
To achieve a stable and reliable scanning



Core advantage

Ultra high precision

Self-developed machine vision high precision calibration algorithm, single point repeat accuracy up to 7 μm.

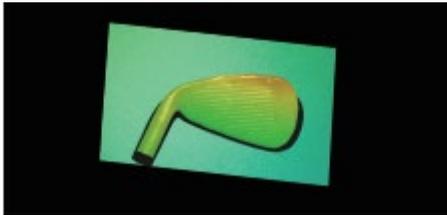
Close range and depth of view

190 * 133 @ 600mm Field range of view 180mm depth of field, to meet the close large depth of field application.

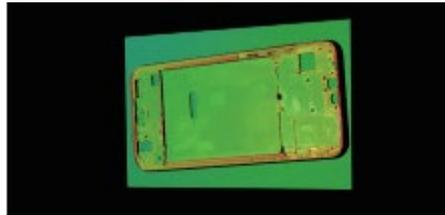
Anti-interference

HDR dynamic point cloud synthesis technology to effectively handle the presence of both black and bright white at the same time.

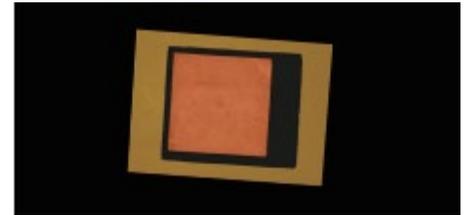
Point cloud display



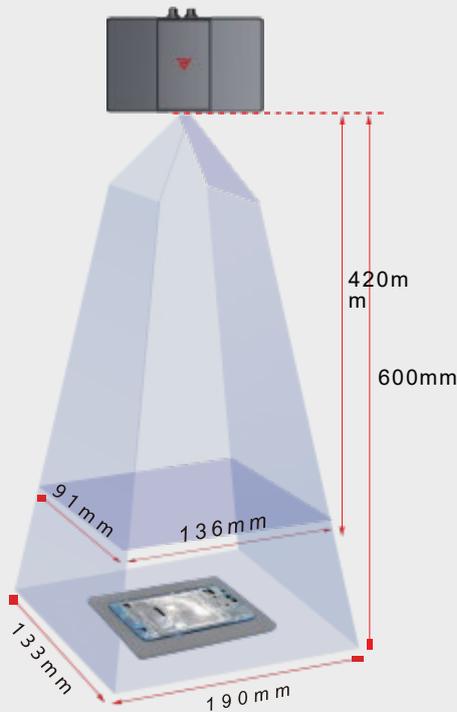
Golf ball head detection point cloud



The frame hole position in the mobile phone detects point cloud



Cement block flatness detection point cloud



Product reference data	
model	RVC-I5180
Minimum shooting time (sec / frame)	1.93
Resolution (MP)	5
Operating distance range (mm)	420~600
Near Field of View (FOV) (mm)	136*91 @ 420
Far Field of View (FOV) (mm)	190*133 @ 600
XY direction resolution (mm)	0.06~0.09
Z-axis single-point repetition accuracy (mm)	0.007~0.015
Repeat accuracy of the Z-axis region (mm)	0.0008~0.0012
illuminant source	blue LED
communication interface	Gigabit Ethernet
Camera weight (kg)	1.5
Camera size (mm)	220*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (% RH)	20~80 (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Win dows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PCL/VisionPro



RVC-I3360

High-precision 3D Area Scanner

RVC-I3360 high-precision 3D area scanner is suitable for close range shooting with high precision and anti-reflective features, which can quickly shoot automotive sheet metal parts, all kinds of assemblies, and other complex surface objects with a certain degree of reflective, dark-colored objects. It can output high-precision 3D point cloud data, which is suitable for dimensional inspection process scenarios after three-dimensional reconstruction.

Aviation aluminum integrated fuselage provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



USB 3.0 data transmission

Integrated Body
stable and solid



Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume

Equipped with high-resolution lens
Reduce the image noise of point cloud

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

High brightness 3D Blu-ray module
Stabilization of light output
To achieve a stable and reliable scanning



Core advantage

High-accuracy

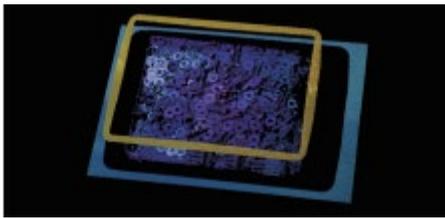
Self-developed machine vision high precision calibration algorithm, single point repeat accuracy up to 7 μ m.



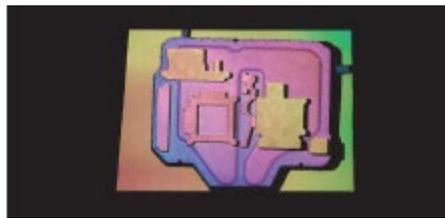
Anti-interference

HDR dynamic point cloud synthesis technology to effectively handle the presence of both black and bright white at the same time.

Point cloud display



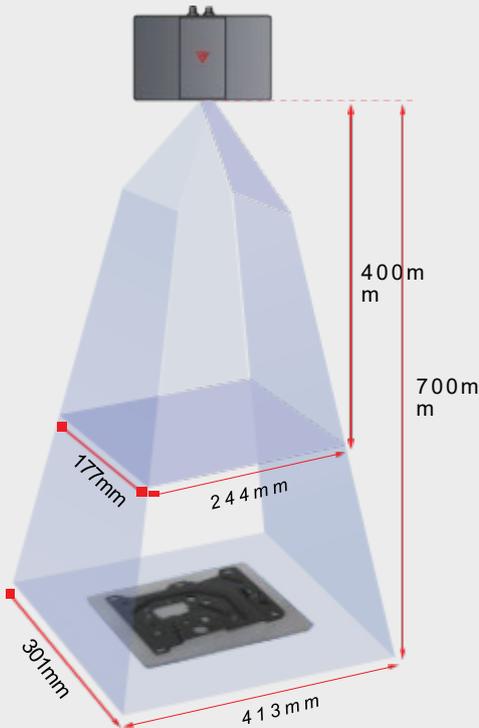
Randomly stacked shim point cloud



3D structural reconstruction of metal castings point cloud



Screws of different sizes point cloud



Product reference data

model	RVC-I3360
Minimum shooting time (sec / frame)	0.8
Resolution (MP)	3.2
Operating distance range (mm)	400~700
Near Field of View (FOV) (mm)	244*177 @ 400
Far Field of View (FOV) (mm)	413*301 @ 700
XY direction resolution (mm)	0.13~0.21
Z-axis single-point repetition accuracy (mm)	0.007~0.022
Repeat accuracy of the Z-axis region (mm)	0.002~0.005
illuminant source	blue LED
Communication interface	USB3.0
Camera weight (kg)	1.5
Camera size (mm)	250*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (% RH)	20~80 (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Windows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PCL/VisionPro



RVC-I2370

Lightweight 3D Area Scanner

The RVC-I2370 is a lightweight 3D area scanner that is small in size, light in weight, and flexible in deployment. It is suitable for mounting on collaborative robotic arms, composite robots, or integrating into space-constrained inspection equipment to assist robots to better cope with high-precision vision positioning and guidance applications, such as material transfer, disordered gripping, assembly, loading and unloading, welding, and parts sorting.

Aviation aluminum integrated fuselage provides comprehensive protection



Waterproof level greatly improved



Dust proof level greatly improved



Passed professional vibration test



Gigabit Ethernet port data transfer

Integrated Body
stable and solid



Fan-free heat dissipation Design
Weight loss, noise reduction, smaller volume

High brightness white light projection
Stabilization of light output
To achieve a stable and reliable scanning

High environmental resistance performance fuselage
Aviation aluminum alloy shell
IP 65 class protection

Equipped with high-resolution lens
Reduce the image noise of point cloud



Core advantage

 **Light and small**

The body size is only 150 * 135 * 57mm; the weight is only 0.87kg for lightweight industrial robots.

 **Ultra high precision**

Self-developed machine vision high precision calibration algorithm, single point repetition accuracy up to 0.047mm.

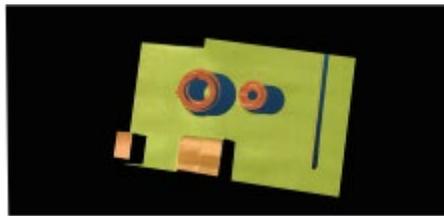
 **Fast shooting speed**

Self-developed accelerated hardware and point cloud production algorithm, which can reach the second-level imaging speed.

Point cloud display



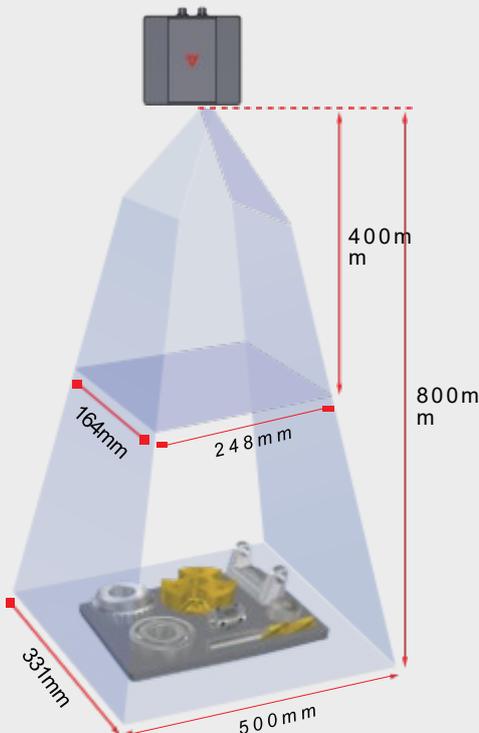
Randomly stacked shim point cloud



A variety of different items point cloud



Screws of different sizes point cloud



Product reference data

model	RVC-I2370
Minimum shooting time (sec / frame)	0.83
Resolution (MP)	1.6
Operating distance range (mm)	400~800
Near Field of View (FOV) (mm)	248*164 @ 400
Far Field of View (FOV) (mm)	500*331 @ 800
XY direction resolution (mm)	0.17~0.34
Z-axis single-point repetition accuracy (mm)	0.047~0.140
Repeat accuracy of the Z-axis region (mm)	0.005~0.018
illuminant source	RGB LED
Communication interface	Gigabit Ethernet
Camera weight (kg)	1.15
Camera size (mm)	150*135*57
Operating voltage / current	DC 24V/3.75A
Levels of protection	IP65
Operating temperature (°C)	0~45
Operating Humidity (% RH)	20~80 (no condensation)
Standard fitting	Power supply adapter, power supply cord, data cable
Whether the third-party development is supported	yes
Supported development language	C/C++/C#/Python
Supported development platform	Linux/Win dows
Adapt to the third-party software library	Halcon/OpenCV/Open3D/PCL/VisionPro

