MACHINE VISION
SC6000 AI Smart Camera



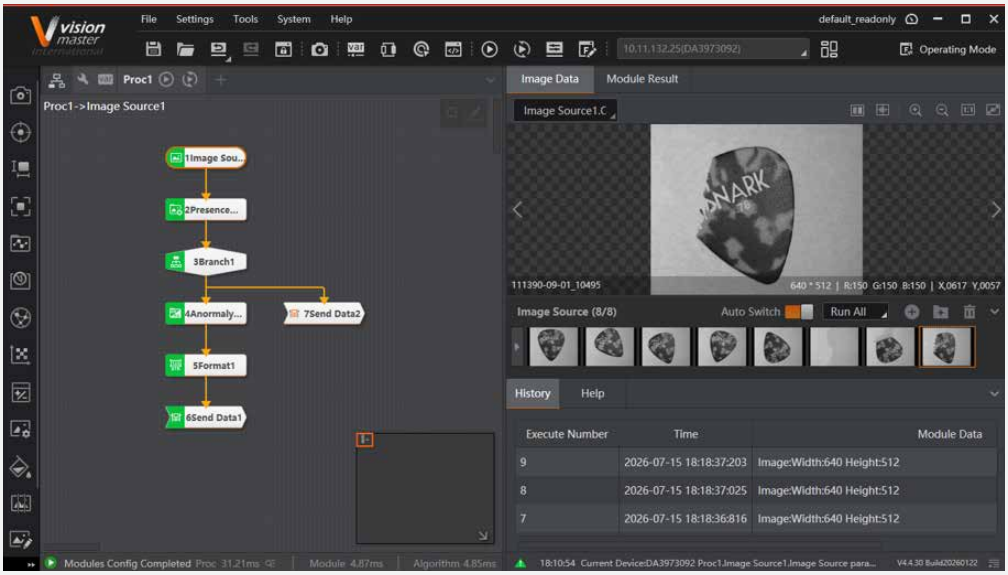
Hikrobotics.com

HIKROBOT

SC6000

SC6000 series smart camera, a highly integrated machine vision system, integrates image acquisition, storage, processing and communication into one versatile, modular, reliable and user-friendly vision solution.

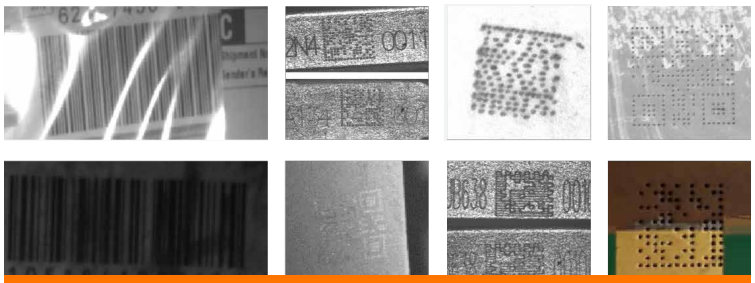
Embedded VM Algorithm Platform



- SC6000 series integrates the embedded VisionMaster platform with complete vision functions. Encryption is built into the camera without requiring an extra dongle.

Support Deep Learning

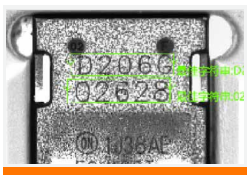




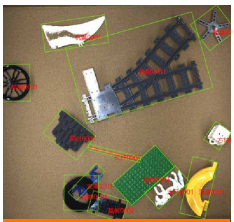
DL Code Reading



DL Character Locating



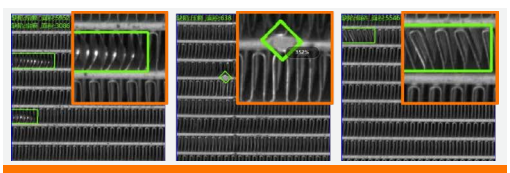
DL Character Recognition



DL Object Detection



DL Classification

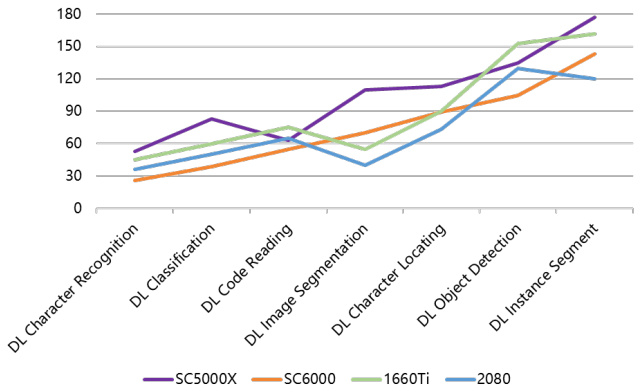


DL Image Segmentation

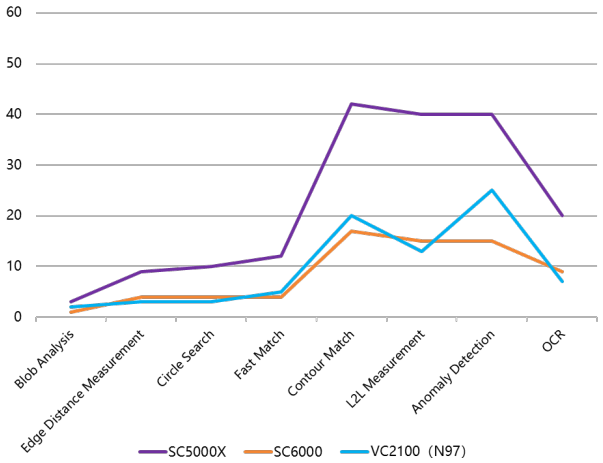
- Equipped with over 160 built-in visual tools and full deep learning modules.

Powerful Computing Performance

Deep Learning Algorithm Performance



Traditional Algorithm Performance



- Equipped with the 8-core embedded processor delivering 6T computing power. Its deep learning capability outperforms RTX1050Ti and is close to RTX1660.

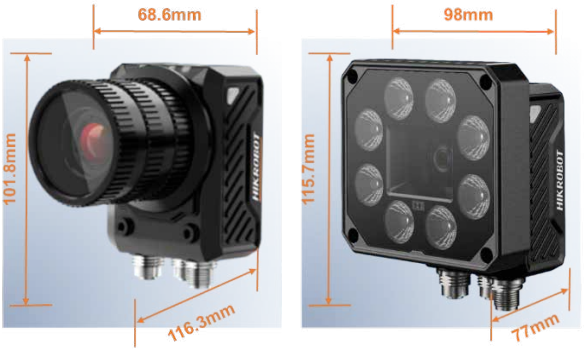
Comprehensive Interfaces

- Features external lighting driver support, USB expansion, direct display connection, and parameter configuration.



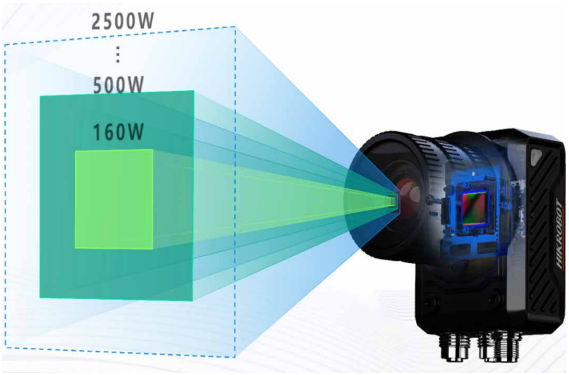
Hardware Design

- Compact size with lower temperature rise, suitable for narrow spaces and applicable to more scenarios.



Wide Resolution Range

- Features external lighting driver support, USB expansion, direct display connection, and parameter configuration.



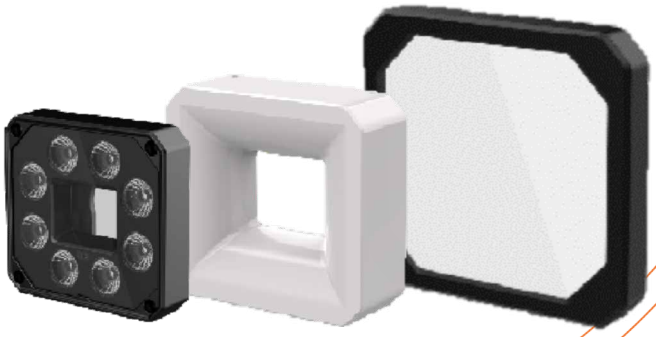
Multiple Light Source Options

- Multi-color (Red/Blue/Green/White) lighting suppresses background interference for complex working conditions.



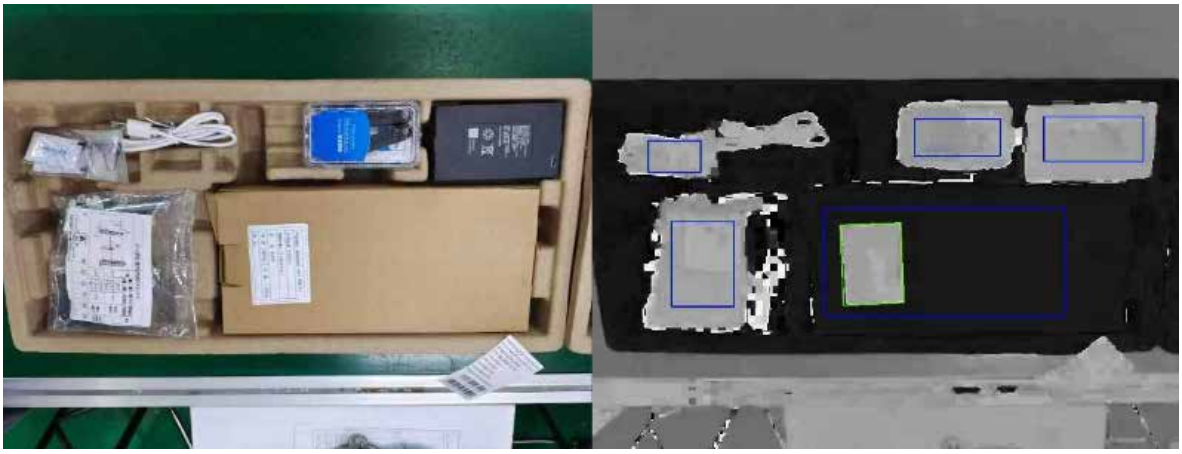
Optional optical accessories

- Polarizing cover, diffuser cover and ESD protection cover to meet various application demands.

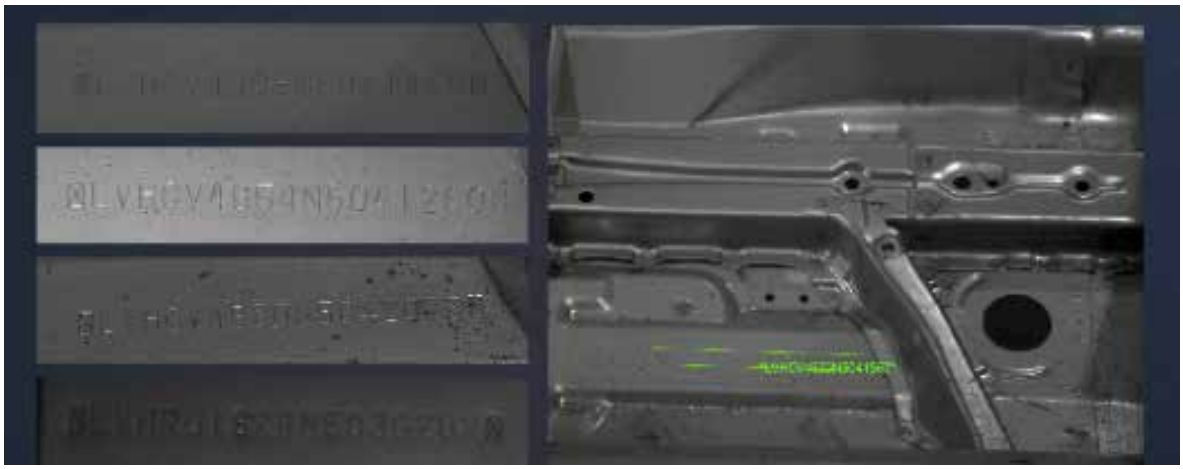


Application Scenarios

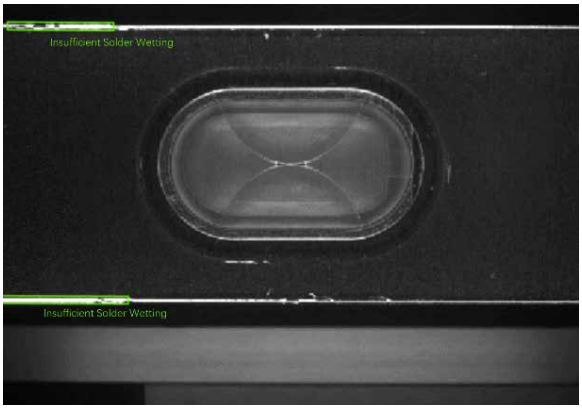
Packaging Industry



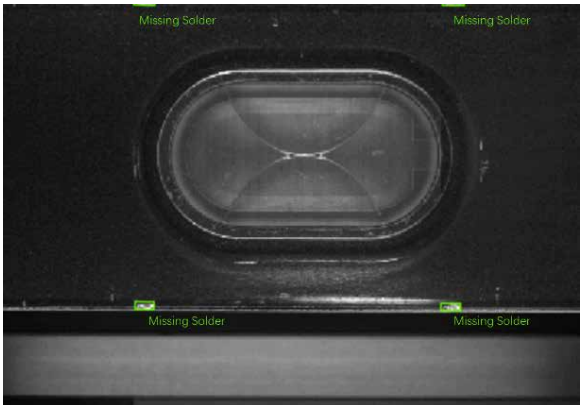
Automotive and Auto Parts



Lithium Battery Industry

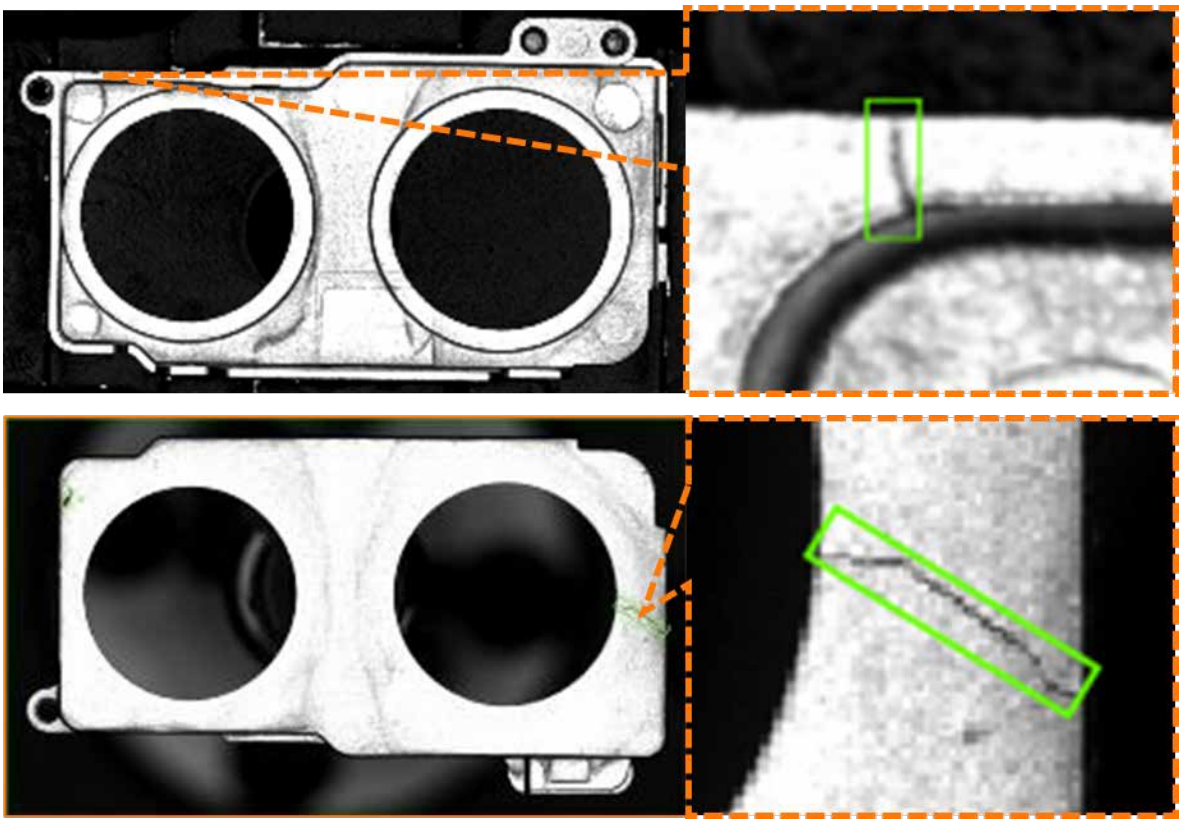


Insufficient Solder Wetting

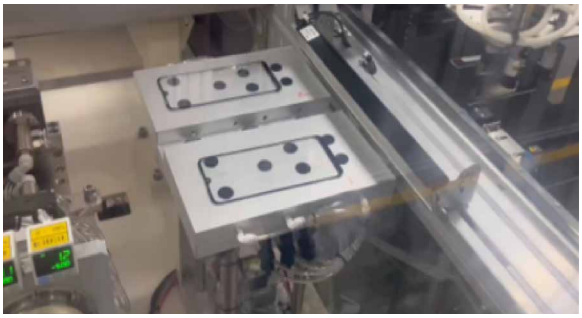


Missing Solder

Consumer Electronics Industry



Visual Positioning Guidance



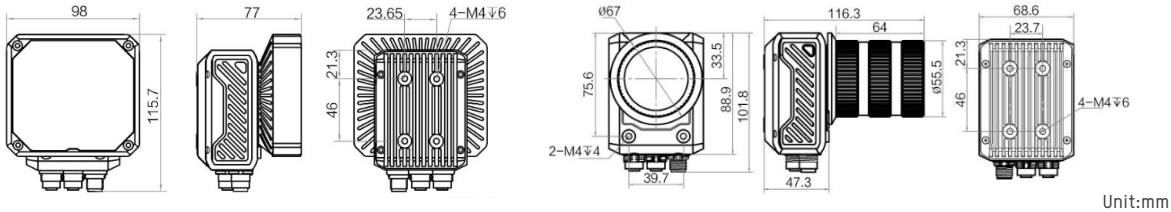


Specifications

Model	MV-SC6000M-xxM-XBN		MV-SC6000C-xxM-XBN	
	1.6MP	5MP	1.6MP	5MP
Tool				
Function module	Vision Master Platform (include deep learning module)			
Communication protocol	TCP, UDP, MODBUS, Serial Port, PROFINET, EtherNet/IP, Fins, MC, FTP, etc.			
Camera				
Sensor type	CMOS, global shutter			
Pixel size	3.45μm × 3.45μm	3.45μm × 3.45μm	3.45μm × 3.45μm	3.45μm × 3.45μm
Sensor size	1/2.9"	1/1.45"	1/2.9"	1/1.45"
Resolution	1408 × 1024	2432 × 2048	1408 × 1024	2432 × 2048
Max. frame rate	120 fps	80 fps	120 fps	80 fps
Gain	0 dB to 15 dB	0 dB to 18 dB	0 dB to 15 dB	0 dB to 18 dB
Exposure time	25 μs to 30000 μs	16 μs to 1 sec	25 μs to 30000 μs	16 μs to 1 sec
Pixel format	Mono 8		Mono 8, RGB 8	
Mono/color	Mono		Color	
Platform				
Memory	8 GB			
Storage	64 GB			
Electrical feature				
Data interface	Gigabit Ethernet (1000 Mbit/s)			
Digital I/O	17-pin M12 connector provides power and I/O, including opto-isolated input × 2 (Line 0/1), opto-isolated output × 2 (Line 4/5), configurable non-isolated input/output × 2 (Line 2/3), RS-232 × 1, and light source output (max. 30 W) × 1			
Extended interface	VGA × 1, and USB host × 1			
Power supply	24 VDC			
Power consumption	External light source and built-in light source cannot be used at the same time			
	Avg. 12 W @ 24 VDC (with no external light source and the built-in light source disabled)			
	Avg. 42 W @ 24 VDC (with external light source)			
	Max. 18 W @ 24 VDC (with no external light source and the built-in light source disabled)			
	Max. 48 W @ 24 VDC (with external light source or the built-in light source enabled)			
Mechanical				
Lens mount	M12-mount			
Focal length	6mm;12mm;16mm	8mm;12mm;16mm	6mm;12mm;16mm	8mm;12mm;16mm
Light source	Red/Green/Blue/White light (switching by software)			
Indicator	Power indicator (PWR), network indicator (LNK), status indictor (STS), and user-defined indicator (U1/U2)			
Dimension	77 mm × 98 mm × 115.7 mm (3.0" × 3.9" × 4.6")			
Weight	Approx. 750 g (1.7 lb.)			
Ingress protection	IP67 (under proper installation of waterproof lens cap)			
Temperature	Working temperature: 0 °C to 50 °C (32 °F to 122 °F)			
	Storage temperature: –30 °C to 70 °C (–22 °F to 158 °F)			
Humidity	20% RH to 95% RH (no condensation)			
Vibration resistance	Meets standard IEC 60068-2-6:2007.			
	Device only (without installation bracket): 10 Hz to 55 Hz, 1.5 mm peak-to-peak amplitude, 2 hours per axis (X, Y, Z)			
Shock resistance	Meets standard IEC 60068-2-27:2008.			
	Device only (without installation bracket): 30 g / 11 ms, half-sine wave, 500 shocks per axis (6 directions)			
General				
Certification	CE, KC			

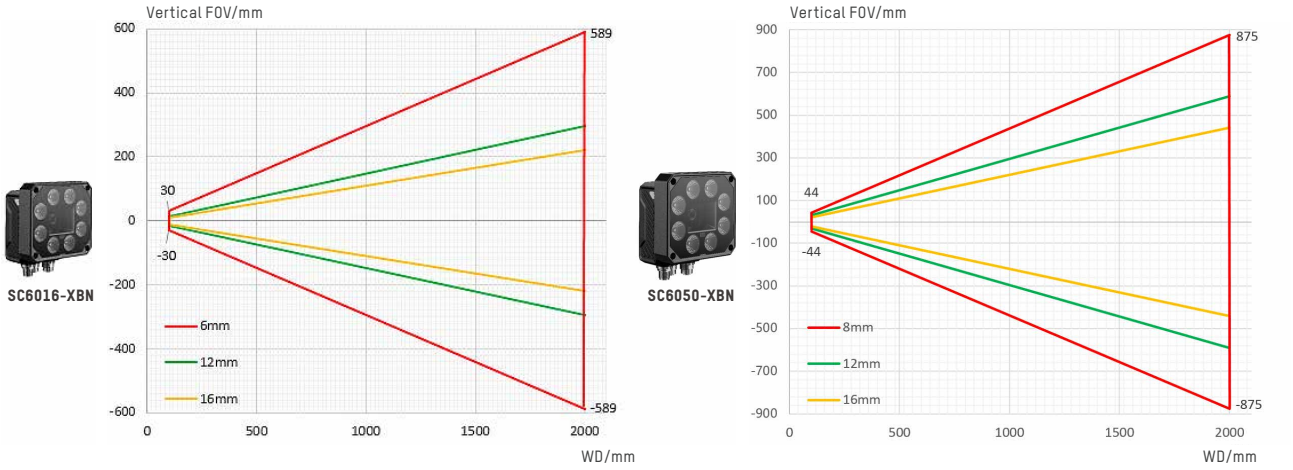
Model	MV-SC6000M-00C				MV-SC6000C-00C			
	1.6MP	5MP	12MP	25MP	1.6MP	5MP	12MP	25MP
Tool								
Function module	Vision Master Platform (include deep learning module)							
Communication protocol	TCP, UDP, MODBUS, Serial Port, PROFINET, EtherNet/IP, Fins, MC, FTP, etc.							
Camera								
Sensor type	CMOS, global shutter							
Pixel size	3.45μm × 3.45μm	3.45μm × 3.45μm	3.45μm × 3.45μm	2.5 μm × 2.5 μm	3.45μm × 3.45μm	3.45μm × 3.45μm	3.45μm × 3.45μm	2.5 μm × 2.5 μm
Sensor size	1/2.9"	1/1.45"	1.1"	1.1"	1/2.9"	1/1.45"	1.1"	1.1"
Resolution	1408 × 1024	2432 × 2048	4096 × 2944	5120 × 5120	1408 × 1024	2432 × 2048	4096 × 2944	4608 × 5120
Max. frame rate	120 fps	80 fps	45 fps	20 fps	120 fps	80 fps	45 fps	16 fps
Gain	0 dB to 15 dB	0 dB to 18 dB	0 dB to 37 dB	10 dB to 25 dB	0 dB to 15 dB	0 dB to 18 dB	0 dB to 37 dB	10 dB to 25 dB
Exposure time	16 μs to 1 sec	16 μs to 1 sec	45 μs to 1 sec	16 μs to 1 sec	25 μs to 1 sec	16 μs to 1 sec	45 μs to 1 sec	16 μs to 1 sec
Pixel format	Mono 8				Mono 8, RGB 8			
Mono/color	Mono				Color			
Platform								
Memory	8 GB		16 GB		8 GB		16 GB	
Storage	64 GB		64 GB		64 GB		64 GB	
Electrical feature								
Data interface	Gigabit Ethernet (1000 Mbit/s)							
Digital I/O	17-pin M12 connector provides power and I/O, including opto-isolated input × 2 (Line 0/1), opto-isolated output × 2 (Line 4/5), configurable non-isolated input/output × 2 (Line 2/3), RS-232 × 1, and light source output (max. 30 W) × 1							
Extended interface	VGA × 1, and USB host × 1							
Power supply	24 VDC							
Power consumption	Avg. 12 W @ 24 VDC (without external light source)		Avg. 15 W @ 24 VDC (without external light source)		Avg. 12.5 W @ 24 VDC (without external light source)		Avg. 15 W @ 24 VDC (without external light source)	
	Avg. 42 W @ 24 VDC (with external light source)		Avg. 45 W @ 24 VDC (with external light source)		Avg. 42.5 W @ 24 VDC (with external light source)		Avg. 45 W @ 24 VDC (with external light source)	
	Max. 18 W @ 24 VDC (without external light source)		Max. 20 W @ 24 VDC (without external light source)		Max. 18 W @ 24 VDC (without external light source)		Max. 20 W @ 24 VDC (without external light source)	
	Max. 48 W @ 24 VDC (with external light source)		Max. 50 W @ 24 VDC (with external light source)		Max. 48 W @ 24 VDC (with external light source)		Max. 50 W @ 24 VDC (with external light source)	
Mechanical								
Lens mount	C-mount							
Light source	Not included							
Indicator	Power indicator (PWR), network indicator (LNK), status indictor (STS), and user-defined indicator (U1/U2)							
Dimension	116.3 mm × 68.6 mm × 101.8 mm (4.6" × 2.7" × 4.0")							
Weight	Approx. 530 g (1.2 lb.)							
Ingress protection	IP67 (under proper installation of waterproof lens cap)							
Temperature	Working temperature: 0 °C to 50 °C (32 °F to 122 °F)							
	Storage temperature: –30 °C to 70 °C (–22 °F to 158 °F)							
Humidity	20% RH to 95% RH (no condensation)							
Vibration resistance	Meets standard IEC 60068-2-6:2007.							
	Device only (without installation bracket): 10 Hz to 55 Hz, 1.5 mm peak-to-peak amplitude, 2 hours per axis (X, Y, Z)							
Shock resistance	Meets standard IEC 60068-2-27:2008.							
	Device only (without installation bracket): 30 g / 11 ms, half-sine wave, 500 shocks per axis (6 directions)							
General								
Certification	CE, KC							

Dimension



Unit:mm

Field of View



	Working Distance	Field of View	Pixel Resolution
SC6016-XBN	100mm	30mm*22mm to 81mm*60mm	0.022mm to 0.058mm
	2000mm	607mm*442mm to 1620mm*1178mm	0.431mm to 1.15mm
SC6050-XBN	100mm	52mm*44mm to 100mm*88mm	0.022mm to 0.043mm
	2000mm	1050mm*883mm to 2000mm*1750mm	0.431mm to 0.863mm

Accessories List

SC6000 Series Baseline



SC6000-XBN

1.6/5MP,
Mono/Color,
6/8/12/16mm Lens

Package Included:

Camera*1
3m Power IO Cable*1
3m Ethernet Cable*1
1m Extension Cable*1



SC6000-00C

1.6/5/12/25MP,
Mono/Color,
Support C-mount Lens

Package Included:

Camera*1
3m Power IO Cable*1
3m Ethernet Cable*1
1m Extension Cable*1
C-Mount Lens Cover*1

Optional Accessories

Cable

Power IO Cable

M12 to Open
Standard:
3m/5m/7m/10m/15m
High Flexibility:
3m/5m/7m/10m/15m



Ethernet Cable

M12 to RJ45
Standard:
3m/5m/7m/10m/15m/30m
High Flexibility:
3m/5m/10m/20m



Extension Cable

M12 to HDB15F+USB
Standard:
1m
*Connect the camera to the external monitor and keyboard.



Lens Cover

* For SC6000-XBN Models

Fully Polarized Lens Cover



Diffusion Lens Cover



ESD Protection Cover

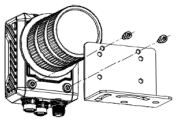


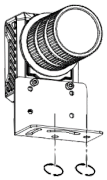
YAG Protective Cover

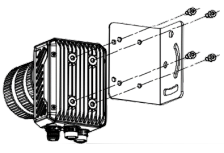


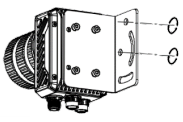
Mounting Bracket











Installation Diagram

Others

Switching Power Supply
24V6.25A,150W
24V2.09A,50W



Desk Power Adapter
24V2.5A,60W



AC Cable
Multiple National Standards



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