

Work Inspection Camera

RICOH SC-20

This information is brought to you by:



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- Prevent Work Errors
- Real-time Inspections During Works
- Traceability
- Image Log Storage
- High-precision Judgment
- 8 Megapixel Sensor
- Compatible with a Wide Range of Workpiece Sizes
- C-mount FA Lens

Cannot conduct exterior inspections.

This camera is for manual work quality inspections.

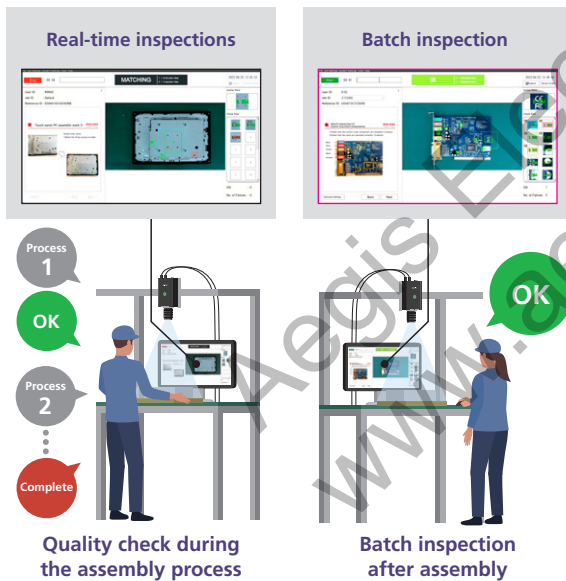
The RICOH SC-20 is a work inspection camera that detects mistakes during the assembly process. It can conduct real-time quality checks during a work, something exterior inspection cameras are not capable of. It can perform automatic checks of assembly status such as similar parts, missing parts, and work order, and perform batch inspections after a work is completed. Because the system is easy to set up without the need for a computer, it is easy to begin digital inspections.

Work Inspection Camera RICOH SC-20

Digital image inspections during or after a work *point* 01

Image recognition automatically checks assembly status during the work. Digitalization of visual inspections helps maintain consistency. You can set up to 20 check points and perform batch inspections after a work is completed.

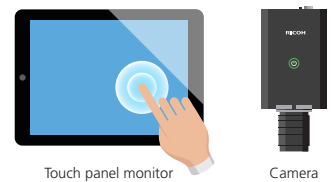
Digitalization of visual inspections helps maintain consistency



Easy installation without the need for a computer *point* 02

The camera, image recognition, and software are integrated. The system is easy to set up if you have a mouse, keyboard, and monitor. If you have a touch panel monitor, you don't need a mouse or keyboard.

Easy setup with a monitor and camera only

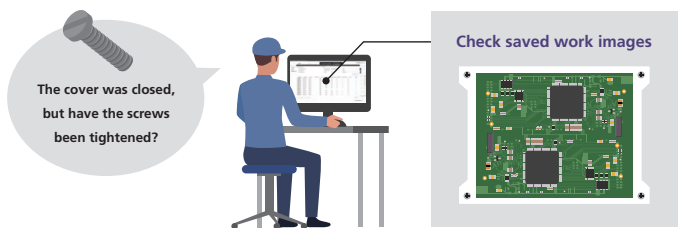


* The RICOH SC-20 main unit is not provided with a lens. A genuine RICOH C-mount lens compatible with the RICOH SC-20 must be purchased separately.

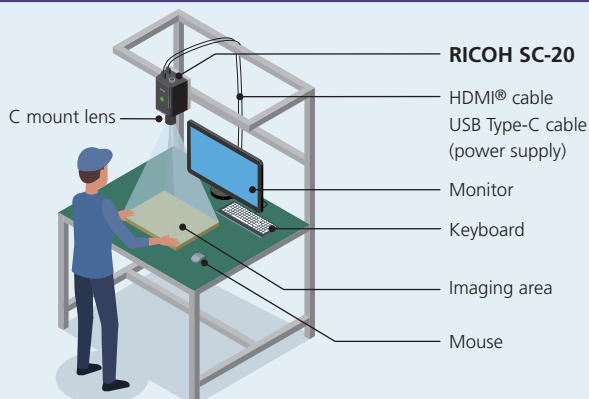
Ensure traceability *point* 03

Part serial numbers, work times, etc., and inspection results such as OK/FAIL can be saved as image logs for use in work analysis and traceability.

Logs can be viewed for work tracing

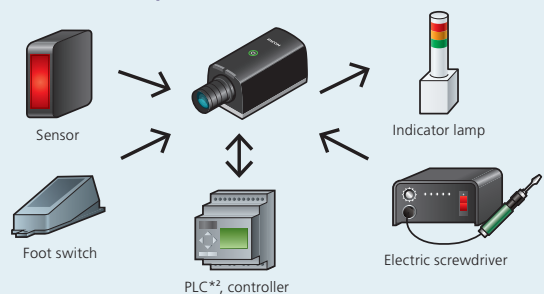


System Configuration



* A mouse and keyboard are not necessary when using a touch panel monitor.

Easily connect to external devices using the external connector, LAN port, wireless LAN*1, or Bluetooth®*1



*1 Wireless LAN and Bluetooth are supported only on the models with a wireless communication system.
*2 Programmable Logic Controller

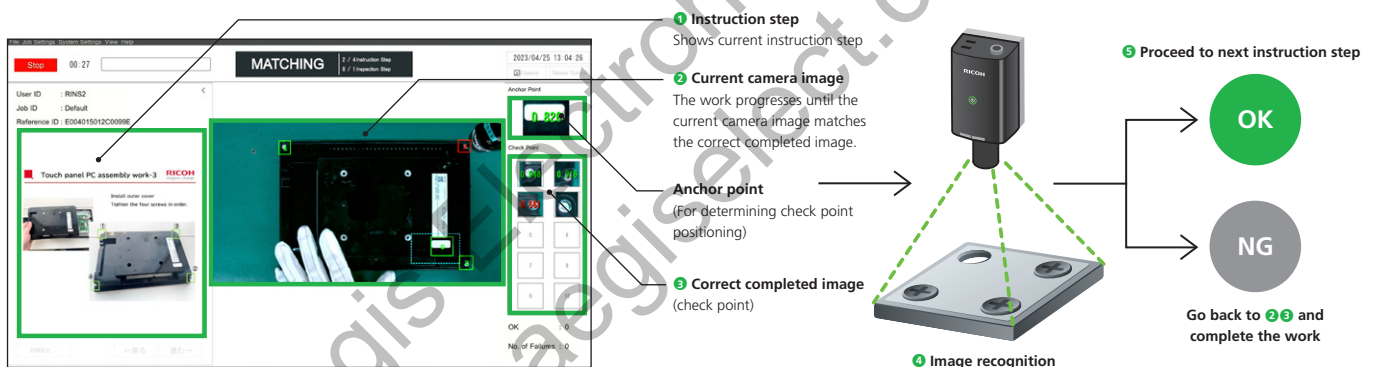


Compatible with C-mount FA lenses and a wide variety of workpiece sizes and focal lengths

The camera uses an interchangeable C mount lens. 5 high-resolution, RICOH FA lens focal lengths that offer minimal distortion are available. Select from 5 focal lengths to match the size of your workpiece.

Real-time inspections during a work

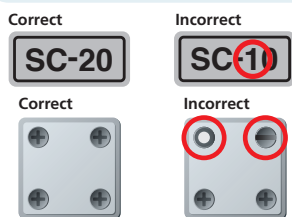
Instruction steps are linked with image recognition. The worker follows the instruction steps displayed on the left side of the screen and the system uses image recognition to automatically check that the work has been carried out in the correct order, including screw tightening, etc. The system prevents the worker from proceeding to the next step in the process until the camera image matches the completed image, helping prevent mistakes and improve quality. The system helps workers learn proper work procedures.



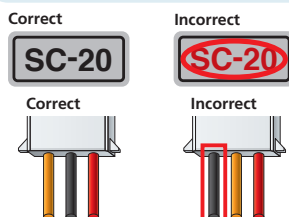
Prevent mistakes with image recognition (matching)

Pattern matching checks product numbers and similar parts with slightly different shapes, and checks for missing parts. Color recognition can detect differences in color among similar parts to ensure that they are assembled in the correct orientation. Image recognition can also differentiate between smooth and uneven surface materials such as non-woven fabric, sponge, ensuring that they are attached to the product.

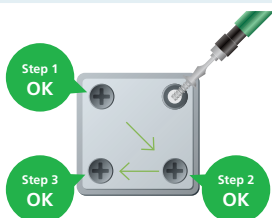
Check for similar or missing parts



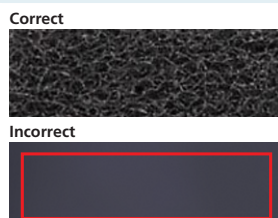
Color check



Work order

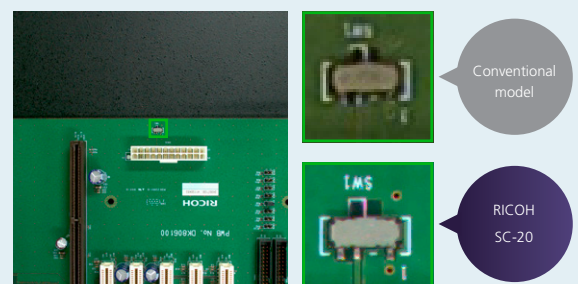


Texture check



High-precision judgments thanks to 8 megapixel high-resolution imaging

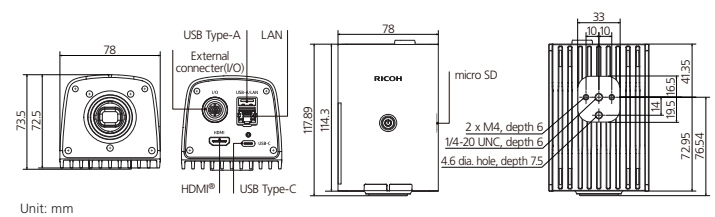
This camera is equipped with a 1/1.8 inch, 8 megapixel CMOS color sensor. High-precision inspection thanks to high-resolution digital imaging enables checks of minuscule differences not detectable by the human eye.



SC-20 Main Specifications

| Item | Specifications | |
|---|--|--|
| Lens mount | C-mount (The RICOH SC-20 main unit is not provided with a lens. A genuine RICOH C-mount lens compatible with the RICOH SC-20 must be purchased separately.) | |
| Image sensor | 1/1.8 inch 4K (QFHD) progressive color CMOS | |
| | Number of pixels 3840 (H) x 2160 (V) | |
| | Cell size 2.0 (H) x 2.0 (V) μm | |
| Instruction step | Instruction step file JPG format (610 (H) x 680 (V)) | |
| Matching | Method Shape, color, texture | |
| | Area setting (ROI) Specify area with absolute position | |
| | Position correction Relative position correction from reference position | |
| | Position rotation correction ±180° (shape only) | |
| | Number of simultaneous registrations Maximum 20 places | |
| Data input | Number of characters check Check whether matches set number of characters | |
| | Character string check Check whether matches set character string on left | |
| Result logging | Output method Saved in CSV format to the specified path | |
| | Log information Work ID, reference ID, user ID, instruction step, inspection step, date/time, standard time, elapsed time, process item, judgment result, final judgment result, image log file name, process data | |
| Image logging | Output method Saved in JPG format to the specified path | |
| | Setting method Image logging can be enabled or disabled for each inspection step. | |
| External interfaces | HDMI 1920 (H) x 1080 (V)/60 Hz * Voice output is not supported. | |
| | USB Type-A x 1: USB 3.0 Super Speed supported (Host) Type-C x 1: USB 3.0 Super Speed supported (Host) USB PD supported, USB DP Alt Mode not supported * Supported class: USB-HID, USB-Mass Storage, USB-Audio | |
| | Ethernet RJ-45 x1 100Base-TX / 1000Base-T | |
| | microSD card microSD / SDHC / SDXC x1 High Speed / UHS-I supported | |
| | External GPIO OUT (insulated): 6 pieces IN (insulated): 10 pieces OUT/IN (insulated) power: 5 V to 24 V ±10% | |
| | Wireless LAN (Models with a wireless communication system only) IEEE802.11a/b/g/n/ac (2.4 GHz/5 GHz) compliant | |
| | Bluetooth (Models with a wireless communication system only) Bluetooth 5.0 BR/EDR Class 2 * Supported profile: SDP, L2CAP, GAP, A2DP, HID | |
| I/O | Buzzer Electromagnetic (Volume: high, low, mute) | |
| | LED indicator lamps Power, OK, FAIL | |
| | Switch Power | |
| Ratings | Power voltage 12 V DC ±10% 3A or more (USB PD) 12/24 V DC ±10% (external connector) * Power must not be supplied from both connectors at the same time. | |
| | Power consumption 8.6 W or less | |
| Storage area | Area accessible by user 25 GB | |
| Environmental resistance | Operating temperature range 0 to 40°C | |
| | Storage temperature range -20 to +60°C | |
| | Ambient humidity range 30 to 80% RH * No condensation | |
| External dimensions | 78 (W) x 73.5 (H) x 117.9 (D) mm (excluding attached lens and connectors) | |
| Weight | Approx. 460 g | |
| Mounting holes | Tripod screw hole (ISO 1222 compliant), M4 screw hole x 2 | |
| AC adapter (models including an AC adapter only) | Product name D-AC166-SC | |
| | Manufacturer Adapter Technology Co., Ltd. | |
| | Ratings (Models with a wireless communication system only) | Input voltage 100 to 240 V AC / 50 to 60 Hz |
| | | Output voltage +12 V ±5% |
| | | Output current 3 A max. |
| | External dimensions 33 (W) x 50 (H) x 99 (D) mm (excluding cable) | |
| Weight Approx. 210 g | | |

● SC-20 exterior dimension drawing



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| | |
|-------------------------------|--|
| ⚠ For safe product use | <ul style="list-style-type: none"> *Carefully read the user guide and use the product correctly. *Use the correct power supply and voltage as indicated. *Do not install or use the products in locations with excessive water, humidity, steam, dust, smoke, etc. |
|-------------------------------|--|

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