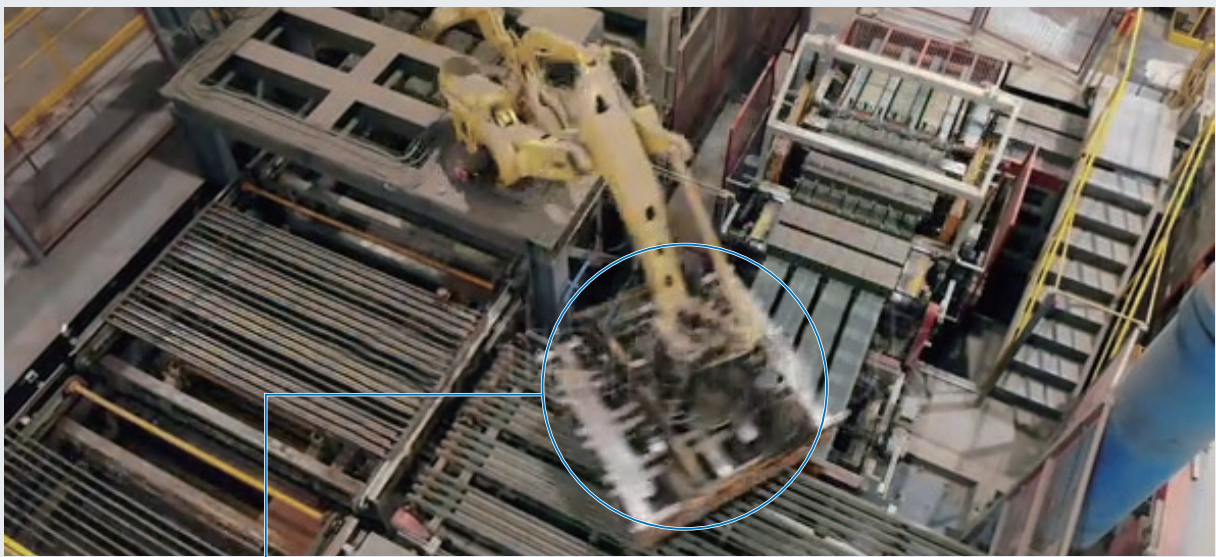


# Record the moment of an event



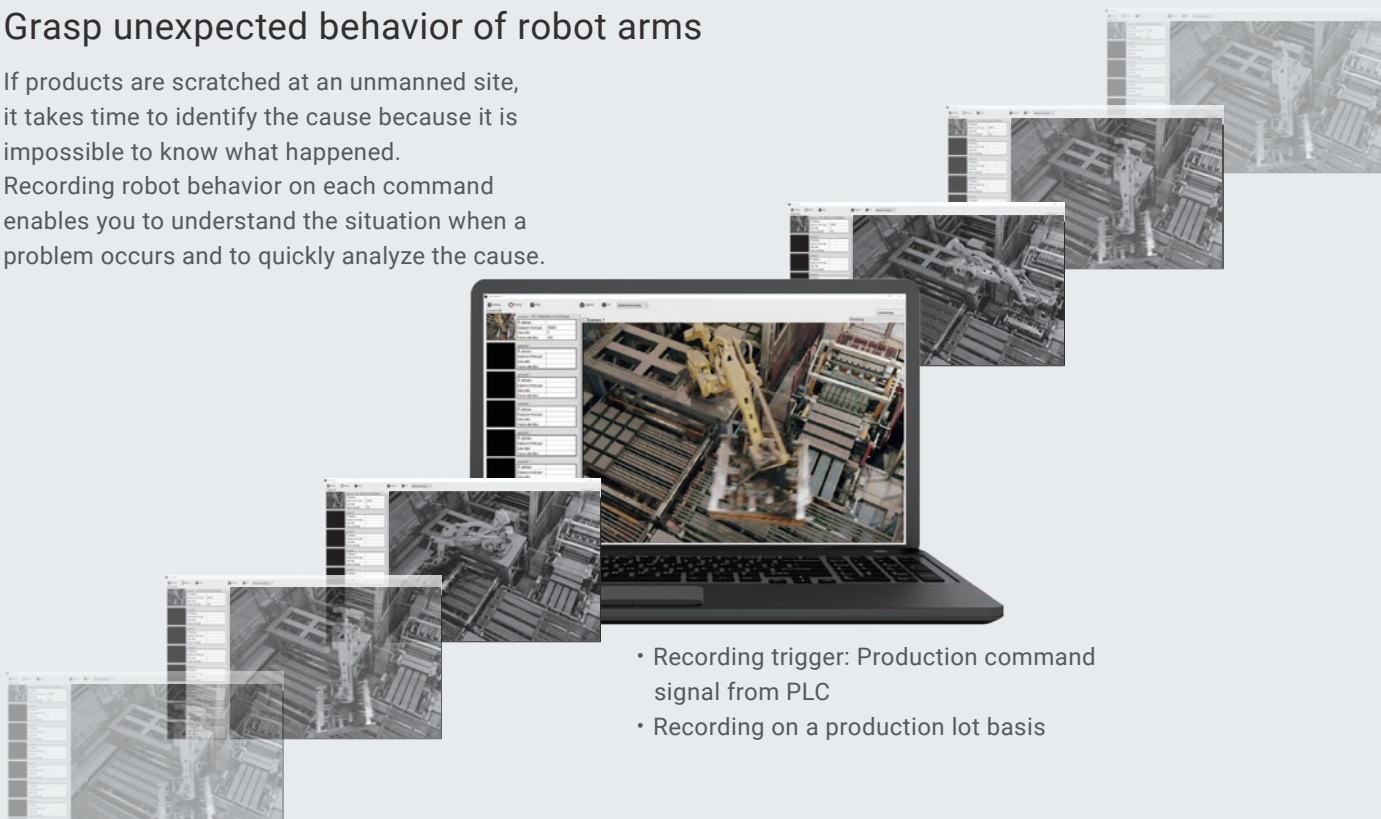
# Efficient identification of problem causes with a video recorder

## Breakage of objects at an unmanned factory operated by robots



### Grasp unexpected behavior of robot arms

If products are scratched at an unmanned site, it takes time to identify the cause because it is impossible to know what happened. Recording robot behavior on each command enables you to understand the situation when a problem occurs and to quickly analyze the cause.



- Recording trigger: Production command signal from PLC
- Recording on a production lot basis

Simple configuration facilitates installation



Industrial camera

Factory Drive Recorder software

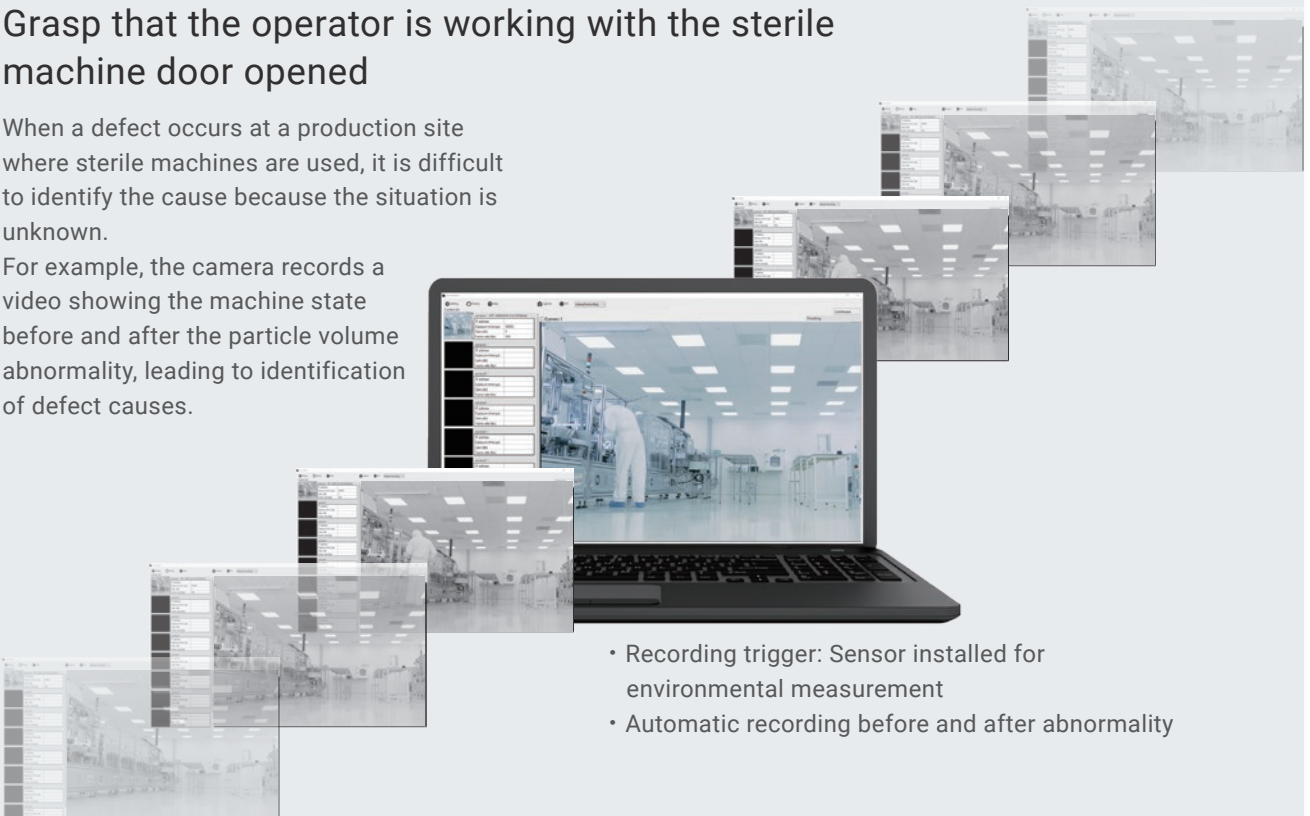
## Quality defects at a production site where the environment is strictly controlled



### Grasp that the operator is working with the sterile machine door opened

When a defect occurs at a production site where sterile machines are used, it is difficult to identify the cause because the situation is unknown.

For example, the camera records a video showing the machine state before and after the particle volume abnormality, leading to identification of defect causes.



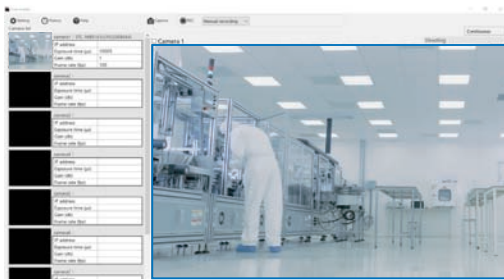
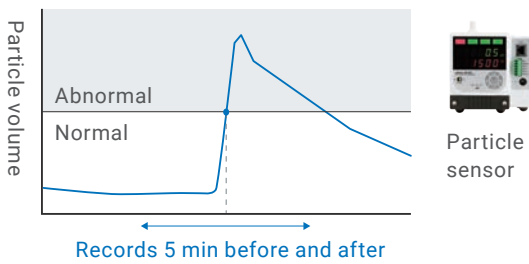
- Recording trigger: Sensor installed for environmental measurement
- Automatic recording before and after abnormality

# Record the moment of state change

## Automatic recording of events by trigger input

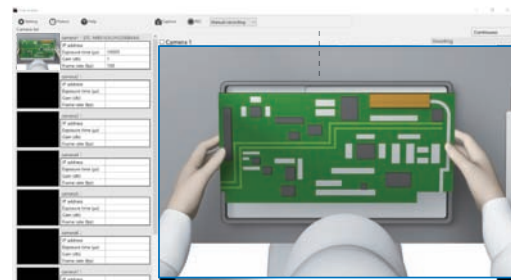
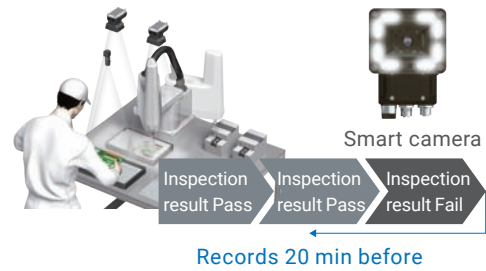
The camera records a video showing the machine state for up to 60 minutes before and after the problem by being triggered by external input from the sensor or PLC or by TCP command input. This allows you to quickly understand what happened by replaying the video.

**Case** Recording triggered by particle volume abnormality



Shows that the operator opened the machine door

**Case** Recording of work process triggered by inspection fail



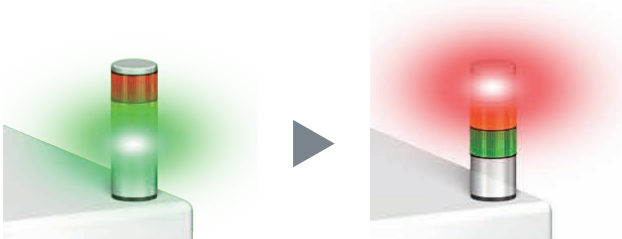
Shows that the operator made a mistake

## Factory-specific recording functions for various applications

This software provides seven types of recording: Trigger Recording that includes Time Trigger, Motion Detection, and Master Image Comparison as well as external trigger input, Continuous Recording that records a video for up to one year, and Manual Recording for 60 minutes. It can be used for continuous remote monitoring of machine status, review of production problems, work process tracing for recall purposes, and many other industrial applications.

### Automatic recording by detecting change in image

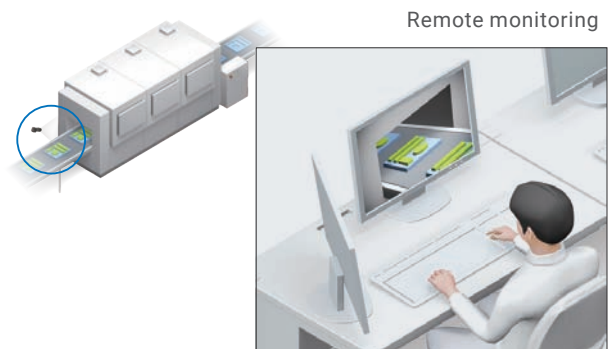
Videos before and after problems can be recoded by Motion Detection that uses the difference from the preceding image under specified conditions (see below), and Master Image Comparison.



Triggered by when an indicator lights red

### Remote status monitoring + continuous recording

You can remotely monitor the site status in real time without recording or continuously record for up to one year\*1.



\*1. Recording time varies depending on the storage capacity of your PC or HDD.

# Accurate recording of events with various types of cameras

See details on cameras.



Omron Sentech

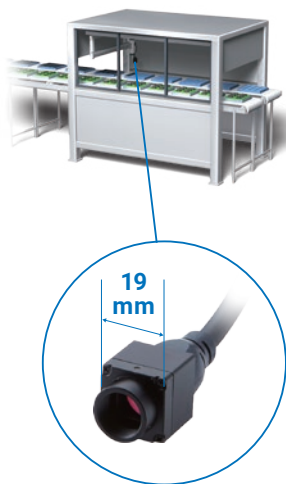
Search

<https://sentech.co.jp/en/>

Omron offers a wide selection of more than 100 models of cameras to meet your needs.

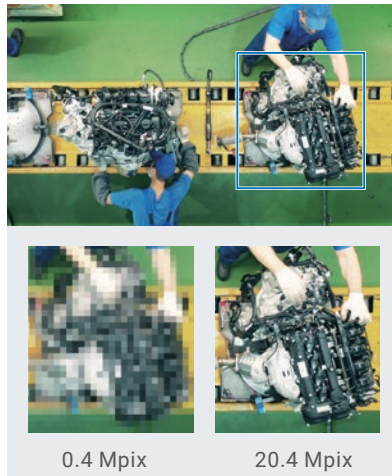
## Fits in narrow spaces

The 19 mm square ultra-compact remote head camera can be installed in narrow spaces.



## Records subtle changes

The 20.4 Mpix high-resolution camera can clearly record changes in machine state.



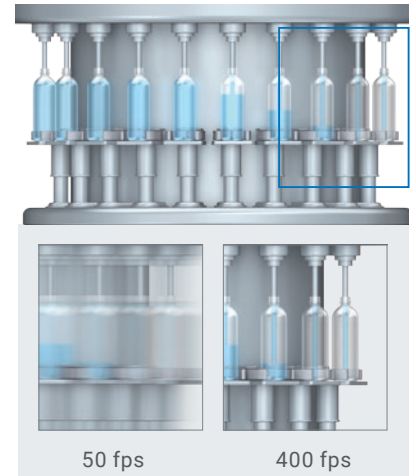
0.4 Mpix

20.4 Mpix

Check for incorrect mounting of fittings

## Records high-speed lines

A 0.4 Mpix camera can record high-speed production lines as fast as 400 fps.



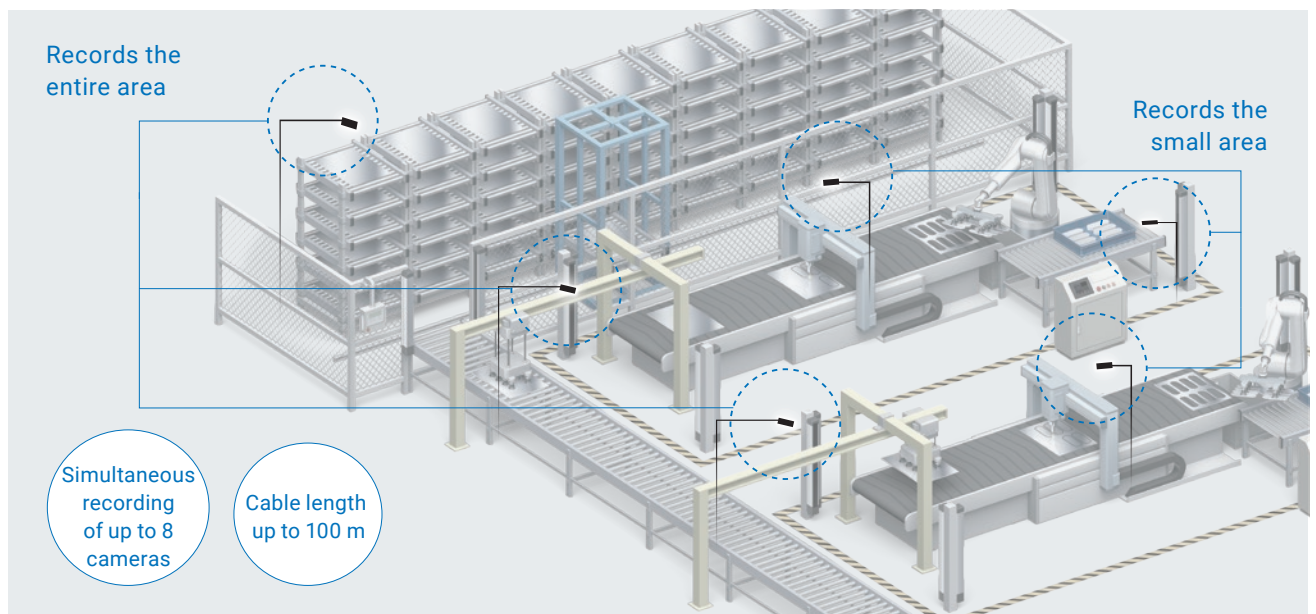
50 fps

400 fps

Check for insufficient liquid volume due to bottle position deviation

## Simultaneous recording of wide and narrow areas

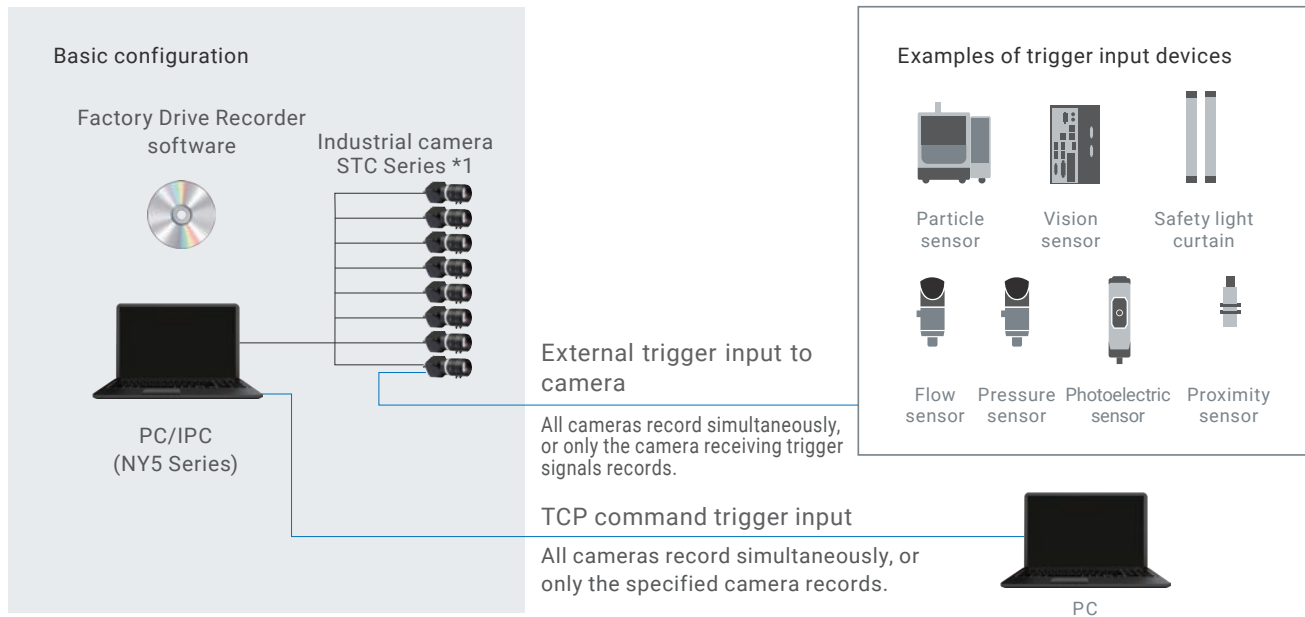
Omron's broad portfolio of cameras, including a camera with a long cable required for wide-area recording to shoot the entire manufacturing site, can be freely combined with lenses for different fields of view. These combinations enable capturing wide and narrow areas at the same time, allowing you to accurately analyze problems by replaying the videos.



# 3-step easy system configuration

## STEP1 Prepare devices

The camera and software bundle is ready for immediate use without the need for verification and programming which are required to build a system by combining general cameras with vision software. Recording can be started immediately by using input from the sensor or PLC installed at the production site as trigger.



Note: Up to eight cameras can simultaneously record. A hub is required to connect cameras depending on the PC specifications and the number of connected cameras.

\*1. Omron's STC Industrial Cameras can be used. See page 7 for details.

## STEP2 Install

Install the Factory Drive Recorder software and camera driver (SentechSDK)\*1 on your PC or IPC.



\*1. Install the latest version of the camera driver (SentechSDK) downloaded from the Omron Sentech's website.

## STEP3 Set recording conditions

Configure camera settings, recording settings, and settings for saving recorded videos.



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# Ordering Information

## Software

Item	Max. no. of connectable cameras	Model
Factory Drive Recorder	8 per PC	STC-FDR-SW01

## Industrial Camera STC Series

Item		Max. resolution	High-speed*1	Compact	Cable extension (100 m)	Wide wavelength band	Model
GigE Vision Camera	Small CMOS Camera STC-M□□□□□□P□E Series	20.4 Mpix			✓		Refer to the <i>Industrial Camera Catalog</i> (Cat. No. Q259).
	Small CMOS Board Camera STC-B□S□□□□□U3V Series	20.4 Mpix		✓	✓		
	SWIR Camera STC-L□S□□□□□P□E-SWIR Series	1.3 Mpix			✓	✓	
USB3 Vision Camera	Small CMOS Camera STC-M□□□□□□□U3V Series	20.4 Mpix	✓				
	Small CMOS Board Camera STC-B□S□□□□□□U3V Series	12 Mpix	✓	✓			
	SWIR Camera STC-L□S□□□□□□U3V-SWIR Series	1.3 Mpix	✓			✓	
	Small Remote Head Camera STC-R□□□□□□U3V Series	1.6 Mpix	✓	✓ (Ultra-compact)			
USB3 (UVC) Camera	Small CMOS Color Camera STC-S133/P213UVC Series	2 Mpix		✓			

Note: The USB3 Vision or GigE Vision Camera cannot be simultaneously used with the USB3 (UVC) Camera.

\*1. The maximum frame rate depends on your PC performance, the number of connected cameras, and the camera type. Test the products before actual use.

## Ratings and Specifications

### Specifications

Item	Description	
Components	Installation CD (Factory Drive Recorder installer, SentechSDK installer, manual), license ID	
System requirements	CPU	Core-i5 2 GHz or faster (Core-i7 3 GHz or faster recommended)
	RAM	8 GB min. (16 GB min. recommended)
	Storage	At least 1 GB of available space is required for installation. Allocate sufficient space to save recorded images.
OS	Windows 10 (64-bit), Windows11 (64-bit)	
	Recording save format (Select video or Image)	Video
Image	Format	JPG, PNG, BMP
	Frame rate	Depends on the number of connected cameras, image resolution, and performance of the PC

### Functions

Item	Function	Description
Display	Live Display	Displays a live image from the connected camera (Simultaneous display of multiple cameras, Change window size and enlarge display for each screen)
	Video Display	Displays recorded video
Recording	Continuous Recording	Records as configured (days and time)
	Manual Recording	Starts and stops recording manually
	Trigger Recording	Records when triggered
Recording setting	Camera Settings	Exposure time, gain, frame rate, White balance (Color camera)
	Trigger Settings	Time Trigger, Motion Detection, Master Image Comparison, Trigger Signal (external input to camera, TCP command input)
	Save Settings	Recording save format, save folder, file name, Time/fixed (optional) character string display on recorded data
	Delete Settings	Automatic deletion of recorded data based on remaining capacity of PC storage or days elapsed since recording
	Language Setting	English or Japanese
I/O setting	External Input	External trigger input to camera, External input signal display on recorded data, TCP command (Manual recording start/stop, Trigger recording start/stop, trigger input, Capture, File name change, Folder path change, Trigger type change, Fixed (optional) character string change of recorded data display)
	External Output	External signal output during recording, Message output via TCP (start and stop recording, Recording file name)
History	Display Recording History	Shows a list of latest 100 recorded files
	Export History File	Exports recording history and recorded files in HTML format

### Recording methods

Recording method	Description	Recording time
Continuous Recording	Records as configured (days and time)	Up to 1 year (366 days)
Manual Recording	Starts and stops recording manually	Up to 60 minutes
Trigger Recording	Time Trigger	Records once a day at specified time
	Motion Detection	Records when the difference between an image and the preceding image exceeds the specified value
	Master Image Comparison	Records when the difference between a predefined still image and a camera image exceeds the specified value
	Trigger Signal (External trigger, I/O)	Records when a trigger signal is input to the camera
	Trigger Signal (TCP command)	Records when a TCP command is input to the camera

\*1. When the recording time before a trigger is long, it takes a long time to create a video file.

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