MITSUBISHI ELECTRIC

TECHNICAL BULLETIN

FA-A-0419-B

Applicable Industrial Cameras for MELSOFT VIXIO

■Date of Issue

November 2023 (Ver. B: September 2024)

■Relevant Models

SW1DND-AIVILE-MQ12, SW1DND-AIVIIN-M

Thank you for your continued support of MELSOFT series.

This bulletin introduces products applicable to MELSOFT VIXIO.

For the product availability, please contact the manufacturer.

1 TERMS

Unless otherwise specified, this bulletin uses the following term.

Term	Description
Applicable product	A product that satisfies the interface specifications of products manufactured by Mitsubishi Electric. Note that Mitsubishi Electric does not conduct verification of the product. Before using it, be sure to confirm that no operational problem will occur in a system. In addition, use the product (applicable product) according to the specifications (standards).

2 PRECAUTIONS

This chapter shows the precautions for using the products described in this technical bulletin.

Specifications of the applicable products are subject to change without notice.

Before using the product, please read "SAFETY PRECAUTIONS" of the manual for each product.

For precautions for use of each product, refer to the manual for the product.

Line scan camera

- The maximum number of connectable cameras is 2.
- To prevent any missing images, set the camera image acquisition time in the parameter setting in MELSOFT VIXIO so that it is longer than the task processing execution time by MELSOFT VIXIO. (☞ Page 3 Setting when using a line scan camera)

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS: 1-14, YADA-MINAMI 5-CHOME, HIGASHI-KU, NAGOYA 461-8670, JAPAN

3 INDUSTRIAL CAMERA LIST

This chapter shows the applicable products that satisfy the interface specifications of MELSOFT VIXIO.

Line scan camera

The following shows the list of line scan cameras that can be used with the GigE Vision (Ver.2.0) interface.

Manufacturer	Product	Series	Model
Mitsubishi Electric Corporation	Contact Image Sensors (CIS)	KD series	KD6R106SX

Area scan camera

The following shows the list of area scan cameras that can be used with the GigE Vision (Ver.2.0) interface.

Manufacturer	Product	Series	Model
Toshiba Teli Corporation	GigE Camera	BG series (CMOS)	BG505LMG, BG505LMCG, BG505LMCF
			BG302LMG, BG302LMCG, BG302LMCF
			BG160M, BG160MCG, BG160MCF
			BG040M

4 SETTING PROCEDURE

This chapter shows the procedure outline of initial setting for MELSOFT VIXIO that requires attention when starting up a camera.
For details on the procedure, refer to the manual for each product.

Setting when using a line scan camera

For a line scan camera, it is required to set the image acquisition time by the camera longer than the task processing execution time by MELSOFT VIXIO to prevent any missing images.
The following shows the MELSOFT VIXIO parameter setting procedure related to Contact Image Sensors (CIS) KD6R106SX.

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For information on obtaining the manual for Contact Image Sensors (CIS), please contact your local Mitsubishi Electric sales office or representative.

When creating a task in MELSOFT VIXIO, set the following parameters in the imaging block linked with a target camera.

Operating procedure

1. Display the imaging screen (parameter setting).
2. Select "Passive" for "Trigger mode" in "Basic Settings."
3. Add the following parameters in "Advanced setting."

User level	Group	Setting name	Description	Setting value
Beginner	CIS_TriggerControl	TriggerMode	Synchronous mode setting	Select the internal synchronization. • InternalSync (default)
		LinePeriodCounter	Line period counter setting	Set the line period according to the transport speed. • (1482 ÷ Transport speed (mm/ms)) - 8
	ImageFormatControl	Height	Height for reading	Set the number of vertical lines of an output image. Check the image in the captured image information display area and adjust the setting.

4. Start the task, and check the task processing execution time (s) in the task monitor screen.

If the execution time is longer than the image acquisition time, it needs to be adjusted so that there are no missing images.
The image acquisition time can be calculated by the following calculation formula:
Image acquisition time (s) = Acquisition time per line (s) × Number of vertical lines of output image

- Acquisition time per line (s) = (Setting value of "LinePeriodCounter" + 8) ÷ 35000000
- Number of vertical lines of output image = Setting value of "Height"

5. When the image acquisition time is short, increase the setting value of "LinePeriodCounter" so that it is longer than the execution time.

- Setting value of "LinePeriodCounter" > (Upper limit of monitoring execution time (s) × 35000000 ÷ Setting value of "Height") - 8

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The image acquisition time can also be adjusted by changing the object transport speed.

- Transport speed (mm/ms) < 0.04233 × Setting value of "Height" ÷ (Upper limit of monitoring execution time (s))

The read size per line for KD6R106SX, the image resolution of which is 600 dpi, is 42.33 μm.

REVISIONS

Version	Date of Issue	Revision
A	November 2023	First edition
B	September 2024	A line scan camera has been added.

TRADEMARKS