NO:	**VS-069**	**PRODUCT:**	**FH/FZ5/FJ Vision Sensor**
DATE:	**February 2016**	**TYPE:**	**Modification Notice**

Updated Software Version 5.52 Installed to Modify FH, FZ5 and FJ Vision Sensors for New Functionality

Effective date: December 2015 production

Reasons for modification:
1. Support of new conveyor tracking functions
2. Support of new alignment application functions
3. Functional improvements

Affected Parts

Model FH-3050/FH-1050 Series

Models	Specification
FH-3050	High-speed controller, No. of Cameras: 2
FH-3050-10	High-speed controller, No. of Cameras: 4
FH-3050-20	High-speed controller, No. of Cameras: 8
FH-1050	Standard controller, No. of Cameras: 2
FH-1050-10	Standard controller, No. of Cameras: 4
FH-1050-20	Standard controller, No. of Cameras: 8

Model FZ5-1100/600/L350 Series

Models	Specification
FZ5-1100	High-speed controller, No. of Cameras: 2 (NPN)
FZ5-1105	High-speed controller, No. of Cameras: 2 (PNP)
FZ5-1100-10	High-speed controller, No. of Cameras: 4 (NPN)
FZ5-1105-10	High-speed controller, No. of Cameras: 4 (PNP)
FZ5-600	Standard controller, No. of Cameras: 2 (NPN)
FZ5-605	Standard controller, No. of Cameras: 2 (PNP)
FZ5-600-10	Standard controller, No. of Cameras: 4 (NPN)
FZ5-605-10	Standard controller, No. of Cameras: 4 (PNP)
FZ5-L350	Lite controller, No. of Cameras: 2 (NPN)
FZ5-L355	Lite controller, No. of Cameras: 2 (PNP)
FZ5-L350-10	Lite controller, No. of Cameras: 4 (NPN)
FZ5-L355-10	Lite controller, No. of Cameras: 4 (PNP)

Model FJ-S Series

Models	Specification
FJ-SG-S	Camera and software package VGA mono
FJ-SCG-S	Camera and software package VGA color
FJ-S2MG-S	Camera and software package 2M mono
FJ-SC2MG-S	Camera and software package 2M color
FJ-S5MG-S	Camera and software package 5M mono
FJ-SC5MG-S	Camera and software package 5M color

Models	Specification
FH-AP1	Software Development Tools

Detail of Differences

Before the change	After the change
Ver.5.32 Not Supported	**Ver.5.52** **Added new conveyor tracking functions below.**

Added new conveyor tracking functions below.

Functional description	Details
Added user-defined I/O areas.	For the EtherCAT and EtherNet/IP communications, user I/O areas that can be specified arbitrarily by the user have been added. User input areas: DINT×4, LREAL×2 User output areas: DINT×4, LREAL×2
Processing item: Conveyor Panorama Display	The Processing item, "Conveyor Panorama" has been added to enable conveyor panorama display on Sysmac Studio using P&P application.
Processing item: Conveyor calibration	The Processing item, "Conveyor calibration" has been added to enable conveyor calibration on Sysmac Studio using P&P application.
Calibration plate printing function	"Calibration plate printing tool" has been added to support conveyor calibration on Sysmac Studio using P&P application.
Support for an angle of $-180<\theta\leqq180$.	Previously the angle range varied by Processing item. They are now standardized to be $-180<\theta\leqq180$.
Maximum detection count of 128	For "Search" and "Shape search Ⅲ", the maximum detection count has increased to 128.

Added new alignment application functions below.

Functional description	Details
Standard support for the following stage types: Xθ and X stages.	"Xθ stage" and "X stage" were added to the supported stage types that are available in the alignment base function.
The error estimation values for calibration: the newly added function to display the estimation values for the magnification of X and Y.	For the purpose of estimating the errors in parallel movement sampling, the estimation values for the maximum error in parallel movement, X/Y, were added to the processing item, Vision Master Calibration.
Added a function that allows the user to select whether to return to the origin position.	In the processing items of Vision Master Calibration, the user is now able to select whether to return to the origin position. This action was forced before.
Fixed an offset problem in the displayed sampling data in Vision Master Calibration.	If the indications of the X-direction movement, Y-direction movement, and TH-direction movement, which are displayed in the tab for checking calibration results of the Vision Master Calibration Processing item, are different from the actual movement on the stage, an offset was added on the software side; This problem has been fixed so that the actual work on the stage is in agreement with the indications.
Changed the parameter range so that a value smaller than a lower limit of 3μm can be set for the parameter of the pixel pitch for height compensation in Precise Calibration.	For the Precise Calibration Processing item, the previously insufficient range of some lenses has been extended. Focal length [mm]: 5 to 100 → 3.0000 to 200.0000 CCD pixel width [μm]: 3 to 9 → 1.0000 to 15.0000

Before the change	After the change
Ver.5.32 Not Supported	**Ver.5.52** Functional improvements

Ver.5.52

Functional improvements

Functional description	Details
Added components to display a label and a logo into the window layout.	[Label Window] to display text and [Picture Window] to display an image were added to the MDI child window of the main window layout function.
Added a tool that makes it easy to copy and duplicate the environment.	[Configuration copy] for duplicating multiple configuration data to another controller was added to the Tool menu..
Added commands so that all the standard communication commands can be handled by a macro.	Allows standard communication commands to be handled by a macro program:
Changed the image reference path, which is displayed below the re-measurement button in re-measuring an image to save, to be right aligned.	In re-measuring an image to save on the main window, it was difficult to see the file name with the reference path of the image file left aligned. This has been changed to be right aligned, so that the file name is easy to see.
Added functions to assist the shape search settings on the user interface.	(1) A change was made so that the effect of setting change in shape search III can be dynamically seen on the model display. (2) The graphic showing the area for overlay judgement was added. (3) The default value of the overlay judgement parameter was changed from 100 to 50.
Reduced unnecessary operations when returning from remote operation.	The return after the disconnection of the remote operation tool required the controller side operation, which has become unnecessary.
Allow the user to directly input expressions, values, and character strings on the simulator.	Previously, an expression, character string and other values were allowed to be entered only from the software keyboard. Now it is possible to enter them directly from a USB hardware keyboard.
Support for mouse scroll in the menu.	Scrolling with a mouse scroll wheel is now supported in a number of menus. The support is added to the following menus: ・Flow window (main window/flow edit window) ・View of the processing item list (flow edit window)
Changing the position and size of display by specifying the values when changing the layout.	To achieve fine alignment of the MDI child window in modifying the main window layout, the "Grid interval" and "Fit to the grid line" functions have been added.
Allowed the aspect ratio of the image window to be changed.	The aspect ratio of the image window was fixed at 4:3; now it can be changed as needed.
Added a function that indicates the "Through" or "Freeze" mode on the image window.	An icon has been added to the upper right corner of the image window so that the image mode of each image window can be seen on the main window.
Added a function that allows the user to reconnect to the network drive.	Previously the network drive setting established a connection only at startup so if the connection is not made at startup, or the settings are changed after startup, the reconnection was permitted only by a reboot. Now, a newly added "Reconnect" button allows the user to reconnect at any desired time even after the startup.
Image logging for the multiple input of camera images in the same flow	(1) With more than one "Camera image input" in the flow, logging was allowed for only the image from the last executed "Camera image input"; it has become possible to log the images from more than one "Camera image input". (2) The Bitmap file-based "BFZ format" has been added for logging in addition to the existing "IFZ format".
Support for the Apply button on the application.	The Apply button has been added to the figure setting controls of the processing item setting window. This makes it possible to apply a figure during the figure settings, and check the effect on the model with the figure being set up.
Support for the unit's logging image from the file explorer.	To facilitate the re-measurement operation for the unit's logging image, the unit's logging image can be selected from the file explorer.
Made the output data size of Ethernet/IP variable.	The output data size of the FieldBus data can be selected from 32, 64, 128, or 256 bytes.

Before the change	After the change
Ver.5.32 Not Supported	**Ver.5.52** Functional improvements

Ver.5.52

Functional improvements

Functional description	Details
Support for the zoom operation with a mouse scroll wheel in the processing unit setting window.	The zoom in/out function, which can be controlled with a mouse scroll wheel on the processing unit setting window, has been added.
Support for the zoom operation with a mouse scroll wheel in the image display window of the main window.	The zoom in/out function, which can be controlled with a mouse scroll wheel on the image window of the main window, has been added.
A request that when the Region selection frame in a Processing item is moved to the edge of the window it is in, the applicable image also follows.	A function has been added that allows the displayed position to move automatically when the registered figure is moved to the left, right, top or bottom end of the image displayed area.