

Product Discontinuation Notices

Vision Sensors / Machine Vision Systems

Issue Date
October 1, 2014

No. 2014069CE

Discontinuation Notice of PC Vision System of FJ-35 series.

Product Discontinuation

PC Vision System Controllers



Model FJ-350
Model FJ-350-10
Model FJ-355
Model FJ-355-10



Recommended Replacement

Vision System Sensor Controllers

Model FH-1050
Model FH-1050-10
Model FH-1050
Model FH-1050-10

[Discontinuation date]

The end of October, 2015

[Caution on recommended replacement]

The camera, camera cable, lens and illumination etc. can be used, when FZ4 series are changed to FH series. However please the parallel I/O cable can not be used in FH series. Therefore please prepare it.

And please use the DVI-I -RGB Conversion Connector Model FH-VMRGB (For FH Series only), when connecting FH series to RGB analog monitor.

Please confirm the measuring time etc. before changing in advance, because these series have the different CPU.

About the use of the remodeling software

It is necessary to verify the operation if the remodeling software are used.

Please inquire of the trading company dealing our products including the version up to the remodeling software.

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
FH-1050	--	--	--	--	--	*	*
FH-1050-10	--	--	--	--	--	*	*

** : Compatible

* : The change is a little/Almost compatible



-- : Not compatible

- : No corresponding specification

[Product Discontinuation and recommended replacement]

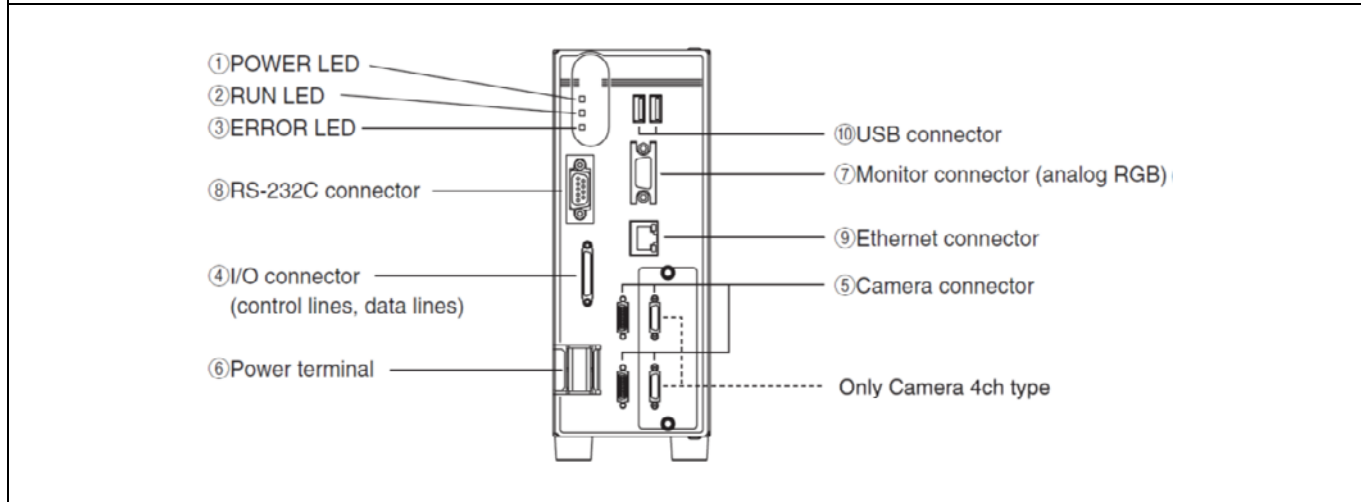
Product discontinuation	Recommended replacement
FJ-350	FH-1050
FJ-350-10	FH-1050-10
FJ-355	FH-1050
FJ-355-10	FH-1050-10

[Body color]

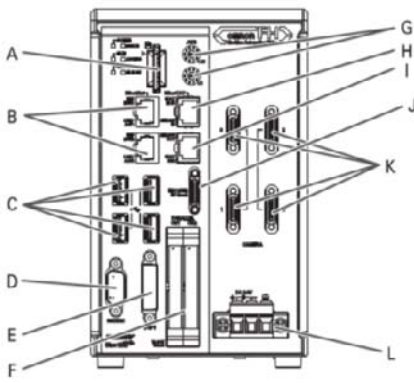
Product discontinuation Model FJ-35[] Series	Recommendable replacement Model FH-1050 Series
	

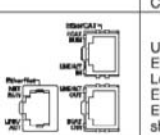
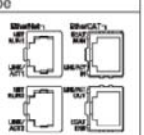
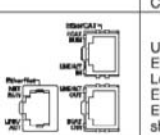
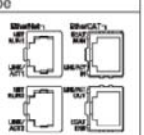
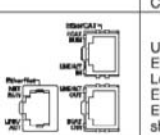
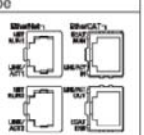
[Wire connection]

Product discontinuation
Model FJ-35[] Series



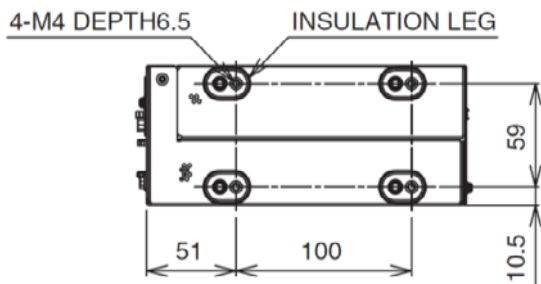
Recommendable replacement
Model FH-1050 Series



Connector name	Description				
A SD memory card installation connector	Install the SD memory card. Do not plug or unplug the SD memory card during measurement operation. Otherwise measurement time may be affected or data may be destroyed.				
B EtherNet connector	Connect an EtherNet device. <table border="1"> <thead> <tr> <th>Camera 2ch type</th> <th>Camera 4ch / 8ch type</th> </tr> </thead> <tbody> <tr> <td>  <p>Ethernet port and EtherNet/IP port are sharing use.</p> </td> <td>  <p>Upper port : Ethernet port Lower port : Ethernet port and EtherNet/IP port are sharing use.</p> </td> </tr> </tbody> </table>	Camera 2ch type	Camera 4ch / 8ch type	 <p>Ethernet port and EtherNet/IP port are sharing use.</p>	 <p>Upper port : Ethernet port Lower port : Ethernet port and EtherNet/IP port are sharing use.</p>
Camera 2ch type	Camera 4ch / 8ch type				
 <p>Ethernet port and EtherNet/IP port are sharing use.</p>	 <p>Upper port : Ethernet port Lower port : Ethernet port and EtherNet/IP port are sharing use.</p>				
C USB connector	Connect a USB device. Do not plug or unplug it during measurement. Measurement time might be affected otherwise.				
D RS-232C connector	Connect an external device such as a PLC.				
E DVI-I connector	Connect a monitor.				
F I/O(Parallel) connector(control lines, data lines)	Connect the controller to external devices such as a sync sensor and PLC.				
G EtherCAT address setup volume	Used to set a station address (00 to 99) as an EtherCAT communication device.				
H EtherCAT communication connector (IN)	Connect the opposed EtherCAT device.				
I EtherCAT communication connector (OUT)	Connect the opposed EtherCAT device.				
J Encoder connector	Connect an encoder.				
K Camera connector	Camera connector No. is consistent with Camera Image Input No. of Sensor controller software. Check and connect them.				
L Power supply terminal connector	Connect a DC power supply. Wire the FH Sensor Controller independently on other devices. Wire the ground line. Be sure to ground the FH Sensor Controller alone. Perform wiring using the attached terminal block connector as referring to the description of wiring that connector.				

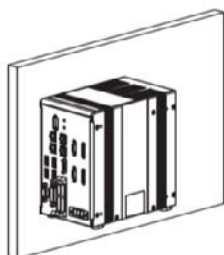
[Mounting dimensions]

**Product discontinuation
Model FJ-35[] Series**



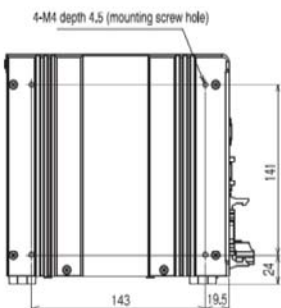
**Recommendable replacement
Model FH-1050 Series**

● Side Mounting

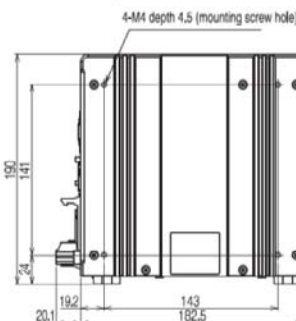


(Unit: mm)

· Left side

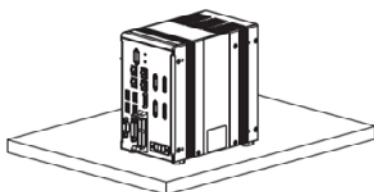


· Right side



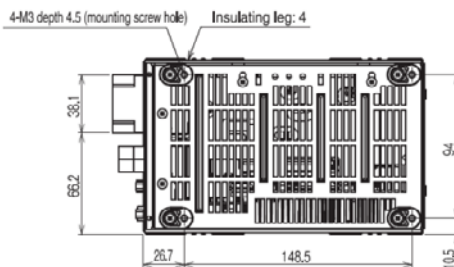
* Recommended tightening torque: 1.2N·m to 1.3N·m
*The tolerance is ± 0.2mm.

● Bottom Mounting



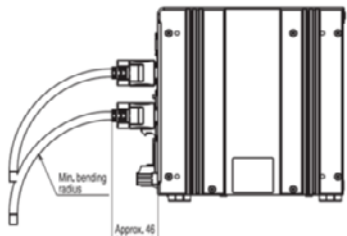
· Bottom

(Unit: mm)



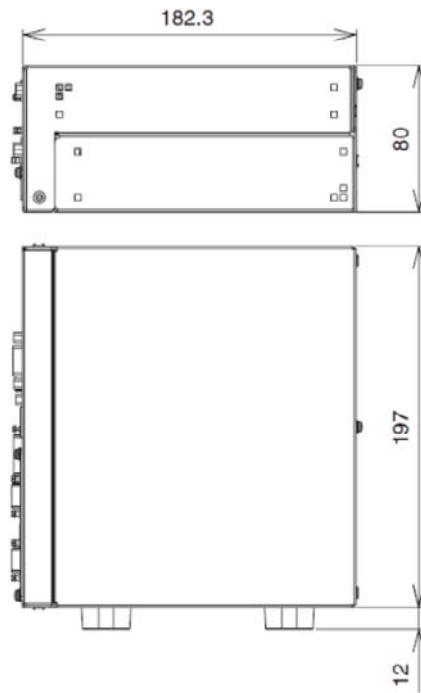
* Do not remove the Insulating leg. Fix the Insulating leg to secure the ventilation path.
* Recommended tightening torque: 0.54N·m to 0.6N·m
*The tolerance is ± 0.2mm.

· Camera cable mounting

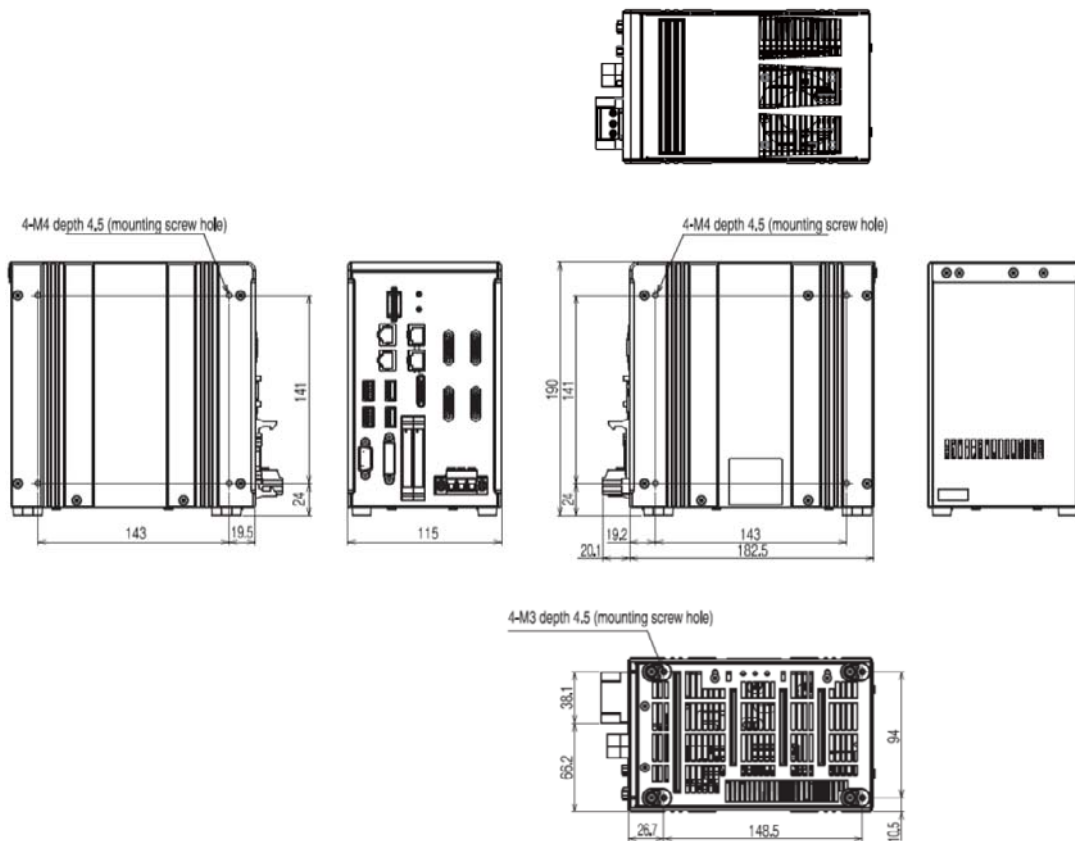


[Dimensions]

**Product discontinuation
Model FJ-35[] Series**

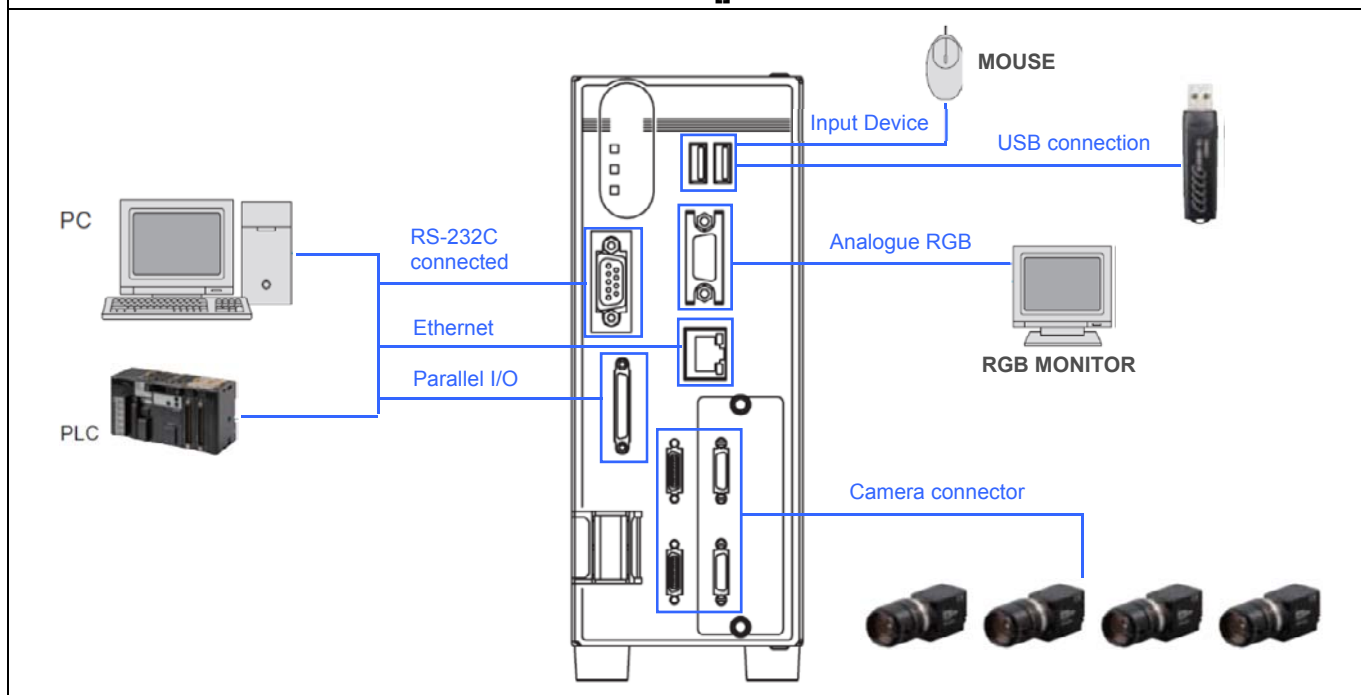


**Recommendable replacement
Model FH-1050 Series**

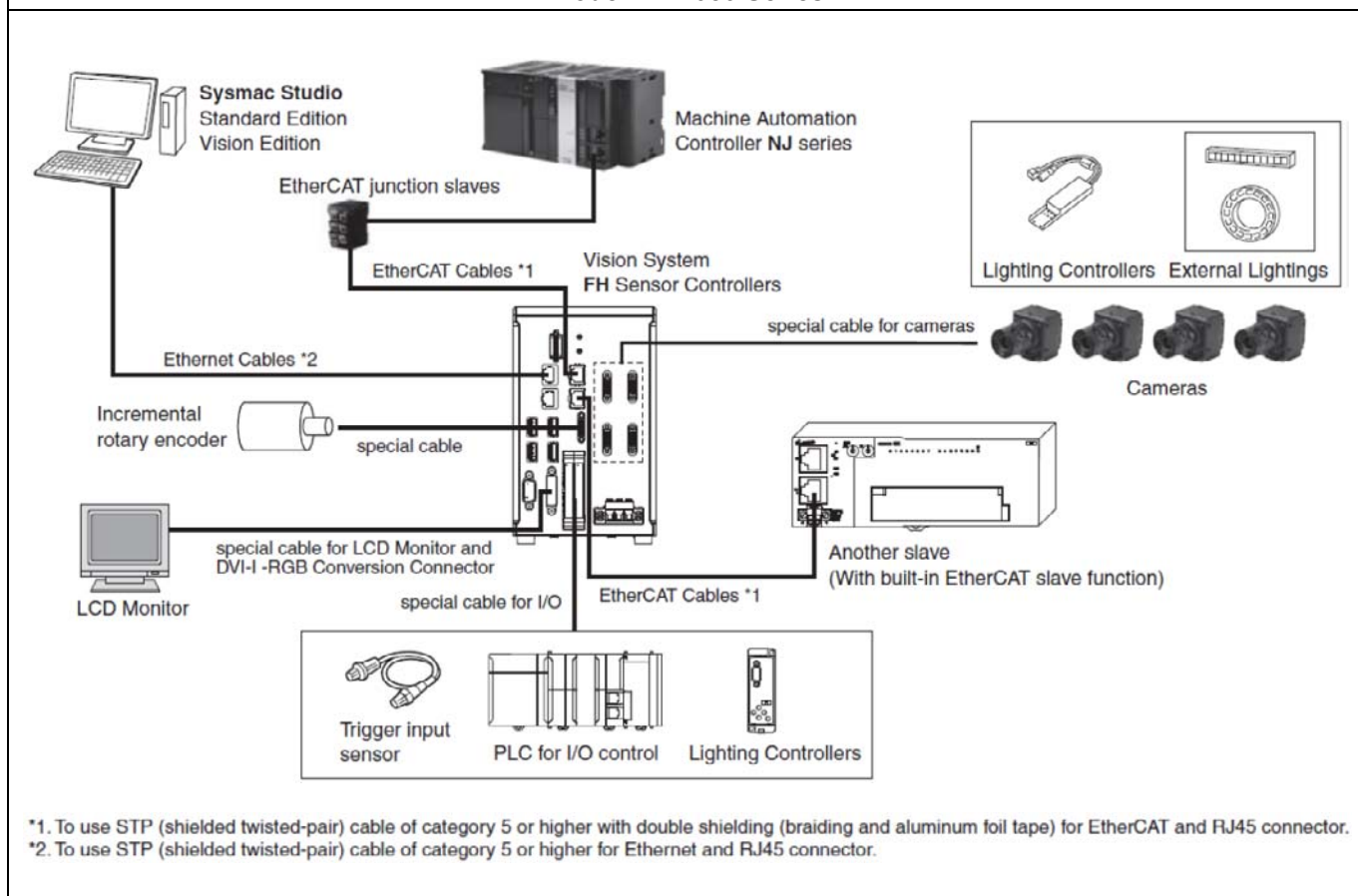


[System Configuration]

**Product discontinuation
Model FJ-35[] Series**



**Recommendable replacement
Model FH-1050 Series**



*1. To use STP (shielded twisted-pair) cable of category 5 or higher with double shielding (braiding and aluminum foil tape) for EtherCAT and RJ45 connector.
*2. To use STP (shielded twisted-pair) cable of category 5 or higher for Ethernet and RJ45 connector.

[Specifications]

Item		Product discontinuation Model FJ-35[] Series		Recommendable replacement Model FH-1050 Series	
Model	NPN	FJ-350	FJ-350-10	FH-1050	FH-1050-10
	PNP	FJ-355	FJ-355-10		
Controllers type		Box type			
No. of cameras		2 camera type	4 camera type	2 camera type	4 camera type
Connected camera		FZ-S series (When connecting 5 million-pixel cameras, up to two cameras can be connected.)		FZ-S/FH-S series	
No. of scenes		32		128	
Operation		Mouse etc.			
Settings		Create series of processing steps by editing the flowchart (Help messages provided).			

[Processing resolution]

Item	Product discontinuation Model FJ-35[] Series	Recommendable replacement Model FH-1050 Series
When connected to an intelligent compact camera	752 (H) × 480 (V)	FZ-S: 752 (H) × 480 (V)
When connected to a 300,000-pixel camera	640 (H) × 480 (V)	FZ-S: 640 (H) × 480 (V) FH-S: 640 (H) × 480 (V)
When connected to a 2 million-pixel camera	1,600 (H) × 1,200 (V)	FZ-S: 1,600 (H) × 1,200 (V) FH-S: 2,040 (H) × 1,088 (V)
When connected to a 4 million-pixel camera	-	FH-S: 2,040 (H) × 2,048 (V)
When connected to a 5 million-pixel camera	2,448 (H) × 2,044 (V)	FZ-S: 2,448 (H) × 2,044 (V)
When connected to a 12 million-pixel camera	-	FH-S: 4,084 (H) × 3,072 (V)

[Number of logged images *1]

Item		Product discontinuation Model FJ-35[] Series	Recommendable replacement Model FH-1050 Series	
When connected to an intelligent compact camera (FZ-S)	Connected to 1 camera	214	232	
	Connected to 2 cameras	107	116	
	Connected to 3 cameras	71	77	
	Connected to 4 cameras	53	58	
When connected to a 300,000-pixel camera	Connected to 1 camera	Color	250 (FZ-S)	270 (FZ-S, FH-S)
		Monochrome	252 (FZ-S)	272 (FZ-S, FH-S)
	Connected to 2 cameras	Color	125 (FZ-S)	135 (FZ-S, FH-S)
		Monochrome	126 (FZ-S)	136 (FZ-S, FH-S)
	Connected to 3 cameras	Color	83 (FZ-S)	90 (FZ-S, FH-S)
		Monochrome	84 (FZ-S)	90 (FZ-S, FH-S)
	Connected to 4 cameras	Color	62 (FZ-S)	67 (FZ-S, FH-S)
		Monochrome	63 (FZ-S)	68 (FZ-S, FH-S)
When connected to a 2 million-pixel camera	Connected to 1 camera	Color	40 (FZ-S)	37 (FH-S), 43 (FZ-S)
		Monochrome	40 (FZ-S)	37 (FH-S), 43 (FZ-S)
	Connected to 2 cameras	Color	20 (FZ-S)	18 (FH-S), 21 (FZ-S)
		Monochrome	20 (FZ-S)	18 (FH-S), 21 (FZ-S)
	Connected to 3 cameras	Color	13 (FZ-S)	12 (FH-S), 14 (FZ-S)
		Monochrome	13 (FZ-S)	12 (FH-S), 14 (FZ-S)
	Connected to 4 cameras	Color	10 (FZ-S)	9 (FH-S), 10 (FZ-S)
		Monochrome	10 (FZ-S)	9 (FH-S), 10 (FZ-S)
When connected to a 4 million-pixel Camera (FH-S)	Connected to 1 camera	Color	-	20 (FH-S)
		Monochrome	-	20 (FH-S)
	Connected to 2 cameras	Color	-	10 (FH-S)
		Monochrome	-	10 (FH-S)
	Connected to 3 cameras	Color	-	6 (FH-S)
		Monochrome	-	6 (FH-S)
	Connected to 4 cameras	Color	-	5 (FH-S)
		Monochrome	-	5 (FH-S)
When connected to a 5 million-pixel Camera (FZ-S)	Connected to 1 camera	Color	15 (FZ-S)	16 (FZ-S)
		Monochrome	15 (FZ-S)	16 (FZ-S)
	Connected to 2 cameras	Color	7 (FZ-S)	8 (FZ-S)
		Monochrome	7 (FZ-S)	8 (FZ-S)
	Connected to 3 cameras	Color	5 (FZ-S)	5 (FZ-S)
		Monochrome	5 (FZ-S)	5 (FZ-S)
	Connected to 4 cameras	Color	3 (FZ-S)	4 (FZ-S)
		Monochrome	3 (FZ-S)	4 (FZ-S)
When connected to a 12 million-pixel Camera (FH-S)	Connected to 1 camera	Color	-	6 (FH-S)
		Monochrome	-	6 (FH-S)
	Connected to 2 cameras	Color	-	3 (FH-S)
		Monochrome	-	3 (FH-S)
	Connected to 3 cameras	Color	-	2 (FH-S)
		Monochrome	-	2 (FH-S)
	Connected to 4 cameras	Color	-	2 (FH-S)
		Monochrome	-	2 (FH-S)

*1. The image logging capacity changes when multiple cameras of different types are connected at the same time.

[Ratings]

Item		Product discontinuation		Recommendable replacement	
		FJ-350 FJ-355	FJ-350-10 FJ-355-10	FH-1050	FH-1050-10
Power supply voltage		20.4 to 26.4 VDC			
Current consumption (at 24.0 VDC) *1	When connected to a intelligent compact camera	4.0 A max.	5.5 A max.	4.7 A (2 Camera)	5.0 A (2 Camera) 6.5 A (4 Camera)
	When connected to a 300,000-pixel camera	2.6 A max.	2.9 A max.	3.6 A (2 Camera)	3.7 A (2 Camera) 4.3 A (4 Camera)
	When connected to a 2 million-pixel camera				
	When connected to a 4 million-pixel camera	-	-		
	When connected to a 5 million-pixel camera	2.6 A max.	2.9 A max.		
	When connected to a 12 million-pixel camera	-	-		
Weight		Approx. 1.8 kg			
Accessories		Instruction Manual		Instruction Sheet Instruction installation manual Terminal block connector Ferrite core	

Note 1. The current consumption when the maximum number of cameras supported by each controller are connected.

If a strobe controller model is connected to a lamp, the current consumption is as high as when an intelligent camera is connected.

[Operation Environment]

Item		Product discontinuation Model FJ-35[] Series	Recommendable replacement Model FH-1050 Series
Ambient temperature range	Operating	0 to 50°C	
	Storage	-20 to 65°C (with no icing or condensation)	
Ambient humidity range	Operating	35 to 85%RH (with no condensation)	
	Storage		

[External interface]

Item	Product discontinuation Model FJ-35[] Series	Recommendable replacement Model FH-1050 Series
Serial communications	RS-232C: 1 CH	RS-232C: 1 CH
EtherNet communications	Ethernet 1000BASE-T/100BASE-TX/10BASE-T	Ethernet 1000BASE-T
EtherNet/IP communications	Use Ethernet port Ethernet port baud rate: 100Mbps (100BASE-TX)	Use Ethernet port Transmission Speed: 1Gbps (1000BASE-TX)
EtherCAT communications	-	EtherCAT dedicated protocol (100BASE-TX)
Parallel I/O interface	<p>11 inputs RESET, STEP0, DSA0, DI0~7</p> <p>26 outputs RUN, BUSY0, GATE0, OR0, READY0, ERROR, STGOUT0~3, DO0~15</p> <p>* STGOUT2 to 3 only for camera 4 ch type</p>	<p>• In the 2-line random trigger mode</p> <p><u>17 inputs</u> STEP0/ENCTRIG_Z0, STEP1/ENCTRIG_Z1, ENCTRIG_A0~1, ENCTRIG_B0~1, DSA0~1, DI0~7, DI_LINE0</p> <p><u>37 outputs</u> RUN0~1, READY0~1, BUSY0~1, OR0~1, ERROR0~1, GATE0~1, STGOUT0/SHTOUT0, STGOUT1/SHTOUT1, STGOUT2~7, DO0~15, ACK</p> <p>• In the 5-line to 8-line random trigger mode</p> <p><u>19 inputs</u> STEP0~7, DI_LINE0~2, DI0~7</p> <p><u>34 outputs</u> READY0~7, BUSY0~7, OR0~7, ACK, ERROR, STGOUT/SHTOUT0~7</p>
Encoder interface	-	RS422-A line driver level. Phase A/B: single-phase 4 MHz (multiplying phase difference of 1 MHz by 4 times), Phase Z: 1 MHz
Monitor interface	Analogue RGB video output, 1 channel (Resolution: XGA 1,024 × 768 dots)	DVI-I (Single Link) output IF × 1 ch
USB interface	2 channels (supports USB 1.1 and 2.0)	4 channels (supports USB 1.1 and 2.0)
SD card interface	-	SDHC card of Class4 or higher rating is recommended.

[Processing Items]

	Item	Product discontinuation Model FJ-35[] Series	Recommendable replacement Model FH-1050 Series
Inspections / Measurement	Search	YES	YES
	Flexible Search	YES	YES
	Sensitive Search	YES	YES
	ECM Search	YES	YES
	EC Circle Search	YES	YES
	Shape Search+	NO	NO
	Shape Search II	YES	YES
	Shape Search III	YES	YES
	EC Corner	YES	YES
	EC Cross	YES	YES
	Classification	YES	YES
	Edge Position	YES	YES
	Edge Pitch	YES	YES
	Scan Edge Position	YES	YES
	Scan Edge Width	YES	YES
	Circular Scan Edge Position	YES	YES
	Circular Scan Edge Width	YES	YES
	Intersection	YES	YES
	Color Data	YES	YES
	Gravity and Area	YES	YES
	Labeling	YES	YES
	Label Data	YES	YES
	Labeling+	NO	NO
	Defect	YES	YES
	Precise Defect	YES	YES
	Fine Matching	YES	YES
	Character Inspection	YES	YES
	Date Verification	YES	YES
	Model Dictionary	YES	YES
	Barcode+ *1	NO	NO
	Barcode *1	YES	YES
	2D Code *2	YES	YES
2D Code+ *2	NO	NO	
OCR User Dictionary	YES	YES	
OCR	YES	YES	
Circle Angle	YES	YES	
Glue Bead Inspection	YES	YES	
Input image	Camera Image Input	YES	YES
	Camera Image Input FH	YES	YES
	Camera Image Input HDR	YES	YES
	Camera Image Input HDR Lite	YES	YES
	Camera Switching	YES	YES
	Measurement Image Switching	YES	YES

*1. Bar Codes that can be read:

JAN/EAN/UPC (including add-on codes), Code 39, Codabar (NW-7), IFT (Interleaved 2 of 5), Code 93, Code128, GS1 DataBar (RSS-14/RSS Limited/RSS Expanded), PhamaCode

*2. 2D Codes that can be read: Data Matrix, QR Code

[Processing Items]

Item		Product discontinuation Model FJ-35□ Series	Recommendable replacement Model FH-1050 Series
Correcting Images	Position compensation	YES	YES
	Trapezoidal Correction	NO	YES
	Trapezoidal Correction+	YES	NO
	Filtering	YES	YES
	Background Suppression	YES	YES
	Brightness Correct filter	YES	YES
	Color Gray filter	YES	YES
	Extract Color Filter	YES	YES
	Anti Color shading	YES	YES
	Stripes Removal Filter+	YES	NO
	Stripes Removal Filter II	YES	YES
	Halation Cut+	YES	NO
	Panorama+	YES	NO
	Polar Transformation	YES	YES
	Machine Simulator	NO	YES
	Image Subtraction	NO	YES
	Advanced Filter	NO	YES
	Panorama	NO	YES
Assisting inspections / Measurement	Unit Macro	NO	YES
	Unit calculation macro	NO	YES
	Calculation	YES	YES
	Line Regression	YES	YES
	Circle Regression	YES	YES
	Calibration+	YES	NO
	Precise Calibration	YES	YES
	User Data	YES	YES
	Set Unit data	YES	YES
	Get Unit Data	YES	YES
	Set Unit Figure	YES	YES
	Get Unit Figure	YES	YES
	Trend Monitor	YES	YES
	Image Logging	YES	YES
	Image Conversion Logging	YES	YES
	Data Logging	YES	YES
	Elapsed Time	YES	YES
	Wait	YES	YES
	focus	YES	YES
	Iris	YES	YES
	Parallelize	NO	YES
	Parallelize Task	NO	YES
	Statistics	NO	YES
	Reference Calib Data	NO	YES
	Position Data calculation	NO	YES
	Robot Data	NO	YES
	Vision Master Calibration	NO	YES
	PLC Master Calibration	NO	YES
	Convert Position Data	NO	YES
	Movement Single Position	NO	YES
	Movement Multi Points	NO	YES
	Detection Point	NO	YES
Camera calibration	NO	YES	
Data Save	NO	YES	
Stage Data	NO	YES	

[Processing Items]

Item		Product discontinuation Model FJ-35□ Series	Recommendable replacement Model FH-1050 Series
Branching processing	Conditional Branch	YES	YES
	End	YES	YES
	DI branch	YES	YES
	Control Flow Normal	YES	YES
	Control Flow PLC Link	YES	YES
	Control Flow Parallel	YES	YES
	Control Flow Fieldbus	YES	YES
	Selective Branch	YES	YES
Outputting results	Data Output	YES	YES
	Parallel Data Output	YES	YES
	Parallel Judgement Output	YES	YES
	Fieldbus Data Output	YES	YES
Displaying results on the monitor	Result Display	YES	YES
	Display Image File	YES	YES
	Display Last NG Image	YES	YES

Specifications and prices in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.