Product Discontinuation Notices

Vision Sensors / Machine Vision Systems

Discontinuation Notice of Vision Sensor model FZ4-(H)7[][]-[][] series.

Product Discontinuation	Recommended Replacement
Vision Sensor	Vision Sensor
Model FZ4-(H)75[]	**Model FH-1050**
Model FZ4-(H)75[]-10	**Model FH-1050-10**
Model FZ4-(H)70[]	**Model FZ5-60[]**
Model FZ4-(H)70[]-10	**Model FZ5-60[]-10**

[Discontinuation date]

The end of March, 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 before FH series 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	Dimen-sions	Wire connection	Mounting Dimensions	Charact-eristics	Operation ratings	Operation methods
FH-1050	*	*	*	*	*	*	*
FH-1050-10	*	*	*	*	*	*	*
FZ5-60[]	**	**	**	**	**	**	**
FZ5-60[]-10	**	**	**	**	**	**	**

** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
FZ4-750	FH-1050
FZ4-755	
FZ4-H750	
FZ4-H755	
FZ4-750-10	FH-1050-10
FZ4-755-10	
FZ4-H750-10	
FZ4-H755-10	
FZ4-700	FZ5-600
FZ4-H700	
FZ4-705	FZ5-605
FZ4-H705	
FZ4-700-10	FZ5-600-10
FZ4-H700-10	
FZ4-705-10	FZ5-605-10
FZ4-H705-10	

[Body color]

Product discontinuation BOX type Model FZ4-(H)75[](-10)	Recommendable replacement BOX type Model FH-1050(-10)

Product discontinuation Controllers integrated with LCD Model FZ4-(H)70[](-10)	Recommendable replacement Controllers integrated with LCD Model FZ5-60[](-10)

[System configuration]

Product discontinuation
BOX type   Model FZ4-(H)75[](-10)
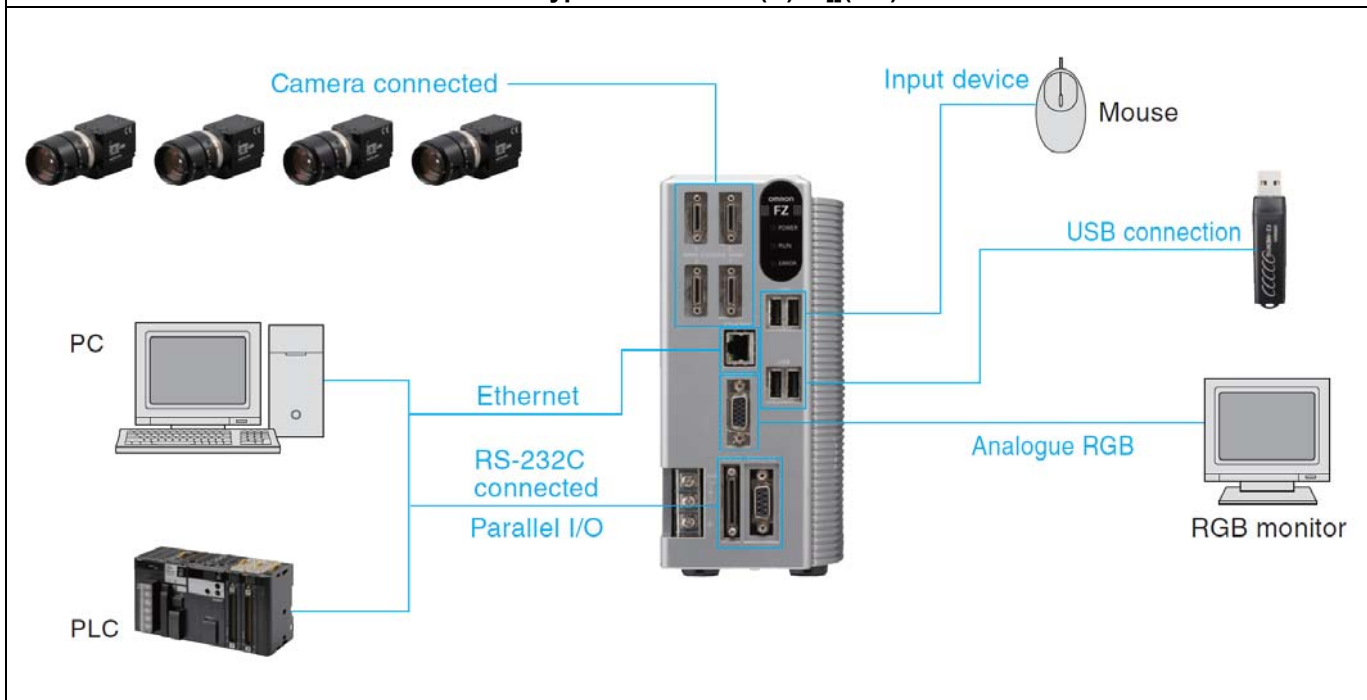
Recommendable replacement
BOX type   Model FH-1050(-10)

EtherCAT connections for FH series

Example of the FH Sensor Controllers (4-camera type)
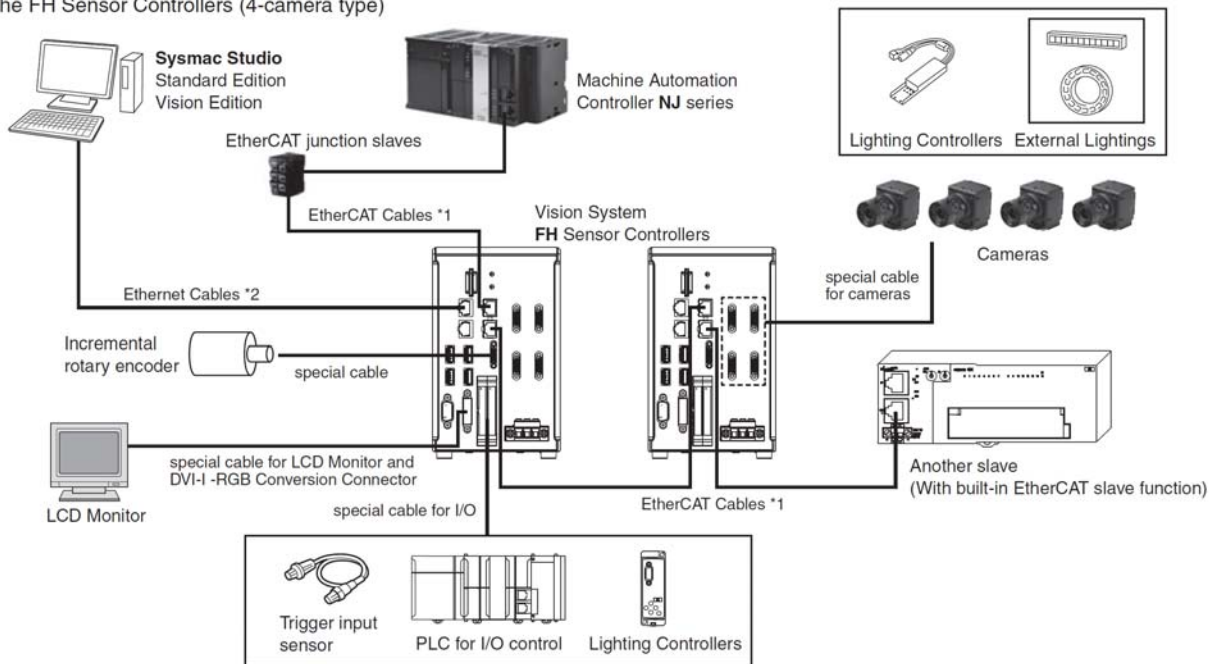
*1. To use STP (shielded twisted-pair) cable of category 5 or higher with double shielding (braiding and aluminum foil tape) for EtherCAT and RJ45 connector.
*2. To use STP (shielded twisted-pair) cable of category 5 or higher for Ethernet and RJ45 connector.

Product discontinuation
Controllers integrated with LCD   Model FZ4-(H)70[](-10)

USB connection

Touch pen (accessory attached)

Input device Mouse

USB connection

Input device Mouse

RS-232C connected

Parallel I/O

Ethernet

PC

PLC

Analogue RGB

Camera connecter

Recommendable replacement
Controllers integrated with LCD   Model FZ5-60[](-10)

EtherNet/IP, No-protocol Ethernet and PLC Link Connections for FZ5 series

Example of the FZ5 Sensor Controllers (4-camera type)

PLC for I/O control

Personal computer

Industrial Switching Hubs for EtherNet/IP and Ethernet

Ethernet Cables *

special cable for I/O

Trigger input sensor

PLC for I/O control

Lighting Controllers

Vision System **FZ5** Sensor Controllers

special cable for cameras

Cameras

Lighting Controllers   External Lightings

* To use Straight or cross STP (shielded twisted-pair) cable of category 5 or higher for Ethernet and RJ45 connector.

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[Dimensions]

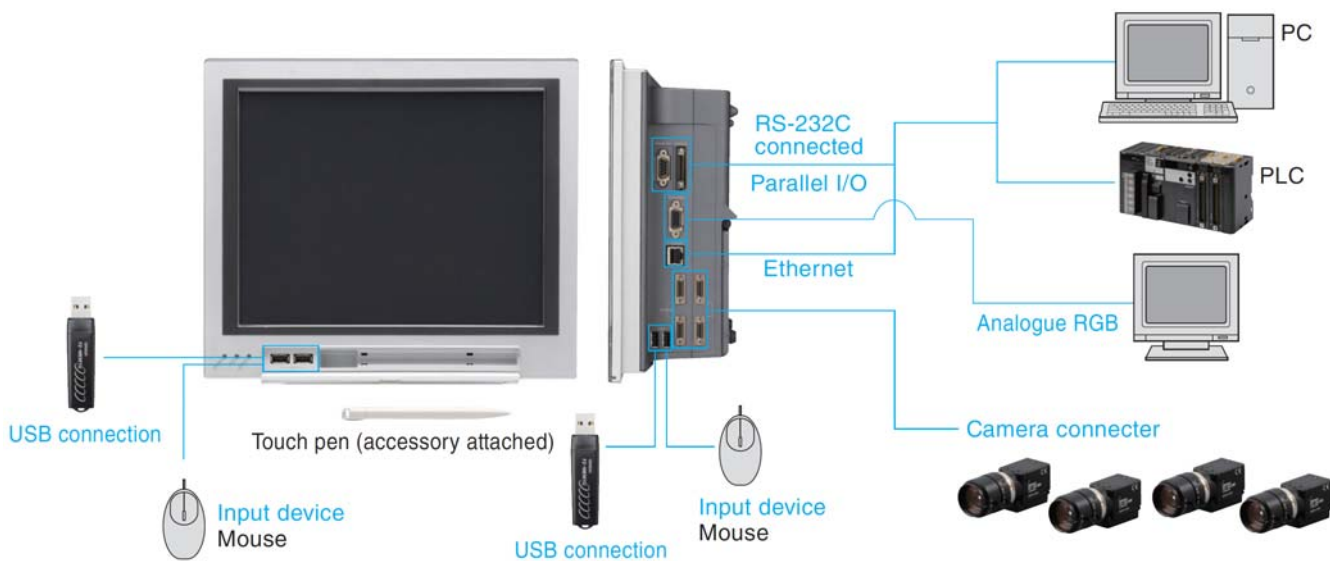| Product discontinuation
BOX type   Model FZ4-(H)75[](-10) |
|---|

(Unit: mm)
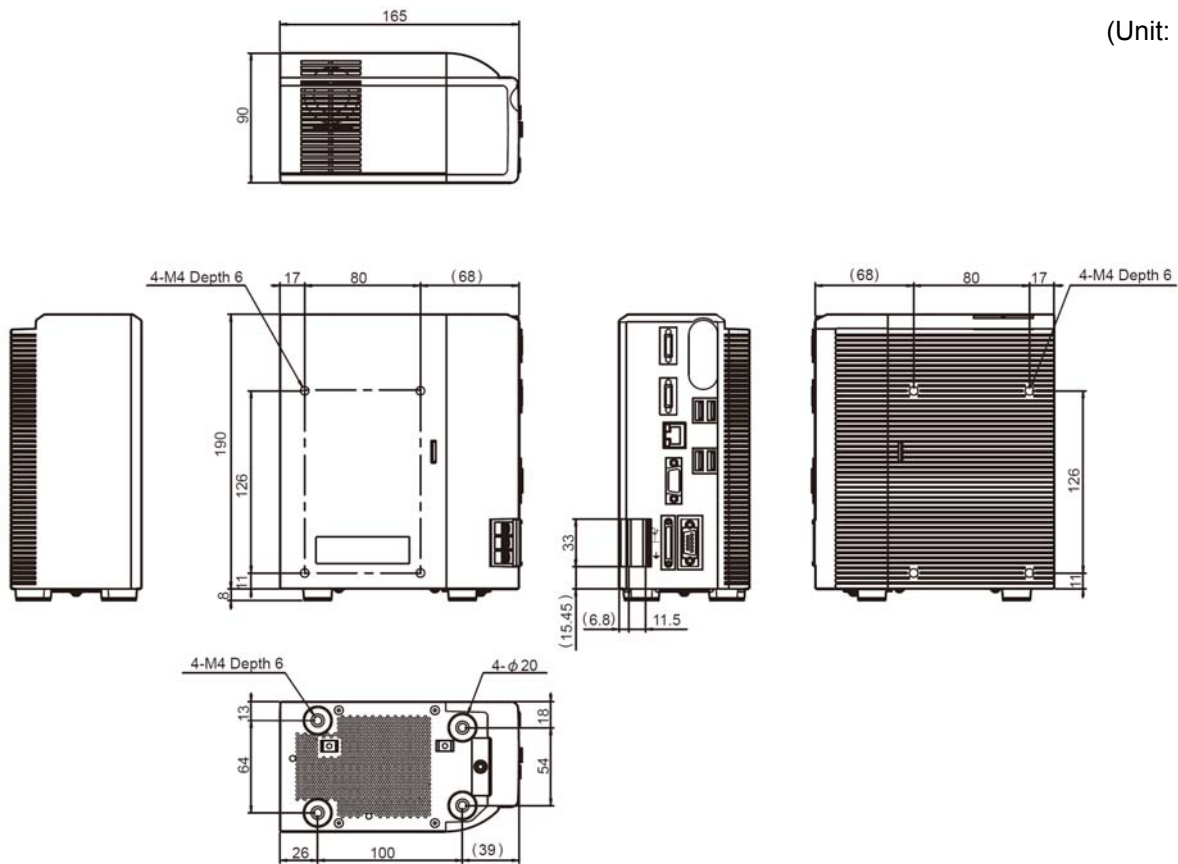
Recommendable replacement BOX type   Model FH-1050(-10)

(Unit: mm)
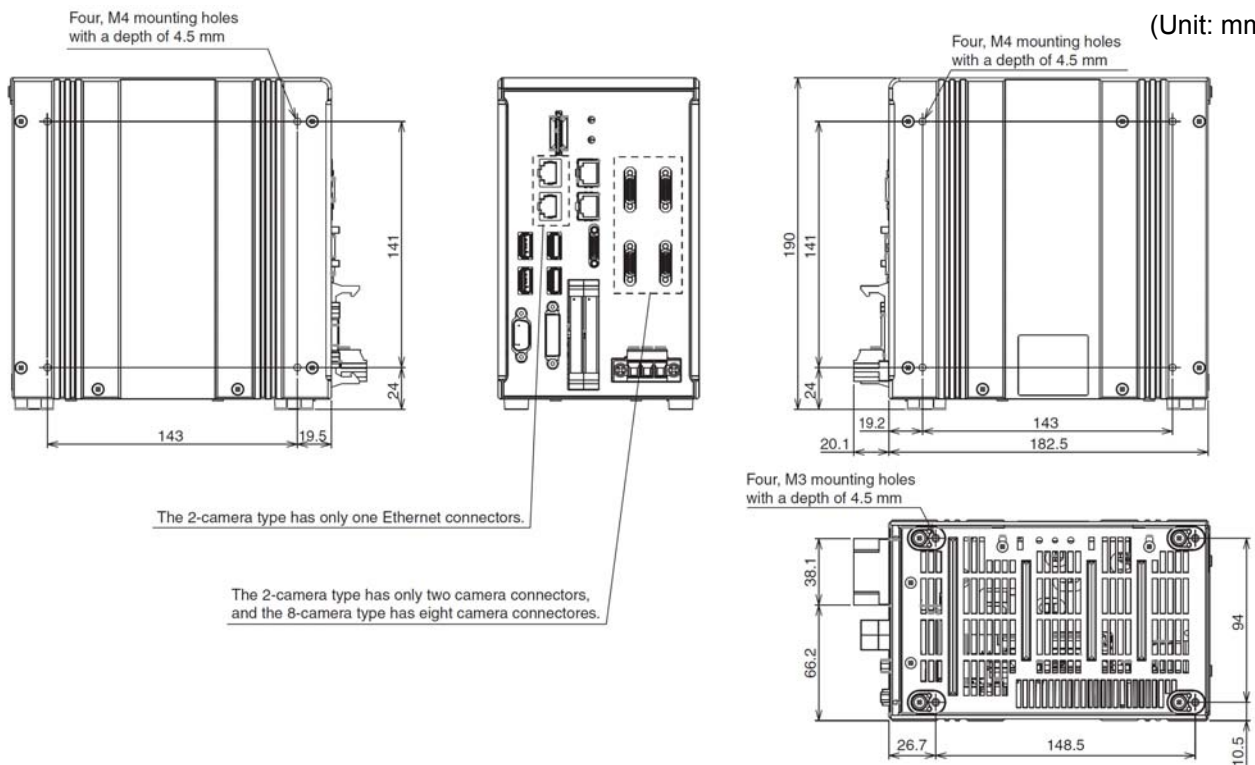
Four, M4 mounting holes with a depth of 4.5 mm

The 2-camera type has only one Ethernet connectors.

The 2-camera type has only two camera connectors, and the 8-camera type has eight camera connectores.

Four, M3 mounting holes with a depth of 4.5 mm
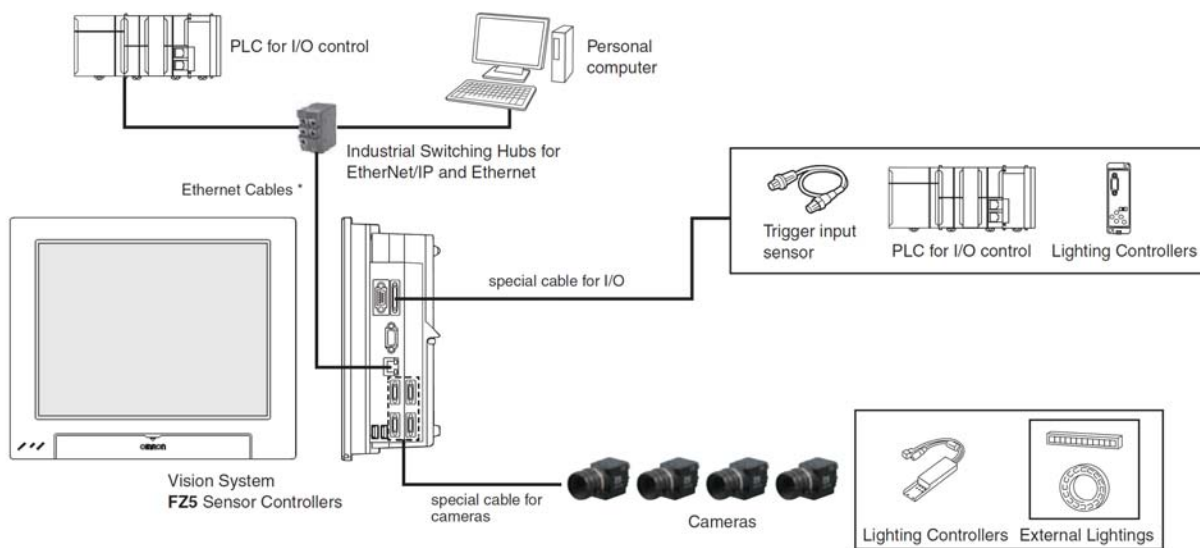
5

Product discontinuation Controllers integrated with LCD Model FZ4-(H)70[](-10)	Recommendable replacement Controllers integrated with LCD Model FZ5-60[](-10)
	(Unit: mm)

A=104 (for 4 camera type)
83 (for 2 camera type)

4-M3 Depth 6

[Specifications]
Box type

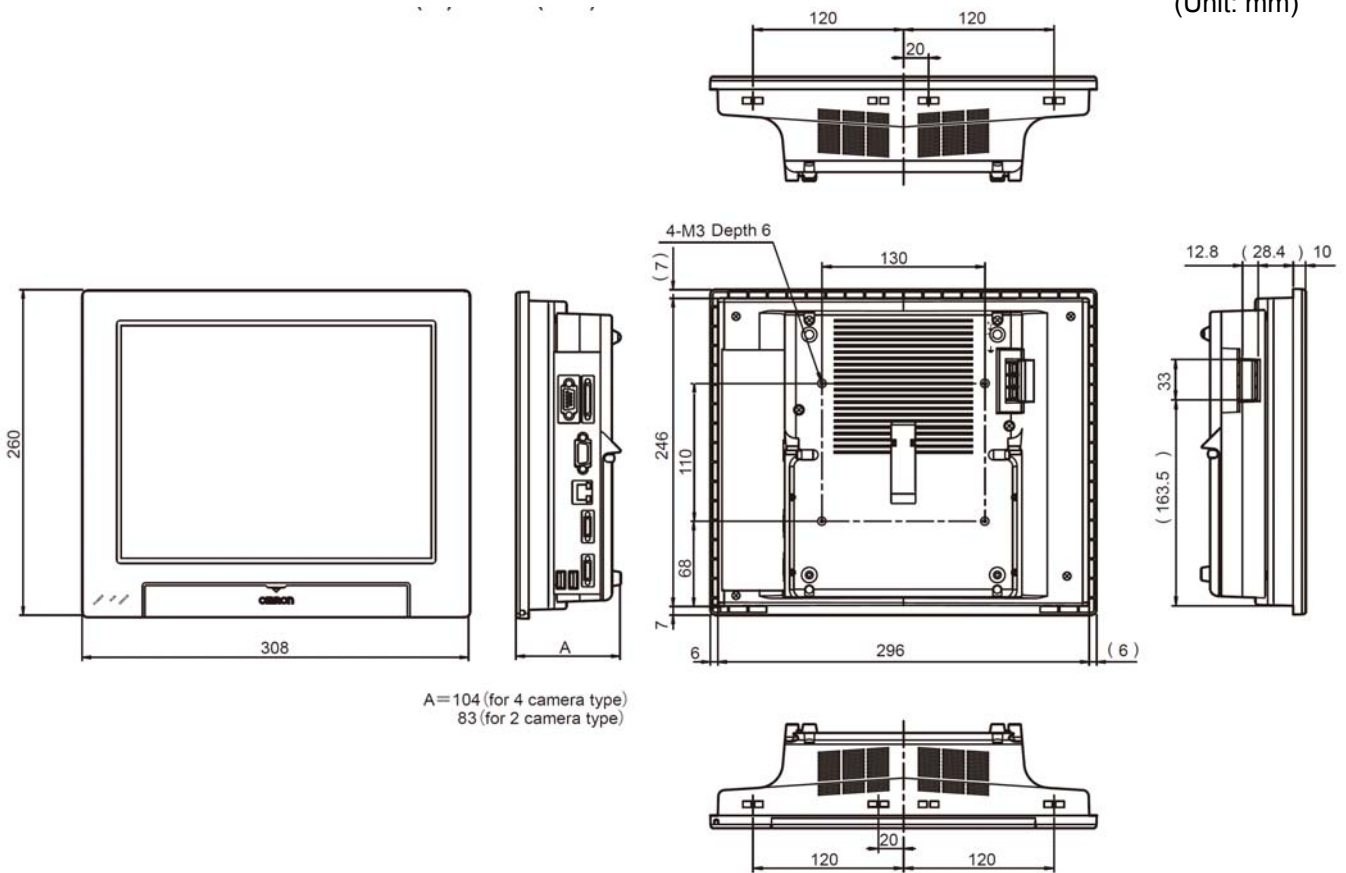| Item		Product discontinuation				Recommendable replacement	
Model	**NPN Output**	**FZ4-750**	**FZ4-750-10**	**FZ4-H750**	**FZ4-H750-10**	**FH-1050**	**FH-1050-10**
	PNP Output	**FZ4-755**	**FZ4-755-10**	**FZ4-H755**	**FZ4-H755-10**		
Controller type		Box-type controllers					
High-grade Processing items		No	No	Yes	Yes	No	No
No. of Cameras		2	4	2	4	2	4
Connected Camera		Can be connected to all cameras. (When connecting 5 million-pixel cameras, up to two cameras can be connected.)				Can be connected to all cameras. (FZ-S series/FH-S series)	
No. of scenes		32				128	
Operation		Mouse or similar device					
Settings		Create series of processing steps by editing the flowchart (Help messages provided).					

Controllers integrated with LCD

Item		Product discontinuation				Recommendable replacement	
Model	**NPN Output**	**FZ4-700**	**FZ4-700-10**	**FZ4-H700**	**FZ4-H700-10**	**FZ5-600**	**FZ5-600-10**
	PNP Output	**FZ4-705**	**FZ4-705-10**	**FZ4-H705**	**FZ4-H705-10**	**FZ5-605**	**FZ5-605-10**
Controller type		Controllers integrated with LCD					
High-grade Processing items		No	No	Yes	Yes	No	No
No. of Cameras		2	4	2	4	2	4
Connected Camera		Can be connected to all cameras. (When connecting 5 million-pixel cameras, up to two cameras can be connected.)					
No. of scenes		32					
Operation		Touch pen, mouse, etc.					
Settings		Create series of processing steps by editing the flowchart (Help messages provided).					

[Processing resolution]

Item	Product discontinuation	Recommendable replacement	
	FZ4-7[][] **FZ4-7[][]-10** **FZ4-H7[][]** **FZ4-H7[][]-10**	**FZ5-60[]** **FZ5-60[]-10**	**FH-1050** **FH-1050-10**
When connected to a intelligent compact camera	752 (H) × 480 (V)	752 (H) × 480 (V)	
When connected to a 300,000-pixel camera	640 (H) × 480 (V)	640 (H) × 480 (V)	
When connected to a 2 million-pixel camera	1600 (H) × 1200 (V)	FZ-S : 1600 (H) × 1200 (V) FH-S : 2040 (H) × 1088 (V)	
When connected to a 4 million-pixel camera	-	2040 (H) × 2048 (V)	
When connected to a 5 million-pixel camera	2448 (H) × 2044 (V)	2448 (H) × 2044 (V)	

[Number of logged images *1]

Item			Product discontinuation	Recommendable replacement	
			FZ4-7[][] FZ4-7[][]-10 FZ4-H7[][] FZ4-H7[][]-10	FZ5-60[] FZ5-60[]-10	FH-1050 FH-1050-10
When connected to a intelligent compact camera	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		270
		Monochrome	252		272
	Connected to 2 cameras	Color	125		135
		Monochrome	126		136
	Connected to 3 cameras	Color	83		90
		Monochrome	84		90
	Connected to 4 cameras	Color	62		67
		Monochrome	63		68
When connected to a 2 million -pixel camera (FZ-S)	Connected to 1 camera	Color	40		43
		Monochrome	40		43
	Connected to 2 cameras	Color	20		21
		Monochrome	20		21
	Connected to 3 cameras	Color	13		14
		Monochrome	13		14
	Connected to 4 cameras	Color	10		10
		Monochrome	10		10
When connected to a 2 million -pixel camera (FH-S)	Connected to 1 camera	Color/ Monochrome	-		37
	Connected to 2 Cameras	Color/ Monochrome	-		18
	Connected to 3 cameras	Color/ Monochrome	-		12
	Connected to 4 cameras	Color/ Monochrome	-		9
When connected to a 4 million -pixel camera (FH-S)	Connected to 1 camera	Color/ Monochrome	-		20
	Connected to 2 cameras	Color/ Monochrome	-		10
	Connected to 3 cameras	Color/ Monochrome	-		6
	Connected to 4 cameras	Color/ Monochrome	-		5
When connected to a 5 million -pixel camera (FZ-S)	Connected to 1 camera	Color	11		16
		Monochrome	11		16
	Connected to 2 cameras	Color	5		8
		Monochrome	5		8
	Connected to 3 cameras	Color	-		5
		Monochrome	-		5
	Connected to 4 cameras	Color	-		4
		Monochrome	-		4

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

[Ratings]
Box type

Item		Product discontinuation		Recommendable replacement	
		FZ4-75[] **FZ4-H75[]**	**FZ4-75[]-10** **FZ4-H75[]-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	5.0 A max.	7.5 A max.	4.7 A max.	6.5 A max.
	When connected to a intelligent or autofocus camera				
	When connected to a 300,000-pixel camera	3.7 A max.	4.9 A max.	3.6 A max.	4.3 A max.
	When connected to a 2 million-pixel camera				
	When connected to a 4 million-pixel camera				
	When connected to a 5 million-pixel camera				
Weight		Approx. 1.8 kg	Approx. 1.9 kg	Approx. 3.2 kg	Approx. 3.4 kg
Accessories		Instruction Manual		User manual, Instruction Installation Manual, Power supply terminal, block connector, Ferrite core	

Controllers integrated with LCD

Item		Product discontinuation		Recommendable replacement	
		FZ4-70[] **FZ4-H70[]**	**FZ4-70[]-10** **FZ4-H70[]-10**	**FZ5-60[]**	**FZ5-60[]-10**
Power supply voltage		20.4 to 26.4 VDC			
Current consumption (at 24.0 VDC) *1	When connected to a intelligent compact camera	5.0 A max.	7.5 A max.	5.0 A max.	7.5 A max.
	When connected to a intelligent or autofocus camera				
	When connected to a 300,000-pixel camera	3.7 A max.	4.9 A max.	3.7 A max.	4.9 A max.
	When connected to a 2 million-pixel camera				
	When connected to a 5 million-pixel camera				
Weight		Approx. 3.2 kg	Approx. 3.4 kg	Approx. 3.2 kg	Approx. 3.4 kg
Accessories		Touch pen (one, inside the front panel) Instruction Manual, 6 mounting brackets			

*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	Recommendable replacement	
	FZ4-7[][] FZ4-7[][]-10 FZ4-H7[][] FZ4-H7[][]-10	FZ5-60[] FZ5-60[]-10	FH-1050 FH-1050-10
Ambient temperature range	Operating: 0 to 45°C for low cooling fan speeds, 0 to 50°C for high cooling fan speeds Storage: -20 to 65°C (with no icing or condensation)		Operating: 0 to 50°C Storage: -20 to 65°C (with no icing or condensation)
Ambient humidity range	Operating and storage: 35% to 85% (with no condensation)		

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[External interface]

Item	Product discontinuation FZ4-7[][] FZ4-7[][]-10 FZ4-H7[][] FZ4-H7[][]-10	Recommendable replacement	
		FZ5-60[] FZ5-60[]-10	FH-1050 FH-1050-10
Serial communications	RS-232C/422A: 1CH	RS-232C 1CH	
EtherNet communications	Ethernet 100BASE-TX/10BASE-T	No-protocol (TCP/UDP) 1000BASE-T FH-1050 : 1 port FH-1050-10 : 2 port	
EtherNet/IP communications	No	Ethernet port baud rate: 1 Gbps (1000BASE-T)	
EtherCAT communications	No	EtherCAT protocol (100BASE-TX)	

Parallel I/O	13 inputs
	  (RESET, STEP0/ENCTRIG_Z0,
	  DSA0, ENCTRIG_A0, ENCTRIG_B0,
	  DI0 to 7)
	
	26 outputs
	  (RUN, BUSY0, GATE0,OR0,
	  READY0, ERROR, STGOUT0 to 3,
	  DO0 to 15)
	
	* STGOUT 2 to 3 only for camera
	  4 ch type
		< In the 2-line random trigger mode >
		17 inputs
		  (STEP0/ENCTRIG_Z0,STEP1/ENCTRIG_Z1,
		  ENCTRIG_A0 to 1, ENCTRIG_B0 to 1,
		  DSA0 to 1, DI0 to 7, DI_LINE0)
		37 outputs
		  (RUN0 to 1, READY0 to 1, BUSY0 to 1,
		  OR0 to 1, ERROR0 to 1, GATE0 to 1,
		  STGOUT0/SHTOUT0, STGOUT1/SHTOUT1,
		  STGOUT2 to 7, DO0 to 15, ACK)
		
		< In the 5-line to 8-line random trigger mode >
		19 inputs
		  (STEP0 to 7, DI_LINE0 to 2, DI0 to 7)
		34 outputs
		  (READY0 to 7, BUSY0 to 7, OR0 to 7, ACK,
		  ERROR, STGOUT/SHTOUT0 to 7)	

Encoder interface	No	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	Controllers integrated with LCD:
	  Integrated Controller and LCD
	  12.1 inch TFT color LCD
	  (Resolution: XGA 1,024 × 768 dots)
	Box-type controllers:
	  Analog RGB video output, 1 channel
	  (Resolution: XGA 1,024 × 768 dots)
		DVI-I output IF × 1ch	

USB interface	4 channels (supports USB 1.1 and 2.0)	4 channels (supports USB 1.1 and 2.0)	
SD card interface	No	SDHC card of Class4 or higher rating is recommended.	

[Processing Items]

Item		Product discontinuation FZ4-7□□-□□	Product discontinuation FZ4-H7□□-□□	Recommendable replacement FZ5-60□-□□ FH-1050-□□
Inspections / Measurement	Search	Yes	Yes	Yes
	Flexible Search	Yes	Yes	Yes
	Sensitive Search	Yes	Yes	Yes
	ECM Search	Yes	Yes	Yes
	EC Circle Search	Yes	Yes	Yes
	Shape Search+	No	Yes	No
	Shape Search II	Yes	Yes	Yes
	Shape Search III	No	No	Yes
	EC Corner	No	No	Yes
	EC Cross	No	No	Yes
	Classification	Yes	Yes	Yes
	Edge Position	Yes	Yes	Yes
	Edge Pitch	Yes	Yes	Yes
	Scan Edge Position	Yes	Yes	Yes
	Scan Edge Width	Yes	Yes	Yes
	Circular Scan Edge Position	Yes	Yes	Yes
	Circular Scan Edge Width	Yes	Yes	Yes
	Intersection	No	No	Yes
	Color Data	Yes	Yes	Yes
	Gravity and Area	Yes	Yes	Yes
	Labeling	Yes	Yes	Yes
	Label Data	Yes	Yes	Yes
	Labeling+	No	Yes	No
	Defect	Yes	Yes	Yes
	Precise Defect	Yes	Yes	Yes
	Fine Matching	Yes	Yes	Yes
	Character Inspection	Yes	Yes	Yes
	Date Verification	Yes	Yes	Yes
	Model Dictionary	Yes	Yes	Yes
	Barcode+ *1	No	Yes	Yes
	2DCode *2	Yes	Yes	Yes
	2DCode+ *2	No	Yes	No
	Circle Angle	Yes	Yes	Yes
	Glue Bead Inspection	No	No	Yes
Image Capturing	Camera Image Input	Yes	Yes	Yes
	Camera Image Input FH	No	No	Yes
	Camera Image Input HDR	Yes	Yes	Yes
	Camera Image Input HDR Lite	Yes	Yes	Yes
	Camera Switching	Yes	Yes	Yes
	Measurement Image Switching	Yes	Yes	Yes

*1. Bar Codes that can be read : JAN/EAN/UPC (including add-on codes),Code 39, Codabar (NW-7), ITF (Interleaved 2 of 5), Code 93, Code 128, GS1-128, GS1 DataBar (RSS-14 / RSS Limited / RSS Expanded), Pharmacode

*2. 2D Codes that can be read : Data Matrix (ECC200), QR Code

Item		Product discontinuation		Recommendable replacement FZ5-60[]-[][] FH-1050-[][]
		FZ4-7[][]-[][]	FZ4-H7[][]-[][]	
Correcting images	Position Compensation	Yes	Yes	Yes
	Trapezoidal Correction	No	Yes	Yes
	Filtering	Yes	Yes	Yes
	Background Suppression	Yes	Yes	Yes
	Brightness Correct Filter	Yes	Yes	Yes
	Color Gray Filter	Yes	Yes	Yes
	Extract Color Filter	Yes	Yes	Yes
	Anti Color Shading	Yes	Yes	Yes
	Stripes Removal Filter+	No	Yes	No
	Stripes Removal Filter II	Yes	Yes	Yes
	Halation Cut+	No	Yes	No
	Panorama+	No	Yes	Yes
	Polar Transformation	Yes	Yes	Yes
	Machine Simulator	No	No	Yes
	Image Subtraction	No	No	Yes
	Advanced filter	No	No	Yes
Assisting inspections / measurement	Macro	No	No	Yes
	Macro Calculation	No	No	Yes
	Calculation	Yes	Yes	Yes
	Line Regression	Yes	Yes	Yes
	Circle Regression	Yes	Yes	Yes
	Calibration+	No	Yes	No
	Precise Calibration	Yes	Yes	Yes
	User Data	Yes	Yes	Yes
	Set Unit Data	Yes	Yes	Yes
	Get Unit Data	Yes	Yes	Yes
	Set Unit Figure	Yes	Yes	Yes
	Get Unit Figure	Yes	Yes	Yes
	Trend Monitor	Yes	Yes	Yes
	Image Logging	Yes	Yes	Yes
	Image Conversion Logging	Yes	Yes	Yes
	Data Logging	Yes	Yes	Yes
	Elapsed Time	Yes	Yes	Yes
	Wait	Yes	Yes	Yes
	Focus	Yes	Yes	Yes
	Iris	Yes	Yes	Yes
	Parallelize	No	No	Yes
	Parallelize Task	No	No	Yes
	Statistics	No	No	Yes
	Reference Calib Data	No	No	Yes
	Position Data Calculation	No	No	Yes
	Stage Data	No	No	Yes
	Robot Data	No	No	Yes

Item		Product discontinuation		Recommendable replacement FZ5-60[]-[][] FH-1050-[][]
		FZ4-7[][]-[][]	FZ4-H7[][]-[][]	
Assisting inspections / measurement	**Vision Master Calibration**	No	No	Yes
	PLC Master Calibration	No	No	Yes
	Convert Position Data	No	No	Yes
	Movement Single Position	No	No	Yes
	Movement Multi Points	No	No	Yes
	Detection Point	No	No	Yes
	Camera Calibration	No	No	Yes
	Data Save	No	No	Yes
Branching processing	**Conditional Branch**	Yes	Yes	Yes
	End	Yes	Yes	Yes
	DI Branch	Yes	Yes	Yes
	Control Flow Normal	No	No	Yes
	Control Flow PLC Link	No	No	Yes
	Control Flow Parallel	No	No	Yes
	Control Flow Fieldbus	No	No	Yes
	Selective Branch	No	No	Yes
Outputting results	**Data Output**	Yes	Yes	Yes
	Parallel Data Output	Yes	Yes	Yes
	Parallel Judgment Output	Yes	Yes	Yes
	Fieldbus Data Output	Yes	Yes	Yes
Displaying results on the monitor	**Result Display**	Yes	Yes	Yes
	Display Image File	Yes	Yes	Yes
	Display Last NG Image	Yes	Yes	Yes