













## Controllers



Appearance	Type		Model	Remarks	
	Controller integrated with LCD	Two-camera controllers	NPN PNP	FZ4-600 FZ4-605	— —
		Four-camera controllers	NPN PNP	FZ4-600-10 FZ4-605-10	— —
	Box-type controller	Two-camera controllers	NPN PNP	FZ4-650 FZ4-655	— —
		Four-camera controllers	NPN PNP	FZ4-650-10 FZ4-655-10	— —
Box-type controller	Two-camera controllers	NPN PNP	FZ4-L350 FZ4-L355	— —	
	Four-camera controllers	NPN PNP	FZ4-L350-10 FZ4-L355-10	— —	

## Cameras









Appearance	Type		Model	Remarks	
	Intelligent Compact Cameras	Wide View (Short-distance) □100mm	Color	FZ-SQ100N	Camera +Lens + High-power Lighting
		Wide View (Long-distance) □100mm	Color	FZ-SQ100F	
		Standard □50mm	Color	FZ-SQ050F	
		Narrow View □10mm	Color	FZ-SQ010F	
	Intelligent Cameras	Wide field of vision	Color	FZ-SLC100	Camera + Zoom, Autofocus Lens + Intelligent Lighting
		Narrow field of vision	Color	FZ-SLC15	
	Autofocus Cameras	Wide field of vision	Color	FZ-SZC100	Camera + Zoom, Autofocus Lens
		Narrow field of vision	Color	FZ-SZC15	
	Digital Cameras	5 million pixels	Color	FZ-SC5M	Lens required
			Monochrome	FZ-S5M	
	Digital Cameras	2 million pixels	Color	FZ-SC2M	
			Monochrome	FZ-S2M	
	Digital Cameras	300,000-pixels	Color	FZ-SC	
			Monochrome	FZ-S	
	Small Digital Cameras	300,000-pixel flat type	Color	FZ-SFC	
			Monochrome	FZ-SF	
	Small Digital Cameras	300,000-pixel pen type	Color	FZ-SPC	
			Monochrome	FZ-SP	
	High-speed Cameras	300,000-pixels	Color	FZ-SHC	
			Monochrome	FZ-SH	

## Cameras peripheral devices

Appearance	Type	Model	Remarks
	CCTV Lenses	3Z4S-LE Series	—
	Extension Tubes		—
	Low-distortion Lenses	FZ-LEH5/LEH8/LEH12/LEH16/LEH25/LEH35/LEH50/LEH75/LEH100	Low distortion lens for 2-million Pixel Cameras





Appearance	Type		Model	Remarks
	Lenses for Small Camera		<b>FZ-LES3/LES6/LES16/LES30</b>	Lens for 300,000-pixel Small Cameras
	Extension Tubes for Small Camera		<b>FZ-LESR</b>	Extension Tubes for 300,000-pixel Small Cameras
	Intelligent Camera Diffusion Plate	Wide field of vision	<b>FZ-SLC100-DL</b>	—
		Narrow field of vision	<b>FZ-SLC15-DL</b>	—

## Cables

Appearance	Type	Cable length:	Model	Remarks
	Camera Cable	2m, 5m, 10m (See note 2)	<b>FZ-VS</b>	—
	Bend resistant Camera Cables	2m, 5m, 10m (See note 3)	<b>FZ-VSB</b>	—
	Right-angle Camera Cable (See note 1)	2m, 5m, 10m (See note 2)	<b>FZ-VSL</b>	—
	Long-distance Camera Cable	15m (See note 4)	<b>FZ-VS2</b>	—
	Long-distance Right-angle Camera Cable	15m (See note 4)	<b>FZ-VSL2</b>	—
	Cable Extension Unit	Maximum cable length: 45 m (Up to two Extension Units and three Cables can be connected.)	<b>FZ-VSJ</b>	—
	Monitor Cable	2m, 5m	<b>FZ-VM</b>	—
	Parallel Cable	2m, 5m	<b>FZ-VP</b>	—
		2m, 5m, Connector-type	<b>FZ-VPX</b> (See note 5)	—

- Note:**
- This Cable has an L-shaped connector on the Camera end.
  - The 10-m Cable cannot be used for the Intelligent Camera and Autofocus Camera.
  - The 10-m Cable cannot be used for the Intelligent Camera, Autofocus Camera and 2 Million-pixel Camera.
  - The 15-m Cable cannot be used for the Intelligent Camera and Autofocus Camera.
  - Connector-Terminal Block Conversion Units can be connected (Recommended Products: OMRON XW2B-50G4/50G5, XE2D-50G6).

## Peripheral devices

Appearance	Type		Model	Remarks	
	LCD Monitor		<b>FZ-M08</b>	—	
	USB Memory		<b>FZ-MEM1G</b>	Capacity: 1 GB	
	Strobe Controller	For 3Z4S-LT Series	One channel	Manufactured by MORITEX Corporation <b>3Z4S-LT MLEK-C100E1TS2</b> Required to control external lighting from a Controller	
		For FZ-LT Series	One channel		<b>FZ-LTA100</b>
	Strobe Controller		For FZ-LT Series	Two channels	<b>FZ-LTA200</b>
		—		Mouse	—
—	External Lighting			<b>3Z4S-LT Series</b>	—
				<b>FZ-LT Series</b>	—

## Lite Controller

Model		NPN	FZ4-L350	FZ4-L350-10	FZ4-600	FZ4-600-10	FZ4-650	FZ4-650-10
		PNP	FZ4-L355	FZ4-L355-10	FZ4-605	FZ4-605-10	FZ4-655	FZ4-655-10
No. of Cameras			2	4	2	4	2	4
Controller		Box-type			integrated with LCD		Box-type	
Processing resolution	Intelligent Compact Camera		752 (H) × 480 (V)					
	300,000-pixel camera		640 (H) × 480 (V)					
	2-million pixel camera		1600 (H) × 1200 (V)					
	5-million pixel camera		2488 (H) × 2044 (V)					
Main functions	Processing Items	Inspections / Measurement	Search, Flexible Search, Sensitive Search, ECM Search, Ec Circle Search, Shape Search II, Classification, Edge Position, Edge Pitch, Scan Edge Position, Scan Edge Width, Color Data, Gravity and Area, Labeling, Label Data, Defect, Precise Defect, Fine Matching, Character Inspection, Date Verification, 2D Code, Model Dictionary, Circle Angle, Circular Scan Edge Position, Circular Scan Edge Width					
		Image Capturing	Camera image input, Camera Image Input HDR, Camera Image Input HDR Lite, Camera Switching, Measurement Image Switching					
		Correcting images	Position Compensation, Filtering, Background Suppression, Color Gray Filter, Extract Color Filter, Anti Color Shading, Polar Transformation, Stripes Removal Filter II, Brightness Correct Filter					
		Assisting inspections / measurement	Calculation, Line Regression, Circle Regression, Set Unit Data, Get Unit Data, Set Unit Figure, Get Unit Figure, Trend Monitor, Image Logging, Data Logging, Elapsed Time, Wait, Focus, Iris, Precise Calibration, User Data, Image Conversion Logging					
		Branching processing	Conditional Branch, End, DI Branch					
		Outputting results	Serial data output, Parallel data output, Parallel judgement output, Fieldbus data output					
		Displaying results on the monitor	Result Display, Display Image File, Display Last NG Image					
	Number of simultaneous inspections 1		No limit to setting (as permitted by memory capacity)					
	Position compensation		Yes (flexible combination with processing items for inspections and measurements)					
	Number of registered scenes		32					
Number of logged images (See note 1)	With intelligent Compact Camera	Connected to 1 camera	214					
		Connected to 2 camera	107					
		Connected to 3 camera	71					
		Connected to 4 camera	53					
	When connected to a 300,000-pixel camera	Connected to 1 camera	Color Camera: 250, Monochrome Camera: 252					
		Connected to 2 camera	Color Camera: 125, Monochrome Camera: 126					
		Connected to 3 camera	Color Camera: 83, Monochrome Camera: 84					
		Connected to 4 camera	Color Camera: 62, Monochrome Camera: 63					
	When connected to a 2 million-pixel camera	Connected to 1 camera	Color Camera: 40, Monochrome Camera: 40					
		Connected to 2 camera	Color Camera: 20, Monochrome Camera: 20					
		Connected to 3 camera	Color Camera: 13, Monochrome Camera: 13					
		Connected to 4 camera	Color Camera: 10, Monochrome Camera: 10					
	When connected to a 5 million-pixel camera	Connected to 1 camera	Color Camera: 11, Monochrome Camera: 11					
Connected to 2 camera		Color Camera: 5, Monochrome Camera: 5						
I/O specification	Serial communications		RS-232C: 1CH		RS-232C/422: 1 CH			
	Network communications		Ethernet:1000BASE-T/100BASE-TX/10BASE-T		Ethernet:100BASE-TX/10BASE-T			
	Ethernet/IP		Ethernet port baud rate: 100 Mbps (100Base-TX)					
	Parallel I/O		11 inputs (RESET, STEP, DSA, and DI 0 to 7), 26 outputs (RUN, BUSY, GATE, OR, READY, ERROR, STGOUT 0 to 3, and DO 0 to 15)		13 inputs (RESET, STEP0/ENCTRIG_Z0, DSA0, ENCTRIG_A0, ENTRIG_BO, DI 0 to 7, 26 outputs (RUN, BUSY0, GATE0, OR0, READY0, ERROR, STGOUT 0 to 3, and DO 0 to 15) *STGOUT 2 to 3 only for camera 4CH type			
Monitor interface		Analog RGB video output, 1 channel (Resolution: XGA 1,024 × 768 dots)		Controller integrated with LCD: integrated controller and LCD 12.1 inch TFT color LCD (Resolution: XGA 1,024 × 768 dots)				
USB interface		2 CH (supports USB 1.1 and 2.0)		4 CH (supports USB 1.1 and 2.0)				
Ratings	Power supply voltage (See note 2)		20.4 to 26.4 VDC					
	Current consumption (See note 3) (at 24 VDC)	With intelligent Compact Camera						
		When connected to a intelligent or autofocus camera	4.0 A max.	5.5 A max.	5.0 A max.	7.5 A max.	5.0 A max.	7.5 A max.
		When connected to a 300,000-pixel camera						
		When connected to a 2 million-pixel camera	2.6 A max.	2.9 A max.	3.7 A max.	4.9 A max.	3.7 A max.	4.9 A max.
	When connected to a 5 million-pixel camera							

Model	NPN	FZ4-L350	FZ4-L350-10	FZ4-600	FZ4-600-10	FZ4-650	FZ4-650-10
	PNP	FZ4-L355	FZ4-L355-10	FZ4-605	FZ4-605-10	FZ4-655	FZ4-655-10
Environmental immunity	Ambient temperature range		Operating: 0 to 50°C Storage: -25 to 65°C (with no icing or condensation)		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)		
	Ambient humidity range		Operating and storage: 35% to 85% (with no condensation)				
	Ambient atmosphere		No corrosive gas				
	Degree of protection		IEC 60529 IP20				
Weight		Approx. 1.8 kg		Approx. 3.2 kg	Approx. 3.4 kg	Approx. 1.8 kg	Approx. 1.9 kg

- Note:**
- The number of logged images will vary when connecting multiple Cameras with different models.
  - Do not ground the positive terminal of the 24-VDC power supply to the Lite Controller.  
If the positive terminal is grounded, electrical shock may occur when an SG (0-V) part, such as the case of the Controller or Camera, is touched.
  - 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.

## LCD Monitor

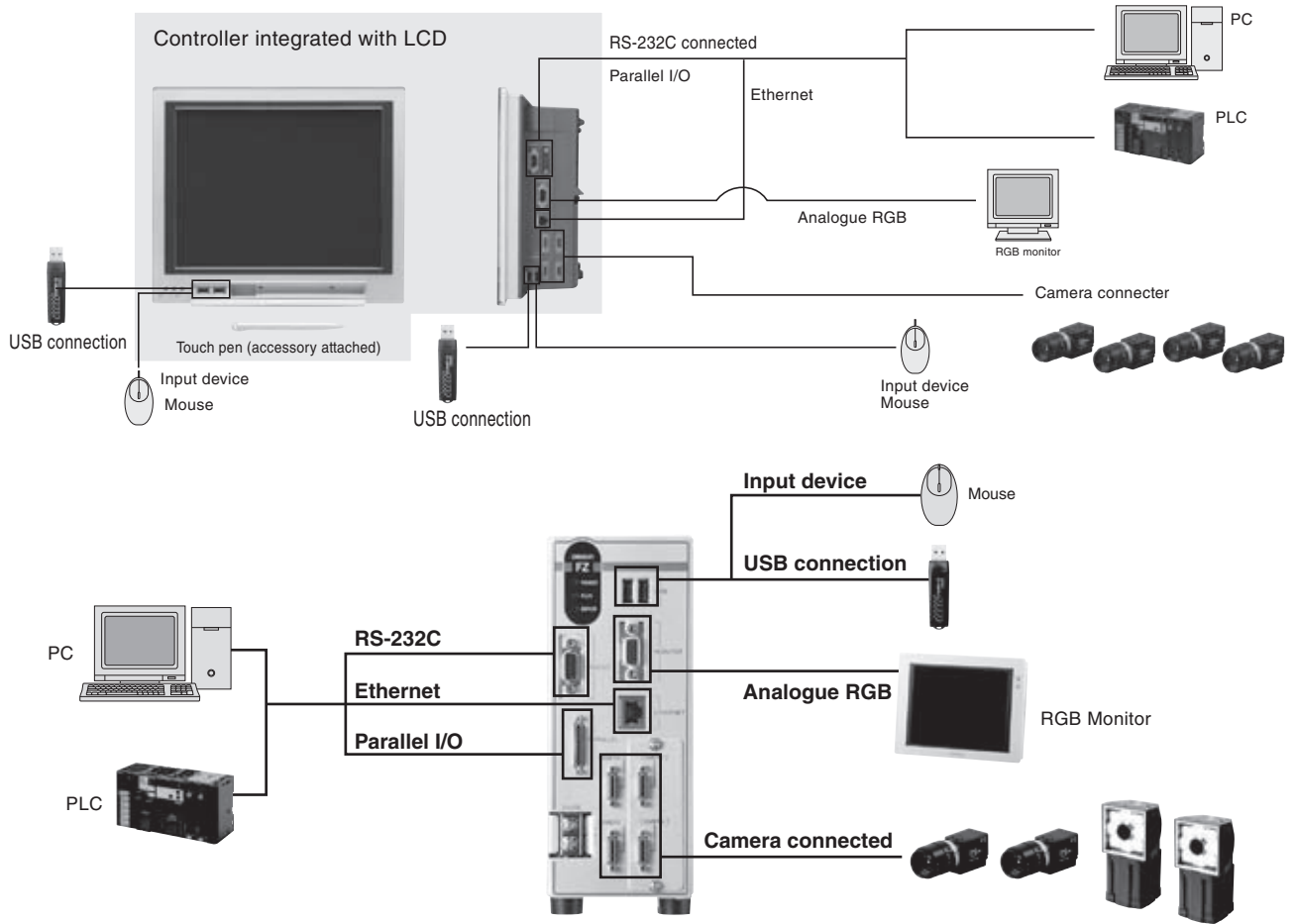
Model	FZ-M08
Size	8.4 inches
Type	Liquid crystal color TFT
Resolution	1,024×768 dots
Input signal	Analog RGB video input, 1 channel
Power supply voltage	21.6 to 26.4 VDC
Current consumption	Approx. 0.7 A max.
Ambient temperature range	Operating: 0 to 50 °C, Storage: -25 to 65 °C (with no icing or condensation)
Ambient humidity range	Operating and storage: 35% to 85% (with no condensation)
Weight	Approx. 1.2 kg
Accessories	Instruction Sheet and 4 mounting brackets

## Monitor Cable

Model	FZ-VM
Vibration resistiveness	10 to 150 Hz single amplitude 0.15 mm 3 directions, 8 strokes, 4 times
Ambient temperature range	Operation: 0 to +50 °C, Storage: -20 to +65 °C (with no icing or condensation)
Ambient humidity range	Operation and storage: 35% to 85%RH (with no condensation)
Ambient atmosphere	No corrosive gases
Material	Cable sheath: heat-resistant PVC Connector: PVC
Minimum bending radius	75 mm
Weight	approx.170 g

## Intelligent Compact Camera

Model	FZ-SQ010F	FZ-SQ050F	FZ-SQ100F	FZ-SQ100N
Field of vision	7.5×4.7 to 13×8.2 mm	13×8.2 to 53×33 mm	53×33 to 240×153 mm	29×18 to 300×191 mm
Installation distance	38 to 60 mm	56 to 215 mm	220 to 970 mm	32 to 380 mm
Image input	Image processing method	Real color		
	Image elements	1/3-inch color CMOS		
	Shutter	1/250 to 1/32258		
	Processing resolution	752 (H) × 480 (V)		
	Partial function	8 to 752 lines		
Lighting	Lighting method	Pulse		
	Lighting color	White		
	LED class	Class 2		
Environmental immunity	Ambient temperature range	Operating: 0 to 50 °C, Storage: -25 to 65 °C (with no icing or condensation)		
	Ambient humidity range	Operating and storage: 35% to 85% (with no condensation)		
	Ambient atmosphere	No corrosive gas		
	Degree of protection	IEC 60529 IP40 (with Polarizing Filter Attachment mounted.)		
Materials	Camera: PBT, PC, SUS Mounting Bracket: PBT Polarizing Filter Attachment: PBT, PC			
Weight	Approx. 160 g		Approx. 150 g	
Accessories	<ul style="list-style-type: none"> <li>Mounting Bracket (FQ-XL) (1)</li> <li>Polarizing Filter Attachment (FQ-XF1) (1)</li> <li>Instruction Manual</li> <li>Member registration sheet</li> </ul>			

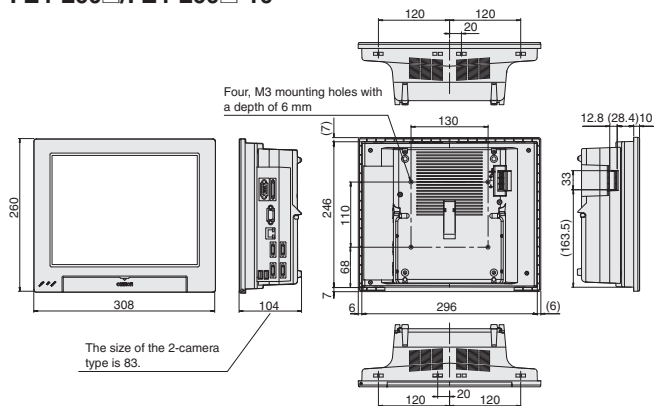


## Dimensions

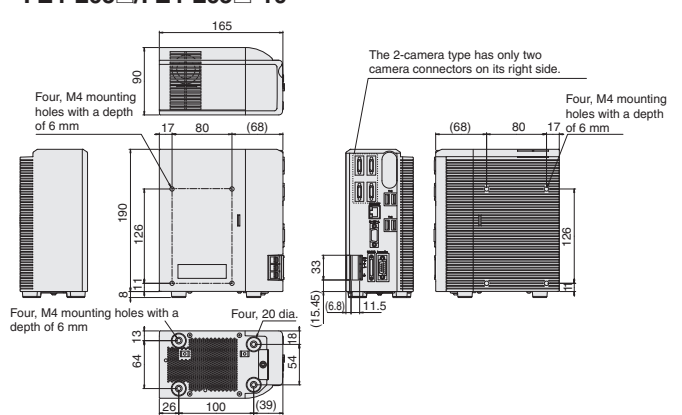
(Unit: mm)

### Controllers

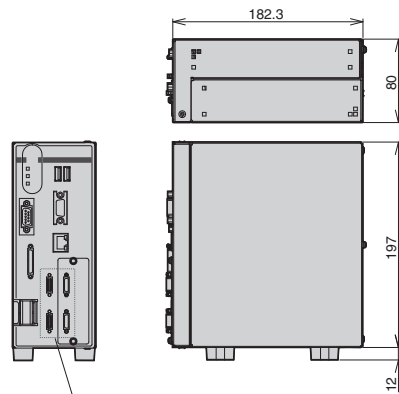
#### LCD integrated type FZ4-L60□/FZ4-L60□-10



#### Box-type FZ4-L65□/FZ4-L65□-10



## FZ4-L35□/FZ4-L35□-10

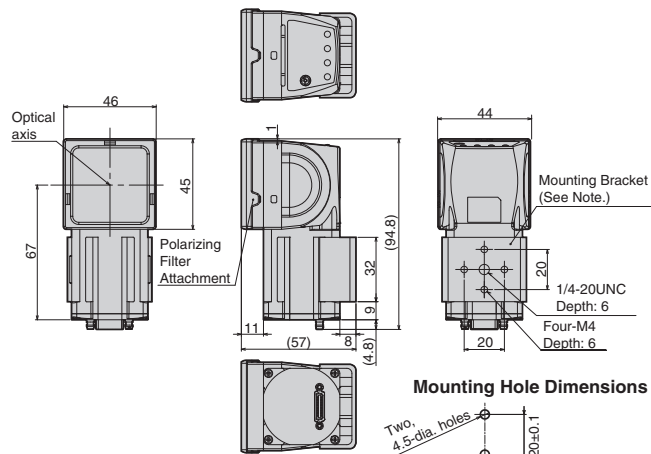


The 2-camera type has only two camera connectors on its left side.

## Intelligent Compact Camera

### Narrow View and Standard

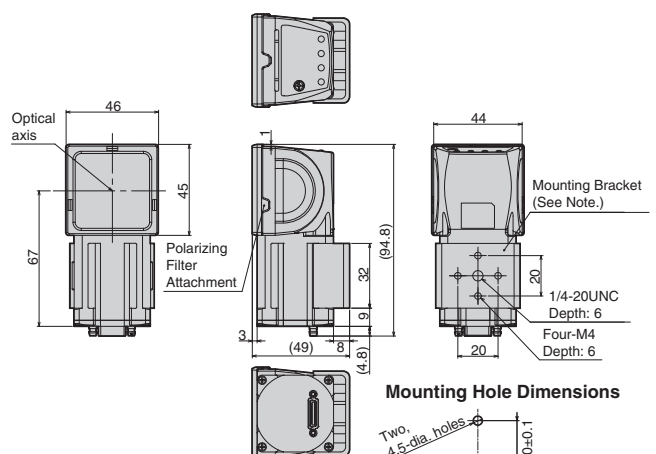
FZ-SQ010F  
FZ-SQ050F



Note. The Mounting Bracket can be mounted to either side. Tightening torque: 1.2 N·m

### Wide View

FZ-SQ100F (Long-distance)  
FZ-SQ100N (Short-distance)



Note. The Mounting Bracket can be mounted to either side. Tightening torque: 1.2 N·m

## LCD Monitor

FZ-M08

