

Product Discontinuation Notices

Vision Sensors

July 2, 2012

No. 2012185E

Discontinuation Smart Sensor ZFX-CD.

Product Discontinuation

Smart Sensor



Model ZFX-C[][]-CD



Recommended Replacement

Fixed Mount Multi Code Reader

Model FQ-CR1[][][][]-M

Vision Sensor

Model FZ4-L35[]

[Discontinuation date]

The 1st of Aug, 2012

[Caution on recommended replacement]

FQ-CR1[]-M is multi code reader but is not vision sensor. FZ4-L35[] is vision sensor and can read 2D code (Datamatrix, QR code) but can not read bar code and 2D code except Datamatrix and QR code.

FQ-CR1[]-M and FZ4-L35[] don't support Maxi code, Aztec code, and Codablock. Please use FZ4-L35[] together with FQ-CR1[]-M when it is used as vision sensor and bar code reader.

Dedicated touch panel (or a dedicated PC tool) and dedicated cables are needed for the operation of FQ-CR1[]-M. Dedicated camera, monitor, USB mouse and dedicated cables are needed for the operation of FZ4-L35[].

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
FQ-CR1[][][][]-M	--	--	--	--	--	-	--
FZ4-L35[]	--	--	--	--	--	-	--

** : Fully compatible

* : The change is a little/Almost compatible

-- : Not compatible

- : No corresponding specification

[Product Discontinuation and recommended replacement]





When used as multi code reader.

Product discontinuation	Recommended replacement	
ZFX-C10-CD	FQ-CR10010F-M	Please select the model suitable for field of view.
	FQ-CR10050F-M	
	FQ-CR10100F-M	
	FQ-CR10100N-M	
ZFX-C15-CD	FQ-CR15010F-M	Please select the model suitable for field of view.
	FQ-CR15050F-M	
	FQ-CR15100F-M	
	FQ-CR15100N-M	
ZFX-C10H-CD	FQ-CR10010F-M	Please select the model suitable for field of view.
	FQ-CR10050F-M	
	FQ-CR10100F-M	
	FQ-CR10100N-M	
ZFX-C15H-CD	FQ-CR15010F-M	Please select the model suitable for field of view.
	FQ-CR15050F-M	
	FQ-CR15100F-M	
	FQ-CR15100N-M	
ZFX-C20-CD	FQ-CR10010F-M	Please select the model suitable for field of view.
	FQ-CR10050F-M	
	FQ-CR10100F-M	
	FQ-CR10100N-M	
ZFX-C25-CD	FQ-CR15010F-M	Please select the model suitable for field of view.
	FQ-CR15050F-M	
	FQ-CR15100F-M	
	FQ-CR15100N-M	

When used as vision sensor and 2D code (Datamatrix and QR code) reader.

Product discontinuation	Recommended replacement
ZFX-C10-CD	FZ4-L350
ZFX-C15-CD	FZ4-L355
ZFX-C10H-CD	FZ4-L350
ZFX-C15H-CD	FZ4-L355
ZFX-C20-CD	FZ4-L350
ZFX-C25-CD	FZ4-L355

[Body color]

<p>Product discontinuation Model ZFX-C□□-CD</p>	<p>Recommendable replacement Model FQ-CR1□□□□□-M, FZ4-L35□</p>
<p>ZFX-C10H-CD, ZFX-C10-CD ZFX-C15H-CD, ZFX-C15-CD</p>  <p>Black</p>	<p>FQ-CR1□□□□□-M</p>  <p>Black</p>
<p>ZFX-C20-CD ZFX-C25-CD</p>  <p>Silver</p>	<p>FZ4-L35□</p>  <p>Silver</p>

[Characteristics]

Here, the performance comparison as vision sensor and code reader is described.

Please refer to the specification column described later about the other characteristics.

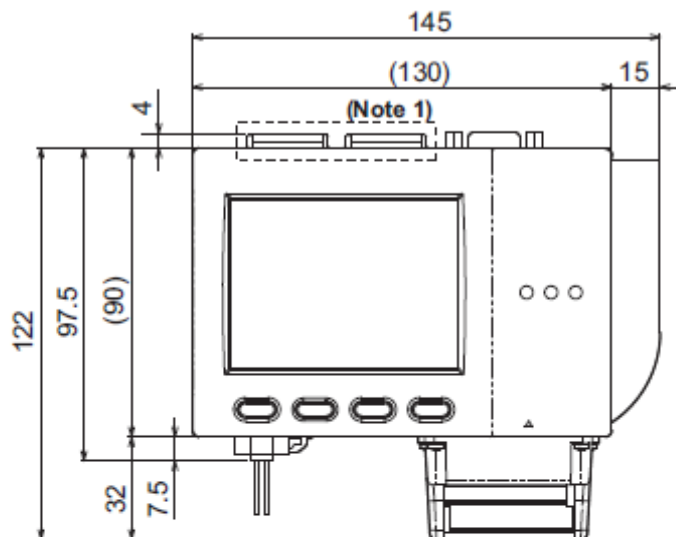
Item		Product discontinuation Model ZFX-C[]-CD	Recommendable replacement Model FQ-CR1[]-M	Recommendable replacement Model FZ4-L35[]
Measurement items	Pattern Search	Support	Not support	Support (Search)
	Graphic Search	Support	Not support	Support (ECM Search/ Shape Search II)
	Flexible Search	Support	Not support	Support
	Sensitive Search	Support	Not support	Support
	Area	Support	Not support	Support (Gravity and Area)
	Labeling	Support	Not support	Support
	Multi Colors	Support	Not support	Support (Gravity and Area)
	Position	Support	Not support	Support (Edge Position/ Scan Edge Position)
	Width	Support	Not support	Support (Scan Edge width)
	Count	Support	Not support	Support (Edge Pitch)
	Angle	Support	Not support	Support (Scan Edge Position)
	Bright	Support	Not support	Support (Color Data)
	HUE	Support	Not support	Support (Color Data)
	Grouping	Support	Not support	Support (Classification)
Defect	Support	Not support	Support	
Code type	Bar code	There is no change		Not support
	2D code	Please refer to the following.		
	DataMatrix(ECC200)	Support	Support	Support
	QR code	Support	Support	Support
	Micro QR code	Support	Support	Not support
	PDF417	Support	Support	Not support
	Micro PDF417	Support	Support	Not support
	Maxi Code	Support	Support	Not support
	Aztec Code	Support	Not support	Not support
Codablock	Support	Not support	Not support	

[Dimensions]

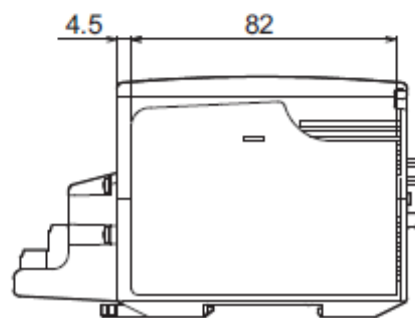
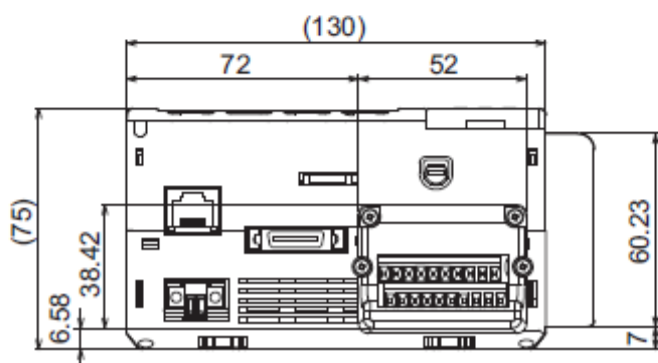
Product discontinuation
Model ZFX-C[]-CD

ZFX-C20-CD, ZFX-C25-CD, ZFX-C10H-CD, ZFX-C15H-CD, ZFX-C10-CD, ZFX-C15-CD

(Unit: mm)



Note 1:
Only connector 1 for camera 1 is provided on the ZFX-C10H/C15H/C10/C15 and ZFX-C10H-CD/C15H-CD/C10-CD/C15-CD.

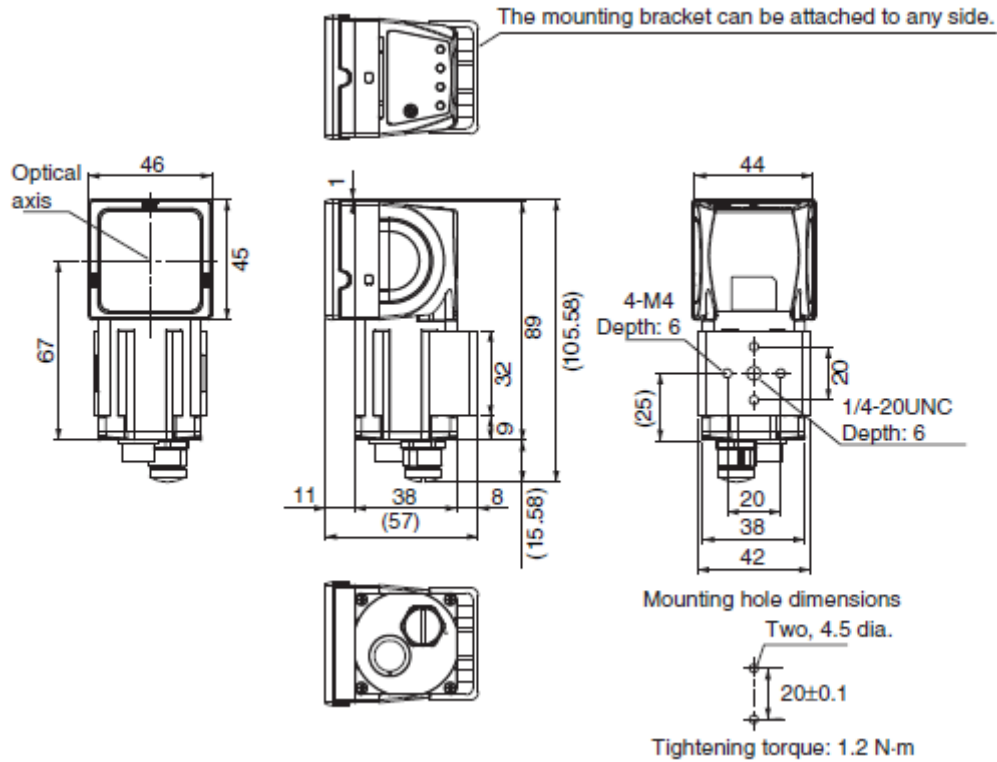


[Dimensions]

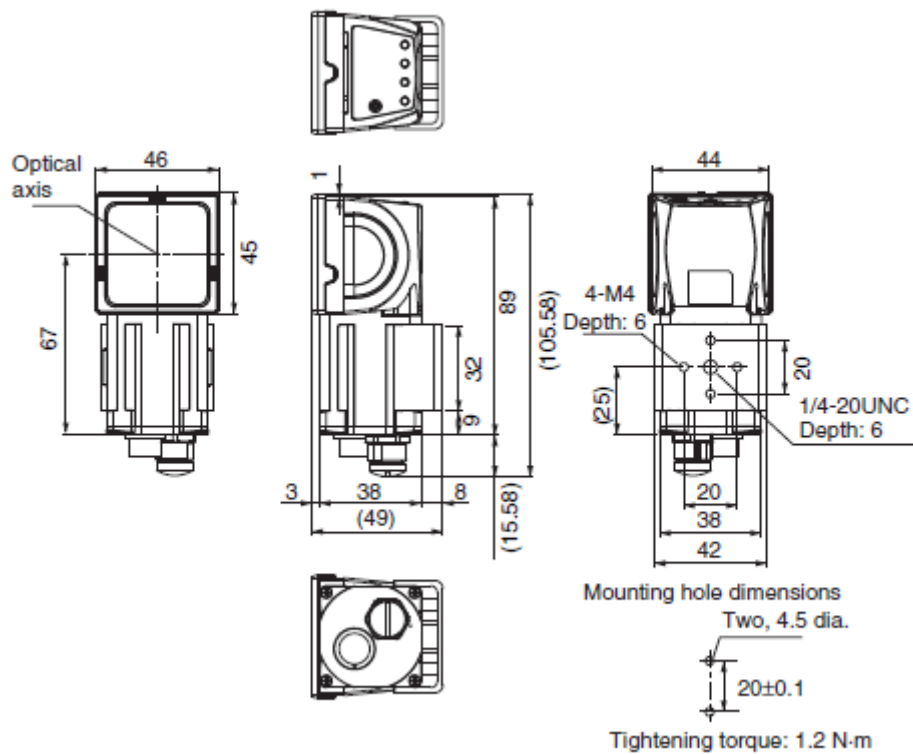
Recommendable replacement
Model FQ-CR1□□□□□-M

FQ-CR10010F-M, FQ-CR10050F-M, FQ-CR15010F-M, FQ-CR15050F-M

(Unit: mm)



FQ-CR10100F-M, FQ-CR10100N-M, FQ-CR15100F-M, FQ-CR15100N-M

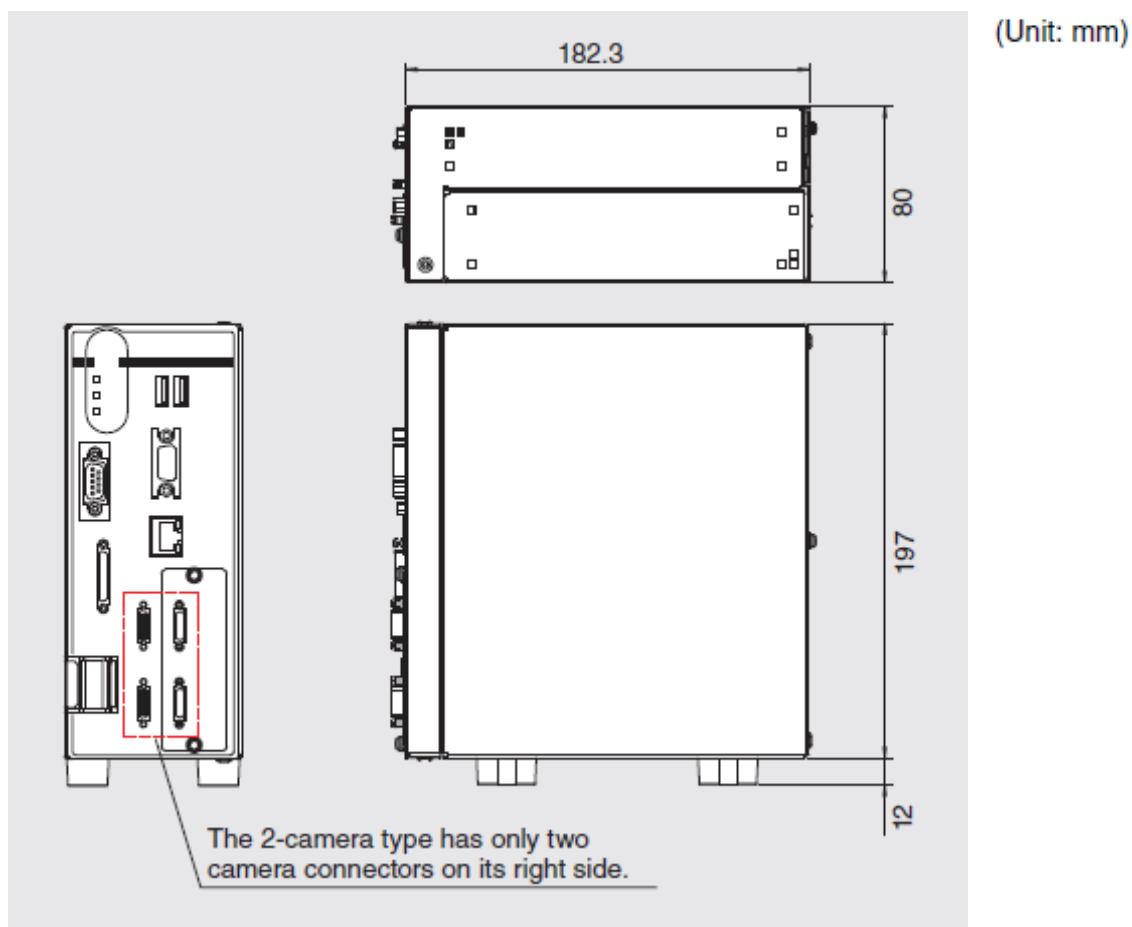


[Dimensions]

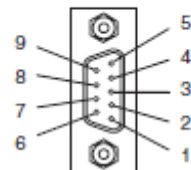
Recommendable replacement
Model FZ4-L35[]

FZ4-L350, FZ4-L355

*FZ4-L350, FZ4-L355 is 2-camera type.



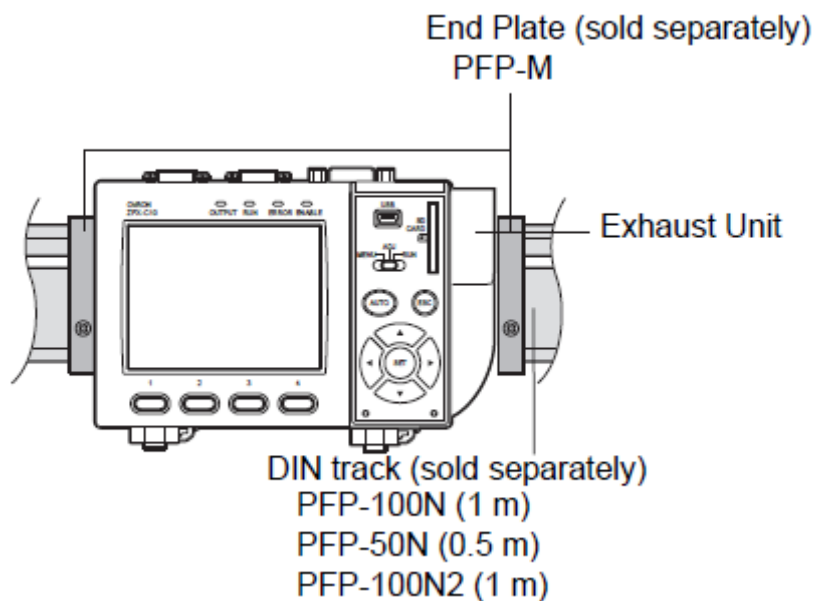
[Wire connection]

Interface	Product discontinuation Model ZFX-C□□-CD	Recommendable replacement Model FQ-CR1□□□□□-M	Recommendable replacement Model FZ4-L35□																																							
Parallel Interface	Connect with the terminal block adapter (ZFX-XTB) or the dedicated parallel I/O cable (Model ZFX-VP). 12 inputs 23 outputs	Connect with the dedicated parallel I/O cable (Model FQ-VD□□□□). 7 inputs 3 outputs	Connect with the dedicated parallel I/O cable (Model FZ-VP). 11 inputs 26 outputs																																							
Serial Interface (USB)	Connect with the USB cable whose one side is MINI-B connector.	Not support	Not support																																							
Serial Interface (RS-232C)	Connect with the dedicated RS-232C cable (ZFX-XPT□□A).	Not support	<p>RS-232C connector is the following.</p> <p>● Connector</p>  <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Signal name</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>NC</td> <td>Not connected</td> </tr> <tr> <td>2</td> <td>SD</td> <td>For RS-232C</td> </tr> <tr> <td>3</td> <td>RD</td> <td>For RS-232C</td> </tr> <tr> <td>4</td> <td>NC</td> <td>Not connected</td> </tr> <tr> <td>5</td> <td>NC</td> <td>Not connected</td> </tr> <tr> <td>6</td> <td>NC</td> <td>Not connected</td> </tr> <tr> <td>7</td> <td>NC</td> <td>Not connected</td> </tr> <tr> <td>8</td> <td>NC</td> <td>Not connected</td> </tr> <tr> <td>9</td> <td>GND</td> <td>Signal ground</td> </tr> </tbody> </table> <p>Use a compatible connector.</p> <p>• Recommended items</p> <table border="1"> <thead> <tr> <th></th> <th>Manufacturer</th> <th>Model</th> </tr> </thead> <tbody> <tr> <td>Plug</td> <td>OMRON Corporation</td> <td>XM3A-0921</td> </tr> <tr> <td>Hood</td> <td>OMRON Corporation</td> <td>XM2S-0911</td> </tr> </tbody> </table>	Pin No.	Signal name	Function	1	NC	Not connected	2	SD	For RS-232C	3	RD	For RS-232C	4	NC	Not connected	5	NC	Not connected	6	NC	Not connected	7	NC	Not connected	8	NC	Not connected	9	GND	Signal ground		Manufacturer	Model	Plug	OMRON Corporation	XM3A-0921	Hood	OMRON Corporation	XM2S-0911
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	Manufacturer	Model																																								
Plug	OMRON Corporation	XM3A-0921																																								
Hood	OMRON Corporation	XM2S-0911																																								
Serial Interface (RS-422)	Connect with the dedicated RS-422 cable (ZFX-XPT□□B).	Not support	Not support																																							
Ethernet	Connect with the Standard RJ45 Ethernet cable.	Connect with the dedicated Ethernet cable (FQ-WN0□□□).	Connect with the Standard RJ45 Ethernet cable.																																							

[Mounting dimensions]

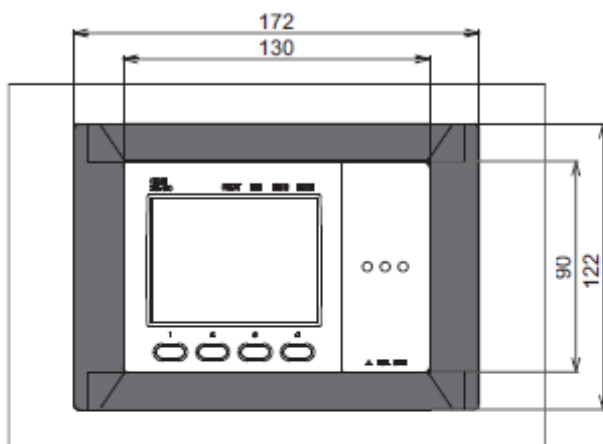
Product discontinuation
Model ZFX-C[]-CD

Installing on the DIN Track

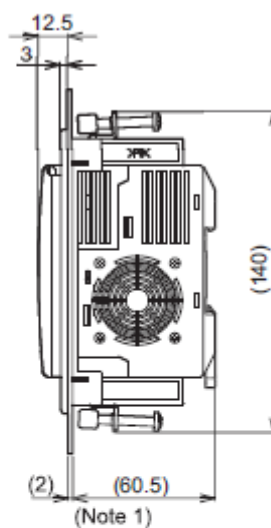
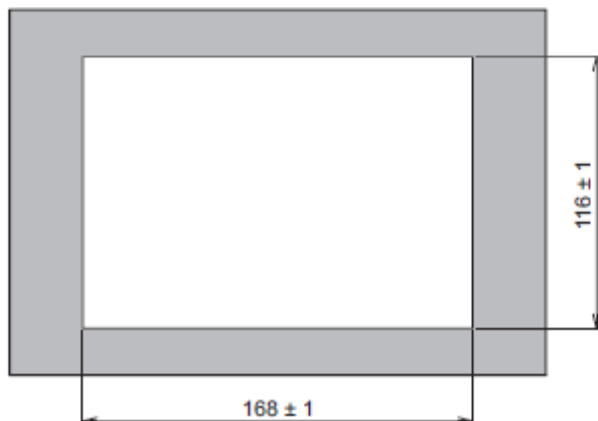


Panel Mount Adapters
ZFX-XPM

(Unit: mm)



Panel cutout dimensions



(Note 1)

Note 1:
Dimensions when the panel thickness is 2.0 mm

[Mounting dimensions]

Recommendable replacement	
Model FQ-CR1□□□□□-M	Model FZ4-L35□
<p>(Unit: mm)</p> <p>4-M4 Depth: 6</p> <p>20</p> <p>1/4-20UNC Depth: 6</p> <p>20</p> <p>38</p> <p>42</p> <p>Mounting hole dimensions Two, 4.5 dia.</p> <p>20±0.1</p> <p>Tightening torque: 1.2 N·m</p>	<p>(Unit: mm)</p> <p>4-M4 DEPTH6.5</p> <p>INSULATION LEG</p> <p>51</p> <p>100</p> <p>59</p> <p>10.5</p> <p>*Fix without removing the insulation leg because neither the ventilation route is closed nor the case are connected with FG.</p>

[Operation methods]

Product discontinuation Model ZFX-C□□-CD	Recommendable replacement	
	Model FQ-CR1□□□□□-M	Model FZ4-L35□
Operates with the touch panel and the keys on ZFX controller. Or operates with the dedicated console (ZFX-KP).	Operates with the dedicated touch panel (FQ-D3□) or the dedicated PC tool (TFforPC).	Operates with the USB mouse.

[Specifications]

Product discontinuation
Model ZFX-C[]-CD

Item		ZFX-C20-CD	ZFX-C25-CD	ZFX-C10H-CD	ZFX-C15H-CD	ZFX-C10-CD	ZFX-C15-CD	
Number of connected cameras		2		1				
Connectable camera		ZFX-SR_/SC_/S/SC						
Processing resolution		When ZFX-SR_/SC_ is connected:464 (H) x464 (V) When ZFX-S/SC is connected:808 (H) x464 (V)						
Display	LCD monitor	3.5" TFT color LCD (320 x 240 pixels)						
	Indicator	"Measuring" indicator (color: green): RUN Trigger indicator (color: blue): ENABLE Judgment indicator (color: orange): OUTPUT Error indicator (color: red): ERROR						
External I/F	Parallel interface	Input	12 points (RESET, DSA, DI0 to 8, TRIG)					
		Output	23 points (OR, ERROR, RUN, ENABLE, GATE, STGOUT0 to 1 ^(*) , DO0 to 15)					
		Circuit type	NPN	PNP	NPN	PNP	NPN	PNP
	Serial interface	USB2.0	1 port, FULL SPEED, MINI-B connector					
		RS-232C	1 port, max. 115200 bps (cannot be used simultaneously with RS-422 interface)					
		RS-422	1 port, max. 115200 bps (cannot be used simultaneously with RS-232C interface)					
	Network communications	Ethernet	1 port, 100BASE-TX/10BASE-T					
	Monitor output	Analog RGB output, 1 ch (resolution VGA: 640 x 480)						
Memory card I/F	SD card slot 1 ch							
Operation I/F		Touch panel, key operation, console connection						
Main functions	Number of registered banks		32 banks					
	Number of setup items		128 items/1 bank				32 items/1 bank	
	Measurement items	Shape inspection	Pattern search, sensitive search, flexible search, graphic search				Pattern search, sensitive search	
		Size inspection	Area, labeling				Area	
		Edge inspection	Position, width, count, angle					
		Brightness/color inspection	Brightness, HUE					
		Application-based inspection	Grouping, Defect, Barcode, 2D code				Defect, Barcode, 2D code	
Position correction		1 model search, 2 model search, position, area, labeling, angle				1 model search, 2 model search, position, area, angle		
Additional functions	Image memory function		Max. 100 images (when 2 cameras are connected, 50 images/camera)					
	Analysis function		Logging monitor				-	
Menu language		Japanese/English (can be switched)						
Ratings	Power supply voltage		21.6 to 26.4 VDC (including ripple)					
	Current consumption		1.5 A max.		1.2 A max.		1.0 A max.	
	Insulation resistance		Across all lead wires and Controller case: 20 MΩ (by 250 V megger)					
	Dielectric strength		Across all lead wires and Controller case, 1000 VAC, 50/60 Hz, 1 min					
Operation environment robustness	Ambient temperature range		Operating: 0 to + 50°C, Storage: -15 to +80°C (with no icing or condensation)					
	Ambient humidity range		Operating and storage: 35% to 85% (with no condensation)					
	Ambient atmosphere		No corrosive gases allowed					
	Degree of protection		IP20 (IEC60529)					
	Vibration resistance (durability)		Vibration frequency: 10 to 150 Hz Single-amplitude: 0.35 mm Acceleration: 50 m/s ² 10 times for 8 minutes in X, Y, and Z directions					
	Shock resistance (destructive)		150 m/s ² 3 times each in 6 directions (up/down, left/right, forward/backward)					
Material		Case: Polycarbonate (PC), Plate face: PMMA						
Weight		Approx. 650 g				Approx. 620 g		
Accessories		Touch pen (ZFX-TP), Exhaust unit (ZFX-EU), Terminal block adapter (ZFX-XTB), Terminal block adapter mounting screws (4 p'ces), Ferrite core (2 p'ces), Instruction Sheet, Power connector						

*1: Only STGOUT0 is functional on the ZFX-C1_H-CD/C1_-CD.

[Specifications]

Recommendable replacement
Model FQ-CR1□□□□□-M

Item		Description
Model	NPN	FQ-CR10□□□□□-M
	PNP	FQ-CR15□□□□□-M
Field of view		Refer to Table 1.
Installation distance		Refer to Table 1.
Minimum resolution		FQ-CR1□010F-M: 0.040mm FQ-CR1□050F-M: 0.070mm FQ-CR1□100F-M: 0.282mm FQ-CR1□100N-M: 0.155mm *minimum cell size of 2D code in minimum field of view.
Main functions	Inspection items	Bar code, 2D-code
	Number of simultaneous measurements	32
	Position compensation	Supported
	Number of registered scenes	32
Image input	Image processing method	Real color
	Image filter	High dynamic range (HDR), polarizing filter (attachment)
	Image elements	
	Shutter	1/250 to 1/30,000
	Processing resolution	752 × 480
Lighting	Lighting method	Pulse
	Lighting color	White
Data logging	Measurement data	In Sensor: 1,000 items (If a Touch Finder is used, results can be saved up to the capacity of an SD card.)
	Images	In Sensor: 20 images (If a Touch Finder is used, images can be saved up to the capacity of an SD card.)
Auxiliary function		Math (arithmetic, calculation functions, trigonometric functions, and logic functions)
Measurement trigger		External trigger (single or continuous)
I/O specifications	Input signals	7 signals • Single measurement input (TRIG) • Control command input (IN0 to IN5)
	Output signals	3 signals • Control output (BUSY) • Overall judgement output (OR) • Error output (ERROR) Note: The three output signals can be allocated for the judgements of individual inspection items.
	Ethernet specifications	100Base-TX/10Base-T Numerical outputs and control commands are supported with no-protocol communications.
	Input specifications	Refer to Table 2.
	Output specifications	
	Connection method	Special connector cables Power supply and I/O: 1 cable (FQ-WD□□□□) Touch Finder and computer: 1 cable (FQ-WN□□□□)

[Specifications]

Recommendable replacement
Model FQ-CR1□□□□□-M

Item	Description	
Indications	Judgement results indicator (color: orange), ERROR indicator (color: red), and BUSY indicator (color: green)	
Ratings	Power supply voltage	20.4 to 26.4 VDC (including ripple)
	Insulation resistance	Between all lead wires and case: 0.5 MΩ (at 250 V)
	Current consumption	2.4 A max.
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
	Vibration resistance (destruction)	10 to 150 Hz, single amplitude: 0.35 mm, X/Y/Z directions 8 min each, 10 times
	Shock resistance (destruction)	150 m/s ² 3 times each in 6 direction (up, down, right, left, forward, and backward)
	Degree of protection	IEC 60529 IP67 (Except when Polarizing Filter Attachment is mounted.)
Materials	Sensor: PBT, PC, SUS Mounting Bracket: PBT Polarizing Filter Attachment: PBT, PC Ethernet connector: Oil-resistance vinyl compound I/O connector: Lead-free heat-resistant PVC	
Weight	Depends on field of view and installation distance. Refer to Table 1.	
Accessories	Mounting Bracket (FQ-XL)(1) Polarizing Filter Attachment (FQ-XF1) (1) Instruction Manual Quick Startup Guide Member Registration Sheet Warning Label	
LED class ^{*2}	Class 2	

Table 1

NPN	PNP	Field of view (H×V) *1	Installation distance	Number of LEDs	Weight
FQ-CR10010F-M	FQ-CR15010F-M	7.5 × 4.7 to 13 × 8.2 mm	38 to 57 mm	4	200 g max.
FQ-CR10050F-M	FQ-CR15050F-M	13 × 8.2 to 53 × 33 mm	56 to 215 mm	4	
FQ-CR10100F-M	FQ-CR15100F-M	53 × 33 to 240 × 153 mm	220 to 970 mm	8	
FQ-CR10100N-M	FQ-CR15100N-M	29 × 18 to 300 × 191 mm	32 to 380 mm	8	

*1: Tolerance: ±10% max.

*2: Applicable standards: JIS C 6802:2005

Table 2

Item	NPN	PNP
Input specifications	ON: Shorted to 0 V, or 1.5 V max. OFF: Open (leakage current: 0.1 mA max.)	ON: Shorted to power supply voltage, or power supply voltage -1.5 V max. OFF: Open (leakage current: 0.1 mA max.)
Output specifications	NPN open collector 30 VDC, 50 mA max., residual voltage: 1.2 V max.	PNP open collector 30 VDC, 50 mA max., residual voltage: 1.2 V max.

[Specifications]

Recommendable replacement
Model FZ4-L35[]

FZ4 series Lite Controllers

Model		NPN Output	FZ4-L350	FZ4-L350-10
		PNP Output	FZ4-L355	FZ4-L355-10
Controller type		Box-type controllers		
High-grade Processing items		No		
No. of Cameras		2	4	
Connected Camera		Can be connected to all cameras. (When connecting 5 million-pixel cameras, up to two cameras can be connected.)		
Processing resolution	When connected to a intelligent compact camera	752(H)×480(V)		
	When connected to a 300,000-pixel camera	640(H)×480(V)		
	When connected to a 2 million-pixel camera	1600(H)×1200(V)		
	When connected to a 5 million-pixel camera	2448(H)×2044(V)		
No. of scenes		32		
Number of logged images (See note 1.)	When connected to a intelligent compact camera	Connected to 1 camera	214	
		Connected to 2 cameras	107	
		Connected to 3 cameras	71	
		Connected to 4 cameras	53	
	When connected to a 300,000-pixel camera	Connected to 1 camera	Color camera: 250, Monochrome Camera: 252	
		Connected to 2 cameras	Color camera: 125, Monochrome Camera: 126	
		Connected to 3 cameras	Color camera: 83, Monochrome Camera: 84	
		Connected to 4 cameras	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 cameras	Color camera: 20, Monochrome Camera: 20	
		Connected to 3 cameras	Color camera: 13, Monochrome Camera: 13	
		Connected to 4 cameras	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 cameras	Color camera: 5, Monochrome Camera: 5	
		Connected to 3 cameras	-	
		Connected to 4 cameras	-	
Operation		Mouse or similar device		
Settings		Create series of processing steps by editing the flowchart (Help messages provided).		
Serial communications		RS-232C: 1 CH		
Network communications		Ethernet 1000BASE-T/100BASE-TX/10BASE-T		
EtherNet/IP communications		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) *STGOUT 2 to 3 only for camera 4 ch type		
Monitor interface		Analog RGB video output, 1 channel (Resolution: XGA 1,024 × 768 dots)		
USB interface		2 channels (supports USB 1.1 and 2.0)		
Power supply voltage (See note 2.)		20.4 to 26.4 VDC		
Current consumption (at 24.0 VDC) (See note 3.)	When connected to a intelligent compact camera	4.0 A max.	5.5 A max.	
	When connected to a intelligent or autofocus camera			
	When connected to a 300,000-pixel camera			
	When connected to a 2 million-pixel camera	2.6 A max.	2.9 A max.	
		When connected to a 5 million-pixel camera		
Ambient temperature range		Operating: 0 to 45°C, 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)		
Weight		Approx. 1.8 kg		
Accessories		Instruction Manual		

- Note 1: The image logging capacity changes when multiple cameras of different types are connected at the same time.
 2: Do not ground the positive terminal of the 24-VDC power supply to a 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.
 3: 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.

As of July, 2012

In the interest of product improvement, specifications are subject to change without notice.