CSM_FQ-CR_DS_E_1_1

CE

Read Barcodes or 2D Codes from everything from paper labels to metal, plastic, or glass surfaces.

- Read direct markings.
- Stably read codes from moving objects over a wide field of view.
- Optimum settings in only three steps.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

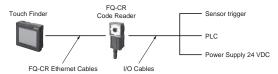


Be sure to read "Safety Precautions" on page 5.

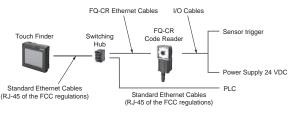
System Configuration

Connections for One Code Reader

Control by parallel input/output

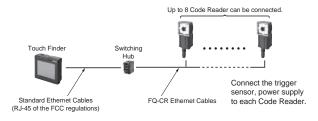


Control by Ethernet

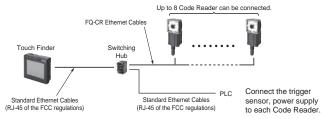


Connections for Multiple Code Reader

Control by parallel input/output



Control by Ethernet



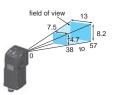
Note: If you register as a member after purchasing a Code Reader, you can download the free set-up software that runs on a PC and can be used in place of the Touch Finder. Refer to the member registration sheet for details.

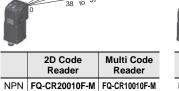
Ordering Information

Code Reader

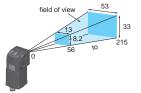
Narrow View

Standard





PNP FQ-CR25010F-M FQ-CR15010F-M



	2D Code Reader	Multi Code Reader
NPN	FQ-CR20050F-M	FQ-CR10050F-M
PNP	FQ-CR25050F-M	FQ-CR15050F-M

Note: Tolerance (field of view): ±10% max.

Wide View (Long-distance)

	2D Code Reader	Multi Code Reader
NPN	FQ-CR20100F-M	FQ-CR10100F-M
PNP	FQ-CR25100F-M	FQ-CR15100F-M

(Unit: mm) (Short-distance)

	2D Code Reader	Multi Code Reader
NPN	FQ-CR20100N-M	FQ-CR10100N-M
PNP	FQ-CR25100N-M	FQ-CR15100N-M

Touch Finder

Туре	Model
DC power supply	FQ2-D30
AC/DC/battery	FQ2-D31 (See note.)

Note: AC Adapter and Battery are sold separately.

Cables (Robot cable)

Туре	Cable length	Model
FQ Ethernet Cables	2 m	FQ-WN002
(connect Code Reader to Touch	10 m	FQ-WN010
Finder, Code Reader to PC)	20 m	FQ-WN020
	2 m	FQ-WD002
I/O Cables	10 m	FQ-WD010
	20 m	FQ-WD020

Industrial Switching Hubs (Recommended)

Appearance	Number of ports	Failure detection	Current consumption	Model
AAR	3	None	0.22 A	W4S1-03B
30	5	None	0.22 A	W4S1-05B
STE .	3	Supported	0.22 A	W4S1-05C

Accessories

Application	Appearance	Name	Model
		Mounting Bracket (enclosed with Code Reader)	FQ-XL
For Code Reader		Mounting Bracket for highprecision sensing* (sold separately)	FQ-XL2
		Polarizing Filter Attachment (enclosed with Code Reader)	FQ-XF1
		Panel Mounting Adapter	FQ-XPM
	188	AC Adapter (for models for DC/AC/Battery)	FQ-AC1
For Touch		Battery (for models for DC/AC/Battery)	FQ-BAT1
Finder		Touch Pen (enclosed with Touch Finder)	FQ-XT
		Strap	FQ-XH
	5> 208	SD Card (2 GB)	HMC-SD291

^{*}A mounting Bracket with improved resistance to vibrations and other external stresses that cause displacement of the optical axis and field of view.

Ratings and Performance

Code Reader

Item	Туре	2D Code Reader	Multi Code Reader				
Madel	NPN	FQ-CR20□□□-M	FQ-CR10□□□-M				
Model PNP		FQ-CR25□□□-M	FQ-CR15□□□-M				
Field of view		Poter to the table below					
Installation dist	ance	Refer to the table below.					
Minimum resolu	ution	FQ-CR2 010F-M/-CR1 010F-M: 0.040 mm FQ-CFQ-CR2 100F-M/-CR1 100F-M: 0.282 mm FQ-C					
			2D Code (DataMatrix (EC200), QR Code, MicroQR Code, PDF417, MicroPDF417, GS1-DataMatrix)				
Main functions	Code	2D Code (DataMatrix (EC200), QR Code)	Bar code (JAN/EAN/UPC, Code39, Codabar (NW-7), ITF (Interleaved 2 of 5), Code 93, Code128/GS1-128, GS1 DataBar (Truncated, Stacked, Omni-directional, Stacked Omni-directional, Limited, Expanded and Expanded Stacked), Pharmacode and GS1-128 Composite Code (CC-A, CC-B, CC-C))				
	Image filter	Filter function (Smooth, Dilate, Erosion,Median), Retry function, Code Error Correction Position Display	None				
	Verification function	None	Supported				
	Number of simultaneous inspections	32					
	Number of registered scenes	32					
	Image filter	High dynamic range (HDR), polarizing filter (attachr	nent)				
	Image elements	1/3-inch monochrome CMOS					
Image input	Shutter	1/250 to 1/32,258 1/250 to 1/30,000					
	Processing resolution	752 × 480					
Lighting method		Pulse					
Lighting	Lighting color	White					
	Measurement data	In Code Reader:1,000 items (If a Touch Finder is used, results can be saved up to the capacity of an SD card					
Data logging	Images	In Code Reader:20 images (If a Touch Finder is used, images can be saved up to the capacity of an SD card.					
Measurement trigger		External trigger (single or continuous), Communications trigger (Ethernet TCP no-protocol)					
Input signals		7 signals • Single measurement input (TRIG) • Control command inputs (IN0 to IN5)	33. () () () () () () () ()				
I/O specifications	Output signals	3 signals					
	Ethernet specification	100BASE-TX/10BASE-T					
	Communications	Ethernet TCP no-protocol					
Detings	Power supply voltage	21.6 to 26.4 VDC (including ripple)					
Ratings	Current consumption	2.4 A max.					
	Ambient temperature range	Operating: 0 to 50°C Storage: -25 to 65°C (with no icing or condensation)					
Environmental immunity	Ambient humidity range	Operating and storage: 35% to 85% (with no conde	nsation)				
y	Ambient atmosphere	No corrosive gas	,				
	Degree of protection	IEC 60529 IP67 (Except when Polarizing Filter Atta	chment is mounted.)				
Materials		Code Reader: 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					
Accessories		Mounting Bracket (FQ-XL) (1) Polarizing Filter Attachment (FQ-XF1) (1) Instruction Manual	 Quick Startup Guide Member registration sheet Warning Label				
LED class		Class 2 (Applicable standards: IEC 60825-1:1993 +A' EN 60825-1:1994 +A1:2002 +A2:2001, and JIS C 680					
Applicable stan	dards	EN 61326-1:2006 and IEC 61010-1					

2D Code	2D Code Reader Multi Code Reader		Field of view			
NPN	PNP	NPN	PNP	(See note 2.) (Horizontal × Vertical)	Installation distance	Weight
FQ-CR20010F-M	FQ-CR25010F-M	FQ-CR10010F-M	FQ-CR15010F-M	7.5×4.7 to 13×8.2 mm	38 to 57 mm	
FQ-CR20050F-M	FQ-CR25050F-M	FQ-CR10050F-M	FQ-CR15050F-M	13×8.2 to 53×33 mm	56 to 215 mm	200 a may
FQ-CR20100F-M	FQ-CR25100F-M	FQ-CR10100F-M	FQ-CR15100F-M	53 × 33 to 240 × 153 mm	Long-distance model: 220 to 970 mm	200 g max.
FQ-CR20100N-M	FQ-CR25100N-M	FQ-CR10100N-M	FQ-CR15100N-M	29 × 18 to 300 × 191 mm	Short-distance model: 32 to 380 mm	

Note: 1. Applicable standards: JIS C 6802:2005
2. Tolerance: ±10% max.

Touch Finder

	Туре		Model with DC power supply	Model with AC/DC/battery power supply	
Item	Model		FQ2-D30	FQ2-D31	
Number of connectable Sensor		sor	Number of sensors that can be recognized (switched): 32 max. number or sensor that can displayed on monitor: 8 max.		
Types of measurement displays		neasurement displays	Last result display, Last NG display, trend monitor, h	nistograms	
Main functions	Types of d	isplay images	Through, frozen, zoom-in, and zoom-out images		
Wall fullctions	Data loggir	ng	Measurement results, measured images		
	Menu lang	uage	English, German, French, Italian, Spanish, Tradition	al Chinese, Simplified Chinese, Korean, Japanese	
		Display device	3.5-inch TFT color LCD		
	LCD	Pixels	320 × 240		
Indications		Display colors	16.7 million		
mulcutions		Life expectancy *1	50,000 hours at 25°C		
	Backlight	Brightness adjustment	Provided		
		Screen saver	Provided		
Operation	Touch	Method	Resistance film		
interface	screen	Life expectancy *2	1,000,000 touch operations		
External	Ethernet	,	100BASE-TX/10BASE-T		
interface	SD card		SDHC-compliant, Class 4 or higher recommended		
Ratings	Power supply voltage		DC power connection:21.6 to 26.4 VDC (including ripple)	DC power connection: 21.6 to 26.4 VDC (including ripple) AC adapter (manufactured by Sino-American Japan Co., Ltd) connection: 100 to 240 VAC, 50/60 Hz Battery connection: FQ-BAT1 Battery (1cell, 3.7 V)	
	Continuou	s operation on Battery *3		1.5 h	
	Power con	sumption	DC power connection: 0.2 A max.	DC power connection: 0.2 A max. Charging battery: 0.4 A max.	
	Ambient temperature range		Operating: 0 to 50°C Storage: -25 to 65°C (with no icing or condensation)	Operating: 0 to 50°C when mounted to DIN Track or panel Operation on Battery: 0 to 40°C Storage: -25 to 65°C (with no icing or condensation)	
Environmental	Ambient h	umidity range	Operating and storage: 35% to 85% (with no conder	nsation)	
immunity	Ambient at	mosphere	No corrosive gas		
	Vibration r	esistance (destruction)	10 to 150 Hz, single amplitude: 0.35 mm, X/Y/Z directions 8 min each, 10 times		
	Shock resi	stance (destruction)	150 m/s ² 3 times each in 6 direction (up, down, right, left, forward, and backward)		
	Degree of protection		IEC 60529 IP20 (when SD card cover, connector cap, or harness is attached)		
Weight	,		Approx. 270 g (without Battery and hand strap attack	ned)	
Materials			Case: ABS		
Accessories inc	luded with 1	Touch Finder	Touch Pen (FQ-XT), Instruction Manual		

^{*1} This is a guideline for the time required for the brightness to diminish to half the initial brightness at room temperature and humidity. The life of the backlight is greatly affected by the ambient temperature and humidity and will be shorter at lower or higher temperatures.
*2 This value is only a guideline. No guarantee is implied. The value will be affected by operating conditions.
*3 This value is only a guideline. No guarantee is implied. The value will be affected by the operating environment and operating conditions.

Battery

Item Model	FQ-BAT1
Battery type	Secondary lithium ion battery
Nominal capacity	1,800 mAh
Rated voltage	3.7 V
Ambient temperature range	Operating: 0 to 40°C Storage: -25 to 65°C (with no icing or condensation)
Ambient humidity range	Operating and storage: 35% to 85% (with no condensation)
Charging method	Charged in Touch Finder (FQ2-D31). AC adapter (FQ-AC□) is required.
Charging time *1	2 h
Usage time *1	1.5 h
Battery backup life (See note 2.)	300 charging cycles
Weight	50 g max.

- *1 This value is only a guideline. No guarantee is implied. The value will be affected by operating conditions
- *2 This is a guideline for the time required for the capacity of the Battery to be reduced to 60% of the initial capacity. No guarantee is implied. The value will be affected by the operating environment and operating conditions.

System Requirements for PC tool for FQ

The following Personal Computer system is required to use the software.

os	Microsoft Windows XP Home Edition/Professional SP2 or higher (32-bit version) Microsoft Windows 7 Home Premium or higher (32-bit/64-bit version)
CPU	Core 2 Duo 1.06 GHz or the equivalent or higher
RAM	1GB min.
HDD	500 MB min. available space *
Monitor	1,024 × 768 dots min.

* Available space is also required separately for data logging.

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Safety Precautions



This product is not designed or rated for ensuring safety of persons either directly or indirectly.



Do not use it for such purposes.

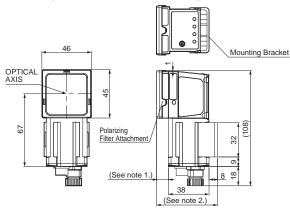
- For details, including precautions for correct use, refer to the "FQ-CR1-M Fixed Mount Multi Code Reader User's manual" (Cat. No. Z329) and "FQ-CR2 Fixed Mount 2D Code Reader User's manual" (Cat. No. Z316) on your OMRON website.
- For technical information and product FAQs, refer to the "Technical Guide" at your OMRON website.

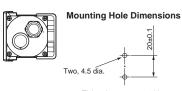
Dimensions (Unit: mm)

Code Reader

FQ-CR

Mounting with the FQ-XL Mounting Bracket



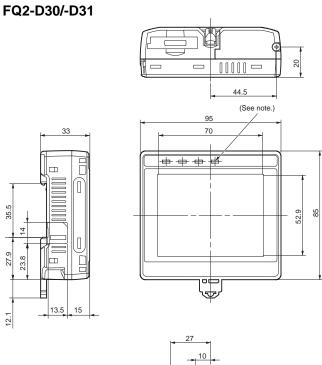


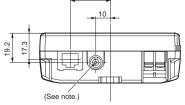
Tightening torque: 1.2 N⋅m

* Dimentions with the FQ-XL Mounting Bracket

Туре	Model	Note 1.	Note 2.
Narrow View, Standard	FQ-CR1 010F-M/-CR2 010F-M/-CR1 050F-M/-CR2 050F-M	11	57
Wide View	FQ-CR1 100F-M/-CR2 0100F-M/-CR1 100N-M/-CR2 100N-M	3	49

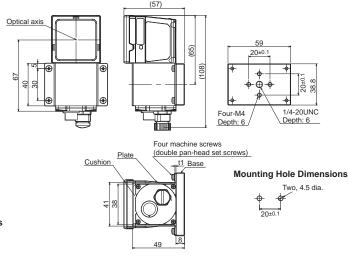
Touch Finder



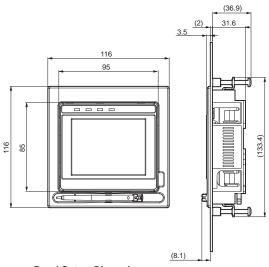


Note: Provided with FQ2-D31 only.

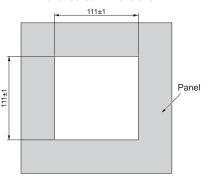
Mounting with the FQ-XL2 Mounting Bracket



Panel Mounting Adapter



Panel Cutout Dimensions



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- and (ii) Buyer has no past due amounts.

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 d. Delivery and shipping dates are estimates only; and
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- Suitability of Use. Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request. Omron will provide application of use of the Product. At Buyer's lequest, omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:

 (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.

 (ii) Use in consumer products or any use in significant quantities.

 (iii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject and industrial consumers and consumers are consumers and status of the consumers and consumers.
 - ment, and installations subject to separate industry or government regulations. (iv) Systems, machines and equipment that could present a risk to life or prop erty. Please know and observe all prohibitions of use applicable to this Prod-
 - NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO

- ADDRESS THE RISKS, AND THAT THE OMRON'S PRODUCT IS PROP-ERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
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- to confirm actual specifications of purchased Product.

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