

# OMRON

## Model **F150-SL20/SL50/S1**

### SHUTTER CAMERA FOR VISUAL INSPECTION SYSTEM

## INSTRUCTION SHEET

Thank you for selecting OMRON product. This sheet primarily describes precautions required in installing and operating the product. Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product.

For your convenience, keep the sheet at your disposal.

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### NOTICE

(1) Connecting and disconnecting the cables.

Be sure to turn off the power before connecting or disconnecting the cables.

(2) When installing the camera:

The camera housing has a connection to the 0V line of the internal circuitry. To avoid noises, keep the following points in mind.

- ① Do not ground the camera itself.
- ② Do not remove the camera mount (insulating plate) from the camera.
- ③ Do not remove the core from the F1500-VS camera cable (sold separately).

The F150-SL20/SL50/S1 shutter camera are specifically designed for the F150 image recognition unit.

(1) F150-S1

Camera proper

(2) F150-SL20/SL50

Camera with lighting

The F150-S1 camera is equipped with specific lens and lighting.

### Specifications

#### ● General Specifications

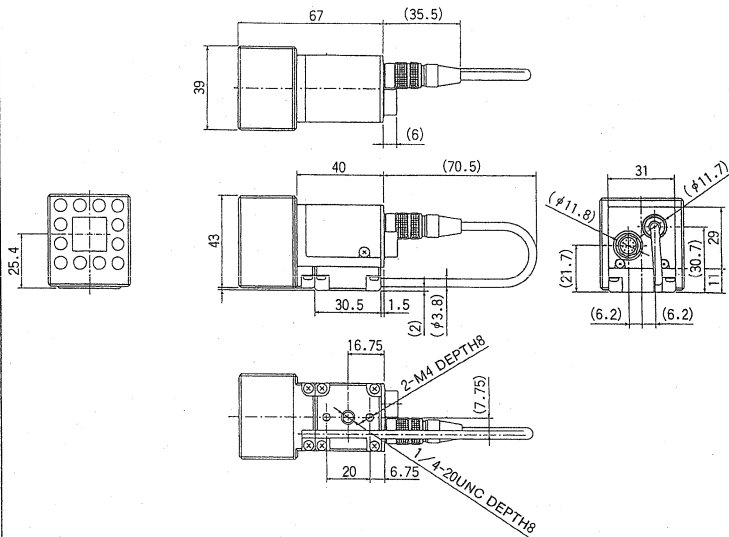
Item	F150-SL20	F150-SL50	F150-S1
Power	12VDC 0.16A (10~15VDC ripple voltage : 1Vp-p max)		
Ambient operating temperature	0°C to 50°C		
Ambient operating humidity	35 to 85%RH (no condensation)		
Light emitting conditions	Light emitting duration : 450 μs Light emitting intervals : 60Hz	—	
Wavelength	680nm	—	

#### ● Performance Specifications

Item	F150-SL20	F150-SL50	F150-S1	
Picture element	1/3" all-pixel reading, inter-line transfer type CCD (B & W)			
Charge storage mode	Field storage (1/60s 2 : 1 Interlace mode) Frame storage (1/30s Non-interlace mode)			
Effective pixels	659 (H) × 494 (V)			
Synchronization	External sync with horizontal sync signal			
External sync input signal	Input level	2 to 5Vp-p Negative polarity		
	Frequency	Horizontal : 15.734kHz		
	Input impedance	75Ω		
Image output	1.0Vp-p Composite video signal, AC coupling output			
Resolution	Horizontal : 485 lines Vertical : 385 lines (1/60s 2 : 1 Interlace mode) 485 lines (1/30s Non-interlace mode)			
S/N ratio	50dB			
Shutter speed	1/100, 1/500, 1/2,000, 1/10,000sec			
Shutter trigger input signal	Entrapment timing	Rising edge		
	Input level	High : 4~5V Low : 0~0.5V		
Shutter mode	V-Reset mode			
Lens specifications	System	fixed focus / fixed Iris	—	
	Brightness	F2.8		
	Visual field	20×20mm	50×50mm	—
	Focal length	13mm	6.1mm	—
	Working distance	61~71mm	66~76mm	—

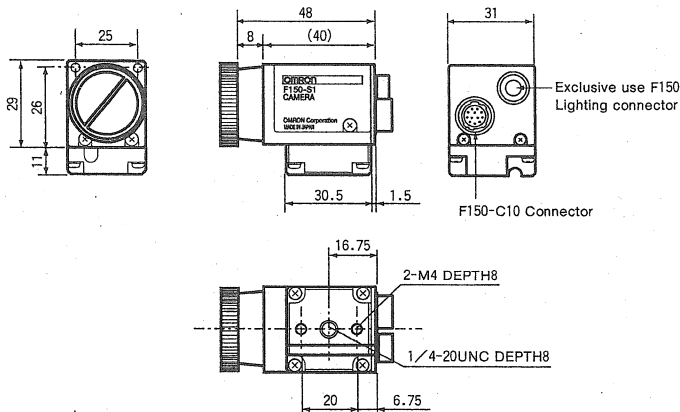
## ■ Dimensions and Mass

### ● F150-SL20/SL50



Mass : approx. 160g

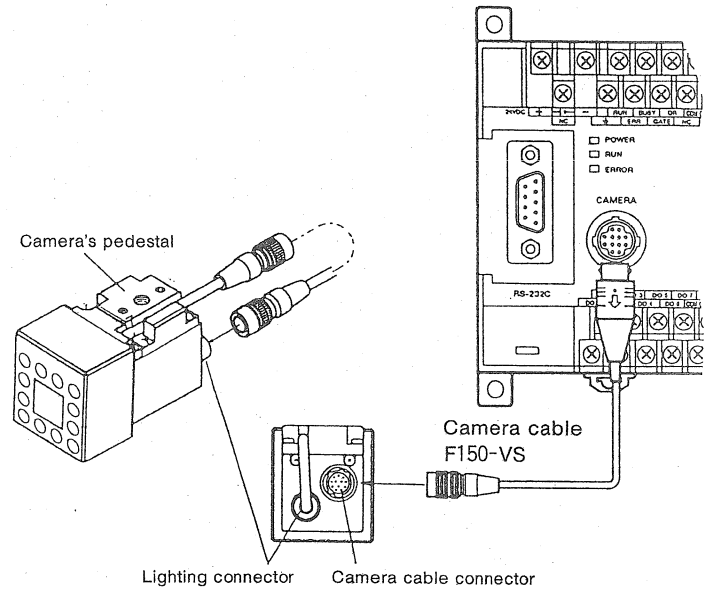
### ● F150-S1



Mass : approx. 80g

## ■ Connecting

- (1) Connect the F150-SL□□'s lighting cable to the lighting connector at the back of the camera.
- (2) Using the F150-VS camera cable (sold separately), make a connection between the camera's cable connector and the F150-C10 controler's camera connector.



## PRECAUTIONS IN USING THE PRODUCT

When the product is used under the circumstances below, ensure adherence to the limitations of the ratings and functions. Also, take countermeasures for safety precautions such as fail-safe installations.

- ① Use under circumstances or environment which are not described in the instruction sheet.
- ② Use for the equipment which require higher level of safety, such as nuclear devices, railroad, aircrafts, vehicles, combustion devices, medical equipment, amusement machinery, safety devices.
- ③ Use for applications where death or serious property damage is possible and extensive safety precautions are required.