OMRON

Network-Ready Vision System Series
F210ETN / F500ETN

Ultimate Power - High Resolution (F500) Network-Ready Vision System

- Two digital cameras ports, high resolution (1K x 1K) with F500ETN
- Advanced real time data logging and storage functions
- 10/100 Base TX Ethernet Port, USB, RS232/422, 33 digital I/O
- Optional VisionComposerNET for remote configuration/ maintenance
- Security tools, audit trail creation in security sensitive environment

Ordering information

Name		Model	Remarks
Controller	Standard Resolution	F210-C10-ETN	NPN Input / Output
		F210-C15-ETN	PNP Input / Output
	High Resolution	F500-C10-ETN	NPN Input / Output
		F500-C15-ETN	PNP Input / Output
Camera	250 K Pixel	F210-S1	For F210ETN only
	1 M Pixel	F500-S1	For F500ETN only
Monitor		F150-M05L	5.5" color TFT LCD
		F500-M10L	10.4" color TFT LCD
Console		F150-KP	Standard Console
		F-160-KP	Console with additional function keys
Memory Cards		F160-N64S(S)	Memory capacity 64 MB
		F160-N256S	Memory capacity 256 MB
PC-Software		F500-CD3E	Optional remote configuration software (via ETN)
Application Software		F500-UM3ME	With macro function
		F500-UM3FE	Without macro function
High precision Lenses		F500-LE16	focal length 16 mm
		F500-LE25	focal length 25 mm
		F500-LE50	focal length 50 mm
Camera cable		F500-VS2	Available lenght 2 m, 5 m, 10 m
Monitor cable		F500-VM	Cable length 2 m
Parallel cable		F160-VP	Loose-wire cable for parallel I/O connectors. Cable length 2 m

Specifications

Controller

Model	F210-C10-ETN / F210-C15-ETN	F500-C10-ETN / F500-C15-ETN
Connected Camera	F210-S1	F500-S1
No. of connectable Cameras	2	2
Processing resolution	512x484 (HxV)	1024x1024 (HxV)
No. of scenes	32 (Can be increased using Memory Cards.)	32 (Can be increased using Memory Cards.)
Image memory function	35 images max.	35 images max.
Storage	64 MB non-volatile memory	256 MB non-volatile memory
Operation and settings	Measurement items installed using Applications Software. Menu operations used to combine measurement items. Vision Composer Net can be used for operation and settings.	Measurement items installed using Applications Software. Menu operations used to combine measurement items. Vision Composer Net can be used for operation and settings.
Menu language	Japanese or English (switchable)	Japanese or English (switchable)
Serial communications	USB series B: 1 channel	USB series B: 1 channel
	RS-232C/422: 1 channel	RS-232C/422: 1 channel
Network communications	Ethernet 100Base-TX/10Base-T	Ethernet 100Base-TX/10Base-T
Parallel I/O	11 inputs, 22 outputs	11 inputs, 22 outputs
Monitor interface	Composite video output: 1 channel, S-VIDEO output: 1 channel	Composite video output: 1 channel, S-VIDEO output: 1 channel
Memory Card interface	Compact Flash card slot, 1 channel	Compact Flash card slot, 1 channel
Power supply voltage	20.4 to 26.4 VDC	20.4 to 26.4 VDC
Current consumption	2.1 A max. (with two F210-S1 Cameras connected)	2.1 A max. (with two F500-S1 Cameras connected)
Ambient temperature	Operating: 0 to +50 °C	Operating: 0 to +50 °C
	Storage: -25 to +65 °C with no icing or condensation	Storage: -25 to +65 °C with no icing or condensation
Ambient humidity	Operating/storage: 35% to 85% with no condensation	Operating/storage: 35% to 85% with no condensation
Dimensions	100x198x134 mm (WxHxD) (without connectors and other protrusions)	100x198x134 mm (WxHxD) (without connectors and other protrusions)
Weight	Approx. 1.6 kg (Controller only)	Approx. 1.6 kg (Controller only)
Accessories	Ferrite core for Console (1) Setup Manual	Ferrite core for Console (1) Setup Manual

Digital Interface Cameras

Model	F210-S1	F500-S1
Imaging device	1/3-inch CCD	2/3-inch CCD
Pixel size	7.4x7.4 µm (HxW)	6.45x6.45µm (HxW)
Shutter	Electronic shutter, 8 shutter speeds (1/60 to 1/12,000 s), changed via menu	Electronic shutter, 10 shutter speeds (1/24 to 1/10,000 s), changed via menu
Partial function	Seven settings	Four settings
Communications interface	Conforms to Camera Link	Conforms to Camera Link
Ambient temperature	Operating: 0 to +50 °C	Operating: 0 to +50 °C
	Storage: -25 to +60 °C with no icing or condensation	Storage: -25 to +60 °C with no icing or condensation
Ambient humidity	Operating/storage: 35% to 85% with no condensation	Operating /storage: 35% to 85% with no condensation
Dimensions	43x43x49 mm (WxHxD) (without connectors and other protrusions)	50x40x90 mm (WxHxD) (without connectors and other protrusions)
Weight	Approx. 110 g	Approx. 270 g
Accessories	Instruction Manual	Instruction Manual
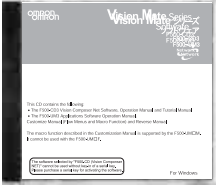
Monitor

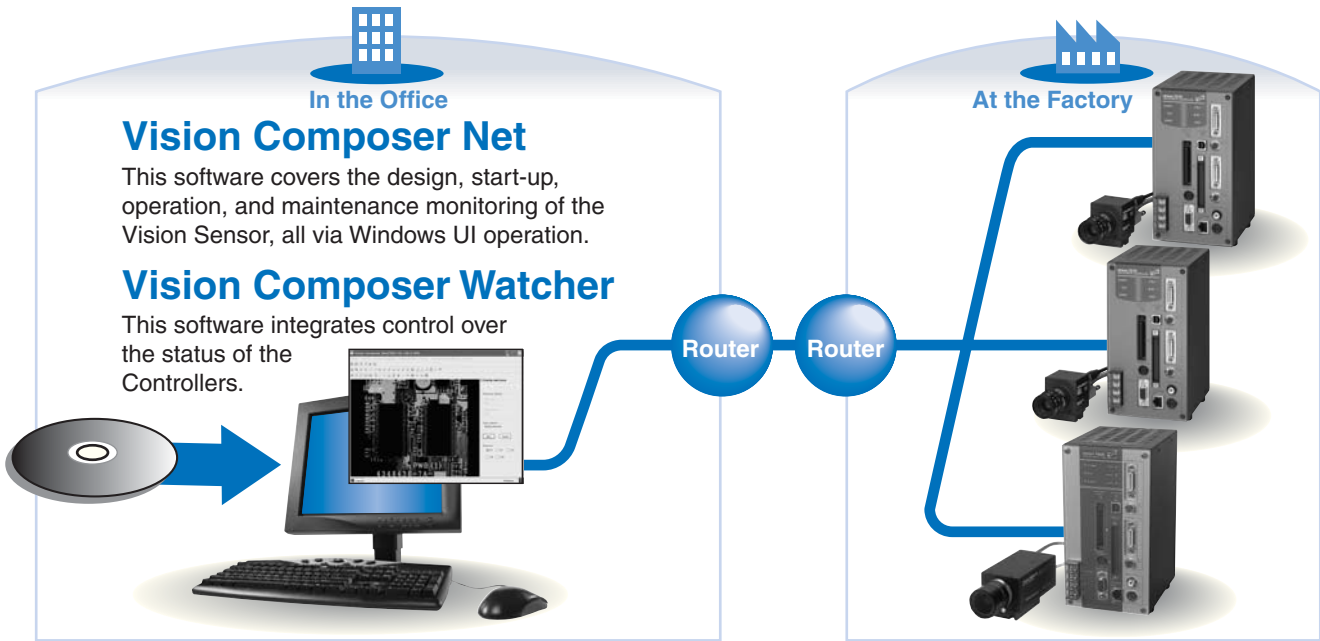| Model	F500-M10L
Size in inches	10.4 inches
Type	LCD TFT
Resolution	640 x 480
Brightness	350 cdm/m (typical)
Input signal	NTSC composite video (1.0 V / 75 Ω termination), S-VIDEO
Power supply voltage	20.4 to 26.4 VDC
Current consumption	1.0 A max.
Ambient temperature	Operating: 0 to +50 °C
	Storage: -20 to +65 °C with no icing or condensation
Ambient humidity	Operating/storage: 30% to 80% with no condensation
Dimensions	285x225x49 mm (WxHxD)
Weight	Approx. 1.8 kg
Accessories	Instruction Manual, 4 mounting brackets

System Requirements for F500-CD3E Vision Composer Net

CPU		Pentium III 600 MHz min. (Pentium III 1 GHz min. recommended)
OS		Windows 2000 Professional, Service Pack 4 or higher Windows XP Home Edition, Service Pack 2 or higher Windows XP Professional, Service Pack 2 or higher
Memory		192 MB min. (256 MB min. recommended)
Hard disk		300 MB min. available space
Monitor		Resolution: 1,024 x 768 min.
		Display colors: High Color (16-bit) min. (True Color (32-bit) min. recommended)
Network		10BaseT-compliant network (100Base-TX recommended)
Vison Sensor	Controller	F210-C10-ETN/F210-C15-ETN, F500-C10-ETN / F500-C15-ETN
	Application software	F500-UM Version 3.00 or later

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System Configuration

CCTV Lenses[2]

3Z4S-LE C1614A

3Z4S-LE B2514D

3Z4S-LE B5014A

High-precision Lenses

F500-LE16

F500-LE25

F500-LE50

Controllers

F210-C10-ETN (NPN)
F210-C15-ETN (PNP)

F500-C10-ETN (NPN)
F500-C15-ETN (PNP)

Application Software

F500-UM3ME/3FE

PC Support Software[1]

F500-CD3E

Monitors

F500-M10L

F150-M05L

Consoles

F150-KP

F160-KP

Digital Interface Cameras

F210-S1

F500-S1

Camera Cables[3]

F500-VS2 2M

Monitor Cable

F150-VM 2M

*1 Vision Composer Net and Vision Composer Watcher are bundled with personal computer software.
*2 A variety of CCTV Lenses are available in addition to those shown above.
*3 In addition to the standard 2-meter cable length, 5- and 10-meter lengths are available.

Software

In the Office

Vision Composer Net
This software covers the design, start-up, operation, and maintenance monitoring of the Vision Sensor, all via Windows UI operation.

Vision Composer Watcher
This software integrates control over the status of the Controllers.

Router **Router**

At the Factory

Vision Composer Net

Security Function
The security function allows you to classify the operations of registered users into three ranks (Administrator, Supervisor, or Operator) depending on their access privileges.

Administrator
- Change system data
- Register users
- Add access privileges

Supervisor
- Add model data
- Re-register models
- Change inspection items

Operator
- Change criteria
- Change display screens
- Adjust inspection regions

Screen Captures
Previously, images were stored via a Compact Flash Card inserted into the Controller. It is now possible to capture network-transferred live images on a personal computer at any desired point in time.

Capture on personal computer
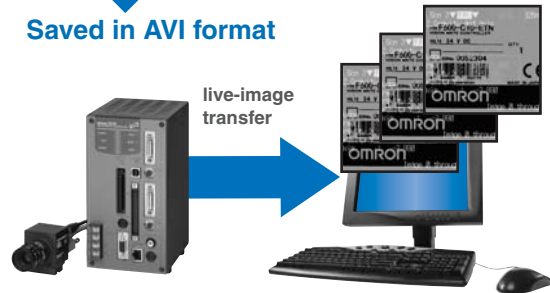**Save**

live-image transfer
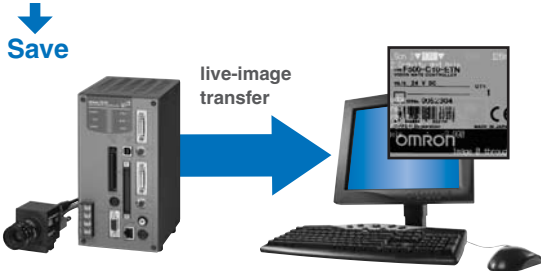
Recording
Live images sent by the Controller can be recorded by a personal computer using the AVI format. Effective for trend control.
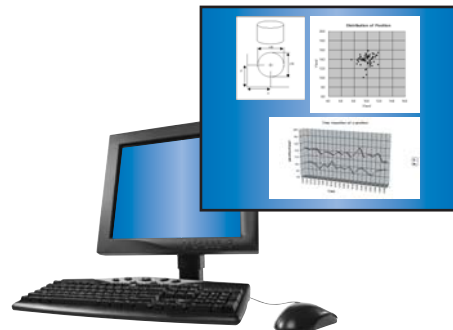
Recorded by personal computer
Saved in AVI format
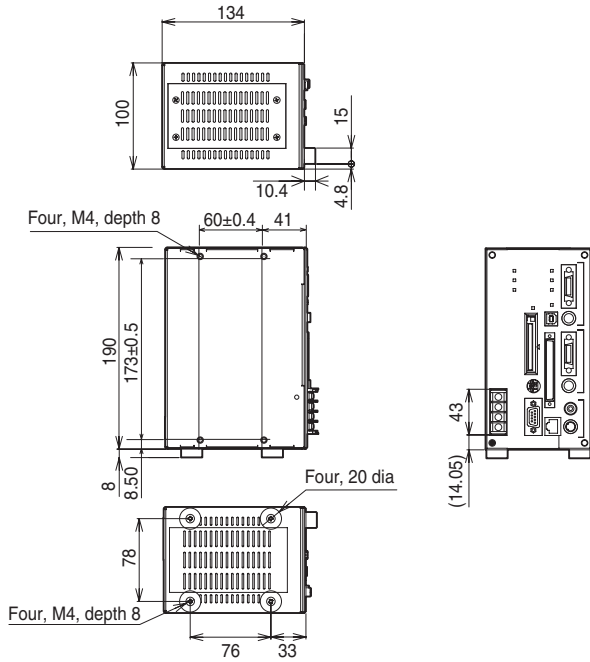
live-image transfer

Logging
This function lets you accumulate a variety of production data, including images, measurement values, time stamps, production quantity, and defect rates. The macro function in the Controller then makes it possible to process this into the form of data that you need.
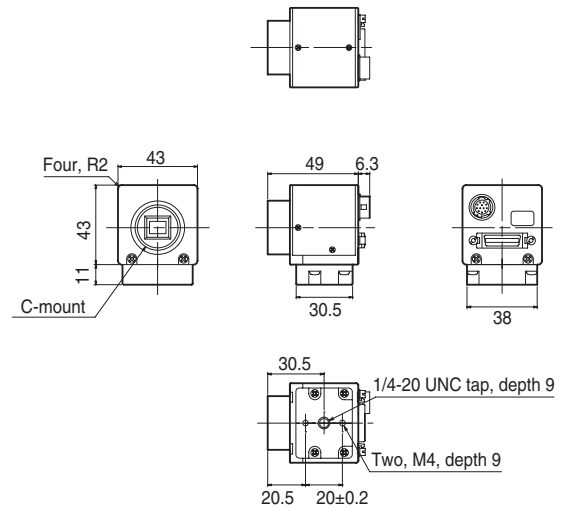
Dimensions

Controller

F210-C10-ETN / F210-C15-ETN
F500-C10-ETN / F500-C15-ETN

Cameras

F210-S1

F500-S1