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TECHNOLOGY GROUP

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Find the *OMRON F500-UM3ME* at our website: *Click HERE*

F500

High Resolution Vision Sensor



Supports Quality Control Traceability and Communications

ETHERNET CONNECTIVITY

1-MILLION-PIXEL DIGITAL INTERFACE CAMERA

LARGE ONBOARD STORAGE CAPACITY

OMRON

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Proven Quality Inspection Expertise

Omron applies machine vision quality inspection systems as part of end-to-end automation solutions for packaging, electronics assembly and automotive industries. Our global installed base of sensors and controllers contribute to increased productivity, improved profitability and higher quality end product.

Quality

- All products 100% quality-tested before shipping
- Designed and manufactured to the highest JIS, IPC and ISO 9001 standards

Stability

- Providing complete automation solutions for more than 70 years
- $5.5 billion global technology leader

Technology

- 7% of sales reinvested annually in R&D ensures leading edge solutions that improve our customers' productivity and profits
- Products offer security features to prevent tampering

Ease of use

- Simple menus enable quick setup, operation and change over
- Helpful software tools provide data tracking and production monitoring
- One software package programs all Omron PLCs

Flexibility

- More than 300,000 products help you design a complete single source automation solution
- Easy forward/backward migration maintains the value of your automation investment

Support

- Global, regional and local support in 65 countries through 1,500 offices
- Documentation available on-line
- Training, phone support, 24/7 emergency services give you peace of mind



F500 Simplifies Data Tracking from High Precision Inspections

Remote Access and Operation Across Ethernet Network

With increased demand for quality traceability, use Omron's F500 vision system to take full advantage of Ethernet's communication flexibility. The F500's dedicated communications processor ensures the inspection process is never slowed or interrupted during remote data access. Vision Composer Net support software simplifies remote parameter changes for setup and production change over, and offers advanced monitoring and data logging capabilities.

High-Resolution Sensing

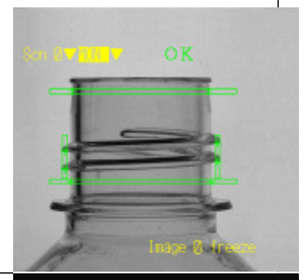
Inspect high-value and high-liability products with 1-million-pixel resolution and accurate digital image conversion. This level of quality control inspection ensures defect detection and elimination to reduce your risk and maintain top quality output.

On-Board Data Storage

Local storage of at least 200 images right in the F500 controller allows attachment of images to quality control reports. They can also be used in production optimization based on checks of measurement accuracy over samples taken at different time intervals. Images can be off-loaded to our local server at any time.

High-Value Applications for High-Resolution F500 Vision Systems

Inspect PET bottles for critical dimensions to ensure proper cap fitting.



Measure plastic bottle caps for external roundness and internal ovality to ensure proper fit and seal integrity of each cap shipped to bottling customers.



Inspect scalpel surfaces for burrs and other defects that could cause unexpected injuries to ensure 100% acceptable product reaches users.



Detect smudging and other printing defects on sample cards or point-of-sale displays. Improve readability and ensure customer satisfaction.



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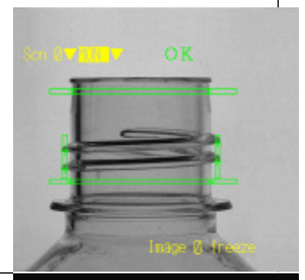
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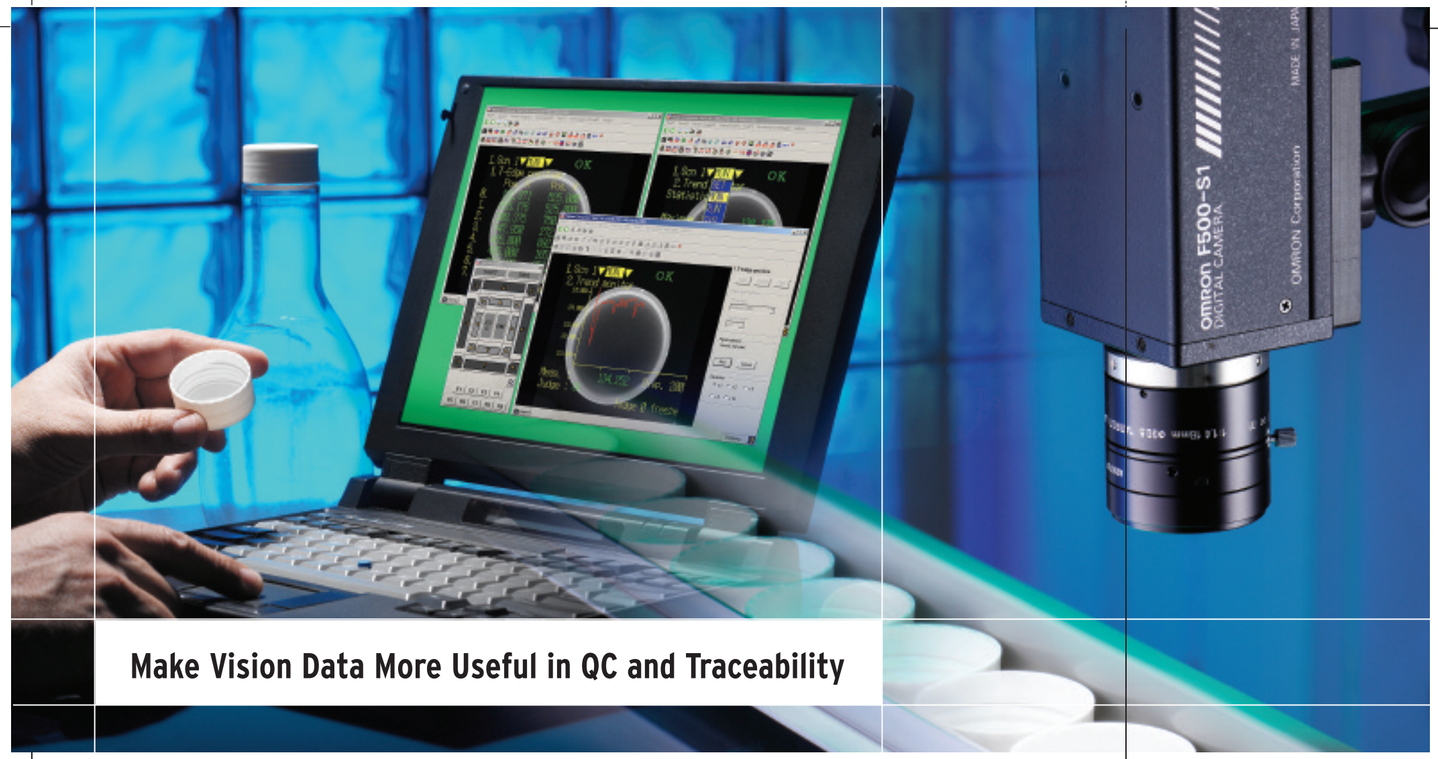
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Make Vision Data More Useful in QC and Traceability

Omron's F500 vision system combines Ethernet's broad communication capabilities with our PC-based Vision Composer Net support software for unparalleled access to vision data and reporting tools. Used together, they help you manage quality control, production traceability and process diagnostics.

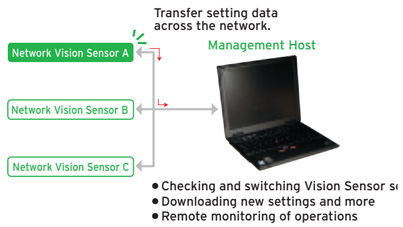
Monitor and Control Key Processes from a Single Point with Live Monitoring

Industry's most advanced Live Monitoring capabilities allow realtime image transmission from up to four F500 systems to one remote viewing terminal, via Ethernet. The critical processes that require F500's high-speed, high-resolution inspections can be monitored simultaneously to assure consistency across several production lines.



Vision Composer Net Software Supports Remote Operations

Simplify and centralize program management by downloading setup functions for single or multiple production lines across the network. Remote setup and monitoring of operations provide quick change over between products or programs. Vision sensor measurements can be started and stopped, and scene data settings can be specified from a remote computer.

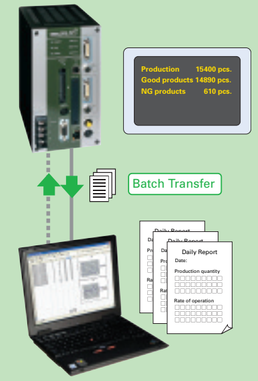


Improve Image and Data Management with Large On-Board Storage

Omron's F500 simplifies many routine management tasks with large storage capacity for images and data. You can easily access, save, view and edit data over the network to create the most effective production reporting and traceability system for your operation.

Batch File Uploading
The data saved in the controller can be transferred to a computer as a batch upload. This function is useful when determining judgment values for initial settings or to back up data.

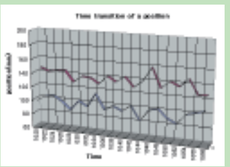
Independent Execution of Measurements and Communications
The F500's unique use of separate processors for measurements and communications allows uninterrupted continuous measurements and freely scheduled data upload transmissions for reporting.



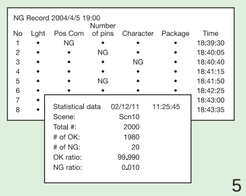
Display and Edit Scene Data
Product and data types set in F500 vision sensors connected via Ethernet can be viewed and edited then added to reports. From there, the data can be printed to provide reliable documentation for production records, preventive maintenance and traceability reporting.



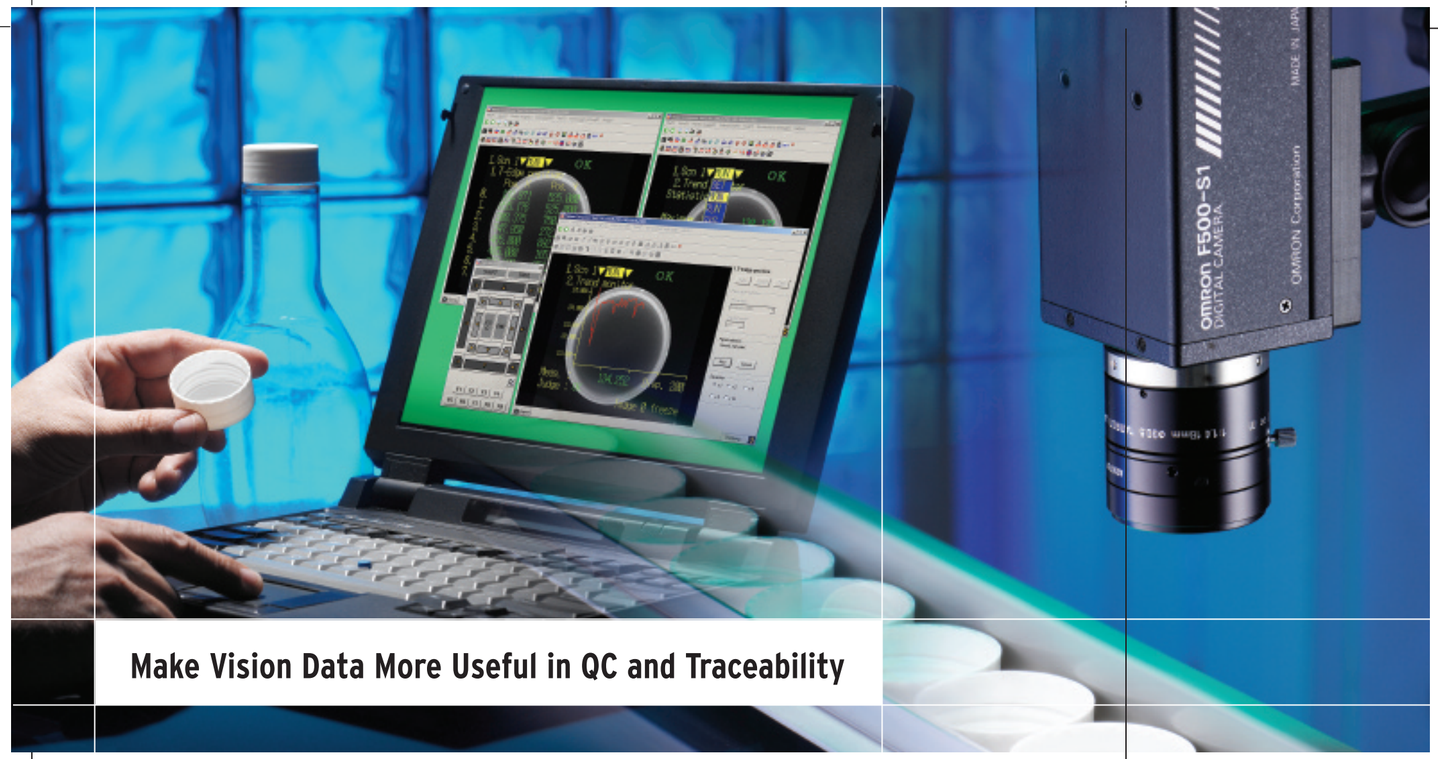
Spreadsheet Links for Measurement Data
Links can be created to spreadsheet software such as a Microsoft Excel, to statistically process measurement results or display graphs. All measurement data can be saved for feedback to trend management or to monitor variations in measurement data.



Data Logging
Use time-saving, built-in macros to total production quantities and summarize production information such as fault rates and number of failed products according to the type of inspection.



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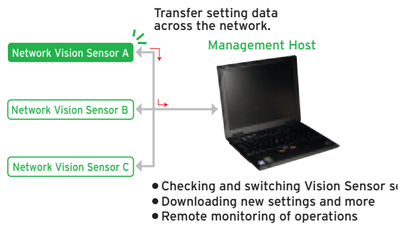
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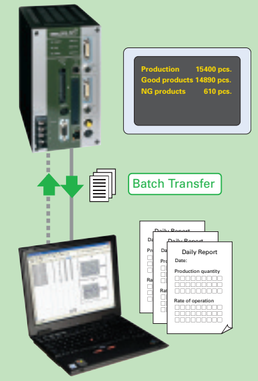


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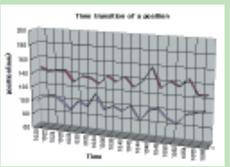
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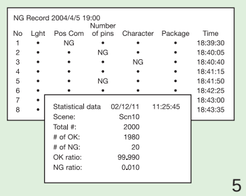
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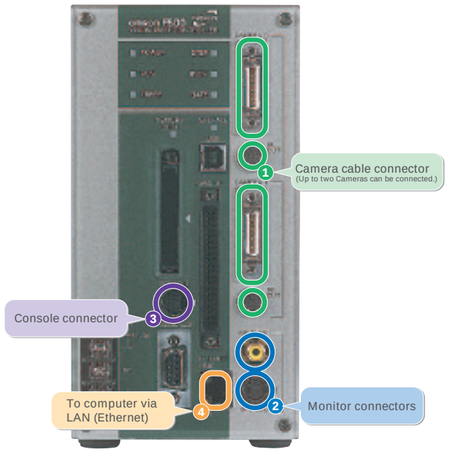
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System Configuration and Ordering Information

Network-compatible Vision Controller
F500-C10-ETN (NPN)
F500-C15-ETN (PNP)



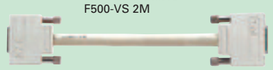
Part Number	Description
F500-C10-ETN	F500 Controller w/Ethernet NPN
F500-C15-ETN	F500 Controller w/Ethernet PNP
F500-S1	F500 1 Mega-Pixel Camera
F500-VS 2M	F500 Camera Cables 2M
F500-VS 5M	F500 Camera Cables 5M
F500-VS 10M	F500 Camera Cables 10M
F500-LE16	F500 16mm Lens
F500-LE25	F500 25mm Lens
F500-LE50	F500 50mm Lens
F500-M10L	F500 10.4 Inch LCD Monitor
F150-VM	Monitor Cable, 2M
F500-UM2FE	F500 Firmware
F500-UM2ME	F500 Firmware w/Macro Function
F500-CD2E	Vision Composer Net Software
F160-N64S(S)	Compact Flash Memory card, 64 MB
F160-N128S	Compact Flash Memory Card, 128 MB
F160-N256S	Compact Flash Memory Card, 256 MB
F160-KP	Hand-held Teaching Console

1

1-million-pixel Camera with Digital Interface
F500-S1



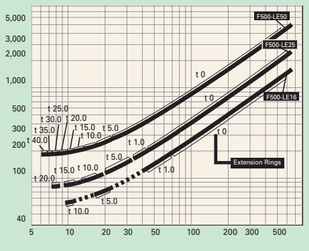
Camera Cable
F500-VS 2M



High-resolution Lenses



Optical Chart



2

10.4-inch LCD Monitor
F500-M10L



Monitor Cable
F150-VM

3

Hand-held Teaching Console
F160-KP



4

PC Support Software
F500-CD2E Vision Composer Net



Memory Cards
F160-N64S (S) F160-N128S
F160-N256S



Applications Software
F500-UM2FE Firmware
F500-UM2ME Firmware w/Macro Function



Specifications

F500-C10-ETN/F500-C15-ETN Controller

Connected Camera	F500-S1
No. of connectable Cameras	2
Processing resolution	1024 (H) x 1024 (V)
No. of scenes	32 (Can be increased using Memory Cards.)
Image memory function	35 images max.
Storage	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.
Menu language	Japanese or English (switchable)
Serial communications	USB series B: 1 channel RS-232C/422: 1 channel
Network communications	Ethernet 100Base-TX/10Base-T
Parallel I/O	11 inputs, 22 outputs
Monitor interface	Composite video output: 1 channel, S-VIDEO output: 1 channel
Memory Card interface	Compact Flash card slot, 1 channel
Power supply voltage	20.4 to 26.4 VDC
Current consumption	2.1 A max. (with two F500-S1 Cameras connected)
Ambient temperature	Operating: 0 to 50°C Storage: –25 to 65°C with no icing or condensation
Ambient humidity	Operating/storage: 35% to 85% with no condensation
Dimensions	100 x 198 x 134 mm (WxHxD) (without connectors and other protrusions)
Weight	Approx. 1.6 kg (Controller only)
Accessories	Ferrite core for Console (1), Setup Manual

F500-S1 Camera

Picture elements	2/3-inch CCD
Pixel size	6.45 µm (H) x 6.45 µm (W)
Shutter	Electronic shutter, 10 shutter speeds (1/24 to 1/10,000 s), changed via menu
Partial function	Four settings
Communications interface	Conforms to Camera Link
Ambient temperature	Operating: 0 to 50°C Storage: –25 to 60°C with no icing or condensation
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Dimensions	50 x 40 x 90 mm (WxHxD) (without connectors and other protrusions)
Weight	Approx. 270 g
Accessories	Instruction Manual

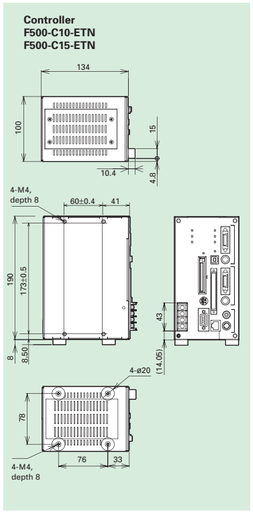
F500-CD2E Vision Composer Net

System Requirements

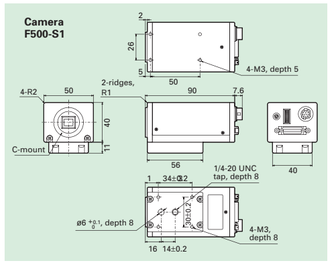
CPU		Pentium III 600 MHz min. (Pentium III 1 GHz min. recommended)
OS		Windows 2000 Professional, Service Pack 3 or higher Windows XP Home Edition, Service Pack 1 or higher Windows XP Professional, Service Pack 1 or higher
Memory		192 MB min. (256 MB min. recommended)
Hard disk		200 MB min. available 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)
Vision Sensor	Controller	F500-C10-ETN/F500-C15-ETN
	Applications software	F500-UM Version 2.00 or higher

Dimensions (Unit: mm)

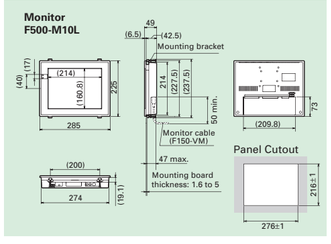
Controller
F500-C10-ETN
F500-C15-ETN



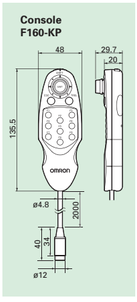
Camera
F500-S1



Monitor
F500-M10L



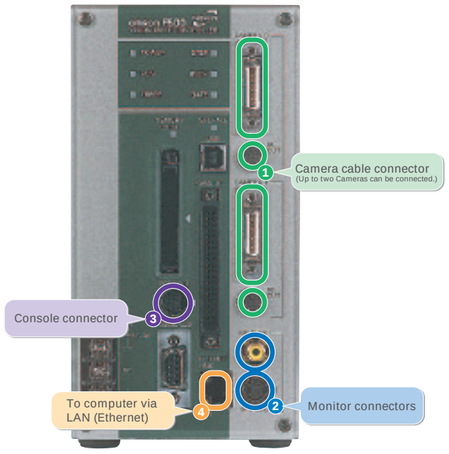
Console
F160-KP



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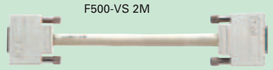
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F500-UM2ME	F500 Firmware w/Macro Function
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F160-N256S	Compact Flash Memory Card, 256 MB
F160-KP	Hand-held Teaching Console

1

1-million-pixel Camera with Digital Interface
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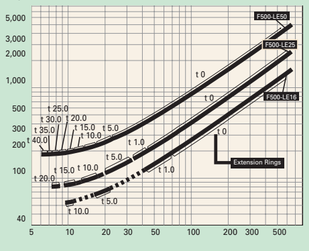
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F500-VS 2M



High-resolution Lenses



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F150-VM

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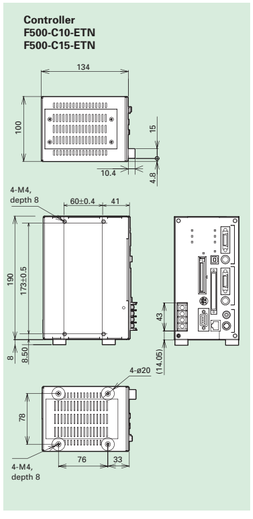
F500-CD2E Vision Composer Net

System Requirements

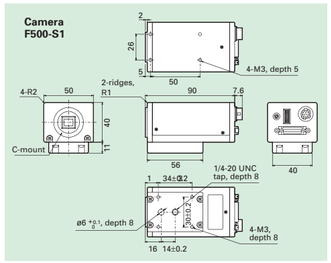
CPU		Pentium III 600 MHz min. (Pentium III 1 GHz min. recommended)
OS		Windows 2000 Professional, Service Pack 3 or higher Windows XP Home Edition, Service Pack 1 or higher Windows XP Professional, Service Pack 1 or higher
Memory		192 MB min. (256 MB min. recommended)
Hard disk		200 MB min. available 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)
Vision Sensor	Controller	F500-C10-ETN/F500-C15-ETN
	Applications software	F500-UM Version 2.00 or higher

Dimensions (Unit: mm)

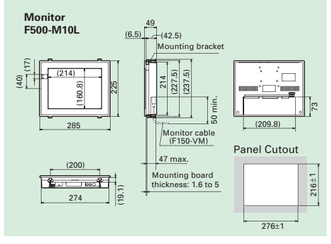
Controller
F500-C10-ETN
F500-C15-ETN



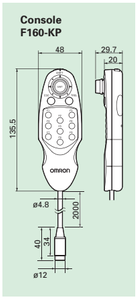
Camera
F500-S1



Monitor
F500-M10L



Console
F160-KP



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World-Class Application and Technical Support

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Machine Vision Application Evaluation and Engineering

Our experienced and certified vision application engineers first prepare a no-charge prequalification vision evaluation to confirm application feasibility. Next a technical report provides product recommendations for lighting, lens, and vision sensor equipment; fixturing requirements; and application solutions pictures.

We offer unique on-line testing of your application using an F500 digital vision system. On-site vision lab testing of applications are offered for our wide range of vision systems.

Packaging the Inspection Solution

Omron Manufacturing of America can design, fabricate and deliver fully assembled and tested panels that incorporate vision controllers and cameras along wit h a wide variety of Omron products. These complete solutions bridge the gap between product selection and an operational system.

Turnkey System Support for Vision and Automation Integration

In addition to the vision lab's evaluation and recommendations, our field application engineers assist with installation and support your engineering staff in the configuration, installation, start-up and commission-ing of Omron products and systems. They can also provide system integration consulting services:

- Automation requirements analysis
- ERP/MRP/MES integration with manufacturing systems
- Industrial network design
- Supervisory Control and Data Acquisition (SCADA) and Human Machine Interface (HMI) development
- Relational database development
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- System architecture and design
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Our staff of fully trained field service engineers provides technical support for new and old Omron products.

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- Toll-Free Phone Call: 1-800-55-OMRON.

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