



Application:  
Measurement



Application:  
Inspection



Specifications:  
Software



Specifications:  
Hardware

**Color Vision Sensor**

**Detect Color Differences Finer Than Ever Before Using Colorgray Filtering**



F400

- Area
- Pitch
- Length, width, diameter
- Position
- Angle of rotation
- Shape recognition
- Character identification
- Shape verification
- Character verification
- Defects
- Binary
- Density
- Color discrimination
- 16 measurement regions
- 16 scenes
- 1 camera

**Pattern Matching Sensor**

**High-speed Presence and Offset Inspections for Images or Patterns**

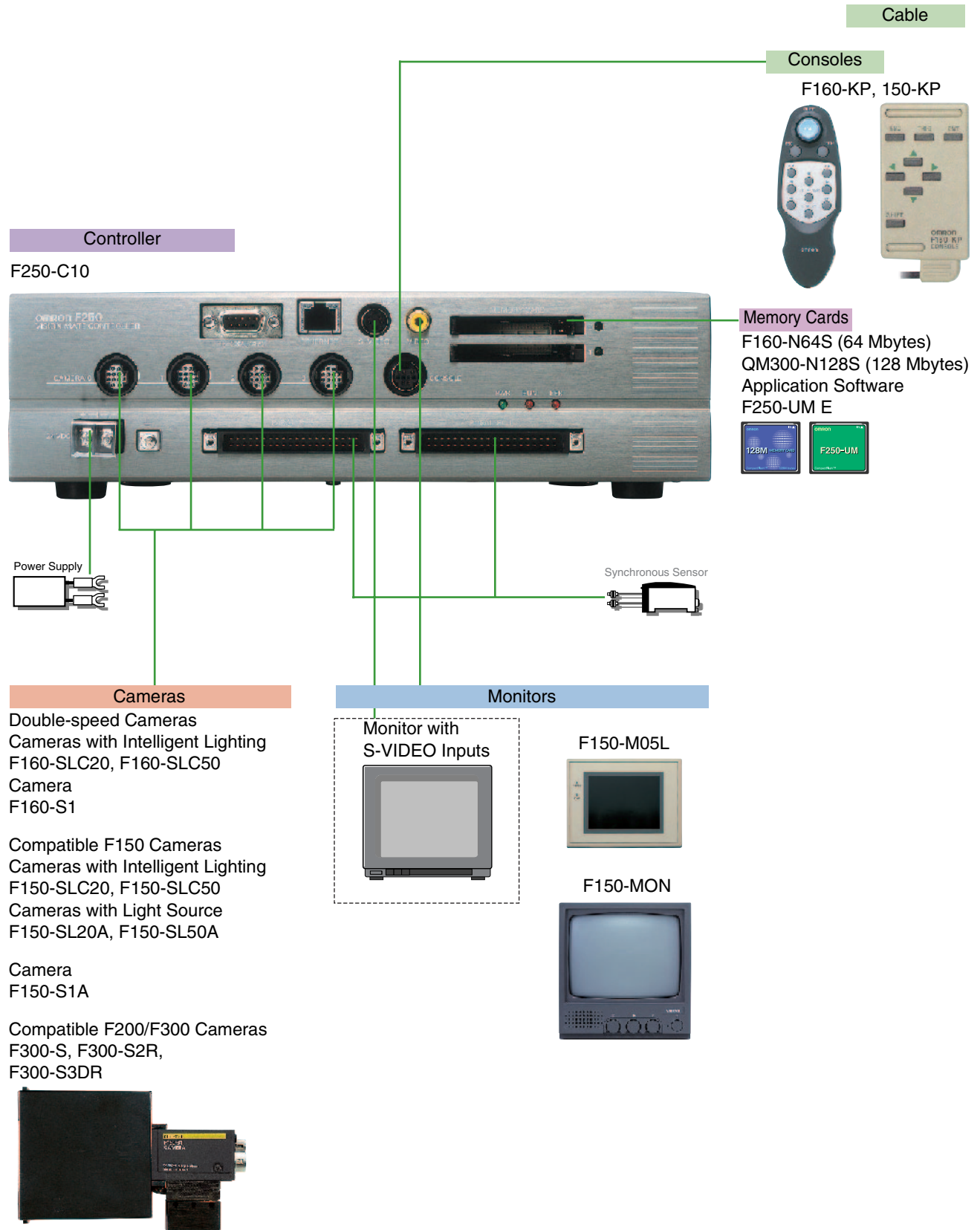


F10

- Shape recognition
- Character identification
- Shape verification
- Character verification
- Shape matching
- 1 to 3 measurement regions
- 1 to 8 banks
- 1 head

# System Overview

## High-performance Vision Sensor F250



## Function Menus

### Processing Items

The F250-UM E Application Software can be used to install the following measurement items and perform combinations of inspections.

#### Image Input Functions

- Camera image
- Switch camera
- Change filtering
- Repeat filtering

#### Position Compensation Functions

- Binary position compensation
- Model position compensation
- Circle position compensation
- Edge position compensation
- EC position compensation
- Reset scroll
- Scroll

#### General Measurement Functions

- QUEST OCV
- Binary defect
- Density defect
- Fine matching
- Pattern
- Classification
- EC defect
- EC circle count
- Rotate position
- Edge position
- ECM search
- EC position
- Lot No. OCV 1
- Edge pitch
- Density data
- Labeling
- Label data

#### Measurement Support Functions

- Calculation
- Get unit data
- Set unit data
- Wait
- Elapsed time
- Trend monitor

#### Branch Control Functions

- Branch
- DI branch
- End

#### Results Output Functions

- Memory card data
- DO data
- Host link data
- Normal data
- DO judge

#### Results Display Functions

- Display string
- Display measure
- Display judge
- Display item
- Display time
- Display figure
- Display line
- Display box
- Display circle
- Display cursor

# System Overview

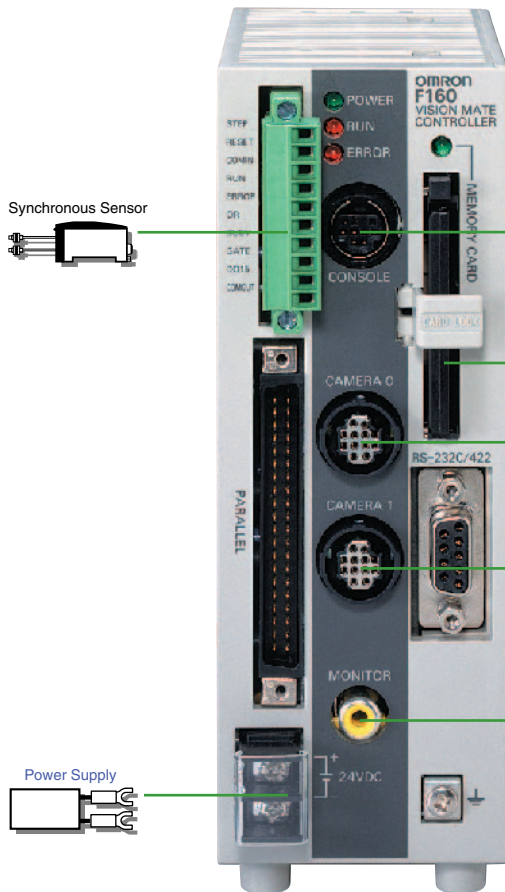
See an overview of the system configuration below. Refer to System Configuration for details.

## Vision Sensor

### F160

#### Controller

F160



Synchronous Sensor

Power Supply

#### Consoles

F160-KP, 150-KP



#### Lens, Lighting

#### Cable

#### Memory Cards

F160-N64S, QM300-N128S



#### Cameras

F160-SLC20, SLC50, S1  
F150-SLC20, SLC50, SL20A, SL50A, S1A  
Compatible F200/F300 Cameras



#### Monitors

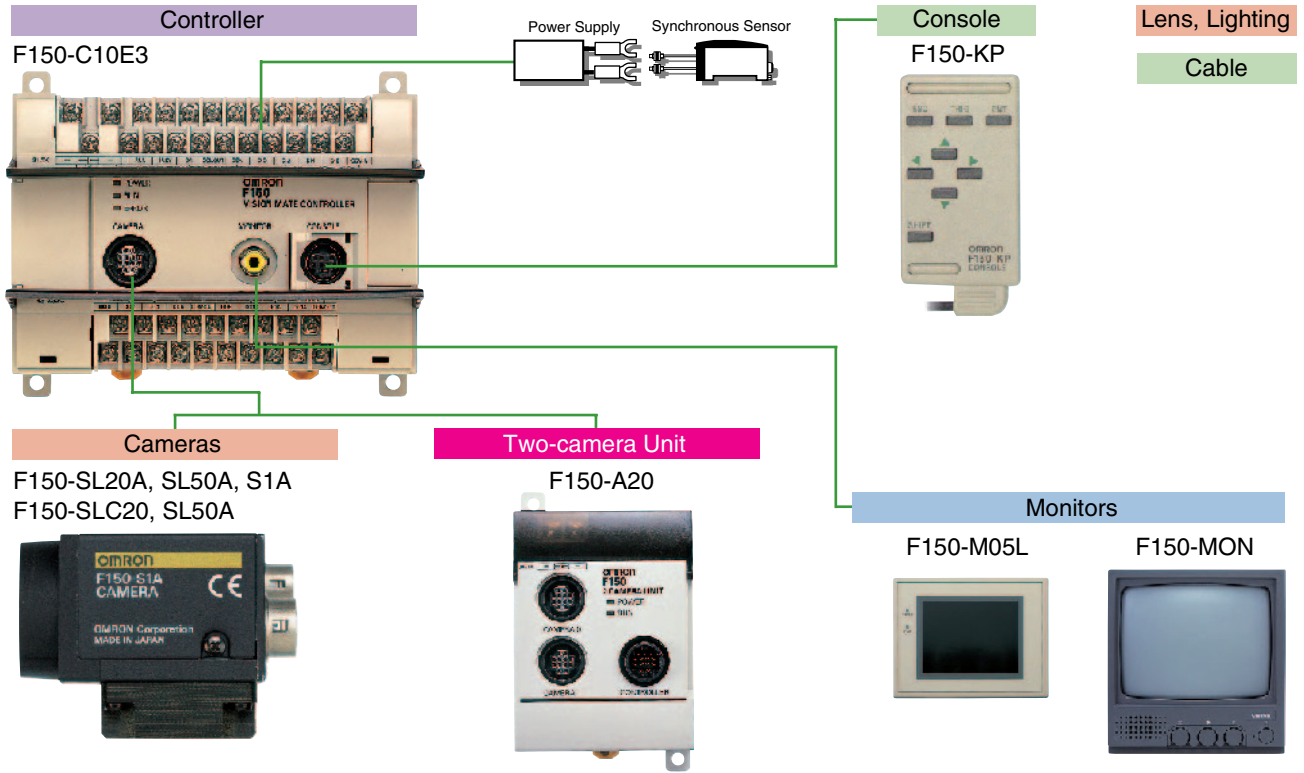
F150-M05L



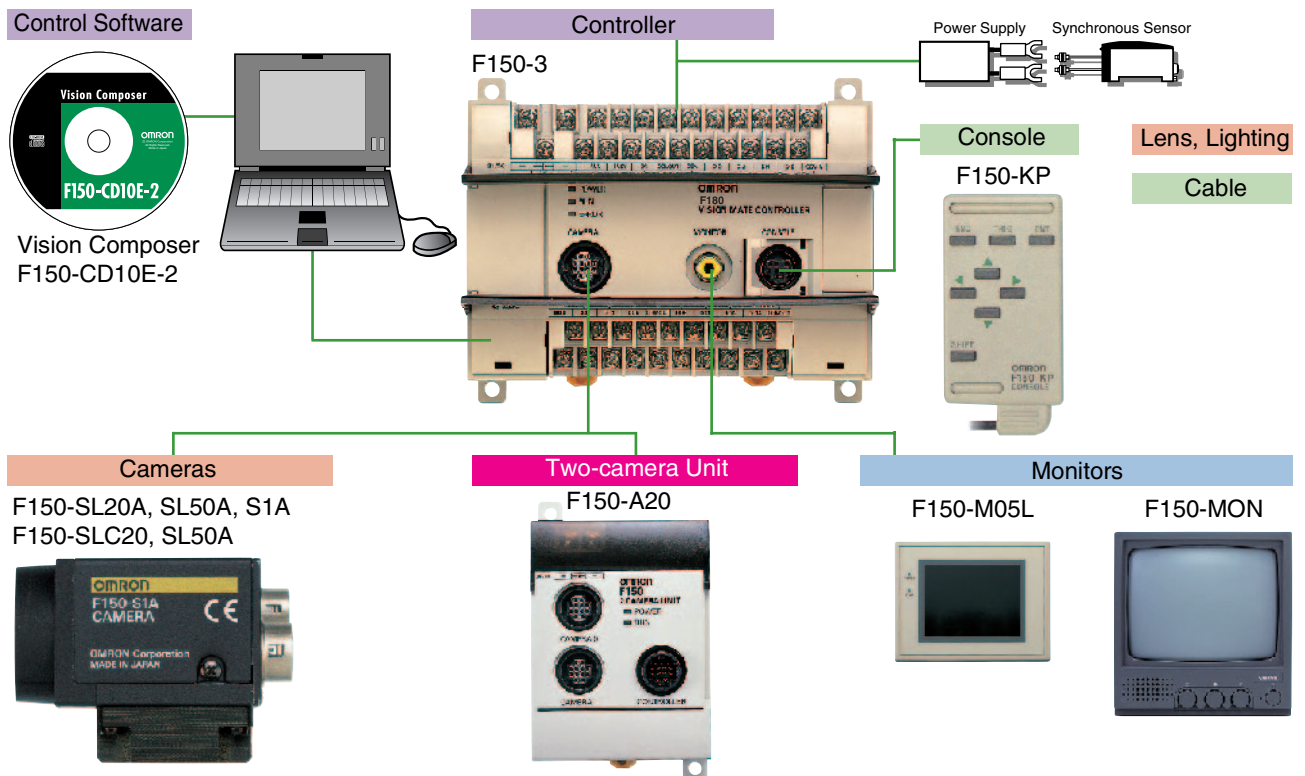
F150-MON



Vision Sensor  
**F150-3**



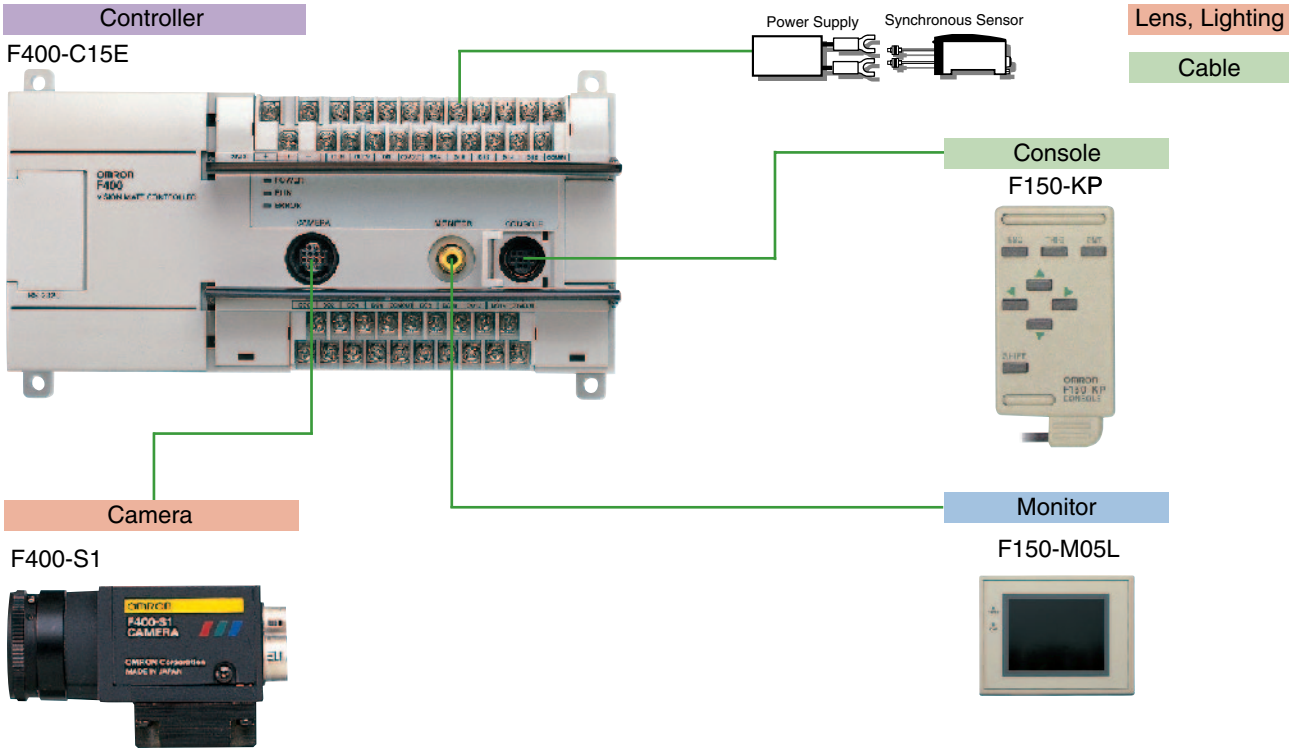
Integrated Control Software for F150-3  
**VISION COMPOSER**



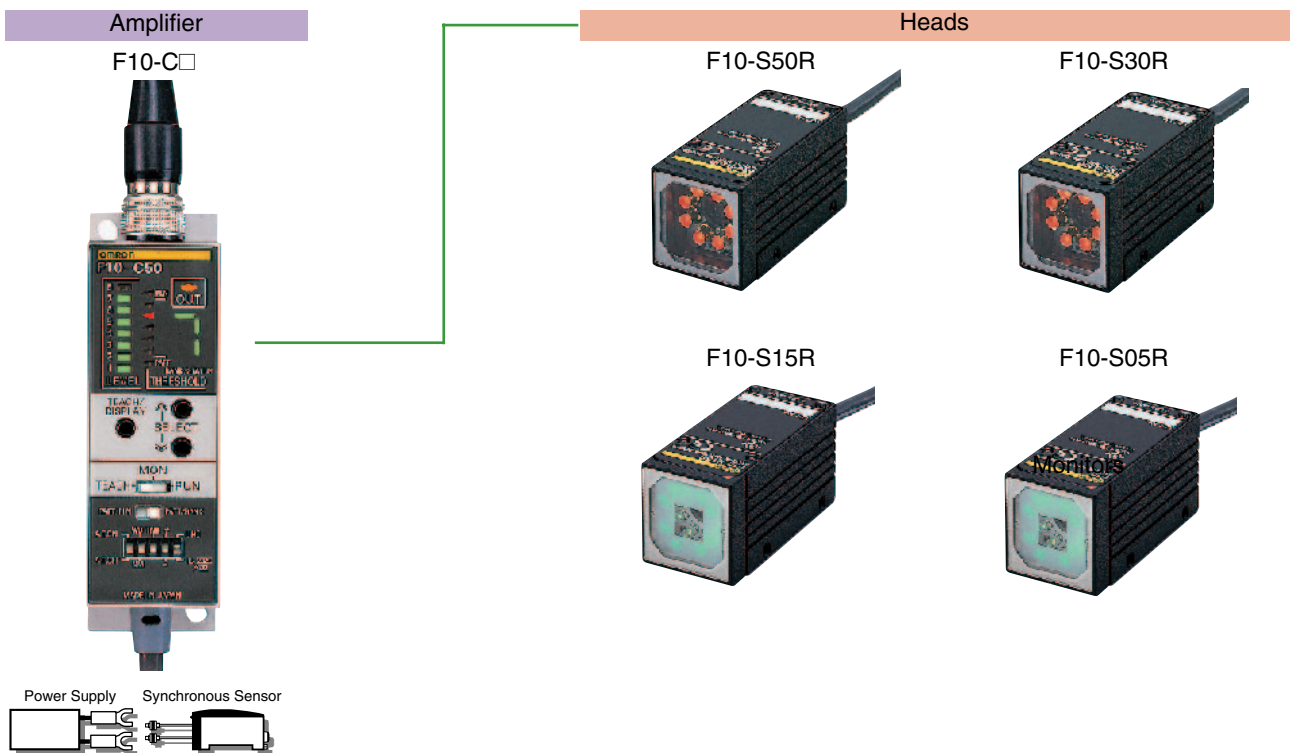
# System Overview

See an overview of the system configuration below. Refer to System Configuration for details.

## Color Vision Sensor F400



## Pattern Matching Sensor F10

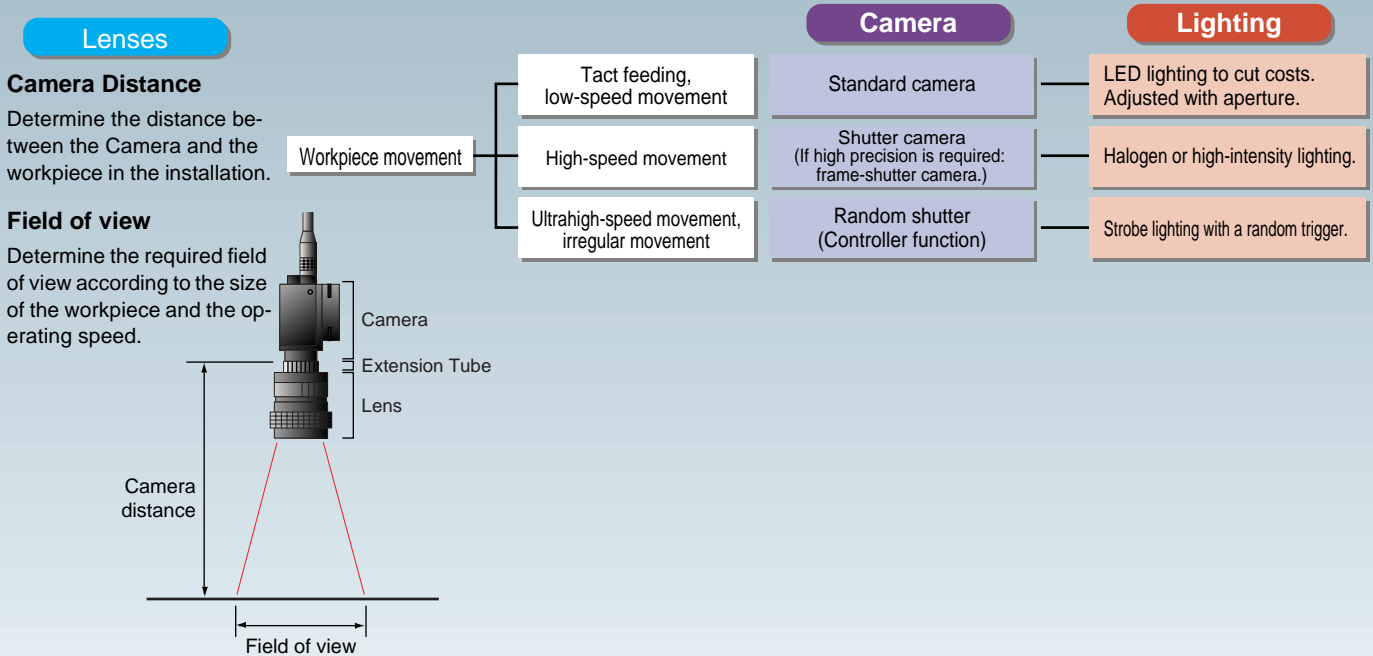




# Cameras, Lenses, and Lighting

## Selecting Cameras, Lenses, and Lighting

Select the Camera, Lens, and Lighting according to the position and movement of the workpiece.



## Cameras

### Cameras for F150, F160, F180, and F250 Series

• Cameras with Built-in Lighting

• Camera Only



F150-SLC20  
Camera with Intelligent Lighting



F150-SLC50  
Camera with Intelligent Lighting



F150-S1A  
Camera (Shuttered)



F150-SL20A  
Camera with Light Source



F150-SL50A  
Camera with Light Source



Cameras

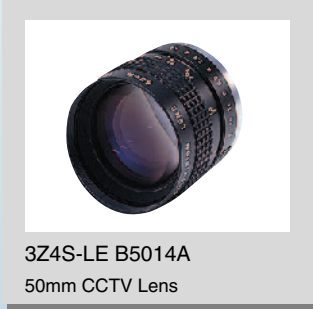
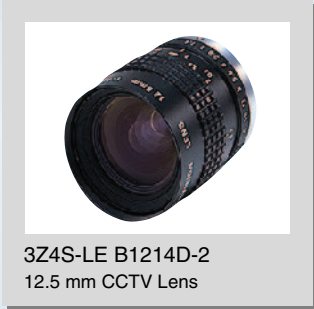
Cameras for F160 and F250 Series



Camera for F400 Series

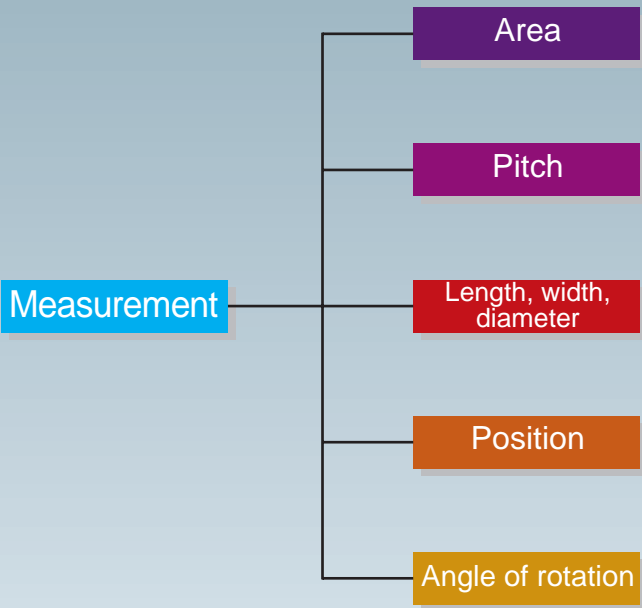


Lens



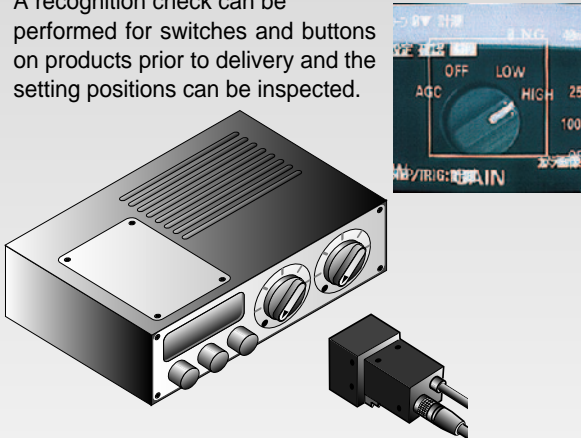
# Application Examples

Whether it's measurement or inspection - rely on OMRON.

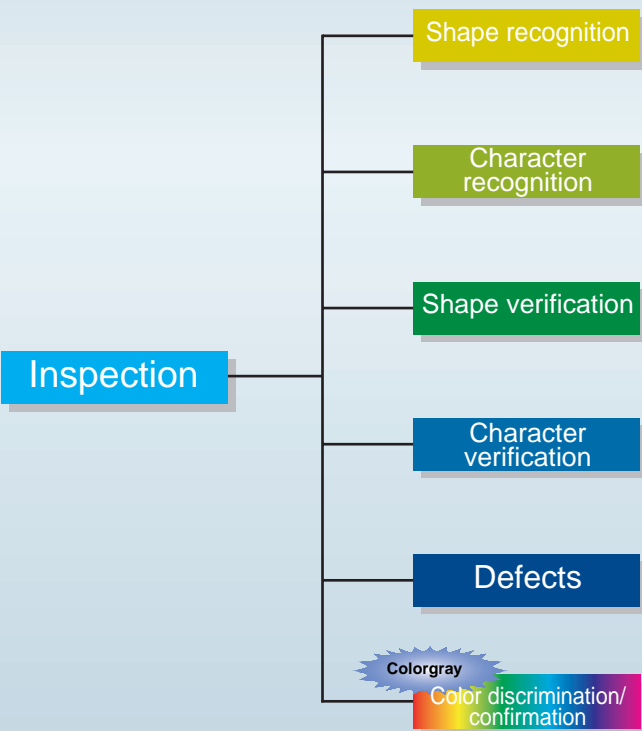


### Position Inspection

A recognition check can be performed for switches and buttons on products prior to delivery and the setting positions can be inspected.

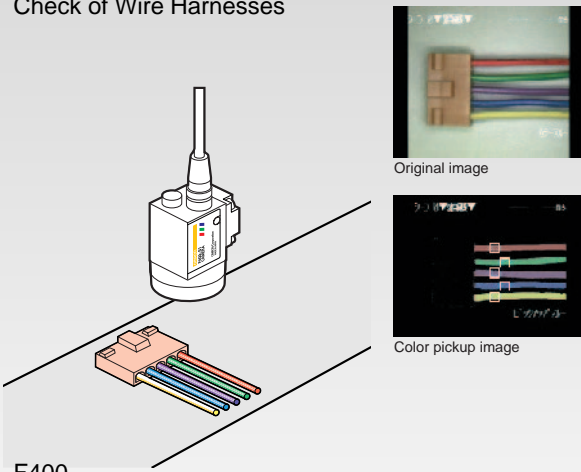


F150-3



### Color Discrimination

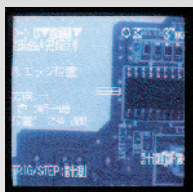
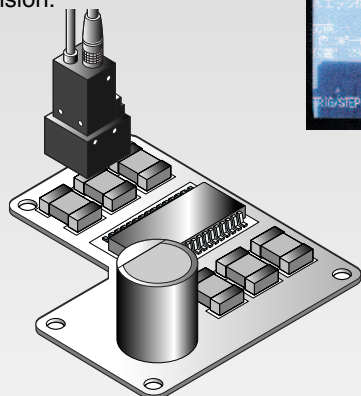
Check of Wire Harnesses



F400

**Positioning**

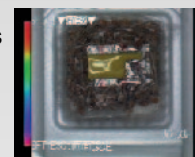
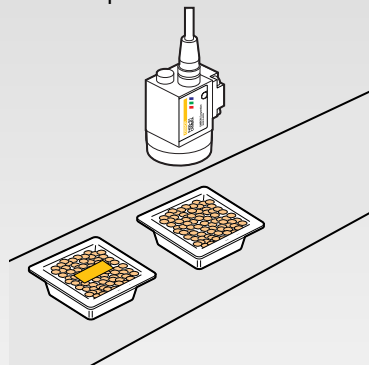
The edge position of a PCB can be measured with a high degree of precision.



F150-3

**Shape Inspection** **Color Discrimination**

Inspections that disregard the position can be performed on bags for food products.



F400