

NEW

OMRON

Authorised Distributors:-

ASH & ALAIN INDIA PVT LTD

S-100, F.I.E.E., Okhla Industrial Area, Phase-ii, New Delhi-110020(India)

Tel : 011-43797575 Fax : 011-43797574 E-mail : sales@ashalain.com

Smart Sensors with Ultra-High-Speed CCD Cameras ZFV

Broadening the Horizon by Combining
Smart Sensors with Vision Technology



Boundary-breaking Integration of Smart Sensors with Vision Technology



Sensor Amplifier

Variation for Smart Style

Expanded ZS Series includes Smart Sensors with ultra-high-speed CCD cameras. Combining the advanced Sensor Head with expandable Amplifiers enables compatibility with a diverse range of applications.

Easy as Smart Style

Delivering high performance and advanced functionality with ease, maintaining the Smart Sensor's reputation for operational excellence.

Advance to Smart Style

Consolidating the high-performance algorithms of OMRON's Vision Sensors into a compact Amplifier package.



Sensor Head

Smart Sensors with Vision

Versatile "2D Smart Sensors" are compatible with a broad range of applications. The added **visual display** delivers Sensors that can **envision** sensing solutions. The "2D Smart Sensors" with CCD offer new on-site **vision** capabilities.

With Ultra-High-Speed CCD Cameras

Smart Sensors
ZfV



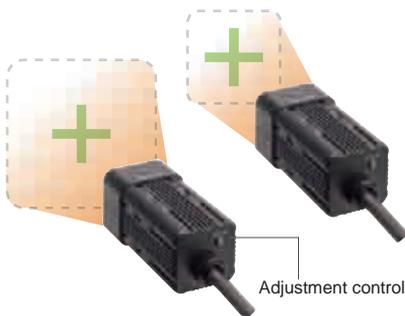
Ultra-high speed response for fast-moving production lines.



Adjustable Detection Area

Focus Adjustment

The Focus Adjustment function eliminates the need to change the head for different sizes of workpieces. This enables sensing within the optimum detection area for the workpiece size, such as when detecting the front and back of chip capacitors.



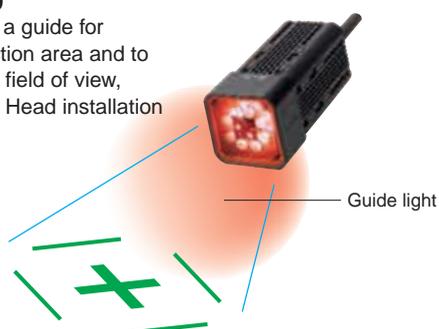
Versatile Sensor Head Mounting

A detachable mounting bracket can be attached to four sides of the Sensor Head, making it suitable for tight installation environments.



Guide Light for Easier Installation and Mounting

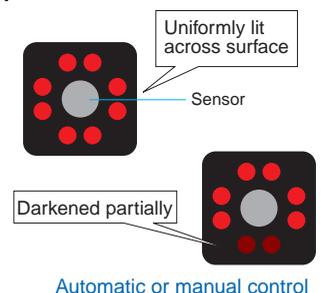
The light path acts as a guide for determining the detection area and to accurately assess the field of view, enabling easy Sensor Head installation and mounting.



Change the Light Pattern

Intelligent Lighting

Intelligent lighting enables changing the lighting pattern to obtain the optimum image for sensing. Lighting patterns can be controlled in either auto or manual mode.



Variation for Smart Style

Advanced Digital Communications for a Broader Range of Applications

Amplifier Digitally Transmits Captured Data at High Speed

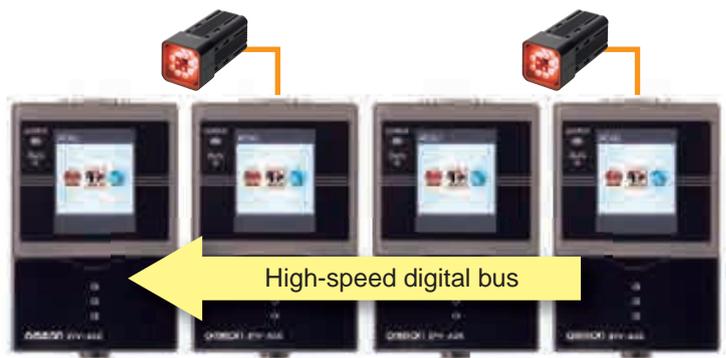
Sensor Head with Digital Interface

Resists external noise interference and transmits images at high-speed.



Connect up to Five Amplifiers

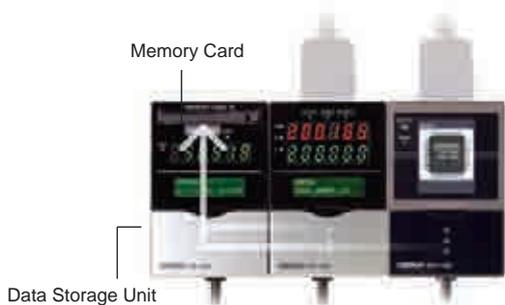
A high-speed digital bus between Units hugely contributes to future expansion and support for a wide range of applications. A broader range of applications is supported through the many combination possibilities, such as measuring in multiple locations with a single Sensor Head, or using integrated.



Flexible Combinations

Utilizes Image Data and Measurement Data Logging for Effective Building of Traceability Systems

Data can be logged and setting data can be saved to the Memory Card (compact flash card) by connecting the ZS-DSU Data Storage Unit. Saving NG images enables joint checking of the measurement value and image. By linking to the ZS-L Series, ZFV data can be logged at the same time.



Embedded Monitor Enables Easy Operation with Visual Interface

**1.8inch
Monitor**



Easy as Smart Style

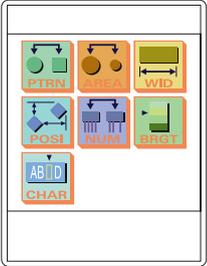
One-touch Settings

One-push Teaching is the product of OMRON's commitment to easier automatic setting. Parameter settings and lighting control are available at the touch of a button.



Operation Menus Represented as Graphics

Select applications as icons. Graphic representation for easy selection of functions at a glance.



Panel Mounting

Mounting to the front of the control panel enables easy operation and operating status confirmation while requiring little space.





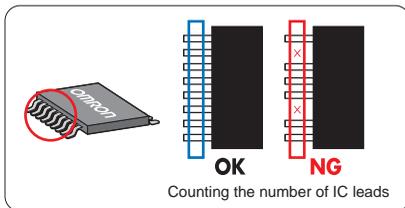
Advance to Smart Style

Versatile Sensing Functions and Typical Applications



Number

Detect the number of IC leads.



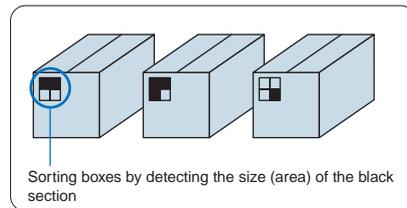
Other Applications

Detecting the number of connector leads



Area

Sort boxes by marks.



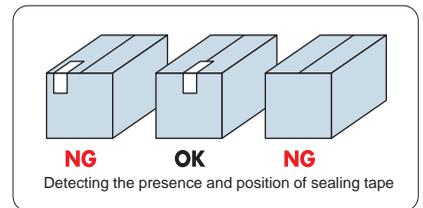
Other Applications

Detecting screw processing and detecting presence of paste.



Position

Detect the positioning of sealing tape on packing boxes.



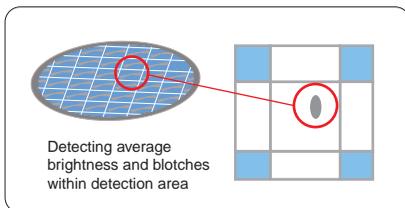
Other Applications

Detecting label positioning and confirming substrate positioning



Brightness

Detect BAD marks on wafers.



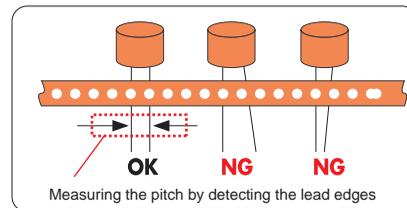
Other Applications

Detecting surface damage, dirt, or presence of welding residue



Width

Measure widths between leads.



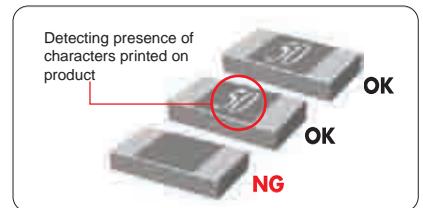
Other Applications

Detecting tape winding amounts and measuring internal diameter of resin containers



Text

Detect printed characters on electronic components.



Other Applications

Detecting presence of expiry date and embossed characters



Shape

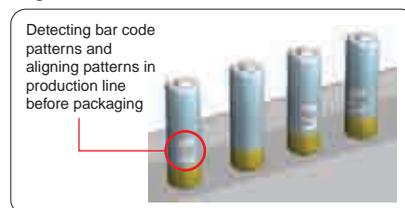
Detect promotional labels.



Other Applications

Determining filter direction and different font families.

Align bar codes.



Other Applications

Detecting packaging inserts and determining direction of cans.

Industry's Fastest Real Time Search

Effective for measuring shapes.

Searching in real-time captures images at the same time as performing search processing. Multiple patterns (up to 5) can be processed simultaneously.

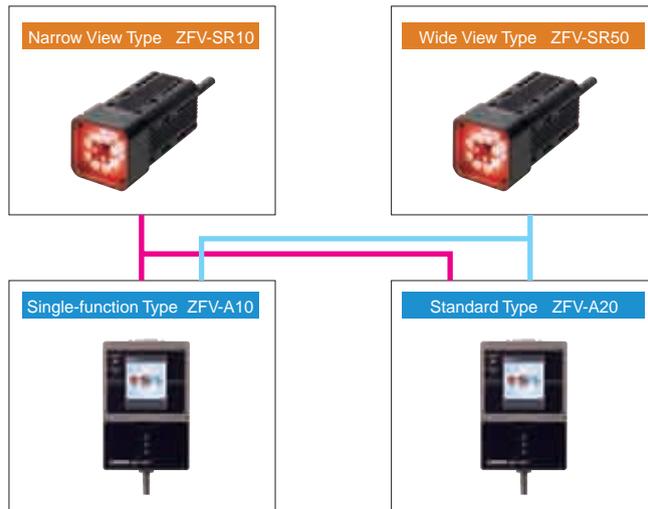
Ordering Information

■ Set model

NPN output	PNP output	Head	Amplifier
ZFV-R1010	ZFV-R1015	Narrow view	Single function
ZFV-R1020	ZFV-R1025	Narrow view	Standard
ZFV-R5010	ZFV-R5015	Wide view	Single function
ZFV-R5020	ZFV-R5025	Wide view	Standard

■ Accessories (Order Separately)

- Data Storage Unit ————— ZS-DSU
- Controller Link Unit ————— ZS-XCN
- Panel-mounting Adapter ——— ZS-XPM1
- Sensor Head Extension Cable — ZFV-XC□B(R)V2



This document provides information mainly for selecting suitable models. Please read the User's Manual carefully for information that the user must understand and accept before purchase, including information on warranty, limitations of liability, and precautions.

- The application examples provided in this catalog are for reference only. Check functions and safety of the equipment before use.
- Never use the products for any application requiring special safety requirements, such as nuclear energy control systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, or other application involving serious risk to life or property, without ensuring that the system as a whole has been designed to address the risks, and that the OMRON products are properly rated and installed for the intended use within the overall equipment or system.

OMRON

OMRON Corporation Industrial Automation Company

Sensing Devices Division H.Q.
Application Sensors Division
 Shiokoji Horikawa, Shimogyo-ku,
 Kyoto, 600-8530 Japan
 Tel: (81)75-344-7068/Fax: (81)75-344-7107

Regional Headquarters

OMRON EUROPE B.V.
 Sensor Business Unit,
 Carl-Benz-Str. 4, D-71154 Nufringen,
 Germany
 Tel: (49)7032-811-0/Fax: (49)7032-811-199

OMRON ELECTRONICS LLC
 1 East Commerce Drive, Schaumburg, IL 60173
 U.S.A.
 Tel: (1)847-843-7900/Fax: (1)847-843-8568

OMRON ASIA PACIFIC PTE. LTD.
 83 Clemenceau Avenue,
 #11-01, UE Square,
 239920 Singapore
 Tel: (65)6835-3011/Fax: (65)6835-2711

OMRON (CHINA) CO., LTD.
 Room 2211, Bank of China Tower,
 200 Yin Cheng Road (M),
 Shanghai, 200120 China
 Tel: (86)21-5037-2222/Fax: (86)21-5037-2200



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Authorised Distributors:-

ASH & ALAIN INDIA PVT LTD

S-100, F.I.E.E., Okhla Industrial Area, Phase-ii, New Delhi-110020(India)
 Tel: 011-43797575 Fax: 011-43797574 E-mail: sales@ashalain.com