



FACTORY AUTOMATION



VISION PRODUCTS

VOS₃₀₀ SERIES VISION SENSOR



 **PEPPERL+FUCHS**
SENSING YOUR NEEDS

Sold by AA Electric 1-800-237-8274 • Lakeland, FL • Lawrenceville, GA • East Rutherford, NJ
Web : www.A-Aelectric.com Email: njsales@a-aelectric.com

POWERFUL, EASY-TO-CONFIGURE VISION SENSOR

Pepperl+Fuchs vision sensors bridge the gap between standard photoelectric sensors and costly machine vision systems with a more powerful and flexible solution. While traditional sensors merely detect the presence or absence of an object within their beam, vision sensors detect several attributes with a single device—information not uniformly distributed, such as the expiration date on a package, or the presence and verification of pills in a blister pack—and the part doesn't need to be positioned exactly the same way for each inspection. One vision sensor can replace multiple photoelectric sensors. Like all of our products, our vision sensors are designed to be dependable, flexible, and easy to integrate and use.

EASY TO USE

- Powerful, out-of-the-box use with no programming
- Make multiple evaluations on a part at the same time
- Easy changeover using job management feature; inspection hardware remains the same
- No complicated programming language, just configure and go!

CONVENIENT

- High resolution (640 x 480)
- Offline parameter selection via a simple-to-understand graphical interface
- Choose from five evaluation methods to best fit your inspection requirements
- Ethernet and serial interfaces

VOS SOFTWARE

The screenshot shows the VOS300 software interface. On the left, there are three callout boxes: 'Parameters' (Hardware setup, Interface settings), 'User Buttons' (Setup or run mode, Job retrieval and load, Save setup, Help), and 'Detailed Setting' (Number of checks and evaluation methods, Training and recognition, Results and process limits). On the right, there are three callout boxes: 'Real-time Image Display' (Easy setup and alignment, Region of interest), 'Tabulated Results' (History of the checks, Results), and 'Status Bar' (Connection status, Cycle time, IP connection address). The interface itself includes a 'Parameters' section with fields for Trigger mode, Shutter, Illumination, Zoom, Resolution, Position Control, Lower/Upper Threshold, and Result. It also has a 'Checks' section with a 'Method' dropdown and a 'Results' table. A 'Real-time Image Display' window shows a live image of a metal part with a red bounding box. A 'Status Bar' at the bottom shows 'PEPPERL+FUCHS SENSING YOUR NEEDS' and 'Job 0 Job 0'.

Parameters

- Hardware setup
- Interface settings

User Buttons

- Setup or run mode
- Job retrieval and load
- Save setup
- Help

Detailed Setting

- Number of checks and evaluation methods
- Training and recognition
- Results and process limits

Real-time Image Display

- Easy setup and alignment
- Region of interest

Tabulated Results

- History of the checks
- Results

Status Bar

- Connection status
- Cycle time
- IP connection address

VOS300 SOFTWARE

In the automotive market, cost-effective and reliable error-proofing is crucial. The VOS300 series vision sensors check for critical flaws and solve many error-proofing applications throughout the manufacturing process including verifying the presence of piston rings, washers, glue and sealant beads, and many more.



Parts can be inspected in any orientation.



Text is positioned correctly relative to the position of the stamped holes.



Mounting holes are present and completely punched out.

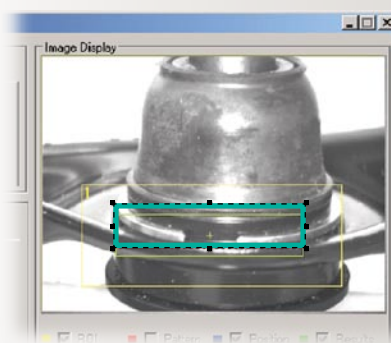


Automotive

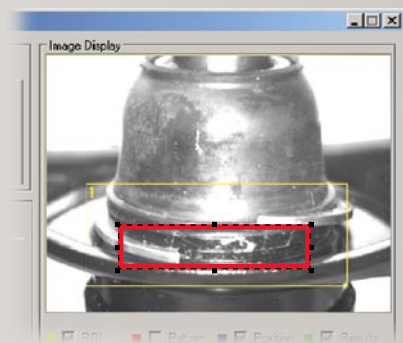
PART DETECTION

A vision sensor performs more detailed inspections than are possible with standard photoeyes.

Distinguish between a properly positioned retainer ring and one that is not correctly seated.



Pass

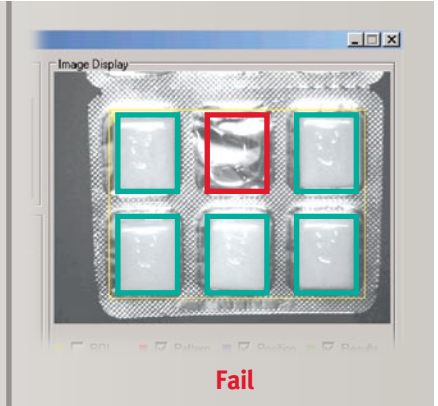
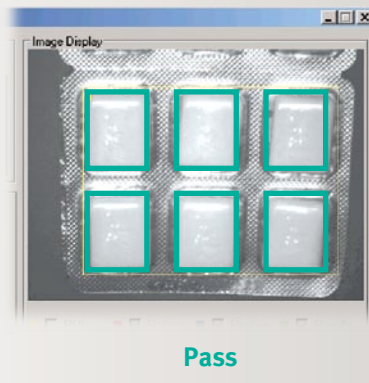


Fail

PACKAGED GOODS



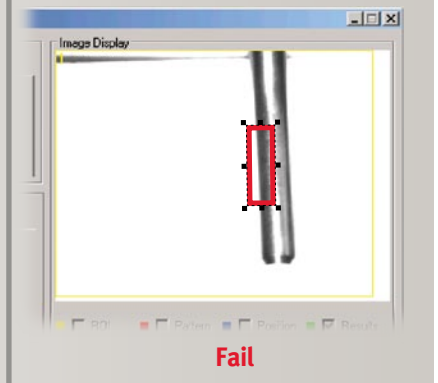
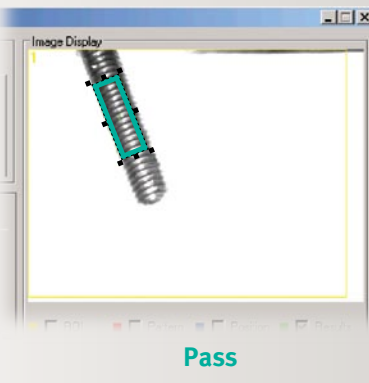
One vision sensor does the work of six photoelectric sensors when checking for missing pieces in a blister pack.



COMPONENT INSPECTION



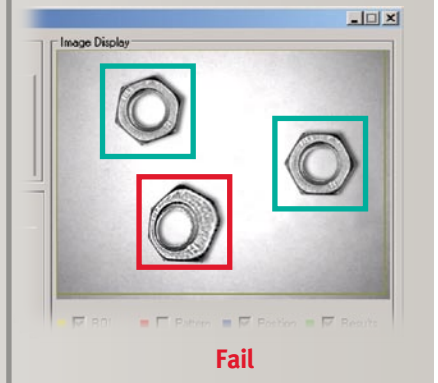
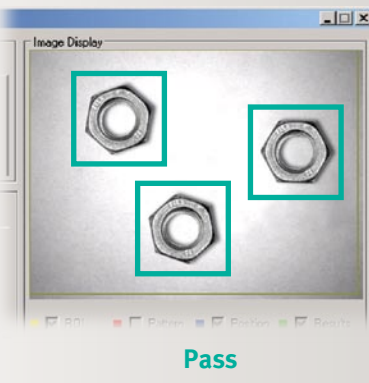
The VOS 300 series verifies that the threads are present and formed correctly.



DEFECTIVE PART DETECTION



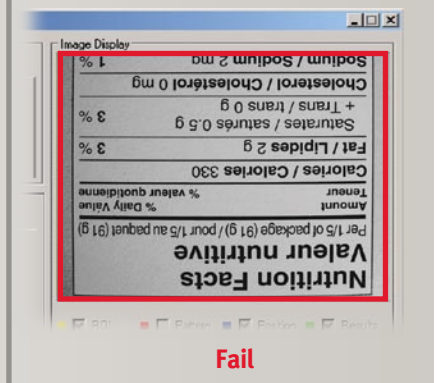
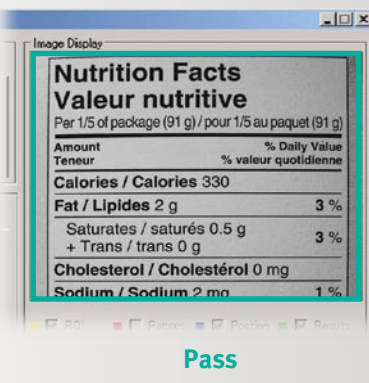
The vision sensor verifies that all nuts are formed completely and correctly.



LABEL POSITIONING



A photoelectric sensor detects only the presence or absence of an object. The VOS 300 series reliably detects the correct position and orientation of the label.

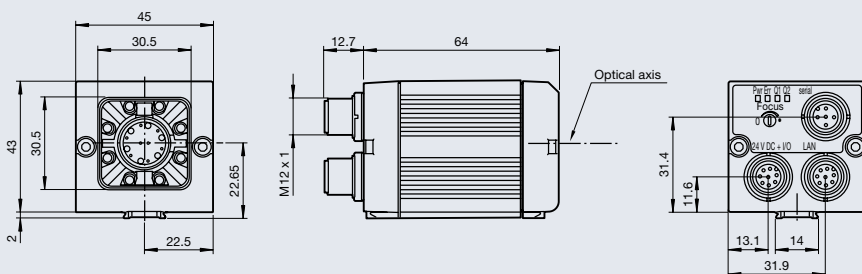




SPECIFICATIONS

MODEL	VOS301-100	VOS312-100
Feature checks	1	6
Jobs	1	16
Application	Multi-purpose vision sensor	
Sensing distance	20 mm – 500 mm	
Field of view	8 mm x 6 mm – 150 mm x 120 mm	
Optical resolution	12 µm/pixel – 240 µm/pixel	
Light source	White light	
Connection interfaces	RS-422, Ethernet	
Inputs	1 x 24 V, 1 x TRG optically isolated	
Outputs	4 x 24 V, PNP optically isolated	
Load current	100 mA (max.) per output	
Processing time	40 ms – 500 ms	
Supply voltage	24 V DC ±10%	
Current consumption	<200 mA	
Electrical connection	2 x 8-pin M12, 1 x 4-pin M12	
Protection (IEC)	IP65	
Housing material	Aluminum-anodized (front), plastic (back)	
Dimensions (H x W x L)	65 mm x 45 mm x 45 mm	

DIMENSIONS (mm)



ACCESSORIES

EXTERNAL ILLUMINATION

Ultra-bright LEDs, 24 V DC, M12 connection



MOUNTING CLAMP

Black anodized mounting clamp



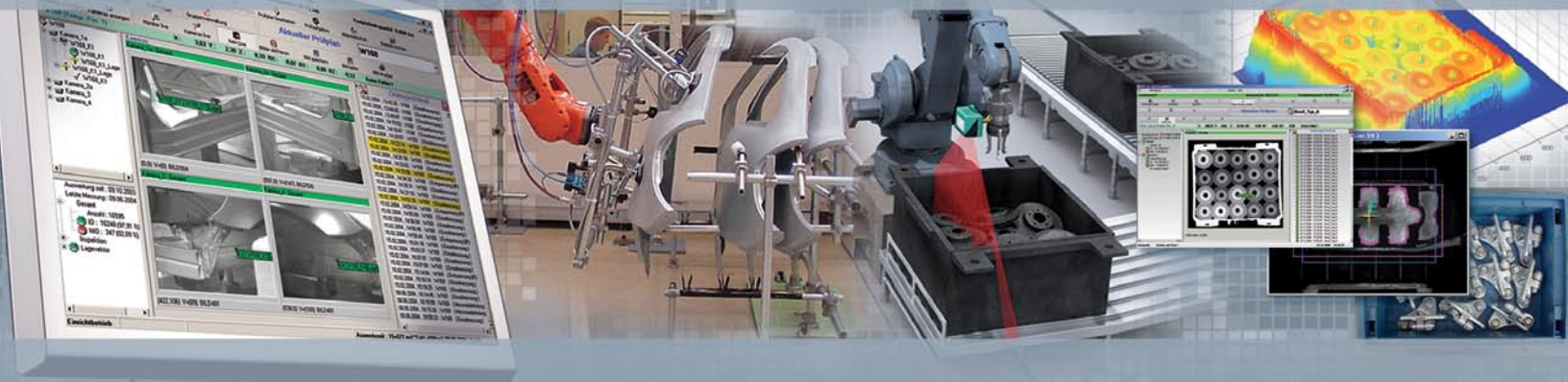
MOUNTING BRACKET

Right-angled, stainless steel mounting bracket



MODEL	DESCRIPTION
VOL300-FL45-WH	External illumination - White
VOL300-FL45-RT	External illumination - Visible Red
VOL300-FL45-IR	External Illumination - Infrared
OMH-VOS300-K01	Dovetail mounting clamp
OMH-VOS300-01	Mounting bracket

INDUSTRIAL VISION



VMT
PEPPERL+FUCHS

VMT, part of the Pepperl+Fuchs Group, provides individual turnkey systems and complete solutions for automation of industrial image processing applications. The highly qualified VMT engineering team has more than 20 years of success in applying 2D and 3D robotic vision-guided technology covering over 500 system installations.

VMT system solutions are based on self-developed software products adaptable to a customer's specific needs. Due to ongoing development and close association with technology partners, new system solutions are continually being designed and implemented.



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