

> DataVS2



> Vision Sensors

DATAVS2 - VISION SENSORS

The DataVS2 series of smart vision sensors offers the easiest way to solve the most common machine vision applications. A simple solution for packaging lines, pharmaceutical & lab automation, food and beverage industries, automotive and electronics plants.

The DataVS2 series combines sophisticated technology with extremely simple functioning thus representing the best easy-to-use solution to all vision control applications.

The DataVS2 is an intelligent camera. The sensor is fully embedded, still remaining extremely compact. Once configured, the device works in stand alone mode with no need of external control unit.

DataVS2 is the right solution when normal photoelectric sensors are not able to meet application requirements and represents a cost-effective and simple alternative to traditional vision systems.



HIGHLIGHTS

- Flexible and intuitive setup
- Extremely compact dimensions
- Red or IR integrated illuminator
- Focus knob
- Selectable lenses (6, 8, 12, 16mm)
- 640 x 480 pixel grey scale CMOS image sensor
- Different software versions:
 - Object Recognition (OBJ)
 - Advanced Object Recognition (AOR)
 - Identification (ID)
 - Professional (PRO)





CHARACTERISTICS

- Ease of use
- Compact dimensions
- Selectable lenses and adjustable focusing
- VGA resolution
- Integrated ethernet
- Wide range of controls
- VSM monitor panel

ADVANTAGES

The DataVS2 vision sensor can be easily configured using a PC-based wizard graphical user interface, the setup is extremely quick and intuitive thus allowing the easy creation of a vision control.

The DataVS2 compact dimensions (70 x 52 x 40mm) allow to install the device even in extremely narrow spaces.

The four different focal lengths, together with the possibility to adjust the focus, simplify the device mounting.

The 640 x 480 pixel imager (VGA resolution) is able to acquire high quality images thus verifying even the smallest parts.

The ethernet communication standard allows to connect all DataVS2 models to external devices in a simple and reliable way.

The wide range of controls allows to choose the solution that fits best the application requirements.

The VSM device represents an excellent tool for the machine operator as it displays the processed images as well as allows the access to the inspection parameters.



APPLICATIONS

The innovative versatility and excellent performances make DataVS2 smart vision sensor series the most reliable and advantageous solution for the most common applications of the main industrial markets: automotive and food plants, pharmaceutical and cosmetic packaging, electronics and solar, metal working.

DataVS2 has been developed specifically to solve typical applications in packaging, bottling, labelling, assembling and testing of products and semi-finished parts.

A simple solution able to control the cap presence on a plastic bottle, the shape of coffee waffles, count chocolates on a tray, check the filling level of medical phials, read codes, control the presence of an expiry date or manufacturing lot on food packages.



Pattern Match

Packaging:
logo check
Assembling:
product orientation
Post automation:
stamp check



Contour Match

Metal working:
integrity control
Food:
coffee waffle shape control



Position

Bottling:
liquid level control
Food:
label position control



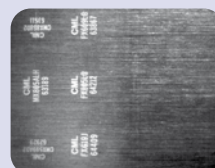
Width

Assembling:
plastic part control
Wood industry:
branch thickness measurement



Counting

Electronics:
component counting
Pharmaceutical:
blister stack counting



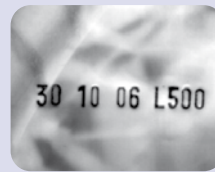
Contrast

Food:
date and lot presence control
Metal working:
laser marking control



Brightness

Bottling:
cap presence control
Packaging:
object counting



OCV - character check

Food:
date and lot presence control
Pharmaceutical:
date and lot presence control



Barcode & Datamatrix

Packaging:
product tracking
Assembling:
semi-finished part sorting



360° Pattern & Contour Match

Packaging:
part orientation on a conveyor
Assembling:
mechanical part orientation

APPLICATIONS

- Packaging, food and pharmaceutical
- Metal working
- Test and assembling
- Material handling

ADVANTAGES

The wide range of controls allows to solve many different kinds of applications ranging from a simple presence/absence check to the verification of the number, position and orientation of parts as well as label inspection.

The high acquisition and inspection rates make DataVS2 the ideal solution for detecting the presence and position of metal sheets as well as overprinting presence verification.

The DataVS2 possibility to build up multiple control inspection allows to verify the presence and the correct position of more particulars at the same time thus replacing multiple photoelectric devices which typically require an accurate mechanical positioning.

The configuration ease, together with the possibility to manage different formats, make DataVS2 the ideal solution for simple part position/orientation applications.



DATA VS2

The DataVS2 series of vision sensors offers all the characteristics able to solve machine vision applications in a flexible and intuitive way. Once configured through a software running on PC, the device works in stand alone mode.

The configuration software is supplied with the product and has been designed to guide the user step-by-step in the creation of an image inspection.

DataVS2 is available in four versions featuring different toolsets:

- DataVS2 Object Recognition
- DataVS2 Advanced Object Recognition
- DataVS2 Identification
- DataVS2 Professional

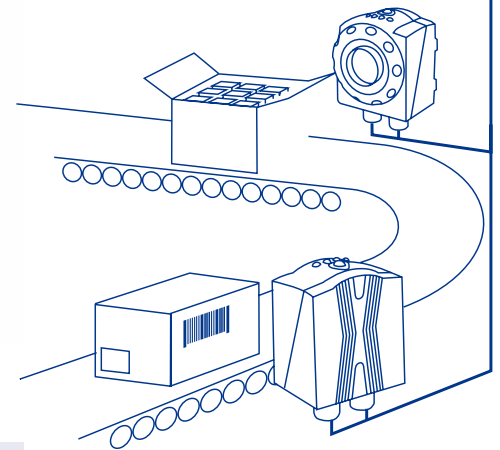
Two different illuminator options are available:

- Red illuminator (all models)
- Infrared illuminator (AOR and PRO models)

DataVS2 combines simplicity and versatility.

The sensor can store up to 20 different inspections, each of which can contain multiple controls on the same image.

One sensor alone is able to contemporarily carry-out different controls on the same object, thus reducing the installation time.



- VERSATILE PC SETUP
- WIZARD-BASED SOFTWARE
- ETHERNET COMMUNICATION
- OBJECT RECOGNITION
- 360° PATTERN & CONTOUR MATCH
- MONITORING AND TUNING VIA VSM MONITOR
- MULTIPLE CONTROLS
- IP DISCOVERY FUNCTION

VSM MONITOR



VSM MONITOR

DataVS2 models present a multifunction VSM monitor that allows to display images, adjust some parameters and extend, thanks to the built-in additional memory, the number of selectable inspections.

HARDWARE FEATURES

The extremely compact size of the DataVS sensors is not an obstacle for the full integration of all elements for a reliable image-based control.

The 8 bit grayscale 640x480 pixel imager is able to acquire up to 60 images per second.

The **integrated red or IR LED illuminator** ensures excellent light control on the field of view.

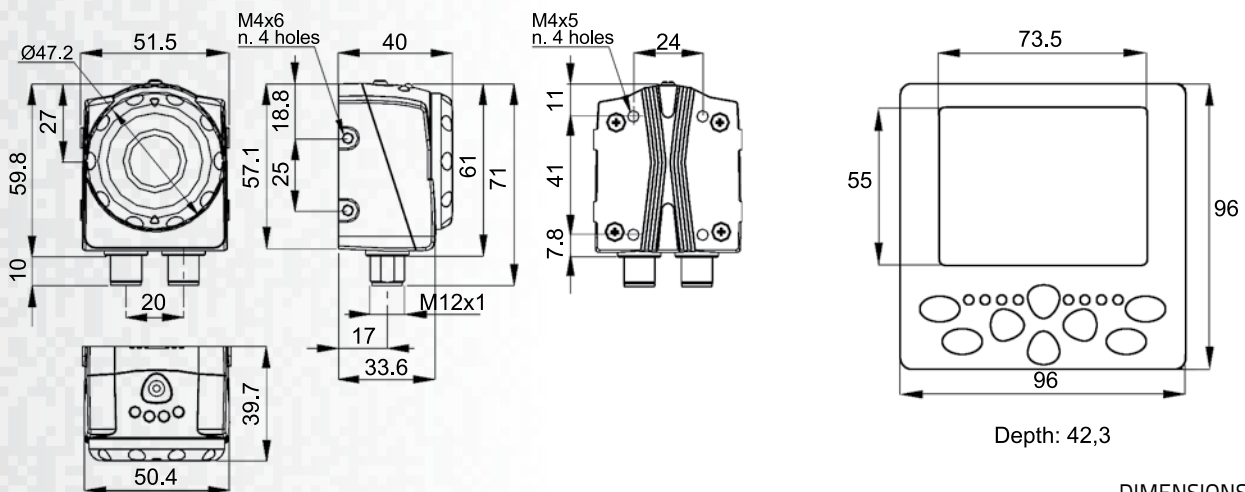
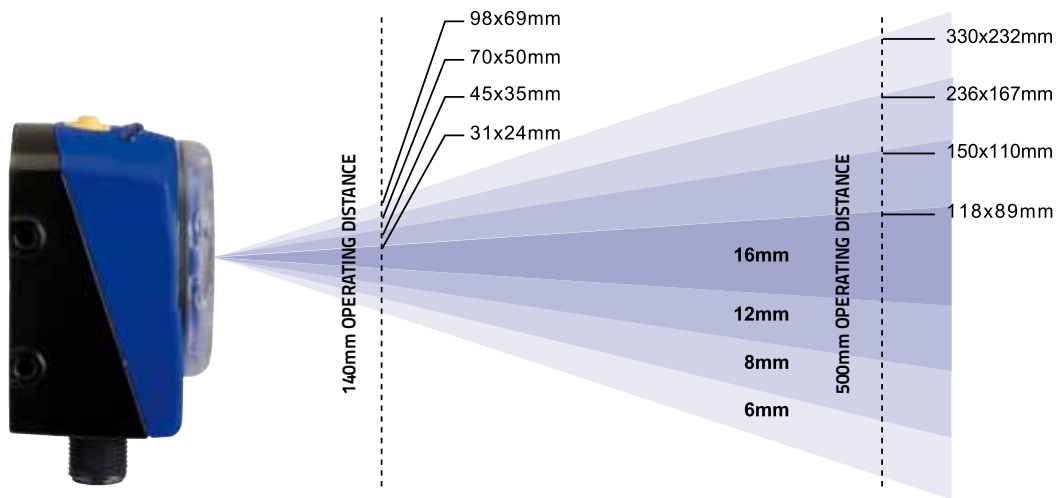
The **front focus knob** offers accurate focusing.

The **integrated interface** is composed of 4 signalling LEDs and a teach-in button. The latter has a double function: template image updating and sensor unlock.

The **lenses** are built-in and can be selected according to the model, guaranteeing flexible installation as far as the operating distance and field of view are concerned.

TECHNICAL DATA

Power supply	24Vdc ± 10%
Consumption (excluding output current and illuminator)	100mA at 24Vdc
Outputs	4 PNP outputs (OBJ and AOR models) 3 PNP outputs (ID and PRO models)
Inputs	1 inspection selection - 1 trigger (OBJ and AOR models) 1 trigger (ID and PRO models)
Network interface	M12 4-poles - 10/100 Mbps Ethernet
Serial interface	RS232 (ID and PRO models)
Output current	100mA max
Saturation voltage	< 2V
Integrated optics	6, 8, 12, 16mm
Integrated lighting	Red or Infrared (IR)
Resolution	640x480 (VGA)
Frame rate	60fps
Dimensions	69.8 x 51.5 x 40mm
Indicators	4 LEDs
Data retention	20 slot FLASH non-volatile memory
Operating temperature	-10 °C / +55 °C
Storage temperature	-25 °C / +75 °C
Housing material	Die-cast aluminium / ABS
Mechanical protection	IP50
Connections	M12 8 poles A-code, M12 4 poles D-code
Weight	125g



DIMENSIONS (MM)

MODELS AND FUNCTIONS

Model	HARDWARE FEATURES				TOOLS				
	Lens	Illuminator	RS232	I/O	OBJ	360° PM	360° CM	CODES	OCV
DataVS2-06-DE-OBJ	6mm	Red		4 outputs - 2 inputs	x				
DataVS2-08-DE-OBJ	8mm	Red		4 outputs - 2 inputs	x				
DataVS2-12-DE-OBJ	12mm	Red		4 outputs - 2 inputs	x				
DataVS2-16-DE-OBJ	16mm	Red		4 outputs - 2 inputs	x				
DataVS2-06-DE-AOR	6mm	Red		4 outputs - 2 inputs	x	x			
DataVS2-08-DE-AOR	8mm	Red		4 outputs - 2 inputs	x	x			
DataVS2-12-DE-AOR	12mm	Red		4 outputs - 2 inputs	x	x			
DataVS2-16-DE-AOR	16mm	Red		4 outputs - 2 inputs	x	x			
DataVS2-06-RE-ID	6mm	Red	x	3 outputs - 1 input				x	x
DataVS2-08-RE-ID	8mm	Red	x	3 outputs - 1 input				x	x
DataVS2-12-RE-ID	12mm	Red	x	3 outputs - 1 input				x	x
DataVS2-16-RE-ID	16mm	Red	x	3 outputs - 1 input				x	x
DataVS2-06-RE-PRO	6mm	Red	x	3 outputs - 1 input	x	x	x	x	x
DataVS2-08-RE-PRO	8mm	Red	x	3 outputs - 1 input	x	x	x	x	x
DataVS2-12-RE-PRO	12mm	Red	x	3 outputs - 1 input	x	x	x	x	x
DataVS2-16-RE-PRO	16mm	Red	x	3 outputs - 1 input	x	x	x	x	x
DataVS2-06-DE-AOR-I	6mm	Infrared		4 outputs - 2 inputs	x	x			
DataVS2-08-DE-AOR-I	8mm	Infrared		4 outputs - 2 inputs	x	x			
DataVS2-12-DE-AOR-I	12mm	Infrared		4 outputs - 2 inputs	x	x			
DataVS2-16-DE-AOR-I	16mm	Infrared		4 outputs - 2 inputs	x	x			
DataVS2-06-RE-PRO-I	6mm	Infrared	x	3 outputs - 1 input	x	x	x	x	x
DataVS2-08-RE-PRO-I	8mm	Infrared	x	3 outputs - 1 input	x	x	x	x	x
DataVS2-12-RE-PRO-I	12mm	Infrared	x	3 outputs - 1 input	x	x	x	x	x
DataVS2-16-RE-PRO-I	16mm	Infrared	x	3 outputs - 1 input	x	x	x	x	x

OBJ: Object Recognition (Brightness, Contrast, Width, Position, Contour Match, Pattern Match, Edge Count)

360° PM: 360° Pattern Match

360° CM: 360° Contour Match

CODES: Barcode, Datamatrix and QR

OCV: Optical Character Verification



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