# DATALOGIC...

DATALOGIC AUTOMATION

VISIO

### DATAVS2

The **DataVS2** vision sensor series presents all the characteristics to solve artificial machine vision applications in a flexible and intuitive way.

**DataVS2** is a completely embedded device: the optic, the red LED illuminator and the electronics are included in an extremely compact housing. The sensor is configured via PC through Ethernet communication. The configuration software is included in the product and it has been developed in order to lead the customer through the configuration process step by step.

**DataVS2** is available in four different versions according to the installed control tools: Object Recognition (OBJ), Advanced Object Recognition (AOR), Identification (ID) and Professional (PRO).

Many different control typologies are available: brightness, contrast, position, width, count, pattern match, countour match, 360° pattern match, barcode and datamatrix reader, OCV, 360° contour match & counter, 360° defect finder.

# DataVS2





## HIGHLIGHTS

- Flexible and intuitive setup via PC through Ethernet
- Memorisation of 20 inspections
- 14 different controls
- 360° pattern match for Advanced models
- Logical operators: AND, OR, NOT, NAND, NOR, ecc.
- TURBO mode to double elaboration speed
- VSM compatibility
- Inspection & Identification functionalities together available on Professional models

### APPLICATIONS

**DataVS2** is ideal for the control of text presence in overprinting and logo position on food packages, product completeness before packaging, logo position on cosmetic bottles, correct stamp on post envelopes, liquid level inside a plastic bottle, correct product orientation on a conveyor belt, barcode and datamatrix reading.



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l'étuvée



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

- Compact housing
   Red light LED illuminator
- Selectable lenses
- Focus knob
- Standard M12 connectors
- Ethernet communication
- 3+1 PNP outputs
- 4 signalling LEDs: output1, output2,
- power supply, communicationTeach push-button
- 640x480 pixel greyscale image sensor



# DIMENSIONS



### INDICATORS AND SETTINGS

Teach push-button with double function:

- reference image update
- recovery mode



- A Power supply, green
- **B** Digital output 1, orange
- C Digital output 2, orange
- D Network connection, green

M12 8-pole (power supply and I/O)

# CONNECTIONS



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M12 4-pole Ethernet

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1 = white/orange = RX+ 2 = white/green = TX+ 3 = orange = RX-4 = green = TX-

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#### **OBJ and AOR models**

- 1 = white = digital input 1 2 = brown = 24 Vdc3 = green = configurable output 4 = yellow = output 1 5 = grey = output 2
- 6 = pink = output 3
- 7 = blue = GND
- 8 = red = external trigger
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### **ID and PRO models**

- 1 = white = RS232 RX 2 = brown = 24 Vdc3 = green = configurable output 4 = yellow = output 1 5 = grey = output 26 = pink = RS232 TX
- 7 = blue = GND
- 8 = red = external trigger

# **TECHNICAL DATA**

Power supply:	24 Vcc ±10 %	
Ripple:	1 Vpp max with illuminator 2 Vpp without illuminator	
Consumption:	100 mA at 24 Vdc (without illuminator)	
Output type:	3+1 PNP	
Output current:	100 mA max	
Saturation voltage:	< 2 V	
Network interface:	M12 4-poli Ethernet 10/100 Mbs	
Serial interface:	RS232 (only ID and PRO models)	
External illuminator interface:	Strobe signal (24 V PNP N.O.)	
Frame rate:	60 fps	
Optics:	integrated (6 mm / 8 mm / 12 mm / 16 mm)	
Setting:	TEACH push-button	
Indicators:	4 LED	
Connections:	M12 8 pole A-code M12 4 pole D-code	
Mechanical protection:	IP50	
Protection devices:	A, B	
Housing material:	aluminium alloy / ABS	
Weight:	125 g	
Operating temperature:	-10 +50°C	
Storage temperature:	-25 +70°C	



# **TECHNICAL NOTES**

- <sup>1</sup>Limit values
- <sup>2</sup>A reverse polarity protection B overload and short-circuit protection



# FIELD OF VIEW

OPERATING DISTANCE (MM)	FIELD OF VIEW (WIDTH X HEIGHT) IN MM					
	DATAVS2-16-xx-xxx	DATAVS2-12-xx-xxx	DATAVS2-08-xx-xxx	DATAVS2-06-xx-xxx		
50	-	17 x 12	25 x 20	42 x 30		
80	-	25 x 20	40 x 30	60 x 41		
110	-	33 x 25	55 x 40	80 x 55		
140	31 x 24	45 x 35	70 x 50	98 x 69		
170	39 x 29	53 x 38	85 x 60	118 x 83		
200	46 x 34	60 x 50	100 x 70	138 x 92		
300	70 x 53	90 x 65	145 x 103	201 x 140		
400	94 x 71	121 x 82	186 x 132	265 x 189		
500	118 x 89	150 x 110	236 x 167	330 x 232		
600	143 x 107	185 x 130	282 x 232	385 x 270		



## SOFTWARE PC





# Tim Statistics

Show:	💽 Data	🕘 Graphs 🛛 🌔		Reset	Reset Statistics		
Graphs inputs:	NONE	▼ NONE ▼	NONE -	NONE -	NONE		
Operator		Execution Time	Total PASSED	Total FAILED	Executed		
Image acquisition	time	16,42 ms					
Brightness1		0,11 ms	215 (100%)	0 (0%)	215		
Contrast3		0,83 ms	215 (100%)	0 (0%)	215		
Position4		0,79 ms	0 (0%)	215 (100%)	215		
Output delay time:	2	0,00 ms					
Output duration ti	ne:	0,00 ms					
Total execution tin	ne:	18,16 ms	0 (0%)	215 (100%)	215		
Insp. per second:					55,06 Inspe		

The statistics panel displays all the information about inspection results and execution time. Data can be shown also in a graph.

### Image saving

SVS Discovery IP Address 172.27.30.113 172.27.30.211

Subnet Mas

255.255.0.0

255.255.0.0

Find Configure Connect

Statistics

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## **EXCELENT FLEXIBILITY**



Each inspection is composed of a template and parameters. The user can store up to 20 different inspections on the sensor memory in order to manage different items on the same production line.

The different inspections can be recalled in several different ways:

(1) using digital pulses on OBJ and AOR models

(2) through an Ethernet command on AOR, ID and PRO models

(3) through a Serial command on ID and PRO models

### VSM COMPATIBILITY

All DataVS2 models (i.e. OBJ, AOR, ID and PRO) are compatible with VSM, the monitoring device that allows to display elaborated images together with inspection results. The unit also offers the possibility to change the running inspection as well as to fine-tune the vision sensor functioning parameters on-the-fly.

The device integrates a 3.5" LCD color display and 8 push buttons. It features a standard TCP/IP Ethernet interface thus it can be connected either directly to a specific vision sensor or to a Local Area Network (LAN) where more DataVS2 have been previously installed.



# CONTROL TABLE

# **Object Recognition**

Control	Functioning	Applications	Image
Pattern Match	Searches a sample inside a specific area	<ul> <li>Packaging: logo check</li> <li>Assembling: product orientation</li> <li>Post automation: stamp check</li> </ul>	BEAUTY ANT Cream
Contour Match	Shape control	<ul> <li>Metal working: integrity control</li> <li>Food: coffee waffle shape control</li> </ul>	
Position	Check of object border position	<ul> <li>Bottling: liquid level control:</li> <li>Food: label position control</li> </ul>	
Width	Measures object width	<ul> <li>Assembling: plastic part control</li> <li>Wood industry: branch thickness measurement</li> </ul>	
Counting	Counts the objects along a line	<ul> <li>Electronics: component counting</li> <li>Pharmaceutical: blister stack counting</li> </ul>	
Contrast	Contrast calculation	<ul> <li>Food: date and lot presence control</li> <li>Metal working: laser marking control</li> </ul>	Caller Ca
Brightness	Brightness calculation	<ul> <li>Bottling: cap presence control</li> <li>Packaging: object counting</li> </ul>	

# ADVANCED MODELS (AOR)

The Advanced Object Recognition (AOR) models integrate new important functionalities, including:



# IDENTIFICATION MODELS (ID)

Control	Functioning	Image
Barcode reader	Decode: read and decode one (or more) barcode in the Region Of Interest. String match: read and decode one (or more) barcode and compare it with a set of reference strings. Counter: count the number of barcodes in the Region Of Interest.	
Datamatrix reader	Decode: read and decode one (or more) datamatrix in the Region Of Interest. String match: read and decode one (or more) datamatrix and compare it with a set of reference strings. Counter: count the number of datamatrix in the Region Of Interest.	Gedruc mit krat Zweidin
OCV	Verify the readability of printed characters.	109 10 11 101 Automas particularente etter 09 10 11 1011 Auto 9 Auto 222

# Symbologies

	Codabar		UPC-E
	Code 39		PDF417
	Code 128		Pharmacode
	EAN-8 EAN-13 EAN-128	հակովովորերինինինինինինինինինին	Postnet
	Interleaved 2 of 5	Արգվիվիկորովիվիսկորդություններիկորինու	IMB
0 <sup>11</sup> 12345 <sup>16</sup> 7890 <sup>111</sup> 5	UPC-A		ECC200

# PROFESSIONAL MODELS (PRO)

The professional model includes in the same software all the functionalities already available on Advanced and Identification versions. Moreover it features 5 new software tools: 3 locators and 2 controls.

Locators	Functioning
Barcode	Finds a barcode in the Region Of Interest and re-locates all the other inspection controls accordingly.
Datamatrix	Finds a datamatrix code in the Region Of Interest and re-locates all the other inspection controls accordingly.
360° Contour Match	Finds a reference template in the Region Of Interest and re-locates all the other inspection controls accordingly.

Controls	Functioning	
360° Contour Counter	Counts how many times a reference contour is present in the Region Of Interest.	6 9
360° Defect Finder	Detects even smallest defects on a part.	



# ACCESSORIES



# MODEL SELECTION TABLE

MODEL	SOFTWARE	LOGICAL TOOLS	ETHERNET	RS232	I/O	OPTIC	ORDER N°
DATAVS2-06-DE-OBJ	Object Rec.		Base		2IN; 4 OUT	6mm	959951050
DATAVS2-08-DE-OBJ	Object Rec.		Base		2IN; 4 OUT	8mm	959951060
DATAVS2-12-DE-OBJ	Object Rec.		Base		2IN; 4 OUT	12mm	959951070
DATAVS2-16-DE-OBJ	Object Rec.		Base		2IN; 4 OUT	16mm	959951030
DATAVS2-06-DE-AOR	Adv. Obj. Rec.	•	Advanced		2IN; 4 OUT	6mm	959951000
DATAVS2-08-DE-AOR	Adv. Obj. Rec.	•	Advanced		2IN; 4 OUT	8mm	959951010
DATAVS2-12-DE-AOR	Adv. Obj. Rec.	•	Advanced		2IN; 4 OUT	12mm	959951020
DATAVS2-16-DE-AOR	Adv. Obj. Rec.	•	Advanced		2IN; 4 OUT	16mm	959951040
DATAVS2-06-RE-ID	Identification	•	Advanced	•	1 IN; 3 OUT	6mm	959951130
DATAVS2-08-RE-ID	Identification	•	Advanced	•	1 IN; 3 OUT	8mm	959951140
DATAVS2-12-RE-ID	Identification	•	Advanced	•	1 IN; 3 OUT	12mm	959951120
DATAVS2-16-RE-ID	Identification	•	Advanced	•	1 IN; 3 OUT	16mm	959951190
DATAVS2-06-RE-PRO	Professional	•	Advanced	•	1 IN; 3 OUT	6mm	959951220
DATAVS2-08-RE-PRO	Professional	•	Advanced	•	1 IN; 3 OUT	8mm	959951230
DATAVS2-12-RE-PRO	Professional	•	Advanced	•	1 IN; 3 OUT	12mm	959951240
DATAVS2-16-RE-PRO	Professional	•	Advanced	•	1 IN; 3 OUT	16mm	959951250

# ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	ORDER N°
CV-A1-36-B-03	M12 8-pin shielded cable 3m	95A255430
CV-A1-36-B-05	M12 8-pin shielded cable 5m	95A255440
CV-A1-36-B-10	M12 8-pin shielded cable 10m	95A255450
DATAVS-ST-5068	L-shaped fixing bracket for 90° mounting	95A901320
DATAVS-ST-5066	U-shaped fixing bracket for angle adjustment	95A901330
DATAVS-CV-RJ45C-03	3 m crossed Ethernet cable	95A901340
DATAVS-CV-RJ45D-03	3 m direct Ethernet cable	95A901350
DATAVS-MK-01	Mounting kit	95A901380



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