

# DataVS2 Vision Sensor

## Quick Guide

### MINIMUM SYSTEM REQUIREMENTS

Check that your Personal Computer meets the following minimum requirements for system interfacing:

- Pentium 1,7 GHz processor
- 1 GB of RAM
- Monitor SVGA (1024x768 pixel)
- Network Connection board 10/100 Mbps
- 50 MB Hard Disk drive free space
- DVD-ROM drive

For best performances the following requirements are recommended:

- Pentium 2 GHz processor
- 2 GB of RAM
- Monitor resolution 1280x768 at least
- Network Connection board 100 Mbps
- 60 MB Hard Disk drive free space
- DVD-ROM drive

### DESCRIPTION

The DataVS2 series of vision sensors offers the easiest way to solve the most common machine vision applications.



- Compact IP50 housing
- Red light LED illuminator
- Selectable lens
- Focus ring
- Standard M12 connectors
- Teach button
- Image sensor 640x480 pixel

### ELECTRIC CONNECTIONS

<b>M12 4 poles Ethernet: (connectivity)</b> pin 1: White/Orange: Rx+ pin 2: White/Green: Tx+ pin 3: Orange: Rx- pin 4: Green: Tx-	
<b>M12 8 poles: (power and I/O)</b> pin 1: white : RS-232 Rx pin 2: brown : 24 VDC pin 3: green : Output 4 / Ext. Illuminator Strobe pin 4: yellow : Output 1 pin 5: grey : Output 2 pin 6: pink : RS-232 Tx pin 7: blue : Ground pin 8: red : External Trigger	

### INDICATORS

1. Power, green;
2. Output 1, orange;
3. Output 2, orange;
4. Network connection, green.



### CONFIGURATION

#### Easy Graphic User Interface – Starting Configuration

DataVS2 sensor requires a preliminary setting: this is made in 3 steps by using the Easy GUI interface.



After the start-up of the program, the user is asked to establish a connection to the sensor:



**Find sensor:** research of the sensors connected to the network  
**Connect to:** connection to the last sensor you have worked with  
**Offline:** open a working session without sensor

**If the sensor found is displayed in red, select Configure and follow the instructions**

#### Step 1: Image Setup

The first step allows to handle the connection to the sensor and set the parameters related to the image quality. Once achieved the desired result, the image can be saved and set as reference for the sensor operations



- **Online/Offline selection**
- **Select a Task:** create a new inspection or open an existing inspection from the PC or from the sensor
- **Set Reference Image:** save the image as reference for the following steps

#### Step 2: Teach

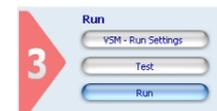
In this step you may configure the desired control.



- **Select Locator:** a locator is a special Tool allowing the sensor to find the object inside the image. Once the control is chosen it is added to current inspection. It is possible to add at most one locator to current inspection
- **Select Control:** It allows selecting the controls that will be added to the inspection process. Once the control is chosen it is added to current inspection.
- **Output Setup :** configuration of the 3 digital outputs.

After selecting the control, it's necessary to position it on the reference image, by clicking in the working area and by moving and resizing the ROI. The Control Panel displays the control's parameters, initialized to standard values: it is possible to modify them by using the sliders or by directly writing new numeric values. The STATUS indicator, as well as the ROI contour reveals the result of control application by assuming red (bad result) or green (good result) colouring.

#### Step 3: Run



- **VSM \ Run Settings:** configure VSM options and running options for the current Inspection.
- **Test:** verification on the PC (Online o Offline) of the selected controls.
- **Run :** store and launch the inspection on the sensor.

### CONTROL PANEL

Control	Functioning	Applications
Pattern Match	Searches for a pattern inside the target area	Verifies logo on food packages
Position	Identifies the object position edge (edge detection)	Controls the level of liquids in bottles
OCV	Checks presence of characters on parts	Verifies overprint of labels
Barcode	Searches and decodes the contents of one or more Barcode symbols	Identification
Datamatrix	Searches and decodes the contents of one or more Datamatrix symbols	Identification

### COMMUNICATIONS

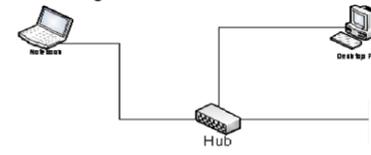
Communication with the sensor occurs via the Ethernet network.

**Direct connection:** personal computer is connected directly to device using a "cross cable".



**Warning: in case of direct connection the PC requires a fixed IP address**

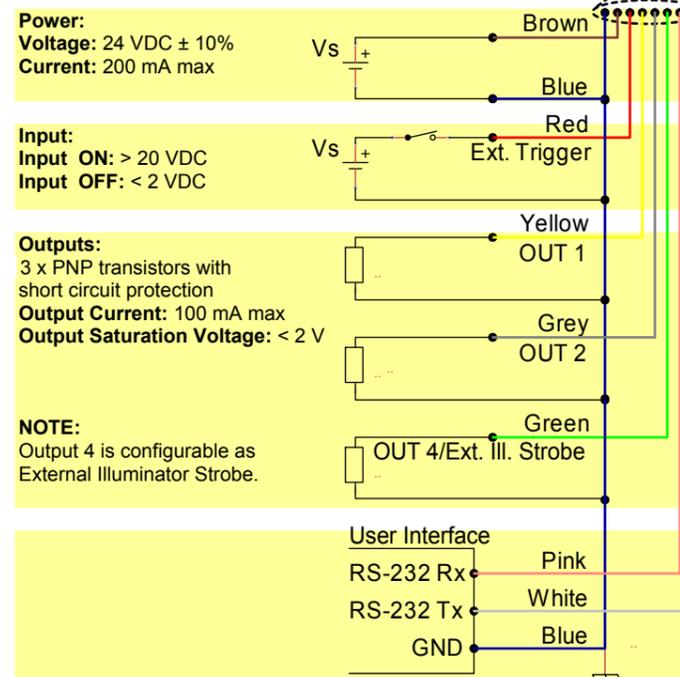
**Through LAN:** use common network (non-cross) cables normally used to connect devices to routing hubs.



**The sensor has the following default IP address:**  
**IP Address: 172.27.101.208**  
**Subnet mask: 255.255.0.0**

### HARDWARE CONNECTIONS

#### M12 8 Poles (Power and I/O)



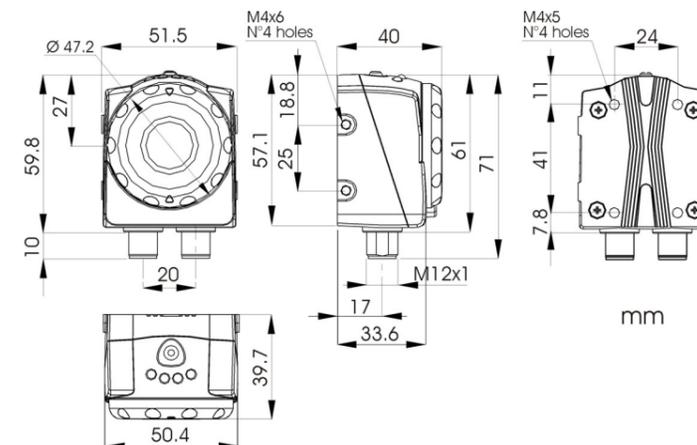
### TECHNICAL DATA

Supply voltage (Vs):	24 Vdc ± 10%
Ripple voltage:	1 Vpp max with illuminator 2 Vpp max without illuminator
Current draw: (excluding output current and illuminator)	100 mA at 24 VDC
Current draw with illuminator: (depends on how long illuminator stays on)	max 200 mA at 24 VDC
Outputs:	3 PNP outputs (short circuit protection) (Output 4 is configurable as External Illuminator Strobe)
Output current:	100 mA max
Output saturation voltage:	< 2 V
Network interface:	M12 4 poles – 10/100 Mbps ethernet
Optics:	Integrated
Resolution:	640 × 480 (VGA)
Dimensions:	69.8 × 51.5 × 40 mm
Indicators:	4 LED
Setup:	1 Teach-In button
Data retention:	Non-volatile FLASH memory
Operating temperature:	-10 °C ... +55 °C
Storage temperature:	-25 °C ... +75 °C
Vibration:	0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance:	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material:	Aluminium alloy / ABS
Mechanical protection:	IP50
Connections:	M12 8 pole A-code, M12 4 pole D-code
Weight:	125 g

### OPERATING DISTANCE PANEL

Operating distance(mm):	DataVS2-16-RE-ID	DataVS2-12-RE-ID	DataVS2-08-RE-ID	DataVS2-06-RE-ID
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

### MECHANICAL DIMENSIONS



**DECLARATION OF CONFORMITY**  
 We DATALOGIC AUTOMATION declare under our sole responsibility that these products are conform to the 2004/108/CE and successive amendments.

**WARRANTY**  
 DATALOGIC AUTOMATION warrants its products to be free from defects. DATALOGIC AUTOMATION will repair or replace, free of charge, any product found to be defective during the warranty period of 36 months from the manufacturing date. This warranty does not cover damage or liability deriving from the improper application of DATALOGIC AUTOMATION products.

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