**OEM Automatic Ltd**
Address: Whiteacres, Whetstone Leicester, LE8 6ZG
0116 284 9900 | Orders@oem.co.uk | www.oem.co.uk

# ZEBRA VS40 SMART CAMERA

VS40-WA20M4-2R00W
VS40, WIDE ANGLE, 2.3 MP, MV TOOLS, RED, RED BP FILTER

- Ease of Setup with Auto-Tune: The VS40 offers a one-button Auto-Tune feature that simplifies setup, optimizing image quality for reliable inspections straight out of the box
- IoT and Cloud-Ready: Equipped to send data to Zebra's Savanna™ cloud service, the VS40 supports compliance and image storage without requiring local server infrastructure
- Power Over Ethernet (PoE): The device can be powered via Ethernet, reducing setup complexity and removing the need for additional power supplies
- Integrated with Zebra Aurora: Managed by Zebra Aurora software, the VS40 allows users to control multiple machine vision and industrial scanner devices through a single platform, offering tools for experts and guidance for beginners
- Advanced Lighting and Optics: Featuring integrated, customizable lighting options (such as red, blue, and infrared LEDs) and a rugged, industrial-grade design, the VS40 achieves high-quality imaging suitable for challenging environments

**PRODUCT DESCRIPTION**

The VS40 can be used in almost any inspection application on a production line, thanks to its wide range of Machine Vision tools. Tailor the device to your application with a wide range of lenses, lighting, I/Os and filters. In addition, you can upgrade to more advanced features by simply purchasing a software license. With Zebra Aurora's powerful software platform, you can easily set up, deploy and run your VS40 smart cameras.

## TECHNICAL DATA

| | |
|---|---|
| **Focus** | Liquid lens |

| | |
|---|---|
| **Interface out** | Ethernet with POE, Serial, USB & Industrial Protocols |
| **Lighting** | Red |
| **Resolution** | 2.3 MP |
| **Size** | 54.0 x 64.0 x 91.4 |
| **Software performance** | STANDARD MV TOOLSET |
| **Type of lens** | Wide angel |
| **Type of scanner** | Smart Camera |

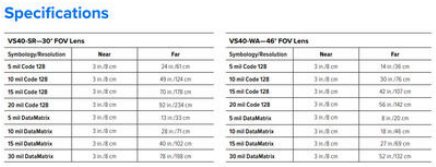
Machine Vision (MV) Tools

| Tool | Description | Sensor | Standard | Advanced |
|---|---|---|---|---|
| Object Locate | Find high-contrast features | • | • | • |
| Pixel Counter | Count pixels with a set/given grey level in a specific area | • | • | • |
| Brightness | Provide the average brightness for an area | • | • | • |
| Contrast | Provide the average contrast for an area | • | • | • |
| Edge Tool | Find edges for fixturing and presence/absence | • | • | • |
| Distance Tool | Measure the distance between two existing tool results | • | • | • |
| Advanced Pattern | Find challenging features | | • | • |
| Blob | Find, sort and count areas of joined pixels with a similar grey level | | • | • |
| Optical Character Verification (OCV) | Inspects the quality of text or logos | | • | • |
| Find Circle | Find and measure circles | | • | • |
| Caliper Tool | Find and measure the distance between two edges | | • | • |
| Filters | Enhance image quality for more robust inspection | | • | • |
| 1D/2D/DPM | Read 1D, 2D and DPM barcodes | | • | • |
| Deep Learning OCR | Deep Learning-based OCR | | | • |

Footnotes

1. Some features available in a future release. Contact your Zebra Partner or sales representative for more information.
2. Refer to Product Reference Guide for complete list of symbologies.
3. Printing resolution, contrast, power source, illumination source, and ambient light dependent.

Specifications subject to change without notice.



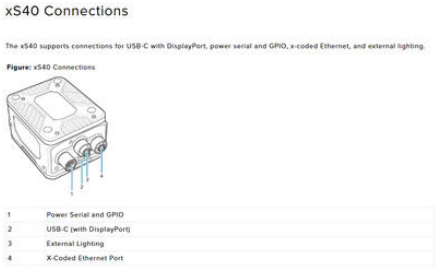
## Specifications

VS40-SR—30° FOV Lens

| Symbology/Resolution | Near | Far |
|---|---|---|
| 5 mil Code 128 | 3 in./8 cm | 24 in./61 cm |
| 10 mil Code 128 | 3 in./8 cm | 49 in./124 cm |
| 15 mil Code 128 | 3 in./8 cm | 70 in./178 cm |
| 20 mil Code 128 | 3 in./8 cm | 92 in./234 cm |
| 5 mil DataMatrix | 3 in./8 cm | 13 in./33 cm |
| 10 mil DataMatrix | 3 in./8 cm | 28 in./71 cm |
| 15 mil DataMatrix | 3 in./8 cm | 40 in./102 cm |
| 30 mil DataMatrix | 3 in./8 cm | 76 in./193 cm |

VS40-WA—46° FOV Lens

| Symbology/Resolution | Near | Far |
|---|---|---|
| 5 mil Code 128 | 3 in./8 cm | 14 in./36 cm |
| 10 mil Code 128 | 3 in./8 cm | 30 in./76 cm |
| 15 mil Code 128 | 3 in./8 cm | 42 in./107 cm |
| 20 mil Code 128 | 3 in./8 cm | 56 in./142 cm |
| 5 mil DataMatrix | 3 in./8 cm | 8 in./20 cm |
| 10 mil DataMatrix | 3 in./8 cm | 18 in./46 cm |
| 15 mil DataMatrix | 3 in./8 cm | 27 in./69 cm |
| 30 mil DataMatrix | 3 in./8 cm | 52 in./132 cm |



## xS40 Connections

The xS40 supports connections for USB-C with DisplayPort, power serial and GPIO, x-coded Ethernet, and external lighting.

**Figure:** xS40 Connections



| | |
|---|---|
| 1 | Power Serial and GPIO |
| 2 | USB-C (with DisplayPort) |
| 3 | External Lighting |
| 4 | X-Coded Ethernet Port |

## Ethernet Connector

**Table: Ethernet Connector Pinout Diagram**

| Pin | Description |
|---|---|
| 1 | TP1+ |
| 2 | TP1- |
| 3 | TP2+ |
| 4 | TP2- |
| 5 | TP4+ |
| 6 | TP4- |
| 7 | TP3- |
| 8 | TP3+ |
| SHELL | SHIELD |

## External Light Connector

**Table: External Light Connector Pinout Diagram**

| Pin | Color | Description |
|---|---|---|
| 1 | Brown | DC_OUT / GPIO8 |
| 2 | White | GPIO7 |
| 3 | Blue | GND |
| 4 | Black | GPIO6 |
| 5 | Grey | ANALOG_OUT |
| SHELL | Bare | SHIELD |

## Power and IO Connector

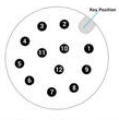


**Table: Power and I/O Connector Pinout Diagram**

| Pin | Color | Description |
|---|---|---|
| 1 | Yellow | GPIO2 |
| 2 | White/Yellow | TXD |
| 3 | Brown | RXD |
| 4 | White/Brown | GPIO4 |
| 5 | Violet | GPIO5 |
| 6 | White/Violet | COMMON_IN |
| 7 | Red | DC_IN |
| 8 | Black | GND |
| 9 | Green | COMMON_OUT |
| 10 | Orange | GPIO0 |
| 11 | Blue | GPIO1 |
| 12 | Grey | GPIO3 |
| SHELL | Bare | SHIELD |

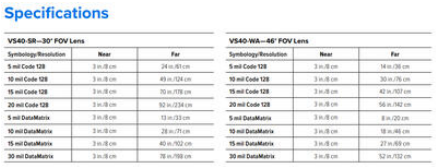
Machine Vision (MV) Tools

| Tool | Description | Sensor | Standard | Advanced |
|---|---|---|---|---|
| Object Locate | Find high-contrast features | • | • | • |
| Pixel Counter | Count pixels with a set/given grey level in a specific area | • | • | • |
| Brightness | Provide the average brightness for an area | • | • | • |
| Contrast | Provide the average contrast for an area | • | • | • |
| Edge Tool | Find edges for fixturing and presence/absence | • | • | • |
| Distance Tool | Measure the distance between two existing tool results | • | • | • |
| Advanced Pattern | Find challenging features | | • | • |
| Blob | Find, sort and count areas of joined pixels with a similar grey level | | • | • |
| Optical Character Verification (OCV) | Inspects the quality of text or logos | | • | • |
| Find Circle | Find and measure circles | | • | • |
| Caliper Tool | Find and measure the distance between two edges | | • | • |
| Filters | Enhance image quality for more robust inspection | | • | • |
| 1D/2D/DPM | Read 1D, 2D and DPM barcodes | | • | • |
| Deep Learning OCR | Deep Learning-based OCR | | | • |

Footnotes

1. Some features available in a future release. Contact your Zebra Partner or sales representative for more information.
2. Refer to Product Reference Guide for complete list of symbologies.
3. Printing resolution, contrast, power source, illumination source, and ambient light dependent.

Specifications subject to change without notice.



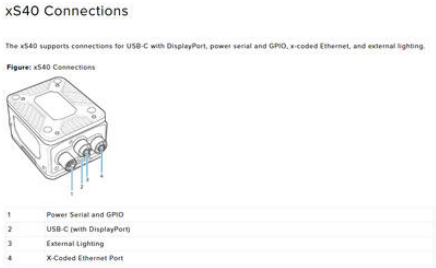
## Specifications

VS40-SR—30° FOV Lens

| Symbology/Resolution | Near | Far |
|---|---|---|
| 5 mil Code 128 | 3 in./8 cm | 24 in./61 cm |
| 10 mil Code 128 | 3 in./8 cm | 49 in./124 cm |
| 15 mil Code 128 | 3 in./8 cm | 70 in./178 cm |
| 20 mil Code 128 | 3 in./8 cm | 92 in./234 cm |
| 5 mil DataMatrix | 3 in./8 cm | 13 in./33 cm |
| 10 mil DataMatrix | 3 in./8 cm | 28 in./71 cm |
| 15 mil DataMatrix | 3 in./8 cm | 40 in./102 cm |
| 30 mil DataMatrix | 3 in./8 cm | 76 in./193 cm |

VS40-WA—46° FOV Lens

| Symbology/Resolution | Near | Far |
|---|---|---|
| 5 mil Code 128 | 3 in./8 cm | 14 in./36 cm |
| 10 mil Code 128 | 3 in./8 cm | 30 in./76 cm |
| 15 mil Code 128 | 3 in./8 cm | 42 in./107 cm |
| 20 mil Code 128 | 3 in./8 cm | 56 in./142 cm |
| 5 mil DataMatrix | 3 in./8 cm | 8 in./20 cm |
| 10 mil DataMatrix | 3 in./8 cm | 18 in./46 cm |
| 15 mil DataMatrix | 3 in./8 cm | 27 in./69 cm |
| 30 mil DataMatrix | 3 in./8 cm | 52 in./132 cm |



## xS40 Connections

The xS40 supports connections for USB-C with DisplayPort, power serial and GPIO, x-coded Ethernet, and external lighting.

**Figure:** xS40 Connections



| | |
|---|---|
| 1 | Power Serial and GPIO |
| 2 | USB-C (with DisplayPort) |
| 3 | External Lighting |
| 4 | X-Coded Ethernet Port |

## Ethernet Connector

**Table: Ethernet Connector Pinout Diagram**

| Pin | Description |
|---|---|
| 1 | TP1+ |
| 2 | TP1- |
| 3 | TP2+ |
| 4 | TP2- |
| 5 | TP4+ |
| 6 | TP4- |
| 7 | TP3- |
| 8 | TP3+ |
| SHELL | SHIELD |

## External Light Connector

**Table: External Light Connector Pinout Diagram**

| Pin | Color | Description |
|---|---|---|
| 1 | Brown | DC_OUT / GPIO8 |
| 2 | White | GPIO7 |
| 3 | Blue | GND |
| 4 | Black | GPIO6 |
| 5 | Grey | ANALOG_OUT |
| SHELL | Bare | SHIELD |

## Power and IO Connector

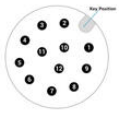



**Table: Power and I/O Connector Pinout Diagram**

| Pin | Color | Description |
|---|---|---|
| 1 | Yellow | GPIO2 |
| 2 | White/Yellow | TXD |
| 3 | Brown | RXD |
| 4 | White/Brown | GPIO4 |
| 5 | Violet | GPIO5 |
| 6 | White/Violet | COMMON_IN |
| 7 | Red | DC_IN |
| 8 | Black | GND |
| 9 | Green | COMMON_OUT |
| 10 | Orange | GPIO0 |
| 11 | Blue | GPIO1 |
| 12 | Grey | GPIO3 |
| SHELL | Bare | SHIELD |