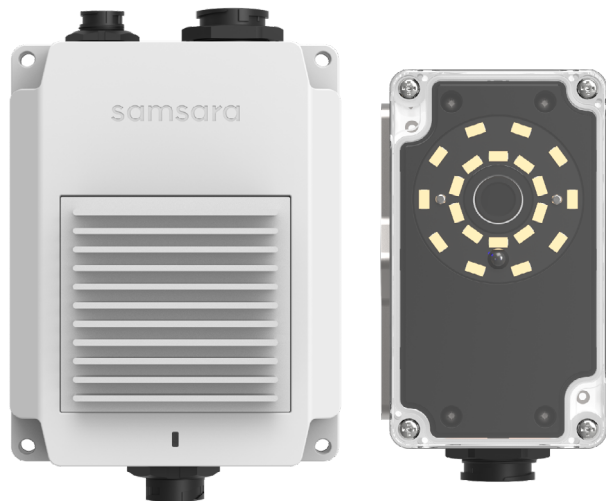# VS2 Series Vision System

## Datasheet

## OVERVIEW

The Samsara VS2 machine vision system provides all the benefits of automated quality control–increased quality and yield, reduced rework and scrap, and improved safety and compliance–in a far easier to use package. Integrated hardware and cloud-based software simplify previously complex and costly setup so that you can use vision to solve even more problems across your business.

## HIGHLIGHTS

| | |
|---|---|
| Centrally managed | Securely access, view, and manage every line from any device with a web-browser |
| Traceability | Images of every inspected and rejected item are labeled and stored in the secure, built-in ` database |
| Built-in analytics | Instantly review quality metrics and production data with automatically generated production run reports |
| Easy setup | Share inspection programs across lines and set up HMIs in just a few clicks |

# Powerful vision applications across industries

Samsara's inspection system makes it intuitive and fast to set up 100% vision verification for the most common quality-management challenges without time-consuming training or extensive expertise. The vision system interface is securely accessible from any device with a web browser and can be monitored, configured, and updated centrally for every line.

## CODE MATCHING, LABEL PRINTING, AND APPLICATION VERIFICATION

Verify and match against all 1D/2D barcodes, confirm product label match and alignment/centering, automatically detect the presence of lot numbers and batch codes, and evaluate best-by dates according the SKU being produced



## PRODUCT COUNT AND BOTTLING VERIFICATION

Monitor filling processes to minimize scrap by confirming proper fill level, case packaging, and presence of safety seals



## PRODUCT DETAIL AND QUALITY VERIFICATION

Easily program verification of product details like color, size, count, texture, and object presence

## Easy to setup inspections

With centralized configuration from the easy-to-use dashboard, new programs can be configured in just a few clicks–no coding expertise required. And because every camera is connected to the cloud, you can easily share common programs between lines with Cloud Sync.
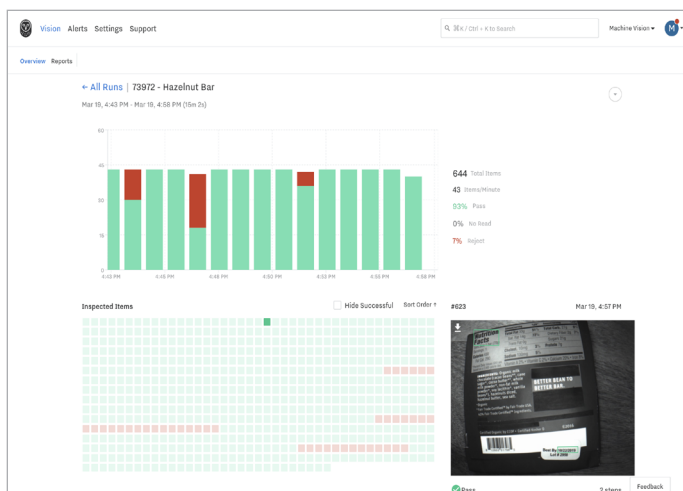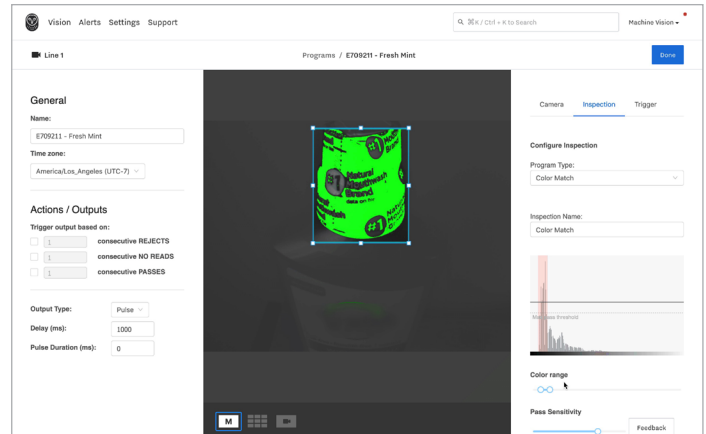


## Full visibility into every run



Every product image, from every run, is easily accessible and searchable, as is quality performance across lines. Use built-in secure, online traceability reporting to quickly verify that troublesome line performance has been resolved with always-available production reports from any date range, including rate and quality statistics.

## Seamless changeovers

VS2s integrate with existing production systems, PLCs, and historians to allow automatic product changeovers with minimal change to existing operator processes. The built-in HMI Recipe Manager runs on any tablet and allows operators to quickly choose which product to run and identify current run status.
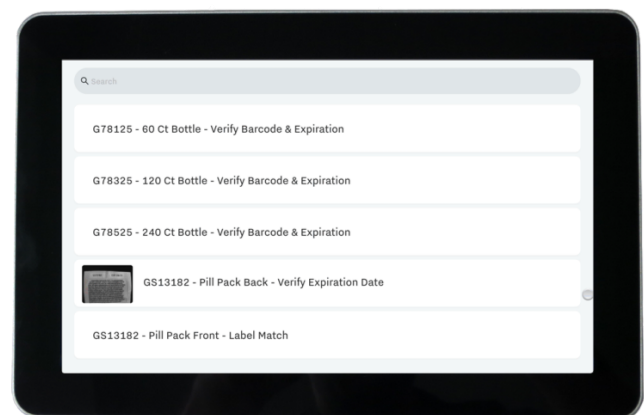
# VS2 Series Vision System Datasheet

## ENCLOSURE

| | |
|---|---|
| Dimensions (W x H x D) | Camera: 126 × 71 × 58mm (5.0 × 2.8 × 2.3 inches)<br>Controller: 105 × 152 × 48mm (4.1 × 6.0 × 1.9 inches)<br>Cables (included): 5m |
| Operating Temperature | 0° to 50°C |
| Material | Controller: UV-stabilized polycarbonate, Aluminium<br>Mounting brackets: Powder-coated/corrosion-resistant stainless steel |
| Ingress Protection | IP67 (Camera and Controller and cable connections are all washdown-rated) |
| Indutrial Connectors | Power/IO: Bayonet-locking, IP67<br>Camera: Bayonet-locking, IP67<br>Ethernet: RJ45 with included IP67 waterproof cap |
| Integrated Illumination | White LEDs (5000K, integrated/internal) |
| External Illumination | External lighting options are available; contact Samsara for more information |

## IMAGING SENSOR

| | |
|---|---|
| Sensor Type | 1/3" monochrome CMOS with global shutter |
| Lens Type | Autofocus lens |
| Resolution | 1280 (H) x 960 (V) pixels |
| Acquisition Rate | 20 frames per second |
| Exposure Time | 1/10,000 to 1/100 second |
| Installed Distance | 6" to 11" (152 mm to 280mm) |
| Field of View | 145 × 105mm at 152mm (5.7 × 4.1" at 6")<br>243 × 185mm at 280mm (9.6 × 7.3" at 11") |

# VS2 Series Vision System Datasheet

## POWER, INPUTS, AND OUTPUTS

| | |
|---|---|
| Power | 10V to 17V |
| Triggering Input | NPN/PNP supported (no software configuration required) |
| Reject Output | MNPN/PNP supported (no software configuration required) |
| LAN Ethernet | 2 x RJ45, 10/100/1000 Mbps IEEE 802.3u 1000BASE-T Fast Ethernet |
| PLC & API | Modbus TCP, HTTP via REST API <br> *See VS2 integration guide for more details* |

## CONNECTIVITY, TRACEABILITY, AND QUALITY MANGEMENT

| | |
|---|---|
| Ethernet | 110/100 Mbps (10/100 Base-T) |
| Wi-Fi | Wi-iFi 802.11 b/g/n |
| Traceability Dashboard | Included |
| Image History | 2/sec maximum across all conditions (pass/fail); unlimited storage |
| Quality Analysis | All runs, match rate, and statistics are traceable to individual products |
| Remote Access | Integrated, secure live monitoring and remote configuration with no additional hardware |
| Data Security | All dashboard connectivity secured out-of-the-box via SSL with 256-bit AES encryption (military-grade) |

## BARCODE READING AND INSPECTION

| | |
|---|---|
| Barcode Types | UPC-A, UPC-E, EAN-8, EAN-13, EAN-2, EAN-5 Add-On, Interleaved-Two-of-Five (ITF), Code 32 Italian Pharmacode, Code 39, Code 93, Code 128, Code 25, Code 11, DotCode, MSI Plessey, GS1 Databar, QR Code, Micro QR Code, Data Matrix, PDF417, MicroPDF417, Codabar, Aztec Code, MaxiCode, GS1 Composite Codes, KIX, RM4SCC |