



5 Megapixel, B&W, Embedded Smart Camera

JADAK's JE-231V utilizes a 5 megapixel CMOS sensor to bring high resolution imaging to the toughest machine vision and data collection challenges. With on-board intelligence, this tiny smart camera can perform big tasks, including image processing, image analysis, object detection, and barcode decoding functions. The JE-231V is designed to deliver superior image quality and highly accurate results.

Compatible with JADAK's [Clarity™ Machine Vision software](#), the JE-231V can perform image analysis functions, such as object counting, shape analysis, item measurement, mechanical alignment measurement, and more. Because the JE-231V is a smart camera, all image analysis functions occur on the JE-231V processor, eliminating the need to ship images to a host. This improves workflow, simplifies system design, and reduces interface boxes and cables. The JE-231V reads both 1D and 2D barcodes, as well as Optical Character Recognition (OCR).

The JE-231V includes fixed lensing, on-board illumination and processor on a single board form factor, providing a compact design that is convenient to mechanically integrate. Designed for durability, the JE-231V offers the best-in-class shock rating of 2500g. This reduces failure rates, in-field-support, and maintenance costs. The JE-231V is also available with different optics and interface options.

Supported by JADAK's expert engineering and integration team, the JE-231V provides lifecycle management for Original Equipment Manufacturers (OEM) concerned with product design changes, end-of-life issues, and backwards compatibility. Additionally, JADAK offers flexible and tailored design and manufacturing services to ensure specific requirements, such as unit level testing or tolerances, are achieved.

Features & Benefits:

- High Resolution Imaging for Superior Image Quality, Fine Details and Accurate Results
- Excellent Durability Means Low Failure Rate and Low Maintenance Costs
- Smart Camera with Built-in Processing Capability
- Compact Design is Easy to Integrate
- Supported by JADAK's Engineering and Integration Team

Applications:

- Embedded Medical and Life Sciences, Original Equipment Manufacturer (OEM) Devices
- Micro-titer Plate and Slide Imaging and Reading
- Test Tube Identification, Stitching and Processing
- Object Counting, Measurement, Presence/Absence
- Liquid Level Detection



| Performance | |
|-------------------------------------|---|
| Sensor | CMOS sensor, 2592 × 1944 pixel resolution, 8 bit color |
| Illumination | White LED |
| Typical frame rate | 6 frames per second, up to 14fps |
| Motion Tolerance | 100mm/sec at best focus (127mm (5") for 13mil (100%) UPC (picket fence orientation) |
| Field of View | Vertical Field Angle: +/-19° Horizontal Field Angle: +/-25.5°, Vertical Field Angle: +/-20° |
| Scan Angles | Tilt: 360°, Pitch: +/- 45°, Skew: +/- 65° |
| Symbol Contrast | 20% minimum reflectance |
| Symbologies | Aztec Code, Codabar, Codablock F, Code 11, Code 16K, Code 128, Code 2 of 5, Code 39, Code 49, Code 93, Data Matrix, EAN/JAN-13, EAN/JAN 8, EAN-UCC Composite Codes, EAN-UCC Emulation, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MaxiCode, MicroPDF417, MSI, PDF417, Postal Codes (Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet), Plessey Code, PosiCode, QR Code, RSS Expanded, RSS Limited, RSS-14, TCIF Linked Code 39, Telepen, Trioptic Code, UPC-A, UPC E |
| Mechanical/Electrical | |
| Dimensions | (H x W x D) 43 mm x 48.3 mm x 14.73 mm |
| Weight | 20g |
| Interface | TTL level RS-232 or USB 1.1 via 12-pin flexible connection or USB 2.0 via Micro-USB connector |
| Input Voltage | TTL-RS232: 4.5 – 5.5 VDC; USB: 4.5 – 5.25VDC |
| Typical Current Draw @5.0VDC | 350 mA (manual trigger); 250µA (sleep) |
| Environmental/Other | |
| Temperature | Operating: -20°C to 50°C (-4°F to 122°F); Storage: -20°C to 80°C (-20°F to 176°F) |
| Humidity | 0 to 95% relative humidity, non-condensing, at 50°C (122°F) |
| Ambient Light | 0–100,000 lux (total darkness–bright sunlight) |
| Shock Rating | 18 shocks of 2,000 G's for 0.7msec and 18 shocks of 2,500 G's for 0.7msec at 23°C applied via the mounting surface |
| Vibration | Displacement of 0.20" (5.1mm) p-p from 5Hz to 22Hz and with an acceleration of 5g's peak from 22Hz to 300Hz |
| MTBF | 70,000 hours |

ABOUT JADAK:

JADAK, a business unit of Novanta, is a market leader in machine vision, RFID, barcode, printing, and color and light measurement products and services for original equipment manufacturers. The company designs and manufactures embedded detection and analysis solutions that help customers solve unique inspection, tracking, scanning and documenting. The company is ISO 9001 and ISO 13485 registered.

Novanta is a trusted technology partner to OEMs in the medical and advanced industrial technology markets, with deep proprietary expertise in photonics, vision and precision motion technologies.

www.jadaktech.com

