EA31

High Performance
2D Imager with LED Aimer

The EA31 is part of Intermec's new generation of 2D imagers, offering best in class motion tolerance and time to read—providing a distinct performance advantage to the products in which it is integrated.

- **Class-leading motion tolerance of 400 in/s delivers a distinct performance advantage, resulting in snappier scans and less hassle**

- **Highly visible and safe LED-based aimer, ideal for customer-facing applications**

- **Equipped with Intermec's patented VESTA algorithm, extending the read range of some 1D codes by an average of 60 percent**

- **Future proofed—reads 1D & 2D matrix codes, captures signatures and images**

- **Rugged design withstands extreme temperatures, vibrations and shock for extended use in tough environments**

- **Compact dimensions, to fit into the tightest mechanical constraints**

- **Flexible—wide range of integration options such as USB and RS 232 TTL interfaces, and full compatibility with the Intermec Communication Protocol**

Differentiate Yourself with Unsurpassed Performance

The Intermec EA31 is the industry's first 2D imager combining an LED-based aimer with very high motion tolerance to deliver incredible scanning responsiveness. With omni-directional reading capabilities, the EA31 can achieve high read rates irrespective of bar code angle or orientation. This rapid scanning capability, combined with the safe LED-based aimer, make EA31 well suited for dynamic retail and customer-facing applications. To make integration easier, the EA31 also complies with stringent standards for shock and vibration and can successfully operate within a wide temperature range.

LED Aimer: Safe, Yet Pronounced

Equipped with a red LED aimer, EA31 fits the needs of customer-facing applications where lasers are often prohibited. Ideal applications include healthcare; retail point-of-sale; kiosks; and access control applications. By utilizing a highly visible 617 nm red LED scanning line, products that feature EA31 can be easily aimed, even in low light or indoor environments.

Patented Decoding and Range Boosting Technologies

The EA31 is an excellent choice for applications that call for the ability to read damaged, poorly printed, overlaid and colored bar codes. Integrated decoding software can correct for many bar code imperfections on-the-fly, resulting in

an uncanny ability to interpret codes in difficult scanning situations. Thanks to VESTA, Intermec's patented scanning algorithm, scan range is also enhanced by an average of 60 percent when scanning EAN/UPC and Code 39 symbologies.

Additional value-added decoding capabilities include the ability to scan multiple bar codes in a single scan, as well as support for scanning in auto-trigger mode. Support for 1D, stacked, composite and 2D matrix codes provides assurance that designs incorporating EA31 will ready for the future, while supporting today's industry standards.

Confidence Today; Protection for the Future

Compact size, standard interfaces, common development tools and software simplify integration of EA31 into space-constrained devices. When combined with Intermec ED30 and ED40 decode boards—one of the most compact USB boards currently available—outstanding performance can be achieved in a very small footprint.

Choosing Intermec can help minimize develop efforts. Intermec 2D imagers are interchangeable, so switching from EA31 to another Intermec 2D imager is easy. Furthermore, Intermec 1D imager interfaces are compatible with Intermec 2D imager decode boards. This compatibility ensures a simple migration path and contributes to a future-proofed design.

Intermec
by Honeywell

Design
Technology: 2D imager
Light Source: Highly visible white LED.
High efficiency 100 lm/W
Aimer: 617 nm red LED

Physical Characteristics
Dimensions: 21.95 mm W x 14.2 mm D x 13 mm H
(0.86 in W x .0.56 in D x0 .51 in H)
Weight: <7g

Scanning Performance
Scan Rate: up to 60 fps
Scan Angle: 39° (Horizontal), 25.5° (Vertical)
Optical resolution: 752 (H) x 480 (V) pixels,
256 gray levels
Min x. dimension:
1D codes 0.1 mm (4 mils)
2D codes 0.167 mm (6.6 mils)
Print contrast: Down to 30%
Motion Tolerance: Up to 400ips or 10.16m/s

Symbologies
1D symbologies: EAN/UPC, GS1 Databar (limited expanded & omni-directional), Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved/Matrix/Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, postal codes (Australian Post, BPO, Canada Post, Dutch Post, Japan Post, PostNet, Sweden Post)
2D symbologies: Data Matrix, PDF417, Micro PDF 417, Codablock, Maxicode, QR, Aztec

Value-Ad Functions (non-exhaustive)
Multicodes reading, data editing, image capture, signature capture, scanning barcodes on mobile phone screens, illumination, aiming, presentation modes

Interfaces
Connector: 25 pin ZIF, pitch 0.3 mm (0.12 in)
Decode and image transfer: USB interface (see ED40 Decode Board) and/or RS 232 TTL (ED30 Decode Board) Intermec Scanner Control Protocol (ISCP)

Electrical Characteristics
Voltage: 3.3V- 5%/+10%
Operating Current: 300mA @ 3.3V typical
Standby current: <2mA

Environmental Characteristics
Ambient light: from 0 to 100 000 lux
Operating temperature: -20° to 50° C (-4° to 122° F)
Storage temperature: -40° to 70° C (-40° to 158° F)
Relative humidity: 95% at 60° C (140° F) (non-condensing), 4 days
Shock: 2000G, 0.7ms, half sinus, 6 directions
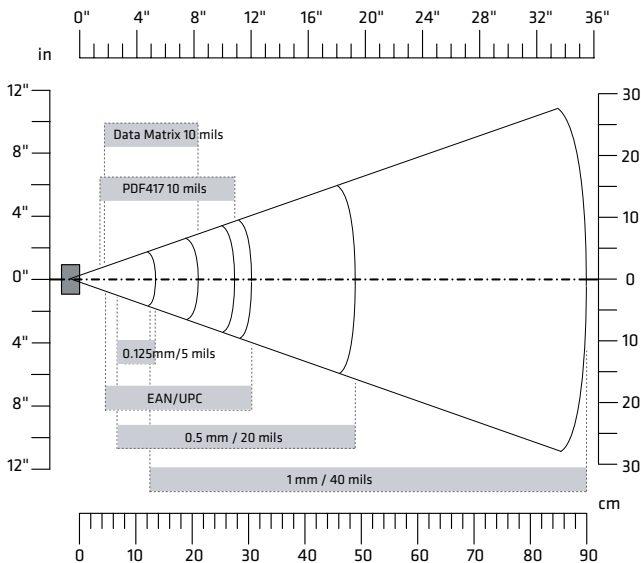**Vibration:** 8G r.m.s., from 10Hz to 500Hz, 2 hours/axis, 3 axes
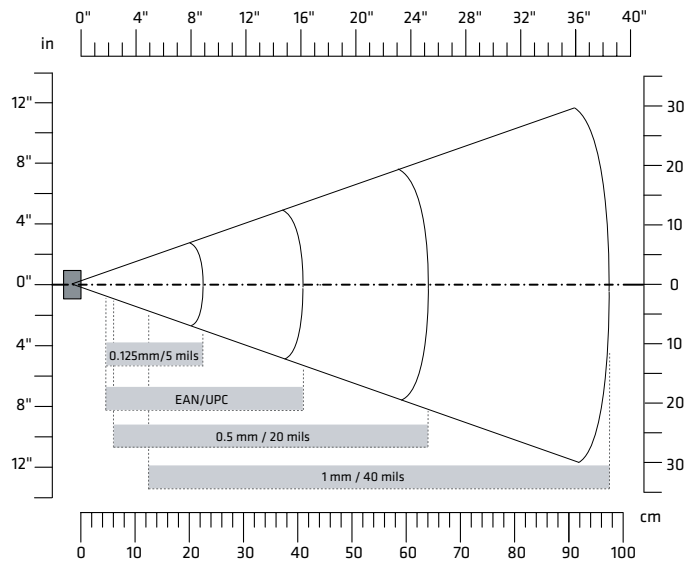
Regulatory Approvals
UL, cUL, VDE
RoHS
See integration guide for more details

Typical Standard Reading Distances

Typical Extended (VESTA*) Reading Distances

*VESTA is an Intermec-patented algorithm that increases read range of Code 39 and EAN/UPC marks by an average of 60 percent (compared to EA31 read range with VESTA disabled).

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