

# EA20x

DECODED 2D IMAGER  
*Extended Range*



- The first compact extended range 2D Imager – Ideal for mobile applications requiring longer reading ranges
- Best in class scan rate (60 frames/s) – Designed for intensive scanning and productivity
- Reads 1D & 2D symbologies omnidirectionally – Complies with new industry standards & future proofed
- Plug compatible with Intermec EA11 & EA21 2D Imagers – Leverages your design efforts & provides interchangeability
- Highly durable design – Built to withstand harsh environments
- Highly visible laser aimer – Enhanced comfort in use, from total darkness to bright sunshine environments

The Intermec EA20X is the first 2D barcode scan engine that combines the future proofing of 2D imaging with the extended reading range of a 1D laser scan engine (up to 80cm/31.5in on a 0.5mm/20mil 1D barcode). It is the ideal 2D scan engine for mobile solutions, particularly for in-premise applications (picking & put-away, inventory management, shipping & receiving, cross-docking applications).

Powered by Intermec patented decoding and leading edge hardware, EA20X is designed for intensive scanning usage and reaches 200 scans/s (1D mode) and 60 scan/s in (2D mode): Productivity is ensured. The EA20X scans 1D, 2D, composite and postal codes; it also captures images and successfully copes with high resolution, damaged, poorly printed or overlaid codes.

Industry standards are driving a fast adoption of 2D symbologies across multiple industries: Choosing the EA20X 2D scan engine ensures long term investment protection as it reads any standard 1D & 2D barcode.

However, in many applications the range of a standard 2D imager is too limited. The EA20X solves this issue by providing the advantages of a 2D scanner without compromising on the range.

The EA20X joins the Intermec 2D family of engines and is plug compatible with the popular EA11 & EA21 engines. Developers can leverage their design efforts as well

as their market breadth with the highly popular interchangeability of these engines. Everything has been done to simplify the integration of the EA20X engine: Compact size, low power operation, and industry standard interfaces.

The EA20X is available with two options on decode platforms. The ED30 for standard performance, simple interface and most economical. The ED40 where applications, interfaces and performance are more demanding. ED40 is the smallest USB 2.0 decode board in the industry: It not only increases decoding performances but also support applications such as video and image capture.

The EA20X shares the same Intermec Scanner Control Protocol as the other Intermec engines allowing end users to leverage their integration and design efforts across multiple OEM product platforms, reducing time to market and promoting easier product migration.

Intermec chooses a highly visible laser aimer to ensure that the user can easily target the barcode to read, even at long distances: Equipped with both a laser pointer and a four corner framer, EA20X improves scanning productivity and accuracy. The EA20X is built to work in the most hostile environments. It operates from total darkness to full sunshine over a large temperature range and complies with the most stringent standards for shock and vibration.

Its compact size and highly durable design make it ideal for integration into space constrained OEM devices with omnidirectional near and far range requirements.

**Physical Characteristics**

**Scan engine:** 20.9 mm W x 16.5 mm D x 12.4 mm H (.8 in W x .66 in D x .5 in H)  
**Decode board (ED40):** 34 mm W x 19 mm D x 5.6 mm H (1.34 in W x .75 in D x .22 in)  
*Mounting of the scan engine on the decode board (bracket mounted) is optional*  
**Weight:**  
**Scan engine:** 15g (0.52 oz.)  
**Decode board:** 6g (0.21oz.)

**Scanning Performance**

**Light Source:** 617nm Highly Visible LED, 650nm Laser Framing/Aiming.  
**Scan Rate:** 2D mode: 60 images/s auto adaptive  
 Linear emulation mode: 200 scans/s auto adaptive  
**Scan angle:** 26.0° (Horizontal), 16.8° (Vertical)  
**Framing Angles:** 25.0° (Horizontal), 16.0° (Vertical)  
**Optical resolution:** 752 (H) x 480 (V) pixels, 256 gray levels  
**Print Contrast:** down to 30% on 1D, 35% on 2D  
**Min. Resolution:** 1D symbologies 0.15mm (6mil), stacked (PDF417) 0.17mm (6.6mil), 2D matrix 0.18mm (7mil)

**Symbologies**

**1D symbologies:** EAN/UPC, GS1 Databar (limited expanded & omni-directional), RSS, 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 GS1 composite codes

**Interfaces**

Available with 2 decode boards: High speed USB 2.0 and/or RS232 TTL with Intermec Scanner Control Protocol (ISCP)

**Connection**

Optics to decode board: 21 contact ZIF connector, pitch 0.3mm/0.12 in.  
 Decode board to host: 12 pin ZIF connector, pitch 0.5 mm/0.2 in.

**Electrical Characteristics**

**Optics only, typical:**  
**Operating current:** from 120 to 220mA (ambient light dependent)  
**Voltage:** 3.3V -5%/+10%  
**Power saving mode:** <2mA  
**Optics & decode board, typical:**  
**Voltage:** 3V to 5.5V  
**Operating current:** decode board & voltage dependent, refer to the ED30 & ED40 Integration Guides for detailed information

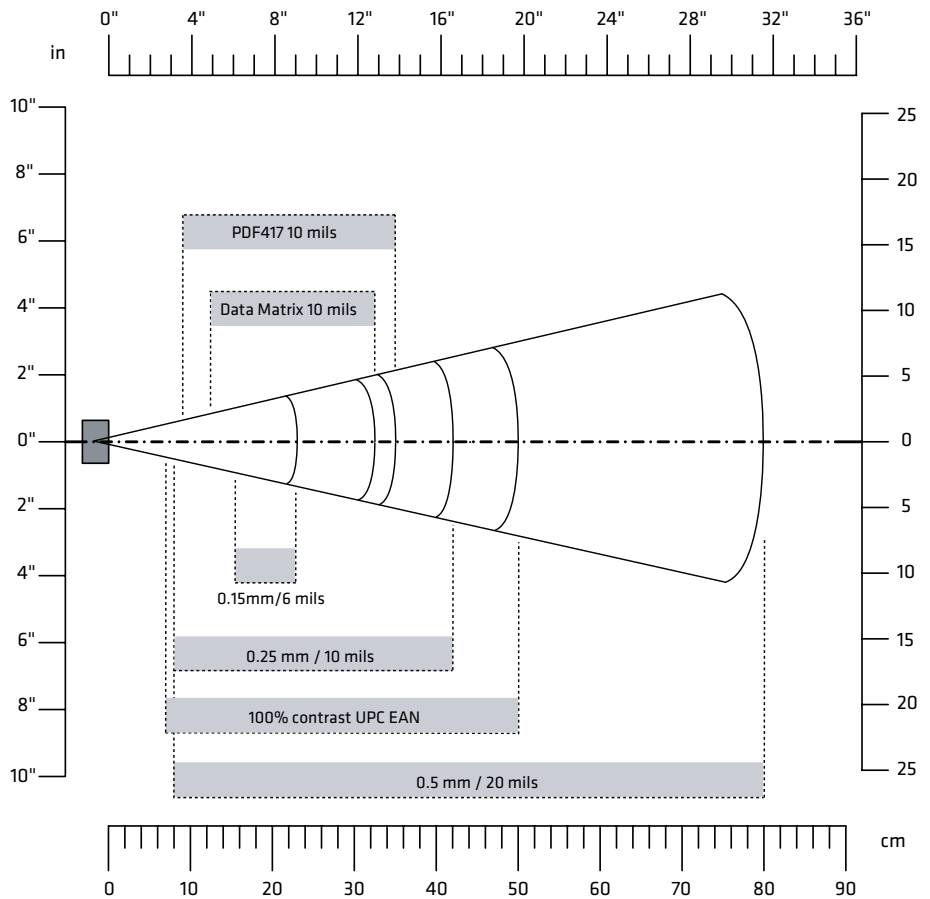
**Environmental Characteristics**

**Ambient light:** from 0 to 100 000 lux  
**Operating temperature:** -20° to 50° C (-4° to 122° F)  
**Storage temperature:** -30° to 70° C (-22° to 158° F)  
**Relative humidity:** 95% Rh @ 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 certified, RoHS compliant, Class 2 Laser.

**Reading Distances**



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