

## HS-41X



## Handheld DPM Imager

The HS-41X is a compact handheld imager for decoding low contrast 2D symbols on substrates such as sheet metals, castings, plastics, and electronic components. Its dual field optics are optimized to read both linear barcodes and 2D symbols, including challenging marks such as those created by direct part mark (DPM) methods such as dot peen and laser/chemical etch.

The HS-41X is an ideal portable reading solution for any industrial barcode or 2D application, even with difficult low contrast codes.

### HS-41X: At a Glance

- Reads most 1D and 2D symbols, including DPM
- Dual field optics for both wide and high density barcodes
- X-Mode technology for reading direct part marks
- USB 2.0 or RS-232 communication options
- Low power draw



ESP® Easy Setup Program: Single-point software solution provides quick and easy setup and configuration of all Omron Microscan readers.



Visible Indicator: “Good read” green LED performance indicator.

For more information on this product, visit [www.microscan.com](http://www.microscan.com).

### HS-41X: Available Symbologies

Linear	All Standard	Postal Codes	
Stacked	MicroPDF	PDF417	GS1 Databar
2D	Data Matrix	QR	Micro QR
			Aztec

#### X-Mode Decode Algorithms

Industry-leading X-Mode decoding algorithms and innovative bright field lighting allow the HS-41X imager to consistently read damaged, distorted or otherwise challenging directly marked codes at high decode rates.

#### Dual Field Optics

Features dual field optics for reliable reading of both large 1D barcodes and high density 2D symbols.

#### Performance Indicators

In addition to a beeper, visual and vibrating indicators provide silent confirmation of successful reads for noisy or sensitive environments.

#### Ergonomic Design

The compact housing is ergonomically designed for user comfort in repetitive and heavy duty applications.

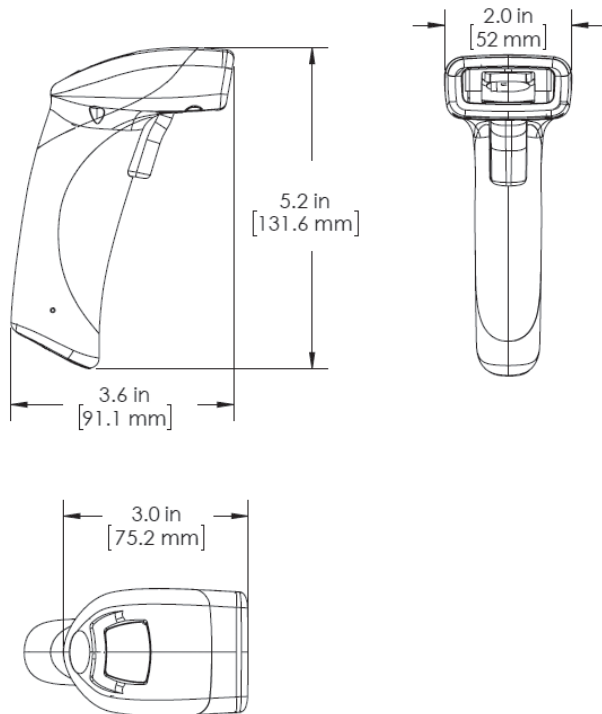
#### Durable Enclosure

Featuring a compact and durable design, HS-41X imagers include an over-molded IP54-rated enclosure capable of withstanding numerous 6 foot (1.8 meter) drops to concrete.

#### Application Examples

- Electronics
- PCB assembly
  - Laser marks on semiconductor packages and components
- Automotive
- Directly marked castings and sheet metal parts
- Aerospace
- Tool tracking/traceability
  - Dot peen marks on gas turbine blades, engine parts
- Medical Devices
- Directly marked medical implants and surgical implements

# HS-41X HANDHELD DPM IMAGER SPECIFICATIONS AND OPTIONS



## READ RANGE TABLE

Narrow-Bar	Read Range
STANDARD DENSITY	
1D	
.0050" (.127 mm)	3.7 to 5.0" (94 to 127 mm)
.0075" (.191 mm)	2.2 to 6.5" (56 to 165 mm)
.010" (.254 mm)	1.5 to 8.0" (38 to 203 mm)
.020" (.508 mm)	2.3 to 15.5" (58 to 394 mm)
2D	
.0050" (.127 mm)	3.7 to 4.6" (94 to 117 mm)
.0075" (.191 mm)	1.5 to 6.0" (38 to 152 mm)
.010" (.254 mm)	1.6 to 7.7" (41 to 196 mm)
.020" (.508 mm)	1.6 to 9.4" (41 to 239 mm)

Note: Specifications are subject to change. Working ranges are a combination of both the wide and high density fields.

Note: Inches [millimeters]. Nominal dimensions shown. Typical tolerances apply.

## MECHANICAL

**Height:** 5.2" (131.6 mm)  
**Width:** 2.0" (52 mm)  
**Depth:** 3.6" (91.1 mm)  
**Weight:** 3.9 oz. (110 g)

## ENVIRONMENTAL

**Operating Temperature:** -20° to 55° C (-4° to 131° F)  
**Storage Temperature:** -30° to 65° C (-22° to 150° F)  
**Humidity:** 5% to 95% (non-condensing)  
**Shock:** Withstands multiple drops of 6' (1.8 meters)

## CE STANDARDS

**Immunity:** EN 55024  
**ESD:** EN 61000-4-2  
**Radiated RF:** EN61000-4-3  
**Keyed Carrier:** ENV50204  
**EFT:** EN61000-4-4  
**Conducted RF:** EN61000-4-6  
**Emissions:** EN55022, Class B Radiated, Class B Conducted  
**CB Test Certificate:** IEC 60950-1:2001, First Edition

## LIGHT COLLECTION OPTIONS

**Sensor:** CMOS 1.2 megapixel grayscale  
**Sensor Array:** 1280 by 960  
**Field Selection:** High density or wide  
**Field of View:** High density field: 30° horizontal by 20° vertical; wide field: 50° horizontal by 33.5° vertical  
**Focal Point:** Approximately 100 mm  
**Optical Resolution:** High density field: 960 x 640; wide field: 960 x 640

## SYMBOLOLOGIES

**2D Symbolologies:** Data Matrix, QR Code, Micro QR Code, Aztec Code  
**Stacked Symbolologies:** PDF417, MicroPDF417, Composite  
**Linear Symbolologies:** UPC, Code 39, Code 128, Interleaved 2 of 5, Codabar, GS1 DataBar, Code 93  
**Postal Symbolologies:** USPS OneCode (4CB), POSTNET, PLANET, Japanese Post, Australian Post, Royal Mail, KIX Code

## COMMUNICATION PROTOCOLS

**Standard Interface:** RS-232, USB 2.0 (generic HID, HID keyboard, virtual COM port)

## READ PARAMETERS

**Pitch:** ±60° (front to back)  
**Skew:** ±60° (from plane parallel to symbol (side-to-side))  
**Rotational Tolerance:** ±180°  
**Print Contrast Resolution:** 25% (1D symbologies); 35% (2D symbologies) absolute dark/light reflectance differential, measured at 650 nm  
**Ambient Light Immunity:** Sunlight: Up to 9,000 ft.-candles/96,890 lux  
**Target Beam:** Dual, blue targeting bar

## INDICATORS

**Status Indicators:** Beep, vibrate, LED flash

## IMAGE OUTPUT OPTIONS

**Format:** BMP or JPEG

## MEMORY CAPACITY

128MB Flash ROM, 32MB RAM

## DATA EDITING

JavaScript (Additional License Required)

## ELECTRICAL

**Power Requirements:** Reader @ 5VDC (mA):  
 Typical: Less than 450 mA; Idle: Less than 80 mA;  
 Sleep: Less than 31 mA

## QMS CERTIFICATION

[www.microscan.com/quality](http://www.microscan.com/quality)

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 Read Range and other performance data is determined using high quality Grade A symbols per ISO/IEC 15415 and ISO/IEC 15416 in a 25° C environment. For application-specific Read Range results, testing should be performed with symbols used in the actual application. Omron Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality. **Warranty**-For current warranty information on this product, please visit [www.microscan.com/warranty](http://www.microscan.com/warranty).

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