HS—41X

Handheld DPM Imager

X-Mode Technology

LED Indicator

Dual Field Optics

IP54 Enclosure

Ergonomic Design

RoHS • WEEE COMPLIANT

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 Microscan readers.

Visible Indicator: "Good read" green LED performance indicator.

*For more information on this product, visit **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.
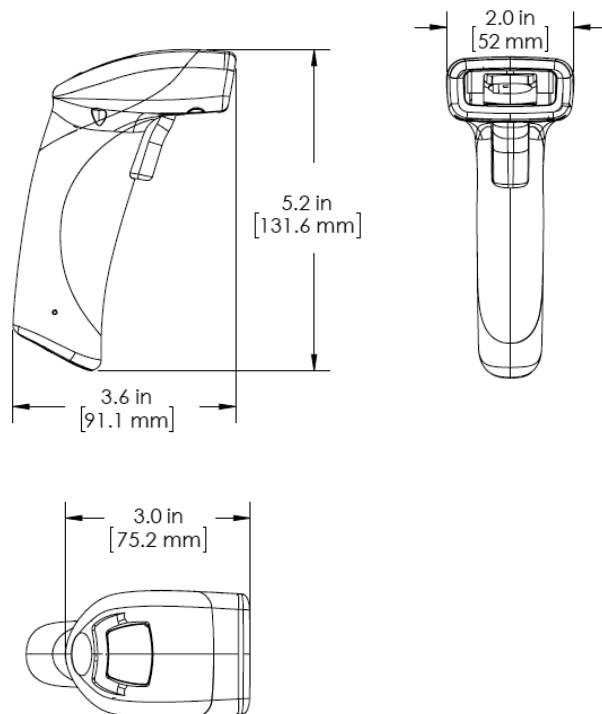
Durable Enclosure
Featuring a compact and durable design, HS-41X imagers include an over-molded IP54-rated enclosure capable of withstanding numerous 6 foot (1.8 meter) drops to concrete.

Application Examples
Electronics
- PCB assembly
- Laser marks on semi-conductor packages and components

Automotive
- Directly marked castings and sheet metal parts
- Tool tracking/traceability

Aerospace
- Dot peen marks on gas turbine blades, engine parts

Medical Devices
- Directly marked medical implants and surgical implements

MICROSCAN®

READ RANGE TABLE

Narrow-Bar	Read Range
S T A N D A R D D E N S I T Y	
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.

2.0 in [52 mm]

5.2 in [131.6 mm]

3.6 in [91.1 mm]

3.0 in [75.2 mm]

Note: Inches [milimeters]. 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

SYMBOLOGIES
2D Symbologies: Data Matrix, QR Code, Micro QR Code, Aztec Code
Stacked Symbologies: PDF417, MicroPDF417, Composite
Linear Symbologies: UPC, Code 39, Code 128, Interleaved 2 of 5, Codabar, GS1 DataBar, Code 93
Postal Symbologies: 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

SAFETY CERTIFICATIONS DESIGNED FOR
FCC, CE

ROHS/WEEE COMPLIANT

ISO CERTIFICATION
Certified ISO 9001:2008 Quality Management System

©2012 Microscan Systems, Inc. SP079A 10/12
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. Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality. **Warranty–**Five year limited warranty on parts and labor.

MICROSCAN

Microscan Systems Inc.
Tel 425 226 5700 / 800 251 7711
Fax 425 226 8250

Microscan Europe
Tel 31 172 423360 / Fax 31 172 423366

Microscan Asia Pacific
Tel 65 6846 1214 / Fax 65 6846 4641

www.microscan.com
Product Information: info@microscan.com
Technical Support: helpdesk@microscan.com