

## HS-21



### HS-21: At a Glance

- Reads most 1D and 2D symbols
- Dual field optics for wide and high density fields
- USB 2.0 or RS-232 communication options
- Low power draw
- Optional stand and Motion Detect mode for hand presentation



**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](http://www.microscan.com).

## 2D Handheld Imager

The HS-21 2D handheld imager provides fast decode rates and long range reading in a lightweight, durable package. Its dual field optics decode most 1D and 2D symbols in any orientation at short and long distances.

The HS-21 combines a compact form factor with ruggedness and high performance. It can sustain multiple drops from 6 feet (1.8 meters) and is ideal for applications from the clean room to the factory floor.

### High Performance

The HS-21 features computing power and advanced image processing to decode challenging 1D and 2D symbols.

### Large Scan Width

With a 4 inch (102 mm) focal distance and generous scan width, the HS-21 is optimal for decoding symbols on laboratory sample tubes and reagent tubes.

### Easy to Clean

The reader's sensitive components are protected by an IP54-rated enclosure, easily cleaned by common hospital disinfectants.

### User-Friendly Design

The housing is ergonomically designed for user comfort in repetitive and heavy duty applications. In addition to a beeper, visual and vibrating indicators provide silent confirmation of successful reads for noisy or sensitive environments.

### Simple Configuration

The HS-21 can be easily set up and configured using Microscan's ESP software.

### Application Examples

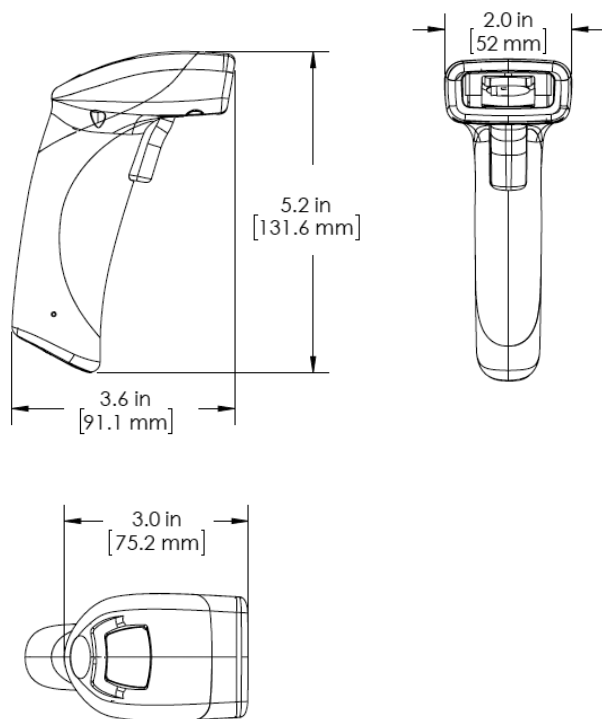
- Life sciences
- Manufacturing
- Health care

### HS-21: Available Symbolologies

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

# MICROSCAN®

# HS-21 2D HANDHELD IMAGER SPECIFICATIONS AND OPTIONS



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

## SYBLOGIES

**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 symbolologies); 35% (2D symbolologies) 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

## READ RANGE TABLE

Narrow-Bar	Read Range
STANDARD DENSITY	
<b>1D</b>	
.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)
<b>2D</b>	
.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.

## SAFETY CERTIFICATIONS DESIGNED FOR

FCC, CE

## ROHS/WEEE COMPLIANT

## ISO CERTIFICATION

Certified ISO 9001:2008 Quality Management System

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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. 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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