

## HS-51 & 51X



## Wireless Handheld Imagers

The HS-51 and HS-51X imagers are high performance wireless handheld imagers for decoding both linear barcodes and 2D symbols, including direct part marks (DPM). They combine advanced decode algorithms and dual field optics with user-friendly features and the convenience of Bluetooth® wireless connectivity.

These handheld imagers provide a reliable wireless reading solution for any barcode or 2D application, even with difficult low contrast codes.

### HS-51 & 51X: At a Glance

- Reads most 1D and 2D symbols
- X-Mode technology for reading direct part marks (HS-51X)
- Dual field optics for both wide and high density barcodes
- Bluetooth Class II wireless communication
- Battery life up to 50,000 reads
- Durable IP54 enclosure



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



**Visible Indicators:** “Good read” green LED performance indicator and symbol positioning tool.

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

### HS-51 & 51X: Available Symbologies

|         |                  |                  |                 |           |
|---------|------------------|------------------|-----------------|-----------|
| Linear  | All Standard<br> | Postal Codes<br> |                 |           |
| Stacked | MicroPDF<br>     | PDF417<br>       | GS1 Databar<br> |           |
| 2D      | Data Matrix<br>  | QR<br>           | Micro QR<br>    | Aztec<br> |

#### X-Mode Decode Algorithms

The HS-51X includes industry-leading X-Mode decoding algorithms 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.

#### Charging Station

The charging station transmits and receives data over a Bluetooth link, and includes LED indicators for charging and successful imager pairing. Also includes a paging button to locate a misplaced imager.

#### Durable Enclosure

Features a compact and durable housing that easily tolerates numerous 6 foot (1.8 m) drops to concrete.

#### Easy to Clean

The imagers' sensitive components are protected by a IP54-rated enclosure, capable of withstanding harsh chemical-based cleaners.

#### Performance Indicators

In addition to a beeper, visual and vibrating indicators provide silent confirmation of successful reads for noisy or sensitive environments. A bright blue targeting bar quickly centers the imager on the code while providing feedback on the optimal focal distance.

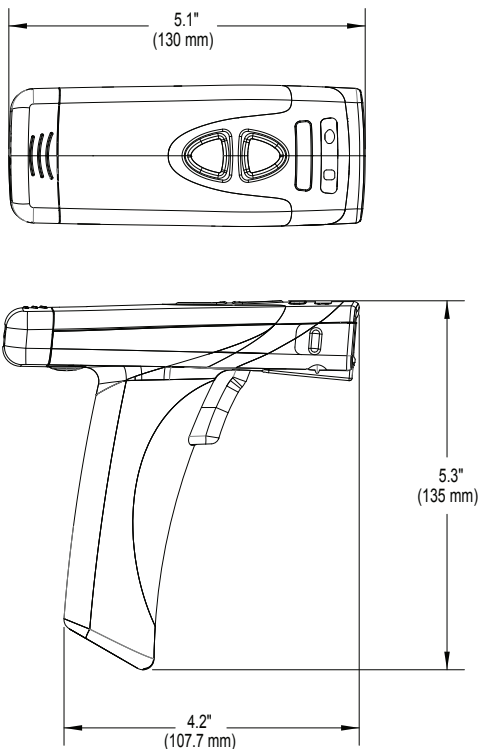
#### Application Examples

- Life Sciences
- Electronics
- Automotive
- Aerospace
- Medical Devices



# HS-51 & 51X HANDHELD IMAGER SPECIFICATIONS AND OPTIONS

## IMAGER

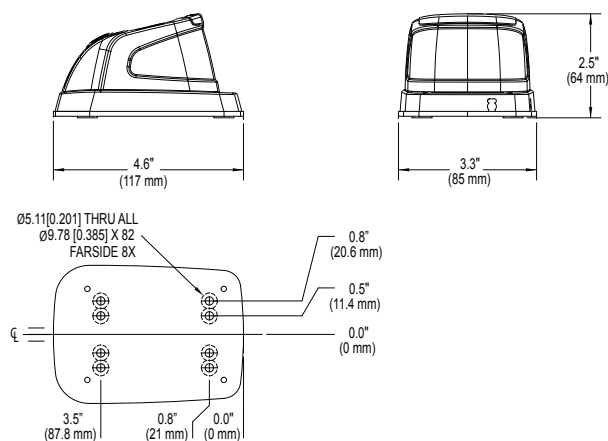


## READ RANGE TABLE

| Narrow-Bar              | Read Range                  |
|-------------------------|-----------------------------|
| <b>STANDARD DENSITY</b> |                             |
| <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.

## CHARGING STATION



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

## MECHANICAL

**Height:** 5.3" (135 mm) **Width:** 2.0" (52 mm)  
**Depth:** 5.1" (130 mm) **Weight:** 6.0 oz. (171 g)  
**Battery Weight:** 1.7 oz. (48 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

## ELECTRICAL

**Reader @ 4.2VDC (mA):** Typical/Peak: 362 mA; Idle: 80 mA; Sleep: 20 mA  
**Charging Station @ 5VDC (mA):** USB max charge: 555 mA; USB trickle charge: 165 mA

## SYMBOLOGIES

**2D Symbologies:** Data Matrix, QR Code, Micro QR Code, Aztec Code  
**Stacked Symbologies:** PDF417, Micro PDF, GS1 Databar (Composite & Stacked)  
**Linear Symbologies:** UPC/EAN/JAN, Code 39, Code 128, Interleaved 2 of 5, Codabar, Code 93,  
**Postal Symbologies:** USPS OneCode (4CB), POSTNET, PLANET, Japanese Post, Australian Post, Royal Mail, KIX Code

## COMMUNICATION PROTOCOLS

**Imager:** Bluetooth® (Class II)  
**Charging Station:** USB 2.0 (Keyboard, virtual COM [Batch Mode only], generic HID)

## 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:** Single, blue targeting bar

## INDICATORS

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

## MEMORY CAPACITY

128MB Flash ROM, 32MB RAM

## DATA EDITING

JavaScript (Additional License Required)

## BATTERY

**Capacity:** 1300 mAh Li-ion  
**Scans:** Up to 50,000 per charge

## QMS CERTIFICATION

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

©2018 Omron Microscan Systems, Inc. SP082E-EN-0518  
 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).

**OMRON**  
**MICROSCAN**

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