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# HAWKEYE® 40T & 45T



## High Performance Handheld Imagers

The HawkEye 40T and HawkEye 45T are the most aggressive industrial handheld imagers available for decoding low contrast direct part marks of linear barcodes and 2D symbols. These high performance readers are used for part identification and unit level traceability applications where the positioning flexibility of a handheld reader is required.

### HawkEye 40T & 45T: At a Glance

- Decodes/second: up to 10
- Read Range: 2 to 16" (51 to 406 mm)
- Bluetooth, USB, RS-232 Interface Options
- Rugged Handle Options:
  - Cabled
  - 3900 mAH



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

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

### HawkEye 40T & 45T: Available Codes

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

#### Powerful Performance

Advanced image processing algorithms allow high performance reading of direct part marks and low contrast codes. With powerful decode abilities for low contrast and damaged codes, the HawkEye 40T and 45T are especially suitable for direct part marks which were created by laser markers, dot peen systems or inkjet.

#### Integrated Display

The HawkEye 45T includes an integrated display that shows read data, allows reader configuration, and provides display of messages from the application. With the HawkEye 45T's integrated keypad it is also possible to enter data into the application (e.g. counting operations).

#### System Integration

All HawkEye handheld imagers are available in three configuration options including batch, cabled and wireless Bluetooth.

#### Application Examples

- Automotive
  - Identification of power train components
- Aerospace
  - Dot peen marks on gas turbine blades
- U.S. Dept. of Defense
  - UID marks on government equipment
  - UID mark validation
- Medical Devices
  - Laser marks on medical device components & enclosures
- Electronics
  - Laser marks on ESD-sensitive components
- Semiconductors
  - Laser marks on packed semiconductor devices, heat sinks or heat spreaders

# HAWKEYE® 40T & 45T SPECIFICATIONS AND OPTIONS

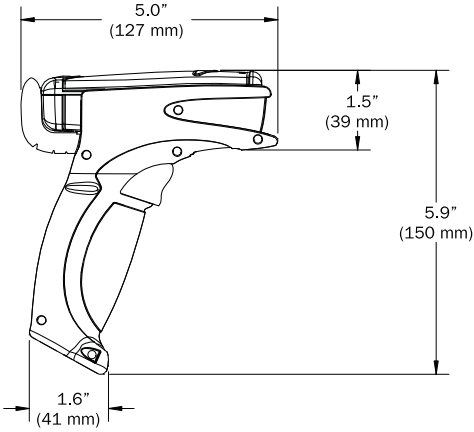
## IMAGER MECHANICAL

**Height:** 1.3" (33 mm)  
**Width:** 1.8" (46 mm)  
**Depth:** 4.3" (109 mm)  
**Weight:** 4 oz. (113g) not including cable  
**Cable Length:** 6' (1.8 m)

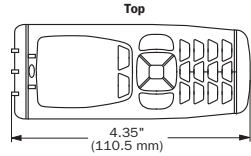
## HANDLE & BATTERY CHARACTERISTICS

**Cabled weight:** 4.0 oz. (113)  
**Cabled weight with imager :** 7.2 oz. (204 g)  
**With 3900 mAh battery:** 6.4 oz. (181 g)  
**With 3900 mAh battery/imager:** 9.6 oz. (272 g)

## BATTERY BLANK HANDLE VIEW



## HAWKEYE 45T KEYPAD MECHANICAL



## ENVIRONMENTAL

**Operating Temperature:** 0° to 40°C (32° to 104°F)  
**Storage Temperature:** -20° to 60°C (-4° to 140°F)  
**Humidity:** 5% to 95% (non-condensing)  
**Shock:** Withstands 100+ drops of 6.5' (2 meters) to concrete

## COMMUNICATION PROTOCOLS

**Standard Interface:** USB **Optional Interface:** RS-232, Bluetooth Class 1 Radio at 328' (100 m)

## LIGHT COLLECTION OPTIONS

**Sensor:** CMOS 1.33 MP (1024 x 1280) 256 gray scale  
**Focal Point:**  
**Near:** 1.9" (50 mm)  
**Far:** 14.8" (375 mm)  
**Field of View:**  
**Near:** 0.98" x 0.6" (25 mm x 15 mm) at 1.9" (50 mm) distance  
**Far:** 5.9" x 3.5" (150 mm x 90 mm) at 14.8" (375 mm) distance



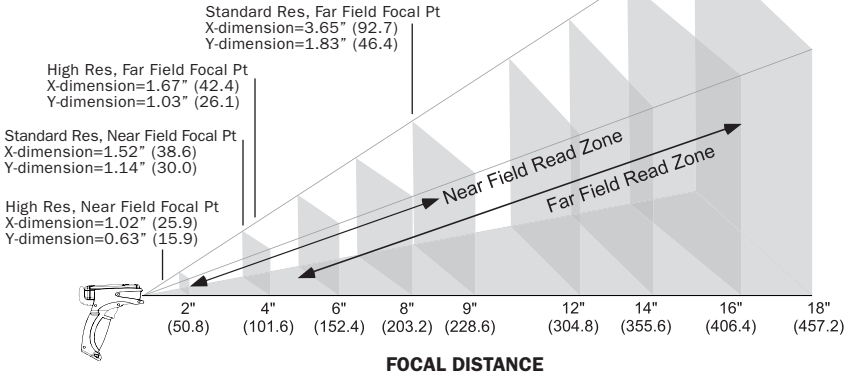
## ELECTRICAL

**Power Requirements:** 5 VDC (mA)  
**Typical:** 140 **Peak:** 310 **Idle:** NA/  
**Bluetooth Radio at 295' (90 m) away (mA):**  
**Typical:** 280 **Peak:** 350 **Idle:** 96 **Sleep:** 3  
**Bluetooth Radio at 33' (10 m) away (mA):**  
**Typical:** 260 **Peak:** 350 **Idle:** 96 **Sleep:** 3  
**Life of 3900 mAh Battery with Radio:** Will support 8000 read/transmits per charge including 16 hours of standby interval.  
**Batch Memory:** Minimum of 1MB

## NEAR/FAR FIELD FOCAL DISTANCE COMPARISON CHART

### MEASUREMENT

Shown in inches (mm)



## READ RANGES, STANDARD RESOLUTION

Narrow Bar-Width	Read Range Distance
.0075" (0.191 mm)	3.2 to 3.9" (81 to 99 mm)
.015" (0.381 mm)	3.0 to 9.0" (76 to 229 mm)
.020" (0.508 mm)	3.0 to 16.0" (76 to 406 mm)

## READ RANGES, HIGH RESOLUTION

Narrow Bar-Width	Read Range Distance
.005" (0.127 mm)	1.75 to 2.5" (44.4 to 63.5 mm)
.0075" (0.191 mm)	1.75 to 4" (44.4 to 101.6 mm)
.010" (0.254 mm)	1.75 to 4.75" (44.4 to 102.6 mm)
.015" (0.381 mm)	1.75 to 6" (44.4 to 152.3 mm)
.020" (0.508 mm)	1.75 to 6.5" (44.4 to 165.1 mm)

Ranges based on Grade A symbols. Data subject to change.

## DISPLAY (HawKeye 45T)

128 x 128 monochrome

## LIGHT SOURCE

**Type:** Visible laser light, Class 2 with 630 nm

## SYMBOLGY TYPES

**Linear Barcodes:** Code 39, Code 128, I2 of 5, UPC/EAN, Codabar, Codablock F, Code 93, PLANET, PostNet, KIX Code, Postal Codes

**Stacked Symbolgies:** PDF417, Micro PDF417, GS1 Databar

**2D Symbolgies:** Data Matrix, MaxiCode, Aztec Code, QR Code, Micro QR Code

## IMAGE OUTPUT OPTIONS

**Format:** JPEG, Raw (uncompressed)

## READ PARAMETERS

**Pitch:** ±60° (front to back) **Skew:** ±60° **Tilt:** 360°  
**Focal Range:** 1 to 16" (25 to 406 mm)  
**Rotational Tolerance:** ±180°

**Print Contrast Resolution:** 25 percent (bar codes); 35 percent (PDF417); absolute dark/light reflectance differential, measure at 650 nm.

**Target Beam:** Visible Laser Diode at 630 nm. Class 2  
**Ambient Light Immunity:** Sunlight: Up to 9,000 ft-candles 96,890 lux

## SAFETY CERTIFICATIONS

FCC, CE

## ROHS/WEEE COMPLIANCE

## ISO CERTIFICATION

Certified ISO 9001:2008 Quality Management System

## FIELD OF VIEW, STANDARD RESOLUTION

Near Field of View	
Distance	Field of View Size
(inches/mm)	(1024 x 640 pixel, Default)
4" (101.6)	1.52 x 1.14" (38.6 x 30 mm)
Far Field of View	
9" (228.6)	3.65 x 1.83" (92.7 x 46.4 mm)

## FIELD OF VIEW, HIGH RESOLUTION

Near Field of View	
Distance	Field of View Size
(inches/mm)	(1024 x 640 pixel, Default)
2" (50.8)	.74 x .46" (18.8 x 11.6 mm)
2.5" (63.5)	.93 x .57" (23.5 x 14.5 mm)
2.75" (69.9)	1.02 x .63" (25.9 x 15.9 mm)
3" (76.2)	1.11 x .68" (28.3 x 17.4 mm)
3.5" (88.9)	1.3 x .80" (33 x 20.3 mm)
4" (101.6)	1.48 x .91" (37.7 x 23.2 mm)
Far Field of View	
2" (50.8)	.74 x .46" (18.8 x 11.6 mm)
2.5" (63.5)	.93 x .57" (23.5 x 14.5 mm)
3" (76.2)	1.11 x .68" (28.2 x 17.4 mm)
3.5" (88.9)	1.3 x .80" (32.9 x 20.3 mm)
4" (101.6)	1.48 x .91" (37.6 x 23.2 mm)
4.5" (114.3)	1.67 x 1.03" (42.4 x 26.1 mm)
5" (127)	1.85 x 1.14" (47.1 x 28.9 mm)
5.5" (139.7)	2.04 x 1.25" (51.8 x 31.8 mm)
6" (152.7)	2.22 x 1.37" (56.5 x 34.7 mm)
6.5" (165.1)	2.41 x 1.48" (61.2 x 37.6 mm)

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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 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**—One year limited warranty on parts and labor. Free extended 3 year warranty upon online product registration.

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