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.

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

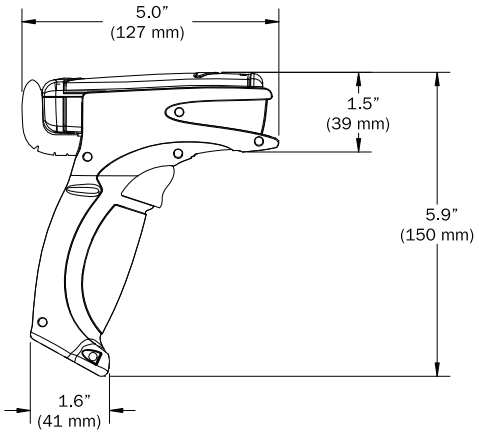
MICROSCAN®

HawkEye® 40T & 45T Specifications and Options

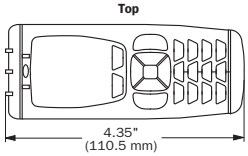
IMAGER MECHANICAL
Height: 1.3" (33 mm)
Width: 1.8" (46 mm)
Depth: 4.3" (109 mm)
Weight: 4 oz. (113g) not including cable
Cable Length: 6' (1.8 m)

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

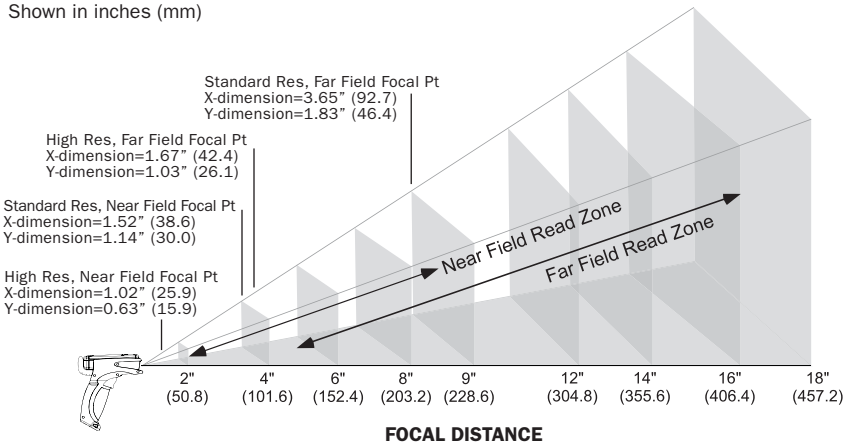
COMMUNICATION PROTOCOLS
Standard Interface: USB **Optional Interface:** RS-232, Bluetooth Class 1 Radio at 328' (100 m)

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.

FIELD OF VIEW, STANDARD RESOLUTION

Near Field of View	
Distance (inches/mm)	**Field of View Size** (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 inches/mm	**Field of View Size** (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)

DISPLAY (HawkEye 45T)
128 x 128 monochrome

LIGHT SOURCE
Type: Visible laser light, Class 2 with 630 nm

SYMBOLOGY TYPES
Linear Barcodes: Code 39, Code 128, I2 of 5, UPC/EAN, Codabar, Codablock F, Code 93, PLANET, PostNet, KIX Code, Postal Codes
Stacked Symbologies: PDF417, Micro PDF417, GS1 Databar
2D Symbologies: 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

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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