



# Symbol DS3478 Series

## Rugged cordless digital scanners



### FEATURES

#### Ability to read all standard 1D and 2D bar codes

Increases productivity by leveraging the high performance of 2D bar codes: one device reads all industry standard bar codes

#### Ability to capture high density bar codes (HD unit only)

Increases productivity by enabling users to read high density 2D bar codes in addition to all industry-standard bar codes.

#### Ability to read a wide variety of DPM marks (DPM unit only)

Enhances quality processes and improves lifetime product traceability

#### Integrated Bluetooth Class 1 v 1.2

Cable-free convenience; secure wireless transmissions; reduces repairs due to cable failure

### Capture bar codes, and direct part marks with laser-like precision

The Symbol DS3478 Series of cordless rugged digital scanners is designed to bring high performance data capture to harsh industrial environments to improve business efficiency. This scanner family offers digital imaging technology, providing the rapid and accurate capture of one-dimensional (1D) and two-dimensional (2D) bar codes, and direct part marks (DPM) with the high performance typically found only in laser scanners. Regardless of the types of data capture required in your enterprise, there is a DS3478 Series model that will fit your needs.

### Cordless freedom improves productivity

Integrated Bluetooth eliminates the cord between the scanner and the host, enabling employees to move freely throughout the work environment. Productivity, efficiency, and even worker safety can be improved. Plus, the elimination of the cord reduces downtime from cable breakdowns — a common point of failure in handheld devices used in industrial environments.

### High performance that speeds productivity

Designed specifically for fast-paced production environments, the DS3478 Series is equipped with charge coupled device (CCD) image sensors, which enable faster and more accurate data capture and processing than typical digital scanners.

The wide working range and two-position smart focus technology, unique to Motorola, enable fast and accurate reading of bar codes of virtually any size or density. Omni-directional scanning functionality eliminates the need to align the bar code and scanner, allowing operators to quickly capture bar codes and marks from any angle.

### Built for industrial environments

As innovative as it is rugged, the DS3478 Series delivers the ergonomic and operational features for scan-intensive industrial applications under the harshest operating conditions. The device is designed to perform reliably despite the inevitable bumps and drops — even on concrete. An IP65-rated seal makes it impervious to dust and water, and the exit window is scratch-resistant and recessed for the highest level of durability. As a result, enterprises enjoy a low total cost of ownership — employee and device downtime as well as equipment repair and replacement costs are minimized.

In addition, noisy machinery and poor lighting can make it difficult for operators to see or hear scanner feedback to ensure proper completion of scans. Symbol's DS3478 Series addresses this challenge with bright LEDs and an adjustable volume beeper, ensuring that decode feedback is clearly visible and audible to users, saving valuable worker time.

#### **Omni-directional scanning**

Increases productivity by eliminating the need to orient scanner and bar code

#### **Rugged design withstands multiple 6.5 ft./2 m drops to concrete**

Ensures maximum reliability with less downtime resulting from accidental drops

#### **IP65-rated sealing**

Protects against water and dust for reliable performance in harsh industrial conditions

#### **Bright LED and beeper with adjustable volume**

Multiple confirmation modes for positive user feedback in noisy environments

#### **Two-position smart focus**

Unique to the Symbol DS3478 Series, this feature provides two focal positions for optimum application flexibility and performance

#### **Advanced data formatting**

Eliminates costly modifications to the host software

#### **Multiple on-board interfaces and universal cable set**

Ensures flexible connectivity with different hosts; enables easy upgrading of hosts and cable replacement; provides investment protection

#### **Three models to meet many needs**

This diverse product line offers a number of models designed to meet a wide variety of application needs across a variety of industries:

##### **DS3478-SF: Flexible 1D and 2D bar code capture**

The DS3478-SF offers the flexibility to meet the needs of a wide variety of applications and environments, with 1D and 2D bar code scanning as well as support for a wide variety of interfaces for easy integration with new and legacy systems. The DS3478-SF is designed to streamline inventory management in scan intensive, fast-paced environments, from the largest warehouse to the retail backroom, where a quick scan enables the automatic and accurate capture of the information required to increase productivity and reduce errors. At the receiving dock, a scan of the bar code on the boxes, pallets or bill of lading enables automatic reconciliation of incoming shipments for faster processing of incoming goods. In put-away and picking, a quick scan can determine where product should be stored and also verify that product was placed on the right shelf, eliminating false out-of-stocks due to misplacement — and lost sales. In shipping, a quick scan verifies that the right shipment is addressed to the right person, eliminating costly mis-ships.

##### **DS3478-HD: Optimized for comprehensive 2D bar code capture**

The DS3478-HD offers the same capabilities as the DS3478-SF, but is optimized for the very tiny and dense 2D bar codes frequently found in warehousing, transportation and logistics, and manufacturing environments. In manufacturing operations, the DS3478-HD allows even small parts with small bar code labels to be easily scanned to verify that the right part is used at the right time. As a result, product quality improves, increasing customer satisfaction and retention. Real-time inventory visibility allows manufacturers to reduce standard stocking levels, reducing warehouse space requirements and increasing inventory turns and profitability. And in the event you are notified of a defective part, you can easily trace the location of defective product for more rapid and targeted recalls, protecting brand image, customer perception and recall costs. And companies involved in warehousing, shipping and delivery of smaller items can easily read the small, dense 2D bar codes that may be utilized on smaller packages.

##### **DS3478-DP: Comprehensive bar code scanning with support for 1D, 2D and DPM bar codes**

In automotive, aerospace, medical and other heavy manufacturing environments, a wide variety of data types are typically in use, including 1D and 2D bar codes as well as permanent bar codes, known as direct part marks (DPM). The DS3478-DP provides manufacturers with a single flexible device capable of capturing all 1D and 2D bar codes as well as every type of direct part mark — including dot peen. This powerful scanner combines highly advanced DPM-specific software with the functionality of the DS3478-SF and the focusing capability of the DS3478-HD, allowing workers to easily capture even the very tiny and dense marks frequently utilized in DPM applications.

#### **Reduce capital and operational expenses**

The ability to capture multiple data types with a single device eliminates the need to purchase, manage and maintain multiple devices to accommodate multiple bar code symbologies in the enterprise. As a result, the enterprise enjoys a fast return on investment. Since one device does it all, capital and operational costs are reduced — and productivity is increased. Less training is required. And the simplification of the mobility architecture translates into less demand on your IT staff, leaving them more time to address more crucial IT business initiatives.

#### **An investment for now and the future**

In addition to the productivity-enhancing features you need to keep business moving, the DS3478 Series provides you with investment protection. Onboard support for multiple interfaces, a standard feature, allows you to use your scanner with many different types of systems for seamless integration now, as well as painless migration to the new systems of the future. We back up our leading scanner design with a full three-year warranty. And to help protect your investment, Motorola Enterprise Mobility Services offers Service from the Start with Comprehensive Coverage. This unique service goes far beyond normal wear and tear to include accidental damage to exit windows, scan elements and more at no additional charge.

#### **For more information**

For more information on the Symbol DS3478 Series of rugged, cordless, handheld scanners and the full line of accessories, access our global contact directory at [www.motorola.com/enterprise/contactus](http://www.motorola.com/enterprise/contactus) or visit us on the Web at [www.motorola.com/ds3478](http://www.motorola.com/ds3478)

# Symbol DS3478 Series Specifications

## Physical characteristics

Dimensions:	7.34 in. L x 4.82 in. W x 2.93 in. D 18.65 cm H x 12.25 cm W x 7.43 cm D)
Weight (w/o cable):	14.6 oz. (414 gm)
Battery:	2200 mAh Lithium Ion Battery
Battery charge time:	Fully charged (100%) in 3 hours
Color:	Twilight Black and Yellow

## Performance characteristics

Light source:	650 nm visible laser diode
Resolution:	640 x 480
Min. element width:	4 mil (0.102mm)
Nominal working distance:	Please see decode zone
Print contrast:	25% minimum reflective difference
Roll (Tilt) <sup>1</sup> :	±180 degrees from normal
Pitch <sup>2</sup> :	±60 degrees from normal
Skew (Yaw) <sup>3</sup> :	±50 degrees from normal
1D Codes:	UPC.EAN, UPC.EAN with Supplementals, GS1-128 (formerly UCC/EAN 128), JAN 8 & 13, Code 39, Code 39 Full ASCII, Code 39 Trioptic, Code 128, Code 128 Full ASCII, Codabar (NW7), Interleaved 2 of 5, Discrete 2 of 5, Code 93, MSI, Code 11, Code 32, Bookland EAN, IATA, GS1DataBar (formerly RSS)
2D codes:	PDF417, microPDF417, Maxicode, Data Matrix (ECC 2000), Composite Codes, QR Code
Postal codes:	U.S. Postnet, U.S. Planet, U.K. Postal, Japan Postal, Australian Postal, Dutch Postal, 4State Postal
DPM Marks (DPM unit only):	Data matrix marks applied by dot peening, laser etching, chemical etching, ink marking, molding, stamping or casting methods to multiple substrates including metal, plastic or glass
Interfaces supported:	RS232, Keyboard Wedge, Wand Emulation, Scanner Emulation, IBM 468X/469X, USB and Synapse

## User environment

Operating temp.:	-4° to 122°F (-20° to 50°C)
Storage temp.:	-40° to 140°F (-40° to 60°C)
Humidity:	5% to 95% relative humidity, noncondensing

Sealing:	Sealed to IP65 specifications
Drop specs:	Unit functions normally after repeated 6.5 ft. (2 m) drops to concrete
Ambient light immunity:	Immune to direct exposure of normal office and factory lighting conditions, as well as direct exposure to sunlight: Outdoor: 10,000 foot-candles/107,600 Lux

Electrostatic discharge (ESD):	Conforms to 15 kV air discharge and 8 kV of contact discharge
--------------------------------	---

Cradles	STB 3408 and FLB 3408	STB 3478 and FLB 3478
Power reqs.:	4.75 – 14 VDC	4.75 – 14 VDC
Typical current draw:		
Not charging:	10 mA	105 mA @5V 45 mA @9V
Fast rate charge:	915 mA @5V 660 mA @9V	915 mA @5V 660 mA @9V
Slow rate charge:	480 mA @5V 345 mA @9V	480 mA @5V 345 mA @9V
Radio link:	N/A	Bluetooth class 1 (2.4 GHz), Class 2

## Radio specification

Radio:	Bluetooth, Class 1, Version 1.2, Serial port and HID Profiles
Frequency:	2.402 to 2.480 GHz adaptive frequency hopping (co-existence with 802.11 wireless networks)
Data rate:	720 kbps
Radio Range:	Up to 300 ft. (100m) direct line of sight in open air; typical indoor cordless range is 100 ft. (33m), but will vary depending upon environment; see Bluetooth Radio Performance Technical Brief for more information

## Regulatory

Input transient protection:	IEC 1000-4-(2,3,4,5,6,11)
EMI/RFI:	FCC Part 15 Class B, ICES-003 Class B, European Union EMC Directive, Japan VCCI/MITI/Dentori
Laser safety:	CDRH Class II, IEC Class 2

## Warranty

The Symbol DS3478 Series is warranted against defects in workmanship and materials for a period of 3 years (36 months) from date of shipment, provided that the product remains unmodified and is operated under normal and proper conditions. See full warranty for details.

## Recommended Service

Service from the Start – Bronze

- 1 - Roll (Tilt): Controlled by rotating the wrist clockwise or counterclockwise
- 2 - Pitch: Controlled by dropping or raising the wrist
- 3 - Skew (Yaw): Controlled by rotating the wrist from left to right or vice versa

*\*See back for decode zone.*

**SPECIFICATION SHEET**

Symbol DS3478 Series

**DS3478 Series Decode Zone**

Label Density	Depth of Field			
	DS3478-SF		DS3478-HD/DS3478-DP	
	English	Metric	English	Metric
Code 39 - 5 mil	2.00" - 6.00"	5.08 - 15.24 cm	1.64" - 7.50"	4.17 - 19.05 cm
Code 39 - 7.5 mil	1.30" - 8.50"	3.30 - 21.59 cm	2.10" - 9.50"	5.33 - 24.13 cm
Code 39 - 20 mil	Up to 20.00"	Up to 50.80 cm	Up to 15.00"	Up to 38.10 cm
100% UPC - 13 mil	0.80" - 14.50"	2.03 - 36.83 cm	2.70" - 11.00"	6.86 - 27.94 cm
PDF417 - 6.67 mil	2.30" - 4.50"	5.84 - 11.43 cm	2.50" - 7.60"	6.35 - 19.30 cm
PDF417 - 10 mil	1.80" - 8.80"	4.57 - 22.35 cm	Up to 9.50"	Up to 24.13 cm
PDF417 - 15 mil	Up to 12.3"	Up to 31.24 cm	Up to 10.70"	Up to 27.18 cm
Data Matrix - 4 mil	N/A	N/A	0.88" - 1.92"	2.24 - 4.88 cm
Data Matrix - 5 mil	1.79" - 3.58"	4.55 - 9.09 cm	0.63" - 2.00"	1.60 - 5.08 cm
Data Matrix - 7.5 mil	1.58" - 4.54"	4.01 - 11.53 cm	0.58" - 2.38"	1.47 - 6.05 cm
Data Matrix - 10 mil	1.25" - 5.00"	3.18 - 12.70 cm	0.50" - 2.42"	1.27 - 6.15 cm
QR Code - 4 mil	N/A	N/A	0.83" - 1.63"	2.11 - 4.14 cm
QR Code - 5 mil	2.07" - 3.00"	5.26 - 7.62 cm	0.83" - 1.96"	2.11 - 4.98 cm
QR Code - 7.5 mil	1.71" - 4.25"	4.34 - 10.80 cm	0.67" - 2.34"	1.70 - 5.94 cm
QR Code - 10 mil	1.21" - 4.83"	3.07 - 12.27 cm	0.33" - 2.54"	0.84 - 6.45 cm

For more information, including decode zone pictorial, see the Product Reference Guide located in the Resources tab at [www.motorola.com/ds3478](http://www.motorola.com/ds3478).



motorola.com