DPM TECHNOLOGY

Direct Part Marking (DPM) is a process that allows users to imprint a bar code directly on an item instead of printing the code on a paper label. Different technologies are available to directly mark objects: laser/chemical etching, dot peening and ink jet printing. Each of these methods have specific advantages and disadvantages in terms of durability, cost and ease of reading.

The PowerScan™ 9500-DPM Evo series of scanners are rugged handheld area imagers specifically addressed and capable of reading codes marked with DPM.

READING CAPABILITIES

The PowerScan DPM series include the latest optics and software from Datalogic to make the reading of codes with DPM easy and intuitive. The typical reading distance is from contact to 4-5 cm / 1.5-1.9 in, depending on the DPM technology used, the code resolution, and the material and surface type. The scanner is also capable of reading standard bar codes on printed labels. High density optics allow the capture of very small, high-resolution codes in a range from near contact up to 15.0 cm / 5.9 in. The intuitive aiming system provides the highest first-pass reading rates. A soft pulsed white illumination light results in reduced flashes and is very gentle to the eyes.

FULL CONNECIVITY

The PM9500 DPM Evo series offers the display option with 4 configurable keys. This increases interaction between the host and the user allowing a two-way exchange of information for more reliable and effective communications.

The BC9180 is provided with Standard Multi-Interface: USB-KBD, USB-COM, USB-OEM, RS-232 and Ethernet connectivity: Telnet, Web Server, Data Socket, Ethernet/IP.

MOTIONIX™ MOTION-SENSING TECHNOLOGY

Datalogic's Motionix™ motion-sensing technology detects the natural actions of the operator to automatically switch the scanner into the desired scanning mode.

FEATURES

- Enhanced Decoding software will support any kind of Direct Part Marking (DPM) technology
- Snappy omnidirectional reading
- Intuitive aiming system
- Soft white light illumination
- Available with optional display with 4-keys
- Datalogic's Motionix™ motion-sensing technology
- Ergonomic shape
- Image capture
- Datalogic's 3GL™ (3 Green Lights) technology and loud beeper for good-read feedback
- Water and Particulate Sealing Rating: IP65
- EASEOFCARE Service Plans offer a wide range of service options to protect your investment, ensuring maximum productivity and ROI

- **Cordless Products**
  - Bluetooth® 3.0 Compliant, Class 1
  - STAR Cordless System™ available in 433 MHz or 910 MHz
  - Ethernet Connectivity (Standard and Industrial)

INDUSTRY-APPLICATIONS

- Manufacturing Shop Floor
  - Work-in-Progress
  - Sub-Assembly
  - Component Tracking
  - Quality Control
  - Time and Cost Analysis
  - Line Inventory Control

TECHNICAL SPECIFICATIONS

DECODING CAPABILITY

1D / LINEAR CODES	Autodiscriminates all standard 1D codes including GS1 DataBar™ linear codes
2D CODES	Aztec Code; China Han Xin Code; Data Matrix; MaxiCode; Micro QR Code; QR Code
POSTAL CODES	Postnet; Royal Mail Code (RM4SCC)
STACKED CODES	EAN/JAN Composites; GS1 DataBar Composites; GS1 DataBar Expanded Stacked; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; MacroPDF; MicroPDF417; PDF417; UPC A/E Composites

ELECTRICAL

CURRENT	Operating (Typical): 350 mA Standby/Idle (Typical): 120 mA
INPUT VOLTAGE	5 VDC +/- 10%

ENVIRONMENTAL

AMBIENT LIGHT	0 - 100,000 lux
DROP RESISTANCE	Withstands 50 drops from 2.0 m / 6.6 ft onto a concrete surface
ESD PROTECTION (AIR DISCHARGE)	20 kV
HUMIDITY (NON-CONDENSING)	0 - 95%
PARTICULATE AND WATER SEALING	IP65
TEMPERATURE	Operating: -20 to 50 °C / -4 to 122 °F Storage/Transport: -40 to 70 °C / -40 to 158 °F

INTERFACES

INTERFACES	RS-232 / USB / Keyboard Wedge Multi-Interface

PHYSICAL CHARACTERISTICS

COLORS AVAILABLE	Yellow/Black; Other colors and custom logo options are available for minimum quantity purchase.
DIMENSIONS	21.2 x 11.0 x 7.4 cm / 8.3 x 4.3 x 2.9 in
WEIGHT	330.0 g / 11.6 oz

READING PERFORMANCE

DIRECT PART MARKING (DPM) CAPABILITY	Codes are readable when marked by laser or chemical etching or ink jet printed; Data Matrix codes are also readable when marked by dot peening
IMAGE CAPTURE	Graphic Formats: BMP, JPEG, TIFF Greyscale: 256, 16, 2; JPEG, TIFF
IMAGER SENSOR	864 x 544
LIGHT SOURCE	Aiming: 630 - 680 nm VLD Illumination: White LED reading light
PRINT CONTRAST RATIO (MINIMUM)	15%
READING ANGLE	Pitch: +/- 40°; Roll (Tilt): 360°; Skew (Yaw): +/- 40°
READING INDICATORS	Beeper (Adjustable Tone and Volume); Datalogic's 3GL™ (Three Green Lights) technology and loud beeper for good-read feedback: Datalogic 'Green Spot' on the Code; Dual Good Read LEDs
RESOLUTION (MAXIMUM)	1D Codes: 2.5 mil; 2D Codes: 4 mil

READING RANGES

TYPICAL DEPTH OF FIELD

Depth of Field ranges on bar codes printed with DPM technology may vary depending on the printing technology, the code type and the resolution of the code. Other factors include the surface material the DPM technology is used on (metal, plastic, shiny or polished, opaque, etc.). The following specs represent standard bar codes that are traditionally printed black on white on paper labels.

2 mils	2.8 to 6.3 cm / 1.1 to 2.4 in
2.5 mils	2.5 to 7.8 cm / 0.9 to 3.0 in
5 mils	1.2 to 9.0 cm / 0.4 to 3.5 in
4 mils Data Matrix	2.6 to 5.2 cm / 1.0 to 2.0 in
5 mils Data Matrix	2.2 to 7.2 cm / 0.8 to 2.8 in
10 mils Data Matrix	2.0 to 10.5 cm / 0.8 to 4.1 in
5 mils PDF	1.2 to 9.0 cm / 0.4 to 3.5 in
10 mils PDF	1.0 to 12.5 cm / 0.4 to 4.9 in
13 mils EAN-13	2.5 to 16.0 cm / 0.9 to 6.3 in

SAFETY & REGULATORY

AGENCY APPROVALS	The product meets necessary safety and regulatory approvals for its intended use. The Quick Reference Guide for this product can be referred to for a complete list of certifications.
ENVIRONMENTAL COMPLIANCE	Complies to China RoHS; Complies to EU RoHS; Complies to R.E.A.C.H.
LASER CLASSIFICATION	Caution Laser Radiation - Do not stare into beam CDRH Class II; IEC 60825 Class 2
LED CLASSIFICATION	IEC 62471 Class 1 LED

UTILITIES

DATALOGIC ALADDIN™	Datalogic Aladdin configuration program is available for download at no charge.
OPOS / JAVAPOS	JavaPOS Utilities are available for download at no charge. OPOS Utilities are available for download at no charge.
REMOTE HOST DOWNLOAD	Available on request

WARRANTY

WARRANTY	3-Year Factory Warranty

ACCESSORIES

Cases/Holsters

- HLS-P080 Universal Holster (HLS-8000)

Mounts/Stands

- HLD-P080 Desk/Wall Holder (HLD-8000)

- 7-0404 Industrial Take-Up Reel

TECHNICAL SPECIFICATIONS

CORDLESS COMMUNICATIONS

BLUETOOTH WIRELESS TECHNOLOGY	Piconet: Max. Readers per Radio Receiver Using Commercial Dongle: 7; Using Cradle: 4
PROFILES	HID (Human Interface Device) SPP (Serial Port Profile)
PROTOCOL	Bluetooth® 3.0 Compliant, Class 1
RADIO FREQUENCY	2.40 to 2.48 GHz
RADIO RANGE (OPEN AIR)	Class 1: Exceeds 90 m/295 ft Range distances are measured using the base station. Range with connection to other Bluetooth peripherals may show different results.
SECURITY	Data Encryption; Scanner Authentication

DECODING CAPABILITY

1D / LINEAR CODES	Autodiscriminates all standard 1D codes including GS1 DataBar™ linear codes
2D CODES	Aztec Code; China Han Xin Code; Data Matrix; MaxiCode; Micro QR Code; QR Code;
POSTAL CODES	Australian Post; China Post; IMB; Japanese Post; KIX Post; Planet Code; Portuguese Post; Postnet; Royal Mail Code (RM4SCC); Swedish Post;
STACKED CODES	EAN/JAN Composites; GS1 DataBar Composites; GS1 DataBar Expanded Stacked; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; MacroPDF; MicroPDF417; PDF417; UPC A/E Composites

ELECTRICAL

BATTERY	Battery Type: Lithium-Ion 2150 mAh Charge Time: External Power: 4 Hours; Host Power: 10 Hours
READS PER CHARGE	Continuous Reading: 30,000 +
CRADLE INDICATOR LEDS	Battery Charging (Red); Charge Completed (Green); Power/Data (Yellow)
CURRENT	Charging (Typical): External Power: 800 mA @ 10 VDC; POT: 500 mA @ 5 VDC
OPERATING (TYPICAL)	150 mA @ 10 VDC
INPUT VOLTAGE	External Power: 10-30 VDC; POT: 5 VDC +/- 10%

ENVIRONMENTAL

AMBIENT LIGHT	0 - 100,000 lux
DROP RESISTANCE	Cradle: Withstands 50 drops from 1.2 m / 3.9 ft onto a concrete surface PBT9500: Withstands 50 drops from 2.0 m / 6.6 ft onto a concrete surface
ESD PROTECTION (AIR DISCHARGE)	20 kV
HUMIDITY (NON-CONDENSING)	95%
PARTICULATE AND WATER SEALING	IP65
TEMPERATURE	Operating: -20 to 50 °C / -4 to 122 °F Battery Charging: 0 to 45 °C / -32 to 113 °F Storage/Transport: -40 to 70 °C / -40 to 158 °

INTERFACES

INTERFACES	RS-232 / USB / Keyboard Wedge Multi-Interface; Optional Ethernet (Standard, Industrial)

PHYSICAL CHARACTERISTICS

COLORS AVAILABLE	Yellow/Black
DIMENSIONS	Cradle: 24.0 x 10.8 x 9.5 cm / 9.4 x 4.3 x 3.8 in PBT9500: 21.2 x 11.0 x 7.4 cm / 8.3 x 4.3 x 2.9 in
WEIGHT	PBT9500: 380.0 g / 13.4 oz

READING PERFORMANCE

DIRECT PART MARKING (DPM) CAPABILITY	Codes are readable when marked by laser or chemical etching or ink jet printed; Data Matrix codes are also readable when marked by dot peening
IMAGE CAPTURE	Graphic Formats: BMP, JPEG, TIFF; Greyscale: 256, 16, 2
IMAGER SENSOR	864 x 544
LIGHT SOURCE	Aiming: 630 - 680 nm VLD Illumination: White LEDs
PRINT CONTRAST RATIO (MINIMUM)	15%
READING ANGLE	Pitch: +/- 40°; Roll (Tilt): 360°; Skew (Yaw): +/- 40°
READING INDICATORS	Beeper (Adjustable Tone and Volume); Datalogic's 3GL™ (Three Green Lights) technology and loud beeper for good-read feedback: Datalogic 'Green Spot' on the Code, Dual Good Read LEDs
RESOLUTION (MAXIMUM)	1D Codes: 2.5 mil; 2D Codes: 4 mil

READING RANGES

TYPICAL DEPTH OF FIELD
Depth of Field ranges on bar codes printed with DPM technology may vary depending on the printing technology, the code type and the resolution of the code. Other factors include the surface material the DPM technology is used on (metal, plastic, shiny or polished, opaque, etc.). The following specs represent standard bar codes that are traditionally printed black on white on paper labels.

2 mils	2.8 to 6.3 cm / 1.1 to 2.4 in
2.5 mils	2.5 to 7.8 cm / 0.9 to 3.0 in
5 mils	1.2 to 9.0 cm / 0.4 to 3.5 in
4 mils Data Matrix	2.6 to 5.2 cm / 1.0 to 2.0 in
5 mils Data Matrix	2.2 to 7.2 cm / 0.8 to 2.8 in
10 mils Data Matrix	2.0 to 10.5 cm / 0.8 to 4.1 in
5 mils PDF	1.2 to 9.0 cm / 0.4 to 3.5 in
10 mils PDF	1.0 to 12.5 cm / 0.4 to 4.9 in
13 mils EAN-13	2.5 to 16.0 cm / 0.9 to 6.3 in

SAFETY & REGULATORY

AGENCY APPROVALS	The product meets necessary safety and regulatory approvals for its intended use. The Quick Reference Guide for this product can be referred to for a complete list of certifications.
ENVIRONMENTAL COMPLIANCE	Complies to China RoHS; Complies to EU RoHS; Complies to R.E.A.C.H.
LASER CLASSIFICATION	Caution Laser Radiation - Do not stare into beam CDRH Class II: IEC 60825 Class 2
LED CLASSIFICATION	IEC 62471 Class 1 LED

UTILITIES

DATALOGIC ALADDIN™	Datalogic Aladdin configuration program is available for download at no charge
OPOS / JAVAPOS	JavaPOS Utilities are available for download at no charge; OPOS Utilities are available for download at no charge
REMOTE HOST DOWNLOAD	Available on request

WARRANTY

WARRANTY	3-Year Factory Warranty

ACCESSORIES

Base Stations/Chargers

- BC9030-BT Base/ Charger, Multi-Interface

- BC9130-BT Base/Dual Charger, Multi-Interface
- BC9180-BT Base/Dual Charger, Multi-Interface/Ethernet (Standard, Industrial)

Cases/Holsters

- HLS-P080 Universal Holster (HLS-8000)

Mounts/Stands

- HLD-P080 Desk/Wall Holder (HLD-8000)

- 7-0404 Industrial Take-Up Reel

TECHNICAL SPECIFICATIONS

CORDLESS COMMUNICATIONS

DATALOGIC STAR CORDLESS SYSTEM™	Effective Radiated Power: 433 MHz: <10 mW; 910 MHz: <50 mW Point-to-Point Configuration Multi-Point Configuration: Max. Readers per Radio Receiver: 32
RADIO FREQUENCY	433 MHz; 910 MHz
RADIO RANGE (OPEN AIR)	433 MHz: 100 m / 328 ft low speed; 50 m / 164 ft high speed 910 MHz: 150 m / 492 ft low speed; 80 m / 262 ft high speed Seamless Roaming; Two Way Communications

DECODING CAPABILITY

1D / LINEAR CODES	Autodiscriminates all standard 1D codes including GS1 DataBar™ linear codes
2D CODES	Aztec Code; China Han Xin Code; Data Matrix; MaxiCode; Micro QR Code; QR Code;
POSTAL CODES	Australian Post; China Post; IMB; Japanese Post; KIX Post; Planet Code; Portuguese Post; Postnet; Royal Mail Code (RM4SCC); Swedish Post;
STACKED CODES	EAN/JAN Composites; GS1 DataBar Composites; GS1 DataBar Expanded Stacked; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; MacroPDF; MicroPDF417; PDF417; UPC A/E Composites

ELECTRICAL

BATTERY	Battery Type: Lithium-Ion 2150 mAh Charge Time: External Power: 4 Hours; Host Power: 10 Hours
READS PER CHARGE	Continuous Reading: 30,000+
CRADLE INDICATOR LEDS	Battery Charging (Red); Charge Completed (Green); Power/Data (Yellow)
CURRENT	Charging (Typical): External Power: 800 mA @ 10 VDC; POT: 500 mA @ 5 VDC
OPERATING (TYPICAL)	150 mA @ 10 VDC
INPUT VOLTAGE	External Power: 10-30 VDC; POT: 5 VDC +/- 10%

ENVIRONMENTAL

AMBIENT LIGHT	0 - 100,000 lux
DROP RESISTANCE	Cradle: Withstands 50 drops from 1.2 m / 3.9 ft onto a concrete surface PM9500-DPM: Withstands 50 drops from 2.0 m / 6.6 ft onto a concrete surface
ESD PROTECTION (AIR DISCHARGE)	20 kV
HUMIDITY (NON-CONDENSING)	95%
PARTICULATE AND WATER SEALING	IP65
TEMPERATURE	Operating: -20 to 50 °C / -4 to 122 °F Battery Charging: 0 to 45 °C / -32 to 113 °F Storage/Transport: -40 to 70 °C / -40 to 158 °F

INTERFACES

INTERFACES	RS-232 / USB / Keyboard Wedge Multi-Interface; Optional Ethernet (Standard, Industrial)

PHYSICAL CHARACTERISTICS

COLORS AVAILABLE	Yellow/Black
PM9500-DPM EVO	Display with 4 configurable keys
DIMENSIONS	Cradle: 24.0 x 10.8 x 9.5 cm / 9.4 x 4.3 x 3.8 in PM9500-DPM: 21.2 x 11.0 x 7.4 cm / 8.3 x 4.3 x 2.9 in
WEIGHT	PM9500-DPM: 380.0 g/13.4 oz

READING PERFORMANCE

DIRECT PART MARKING (DPM) CAPABILITY	Codes are readable when marked by laser or chemical etching or ink jet printed; Data Matrix codes are also readable when marked by dot peening
IMAGER SENSOR	864 x 544
LIGHT SOURCE	Aiming: 630 - 680 nm VLD Illumination: White LEDs
PRINT CONTRAST RATIO (MINIMUM)	15%
READING ANGLE	Pitch: +/- 40°; Roll (Tilt): 360°; Skew (Yaw): +/- 40°
READING INDICATORS	Beeper (Adjustable Tone and Volume); Datalogic's 3GL™ (Three Green Lights) technology and loud beeper for good-read feedback: Datalogic 'Green Spot' on the Code, Dual Good Read LEDs
RESOLUTION (MAXIMUM)	1D Codes: 4 mil; 2D Codes: 7.5 mil

READING RANGES

TYPICAL DEPTH OF FIELD

Depth of Field ranges on bar codes printed with DPM technology may vary depending on the printing technology, the code type and the resolution of the code. Other factors include the surface material the DPM technology is used on (metal, plastic, shiny or polished, opaque, etc.). The following specs represent standard bar codes that are traditionally printed black on white on paper labels.

2 mils	2.8 to 6.3 cm / 1.1 to 2.4 in
2.5 mils	2.5 to 7.8 cm / 0.9 to 3.0 in
5 mils	1.2 to 9.0 cm / 0.4 to 3.5 in
4 mils Data Matrix	2.6 to 5.2 cm / 1.0 to 2.0 in
5 mils Data Matrix	2.2 to 7.2 cm / 0.8 to 2.8 in
10 mils Data Matrix	2.0 to 10.5 cm / 0.8 to 4.1 in
5 mils PDF	1.2 to 9.0 cm / 0.4 to 3.5 in
10 mils PDF	1.0 to 12.5 cm / 0.4 to 4.9 in
13 mils EAN-13	2.5 to 16.0 cm / 0.9 to 6.3 in

SAFETY & REGULATORY

AGENCY APPROVALS	The product meets necessary safety and regulatory approvals for its intended use. The Quick Reference Guide for this product can be referred to for a complete list of certifications.
ENVIRONMENTAL COMPLIANCE	Complies to China RoHS; Complies to EU RoHS; Complies to R.E.A.C.H.
LASER CLASSIFICATION	Caution Laser Radiation - Do not stare into beam CDRH Class II; IEC 60825 Class 2
LED CLASSIFICATION	IEC 62471 Class 1 LED

UTILITIES

DATALOGIC ALADDIN™	Datalogic Aladdin configuration program is available for download at no charge
OPOS / JAVAPOS	JavaPOS Utilities are available for download at no charge; OPOS Utilities are available for download at no charge
REMOTE HOST DOWNLOAD	Available on request

WARRANTY

WARRANTY	3-Year Factory Warranty

ACCESSORIES

Base Stations/Chargers

- BC9030-433 / BC9030-910 Base/Charger, Multi-Interface

- BC9130-433 / BC9130-910 Base/Dual Charger, Multi-Interface
- BC9160-433 / BC9160-910 Base/Dual Charger, Multi-Interface/RS-485
- BC9180-433 / BC9180-910 Base/Dual Charger, Multi-Interface/Ethernet (Standard, Industrial)

Cases/Holsters

- HLS-P080 Universal Holster (HLS-8000)

Mounts/Stands

- HLD-P080 Desk/Wall Holder (HLD-8000)

- 7-0404 Industrial Take-Up Reel

www.datalogic.com