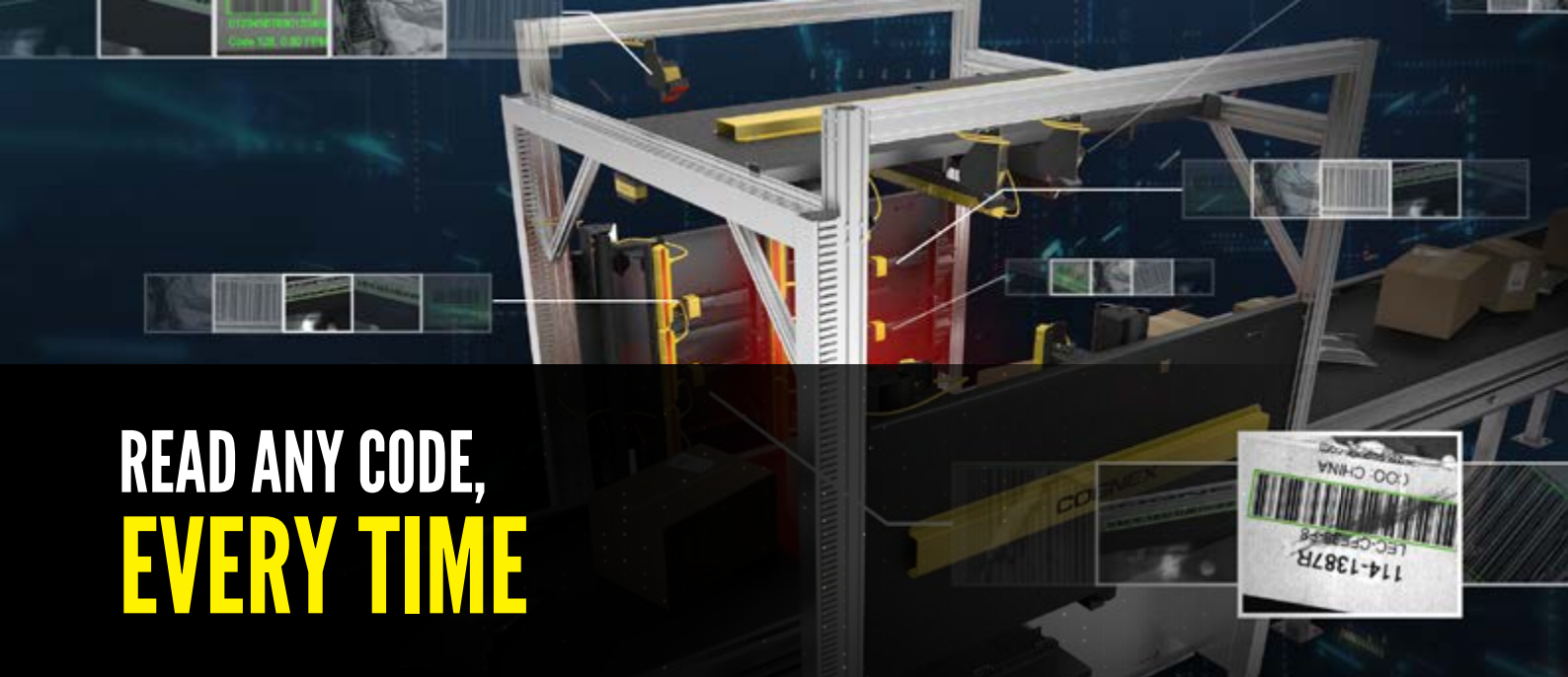




# BARCODE READERS

FIXED-MOUNT ■ HANDHELD ■ VERIFIERS ■ MOBILE



# READ ANY CODE, EVERY TIME

Nearly every product uses a 1D or 2D barcode to automate and simplify identification and data capture. The basic process in reading codes is to 1) illuminate the code, 2) locate the code, and 3) extract the data. Organizations must be able to read codes quickly and accurately for maximum efficiency and throughput.

Cognex image-based barcode readers decode 1D and 2D codes, from printed labels to the hardest to read direct part mark (DPM) codes, and deliver industry-leading read rates. Advanced technology, modular options, and easy setup helps reduce costs, optimize performance, increase throughput, and control traceability.

## INDUSTRIES

Cognex provides solutions to nearly all manufacturing and logistics industry sectors, including:

- Aerospace
- Airport Baggage Handling
- Automotive
- Consumer Products
- Ecommerce Fulfillment
- Electronics
- Food and Beverage
- Pharmaceutical
- Retail Distribution

### Fixed-Mount Barcode Readers



### Handheld Barcode Readers



### Barcode Verifiers



### Mobile Solutions





# PATENTED DECODING TECHNOLOGY AND IMAGE FORMATION TOOLS

Cognex products are optimized with patented decoding algorithms and advanced technologies to ensure continuously high read rates for the most difficult and degraded 1D and 2D codes.

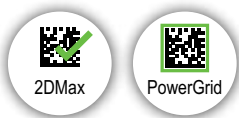


## 1DMax Algorithm with Hotbars Technology

1DMax<sup>®</sup> with Hotbars<sup>®</sup> is optimized for omnidirectional 1D barcode reading, decoding up to 10x the speed of a conventional barcode reader, even with increased noise, limited contrast, and damage.

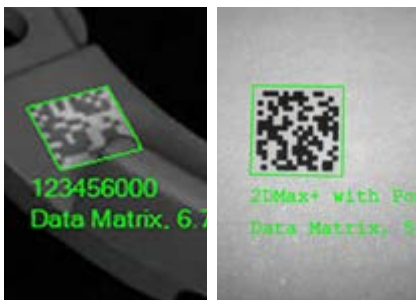


	TYPICAL 1D ALGORITHM	HOTBARS IMAGE ANALYSIS
Noise		
Specular		
Perspective		
Quiet Zone		
Contrast		
Damage		



## 2DMax Algorithm with PowerGrid

2DMax<sup>®</sup> with PowerGrid<sup>®</sup> is a breakthrough 2D decoding algorithm and technology designed to read 2D codes (including Data Matrix and QR codes) with significant damage to or complete elimination of a code's finder pattern, clocking pattern, or quiet zone.



No finder pattern



No finder or clocking pattern



Quiet zone violation



Stripe



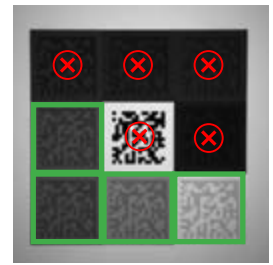
## High Dynamic Range (HDR) Technology

HDR imaging uses the latest CMOS image sensor technology, which is 16x more detailed than conventional sensors, to globally enhance image quality and contrast.

Target Source



Conventional Sensor

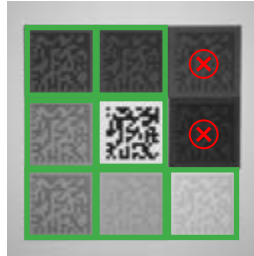


## HDR+

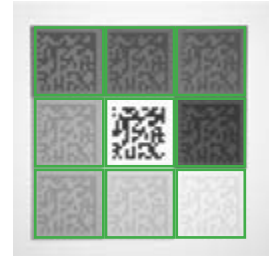
HDR+ further increases localized contrast changes automatically.

This creates a more uniform image in a single acquisition allowing greater depth-of-field, faster line speeds, and improved handling of difficult codes.

HDR



HDR+

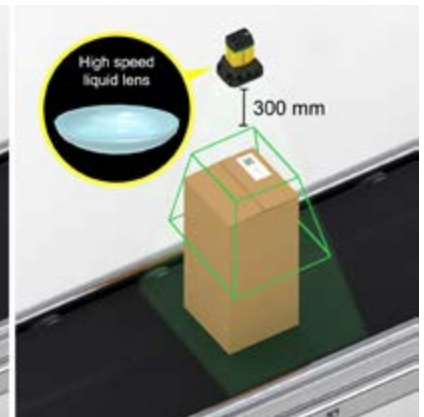
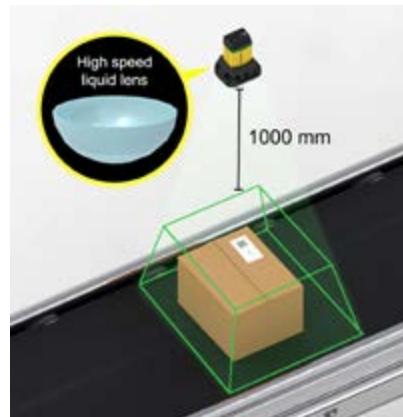


*HDR+ technology enables reading an increased range of codes than is possible with conventional or other HDR technologies.*



## Liquid Lens Technology

This dynamic autofocus technology automatically adapts to changes in working distances for presentation scanning and high-speed, high-variability applications. Available in 8, 10, 16, 24, and 35mm lenses.



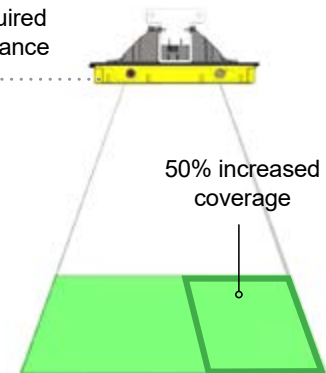
## Greater coverage with fewer readers

The Xpand™ technology accessory is available to increase the field-of-view coverage of a single barcode reader by over 50%. This enables wider belt coverage using fewer readers, simplifying setup and installation, and reducing overall cost.

Single Reader



Single Reader + Xpand Accessory



Shorter required working distance

50% increased coverage



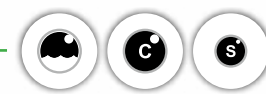
# MODULAR DESIGN FOR MAXIMUM FLEXIBILITY

Cognex offers modular software and hardware options to solve a wide range of barcode reading challenges. This flexibility enables fast, easy integration into your existing infrastructure, while providing a solution that allows you to adapt as your needs change.



Patented technology and advanced algorithms optimize performance

Straight and right-angle configuration options



Various lens options for maximum application coverage



Field-interchangeable lighting options for optimal illumination on all surface types

Clear and polarized cover options available



Broad communications and network connectivity options available

## Build YOUR vision

Select from different combinations to build your custom solution.



[configurator.cognex.com](https://configurator.cognex.com)

# EASY SETUP, OPERATION, AND MAINTENANCE



## Cognex Edge Intelligence

Cognex Edge Intelligence (EI) technology transforms big data into smart data to improve overall equipment effectiveness and throughput. EI allows users to configure multiple devices at once and begin trending important system performance measurements within minutes. Users can be alerted when issues occur, and operators can identify root causes faster and resolve them sooner using powerful analytics and image view tools.



Performance dashboards, read rate trends, setup, commissioning, and calibration tools



## DataMan Setup Tool

The DataMan® Setup Tool software simplifies installation and operation of Cognex barcode readers. It provides step-by-step guidance, auto-adjusts and optimizes variable parameters, and captures code images in real-time for user review.



Step-by-step visual guidance



Pre- and post-image optimization tools

Result	Result Status
2DIAMONDS	Read
2DIAMONDS	Read
2DIAMONDS	Read
2DIAMONDS	Read
2DIAMONDS	Read
2DIAMONDS	Read














Image and read result history

# FIXED-MOUNT BARCODE READERS

DataMan fixed-mount, image-based barcode readers offer advanced technology, processing power, modularity, and ease of use for challenging manufacturing and logistics applications.

## DataMan 470 Series

Premium reader with multi-core processing power and advanced imaging technology for complex, high-throughput 1D and 2D code applications.

POWER	RESOLUTION	CONNECTIVITY	SYMBOLOLOGIES					
 <b>7.5X</b>	 <b>3/5 MP</b>	 Serial GigaBit						
FEATURES								
 Hotbars	 PowerGrid	 High Speed Liquid Lens	 Laser Aimer	 SD	 EI	 Modular	 HDR	 HDR+



## DataMan 580 Fixed-Mount Barcode Reader for Tunnel Applications

Enables greater throughput while maintaining high read-rates and short gaps between packages on high-speed lines utilizing a 9 MP imager and Cognex's 1D/2D QuickSort™ algorithm.





## DataMan 370 Series

Delivers superior read performance for the broadest range of applications, including multi-code, multi-symbology applications.



\*Including integrated light. Base dimensions are 73 mm (L) x 54 mm (W) x 42 mm (H)

### POWER



### RESOLUTION



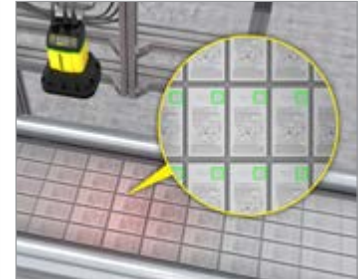
### CONNECTIVITY



### SYMBOLOLOGIES



### FEATURES



## DataMan 280 Series

Premium decoding technology in a compact form factor.

### POWER



### RESOLUTION



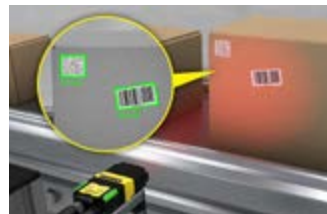
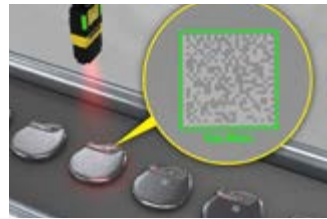
### CONNECTIVITY



### SYMBOLOLOGIES



### FEATURES



## DataMan 70 Series

Compact design ideal for reading 1D and 2D label-based codes in tight application spaces.

### POWER



### RESOLUTION



### CONNECTIVITY








### SYMBOLOLOGIES



















### FEATURES



# FIXED-MOUNT READER SPECIFICATIONS & FEATURES

	70 Series	150 Series	260 Series	280 Series	370 Series	470 Series
 Resolution	1280 x 960			1440 x 1080 1920 x 1080	2048 x 1536 2448 x 2048	
 Processing Power <sup>1</sup>	1.7X	2X		4X	5X	7.5X
 Model Variants	L, QL, S, Q	QL, S, Q, X		L, QL, S, Q, X	L, Q, QL, X	L, Q, QL, X
<b>Lenses</b>						
 Liquid Lens		✓	✓		✓	✓
 High Speed Liquid Lens				✓	✓	✓
 C-mount	✓	✓	✓	✓	✓	✓
 S-mount	✓	✓	✓	✓		
<b>Symbologies</b>						
 1D	✓	✓	✓	✓	✓	✓
 2D	✓	✓	✓	✓	✓	✓
 Multi-code	✓	✓	✓	✓	✓	✓
<b>Decoding Algorithms</b>						
 1DMax with Hotbars	✓	✓	✓	✓	✓	✓
 2DMax		✓	✓	✓	✓	✓
 PowerGrid		✓	✓	✓	✓	✓
<b>Technologies</b>						
 Multi-Reader Sync			✓	✓	✓	✓
 HDR				✓	✓	✓
 HDR+						✓
 Standards-Based Grading				✓	✓	✓

	70 Series	150 Series	260 Series	280 Series	370 Series	470 Series
<b>Lighting Modularity</b>						
 Integrated Lighting	✓	✓	✓	✓	✓	✓
 External Lighting				✓	✓	✓
 High Powered Integrated Torch (HPIT)				✓	✓	✓
<b>Communications</b>						
 Discrete I/O	1/1	2/2	2/4	2/2, 2 user-configurable inputs/outputs	2/2, 2 user-configurable inputs/outputs	2/2, 2 user-configurable inputs/outputs
 Serial	✓	✓	✓	✓	✓	✓
 Ethernet			✓	✓	✓	✓
 Gigabit Ethernet				✓	✓	✓
 USB	USB-C	USB		USB-C		
<b>Additional Features</b>						
 High Speed Steerable Mirror (HSSM)						✓
 Web HMI Capable				✓	✓	✓
 Edge Intelligence			✓	✓	✓	✓
 Modular	✓	✓	✓	✓	✓	✓
 Laser Aimer				280: LED 282: Laser	✓	✓
 IP Rating	IP65	IP65	IP65	IP67	IP67	IP67
 ESD-Safe Housing <sup>2</sup>	✓	✓	✓	✓	✓	✓
 SD Card					✓	✓



### <sup>1</sup> Processing Power

The processing power of a reader is measured by how quickly it decodes a barcode and outputs the resulting data. A comparison test simulating a complex 1D/2D multi-code application (consisting of four varied 1D codes and seven varied 2D codes together) was used to determine the processing power of each DataMan fixed-mount barcode reader.



### <sup>2</sup> ESD-Safe Housing

Protects devices and flammable environments from electrostatic discharge (ESD), the sudden flow of static electricity between two objects.



# HANDHELD BARCODE READERS



Powered by patented technology, DataMan handheld barcode readers offer rugged housing and modular communication options for your toughest applications.



## DataMan 8700DX

Offers cutting-edge performance and operator feedback on the toughest DPM and label-based codes while withstanding harsh oils, dirt, and water.



### RESOLUTION

 1.6 MP

### CONNECTIVITY

 Ethernet  Serial  USB  Bluetooth  Wi-Fi

### SYMBOLOLOGIES

### FEATURES

 Hotbars  PowerGrid  Liquid Lens  HDR  OLED Display

## DataMan 8700DQ

Decodes well-marked DPM codes with IP67-rated housing and an OLED display screen for easy setup and use.



## DataMan 8700LX

Decodes well-marked 1D and 2D label-based codes, with an OLED display screen for easy setup and use.



## DataMan 8700HD

Decodes well-marked 1D and 2D label-based codes as small as 2 mil in size.



### RESOLUTION

 1.6 MP

### CONNECTIVITY

 Ethernet  Serial  USB  Bluetooth  Wi-Fi

### SYMBOLOLOGIES



















  

### FEATURES

 Hotbars  PowerGrid  HDR  OLED Display



# HANDHELD READER SPECIFICATIONS & FEATURES

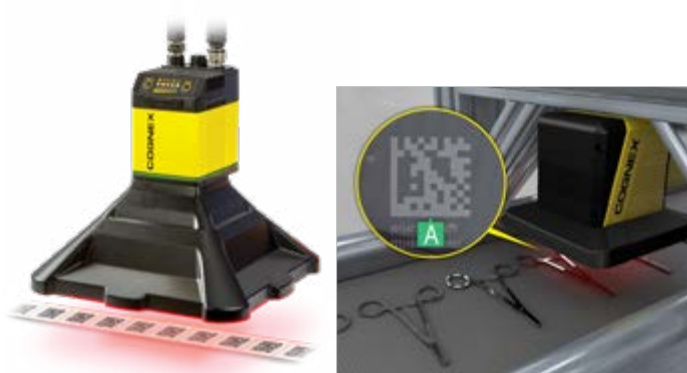
	8700HD	8700LX	8700DQ	8700DX
 Resolution	1.6 MP	1.6 MP	1.6 MP	1.6 MP
<b>Lenses</b>				
 Liquid Lens				✓
<b>Symbologies</b>				
 1D	✓	✓	✓	✓
 2D	✓	✓	✓	✓
Minimum 1D/2D code size	2 mil / 2 mil	4 mil / 5 mil	3 mil / 5 mil	3 mil / 5 mil
<b>Decoding Algorithms</b>				
 1DMax with Hotbars	✓	✓	✓	✓
 2DMax	✓	✓	✓	✓
 PowerGrid	✓	✓	✓	✓
<b>Technologies</b>				
 HDR	✓	✓	✓	✓
<b>Lighting Modularity</b>				
 Integrated Lighting	Red diffuse	Red direct lighting	White diffuse lighting	Red diffuse, polarized, and direct lighting
<b>Communications</b>				
 Wi-Fi	✓	✓	✓	✓
 Ethernet with Industrial Protocols	✓	✓	✓	✓
 Serial	✓	✓	✓	✓
 USB	✓	✓	✓	✓
 Bluetooth	✓	✓	✓	✓
<b>Additional Features</b>				
 OLED Display Screen	✓	✓	✓	✓
 Modular	✓	✓	✓	✓
 Drop Test	Multiple drops from 2.5 meters			
 IP Rating	Handheld reader: IP67; Base station: IP65			

# BARCODE VERIFIERS

Barcode verification is the process of grading the quality of barcodes to globally accepted standards. Cognex barcode verification technology ensures the readability and compliance of codes and provides detailed summary reports.

## DataMan 475V Series Inline Verifier

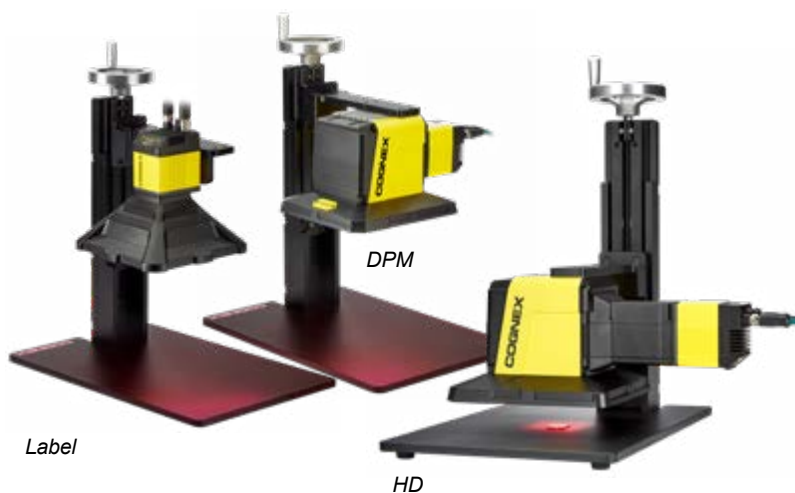
Grades 1D, 2D, and DPM codes from a fixed position on the production line.



Label and DPM models

## DataMan 475VS Series Offline Verifier

Grades 1D, 2D, and DPM codes as small as 1 mil in size on a wide range of parts with an easy-to-use adjustable height stand.

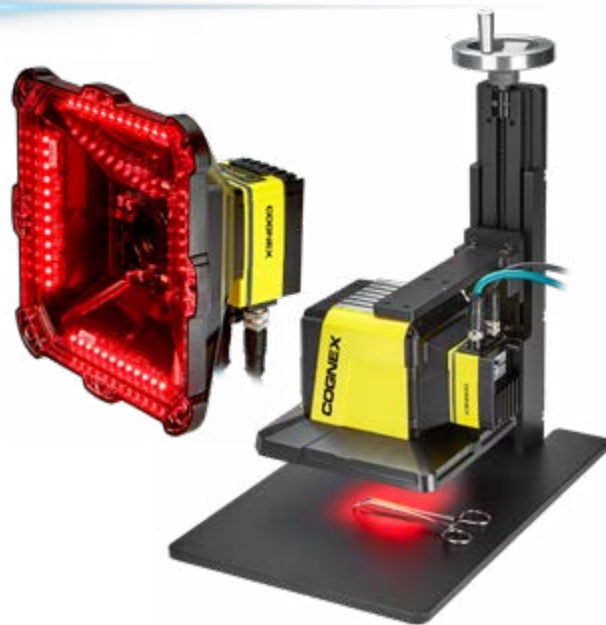


Label

HD

## In-Sight 7905V Series Verifier

Combines powerful vision and verification technology to perform multiple tasks at once including grading barcode quality, reading text, and verifying code placement on parts.



Inline and offline label and DPM models.





## DataMan 8072V Series Handheld Verifier

Grades the most difficult direct part mark (DPM) codes with 30/45/90-degree angle lighting options.

















## Auto-generate code quality data and reports

Barcode verification software provides visual diagnostic information to identify one-off or trending code quality issues. Export the data or transfer raw data to your own database for further analysis.

The screenshot displays the Cognex software interface with several key features highlighted:

- Overall grade:** A red box at the top right shows the overall grade as **D (1.4)** with a score of **1.6 (20/980-92)**.
- Individual quality parameter grades:** A list of parameters on the right side, each with a corresponding color-coded grade (e.g., 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%).
- Pre-loaded application standards:** A green bar at the bottom left indicates the current application standard.
- Real time trend analysis:** A graph at the bottom center shows a fluctuating trend line.
- Adjustable grade trend threshold alerts:** A green bar at the bottom right indicates the current grade trend threshold.

# BARCODE VERIFIER SPECIFICATIONS & FEATURES

	DataMan 8072V	DataMan 475V Inline	DataMan 475VS Offline	In-Sight 7905V
 <b>Model Variants</b>	Standard, HD	Label, DPM	Label, DPM, HD	Label, DPM
 <b>Resolution</b>	1.2 MP	5 MP	5 MP	5 MP
 <b>Field of View</b>	Standard: 27 x 20 mm HD: 17 x 13 mm	Label: 80 x 60 mm DPM: 35 x 29 mm	Label: 80 x 60 mm DPM: 35 x 29 mm, HD: 11 x 9 mm	Label: 80 x 60 mm DPM: 35 x 29 mm
 <b>Minimum X-Dimension</b>	Standard: 6.0 mil HD: 3.5 mil	Label: 6.0 mil DPM: 3.75 mil	Label: 6.0 mil DPM: 3.75 mil HD: 1 mil	Label: 6.0 mil DPM: 3.75 mil
 <b>OCR and code dimensioning tools</b>				✓
<b>Symbologies</b>				
 <b>1D</b>		✓	✓	✓
 <b>2D</b>	✓	✓	✓	✓
 <b>DPM</b>	✓	✓	✓	✓
<b>Lighting Modularity</b>				
 <b>30-degree</b>	✓	DPM	DPM, HD	DPM
 <b>45-degree</b>	✓	Label, DPM	Label, DPM, HD	Label, DPM
 <b>90-degree</b>	✓	DPM	DPM, HD	DPM
<b>Additional Features</b>				
 <b>IP Rating</b>	IP65	IP65	IP65	N/A
 <b>Industry Standards Compliance</b>	ISO/IEC 15415, ISO/IEC TR 29158, ISO/IEC 15426-2	ISO/IEC 15415, ISO/IEC 15416, ISO/IEC TR 29158, ISO/IEC 15426-1, ISO/IEC 15426-2		
 <b>Applications Standards</b>	GS1, MIL-STD 130 IUD, UDI, HIBCC, ISO 15434	GS1, MIL-STD 130 IUD, UDI, HIBCC, ISO 15434, Russian Crypto-Code, Custom Application Standards		



# MOBILE SOLUTIONS

Do more with your smartphones and tablets by putting them to work across your entire enterprise, from in-house retail and light industrial barcode reading applications to harsher warehouse and factory floor environments. Cognex offers comprehensive, end-to-end handheld mobile scanning solutions, while achieving best-in-class 1D, 2D, and DPM barcode reading performance.

## Cognex Mobile Barcode Software Development Kit (SDK)

Whether developing a barcode reading application for inventory management, package delivery, patient ID scanning, vehicle inspection, or warehouse and factory floor environments, the Cognex Mobile Barcode Software Development Kit (SDK) provides enterprise-grade barcode scanning in a unified solution. The SDK can be used with any smartphone or tablet with a built-in camera, and even embedded systems.



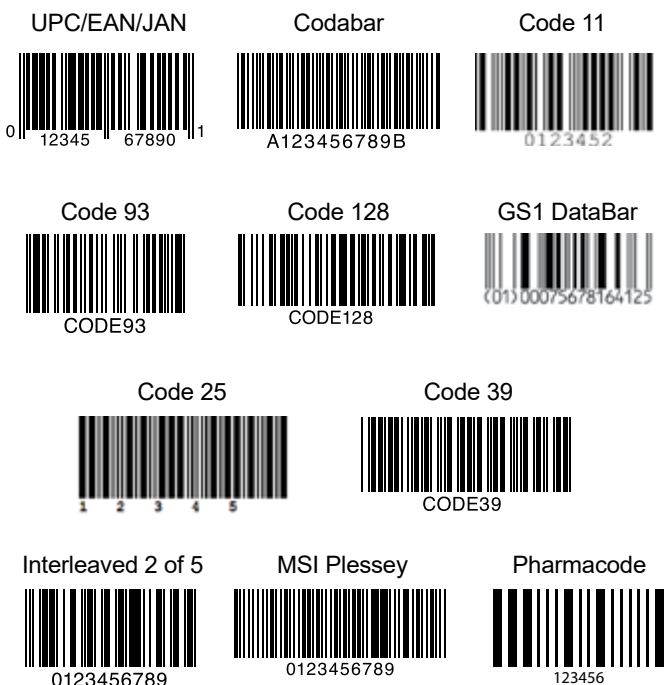


# MODELS AND SYMBOLOGIES

Regardless of symbology, size, quality, printing method, or surface, Cognex has a barcode reader that can read your code, ensuring maximum efficiency and traceability.

Model	Reads
L	Fixed position 1D barcodes
QL	Omnidirectional 1D barcodes
S	Slow or indexed well-marked 1D and 2D codes
DQ/Q	High-speed or tough 1D and 2D codes
DX/X	Challenging 1D and 2D codes, including DPM codes
UHD	Ultra-small, well-marked 2D DPM codes (0.7 mil)
HD	Small 1D and 2D codes (6-10 mil)
HDX	Smaller 1D and 2D codes (2-5 mil)
SR	Codes from standard range
ER	Codes from extended-range (very high shelves)
XR	Codes on hanging signs or ceilings
UV	Ultraviolet (invisible) codes
V	Verifies or grades the quality of codes

## 1D Codes



## 2D Codes



## Postal Codes



PLANET, Australian Post, Japan Post, Royal Mail, UPU

# THE GLOBAL LEADER IN MACHINE VISION AND BARCODE READING

For over 40 years, Cognex has helped the world's most innovative companies make their manufacturing and distribution faster, smarter, and more efficient.

Cognex vision systems and barcode readers help customers improve product quality and operational performance by eliminating defects, verifying assembly, and tracking information at every stage of the production process. Using data captured by Cognex vision systems and barcode readers, companies can monitor, update, and change production plans in real-time across global supply chains.

Smarter automation using Cognex products means fewer errors, which equates to lower costs and higher customer satisfaction. And Cognex is constantly applying new techniques, like artificial intelligence, to enable companies to evolve their automation strategy to meet today's and tomorrow's needs.

With a wide range of solutions and a large network of global vision experts, Cognex makes it possible to **Build Your Vision.**<sup>™</sup>

## \$1 BILLION

### 2022 REVENUE

## OVER 42

YEARS IN THE BUSINESS

## 500+

CHANNEL PARTNERS

## GLOBAL OFFICES IN 20+ COUNTRIES

## 4,000,000+ SYSTEMS SHIPPED



# BUILD YOUR VISION

## Vision Systems

Automate inspection tasks, from defect detection to assembly verification and text reading, with easy to deploy vision systems.

[www.cognex.com/machine-vision](http://www.cognex.com/machine-vision)



## Barcode Readers

Track and trace, from the floor to dock door, with powerful readers and verifiers designed to handle any code type.

[www.cognex.com/barcodereaders](http://www.cognex.com/barcodereaders)



## Industry Solutions

Solve applications across a wide range of industries with flexible and reliable machine vision and barcode reading solutions.

[www.cognex.com/solutions](http://www.cognex.com/solutions)



# COGNEX

Companies around the world rely on Cognex vision and barcode reading solutions to optimize quality, drive down costs and control traceability.

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Lit. No. DMIDPG-EN-05-2023

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