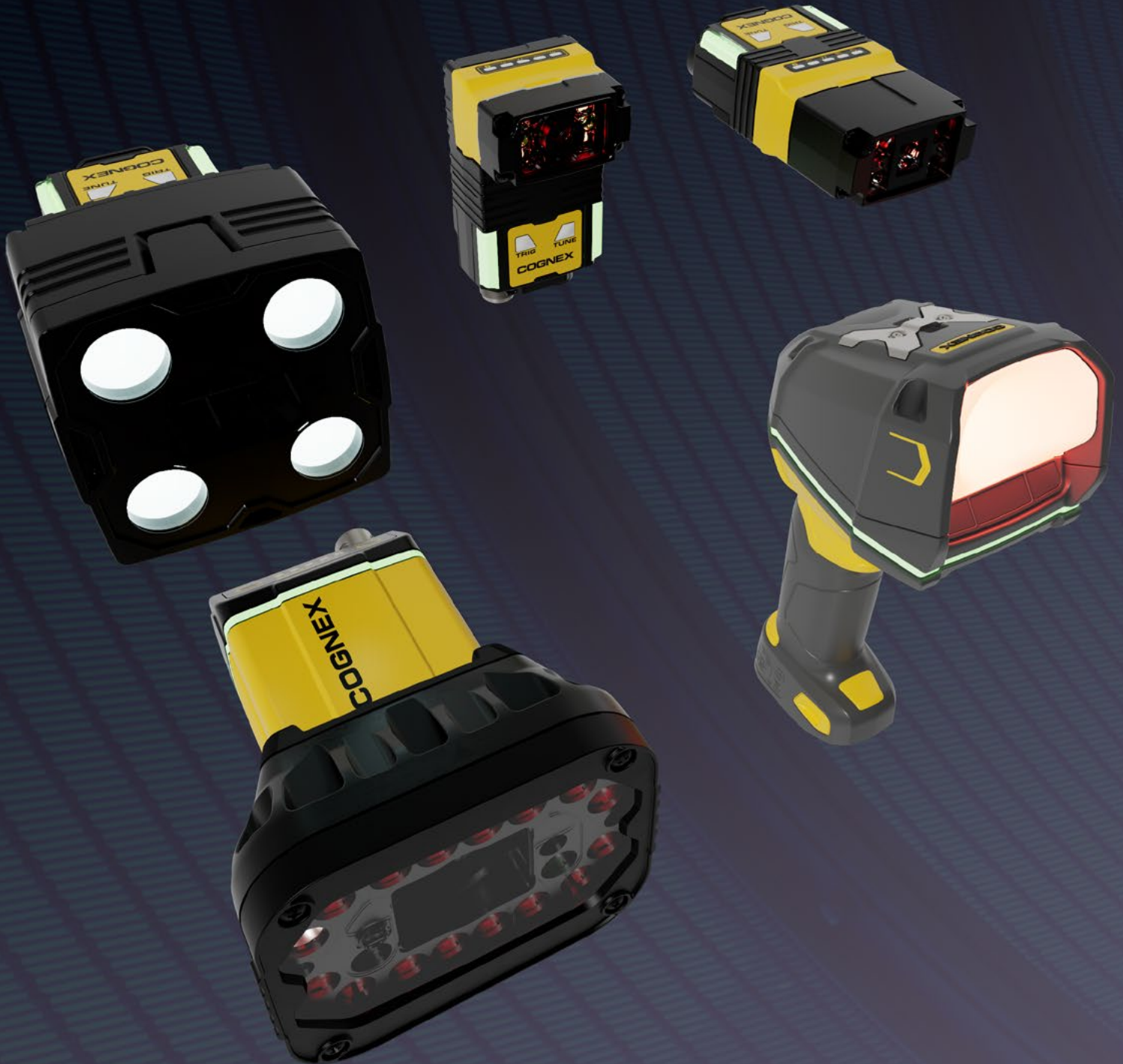


COGNEX

Vision Sensors and Barcode Readers for Factory Automation

Easy-to-use, reliable solutions for quality control and part tracking



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 machine vision solutions combine hardware and software to capture and analyze visual information. The company's wide range of solutions automates manufacturing and distribution tasks for customers worldwide, improving efficiency and quality in applications like inspecting, identifying, locating, and measuring components, products, and packaging. Cognex products incorporate advanced technologies including artificial intelligence to simplify implementation, increase accuracy, and deliver a faster ROI.

>40 years in business

\$830M+ 2023 revenue

>60% revenue from EU & Asia

25K+ global customers

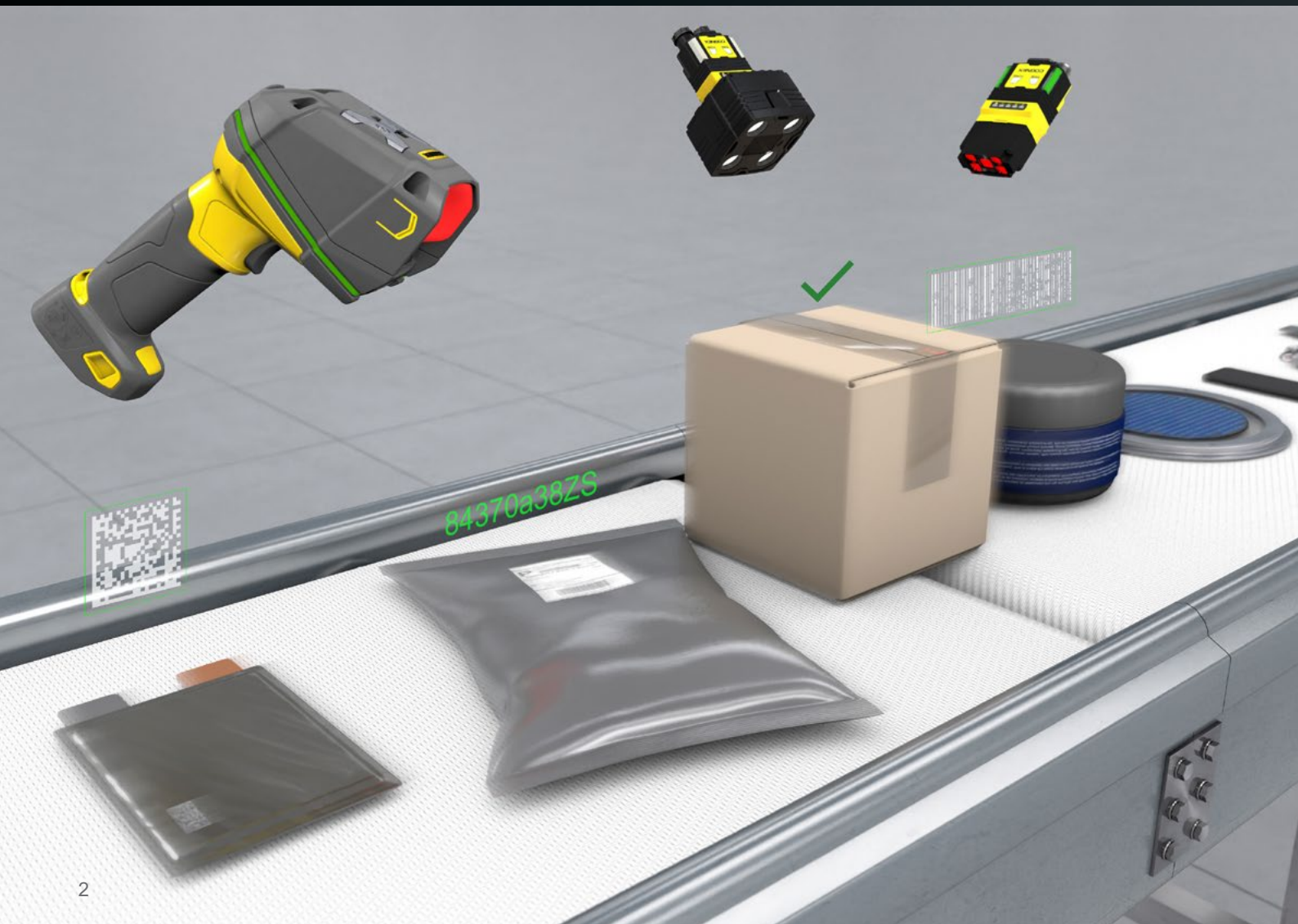
400+ channel partners

500+ global customer support resources

17% of revenue into R&D

>1,100 technology patents

>8 years developing AI for industrial machine vision



Automation for every industry

Cognex machine vision and barcode reading solutions enable companies worldwide to reliably automate production tasks and track and trace assets across a wide range of industries and applications.



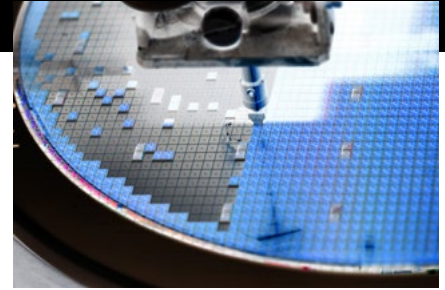
Automotive & EV

- Tire and Wheel
- Safety Systems
- Chassis
- Electrode Manufacturing
- Battery Cell Assembly and Finishing
- Module and Pack Assembly



Consumer Products

- Material Handling
- Automated Assembly
- Packaging Inspection
- Filling
- Labeling and Marketing
- Distribution



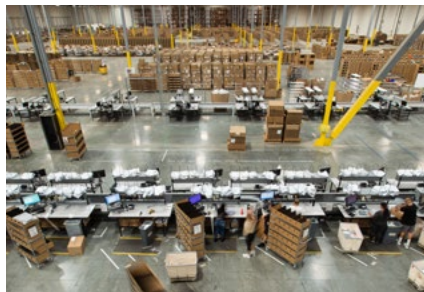
Electronics

- Semiconductors
- LED Manufacturing
- PCB Assembly
- Electronic Hardware
- Consumer Devices



Food & Beverage

- Product Quality Inspection
- Packaging Inspection
- Assembly Verification
- Allergen Management and Traceability
- Warehousing and Distribution



Logistics & Warehouse Operations

- Inbound Logistics
- Order Fulfillment
- Sortation
- Outbound Logistics



Pharmaceutical & Medical

- Medical Device Solutions
- Vials and Vaccines
- Tablet and Capsule Manufacturing
- Pharmaceuticals Protection

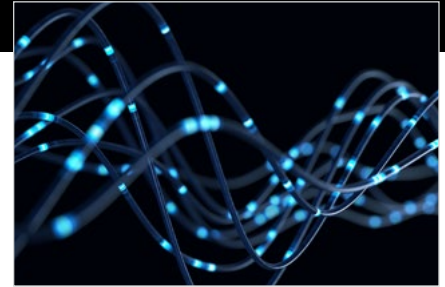
Key Features for Performance and Ease of Use



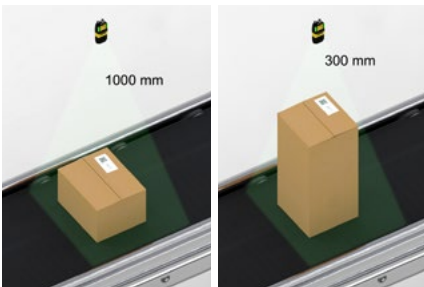
Embedded AI simplifies setup and improves reliability.



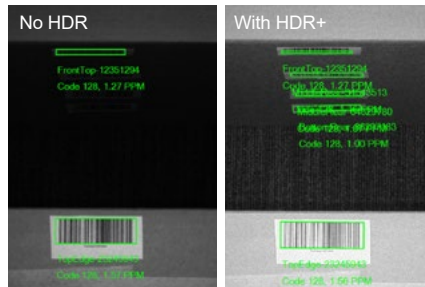
Compact form factor for quick installation anywhere in the facility.



Flexible connectivity and communications ensure easy integration.



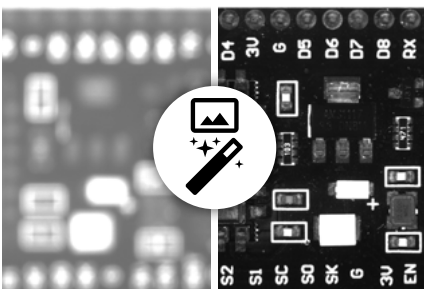
Autofocus allows for fast image setup and focusing on-the-fly.



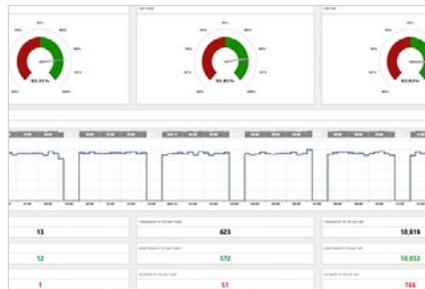
HDR and HDR+ technologies increase image quality for higher accuracy.



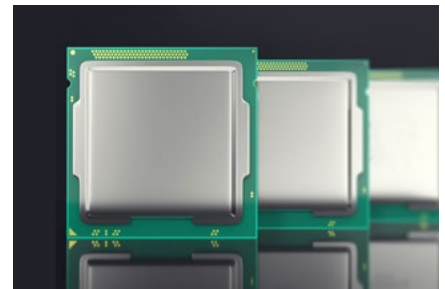
Built-in lighting and color and mono options allow for operation in low-contrast and poorly lit environments.



One-click tuning captures high-resolution images in a single click.



Real-time operational feedback verifies device performance and identifies potential issues early.



Multi-core processor delivers fast acquisition and image processing.

Vision Sensors for Quality Control



In-Sight SnAPP Series

Vision sensor for **automated detection**, designed to solve simple manufacturing tasks using pre-trained AI and an intuitive setup process.



cognex.com/in-sight-snapp

In-Sight 2800 Series

Vision sensor for **automated inspections**, designed to solve a wide range of error-proofing tasks using AI- and rule-based vision technology.



cognex.com/in-sight-2800

Which sensor is right for you?

Setup in **<10 minutes**
Easy-to-use guided setup
Point-and-click training, no programming required

Single region of interest
Runs a **single function** at a time

Basic, repetitive processing tasks

Application examples:
Presence/absence detection
Classification
Assembly verification
Counting

Setup in **<60 minutes**
Graphical programming
Image-based training

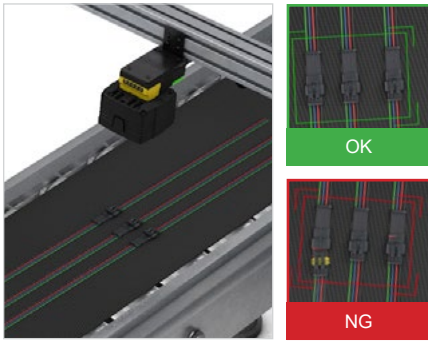
Multiple regions of interest
Runs **multiple functions** at a time

Common to intermediate-level processing tasks

Application examples:
Defect detection
Classification
Assembly verification
Counting
Sortation
Character reading

Vision Sensor Application Examples

Automotive



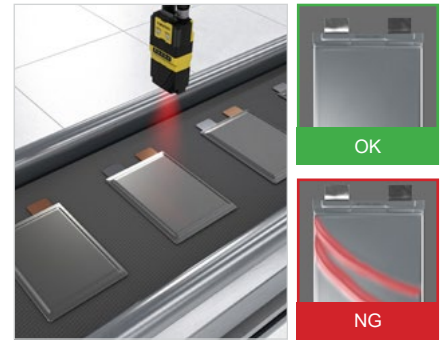
Assembly verification: Ensure proper seating of wiring harnesses

Consumer products



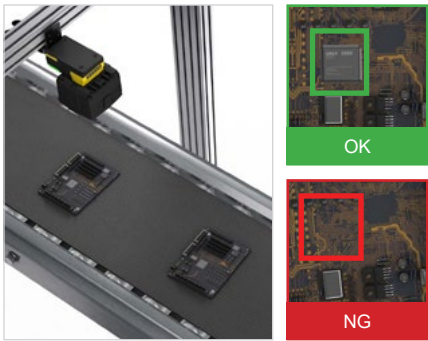
Defect detection: Inspect labels on final product packaging

Electric vehicle



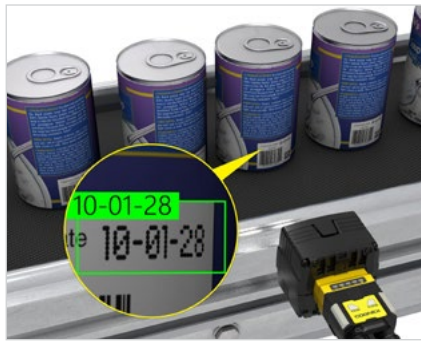
Presence/absence detection: Find defects on EV battery pouches

Electronics



Presence/absence detection: Check for missing components on PCBs

Food and beverage



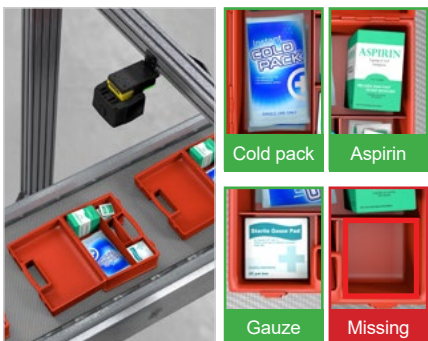
Character reading: Read and verify expiration dates on food products

Logistics



Character reading: Read text on shipping labels

Medical



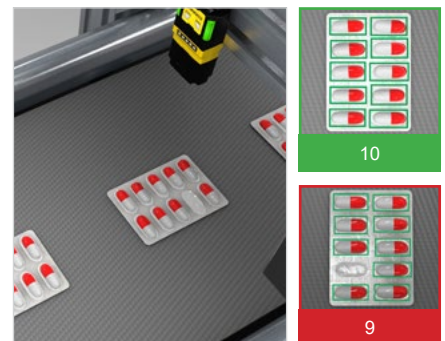
Classification: Detect and classify parts in kitted assemblies

Packaging



Assembly verification: Verify presence and quantity of serving scoops

Pharmaceutical



Counting: Check completeness of pill packs

Vision Sensor Specifications

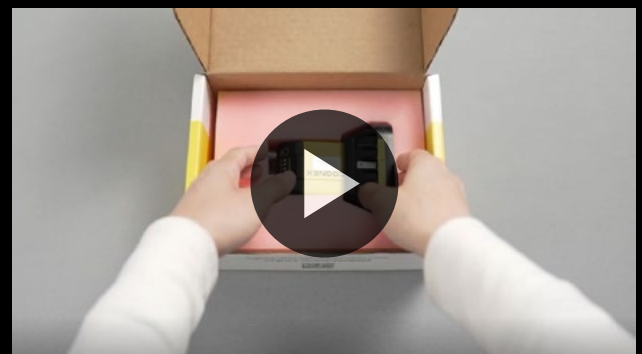
	In-Sight SnAPP	In-Sight 2800
Image Sensor	1 /2.8" CMOS monochrome and color	
Image Sensor Properties	6.17 mm diagonal, 2.8 μm square pixels	
Image Resolution	1.6 MP (1440x1080)	
Lens Options	Autofocus: 6.2 mm, 16 mm (High Speed Liquid Lens)	Multi Torch: 8 mm, 12 mm, 16 mm (High Speed Liquid Lens or manual focus lens) Mini: 6.2 mm or 16 mm High Speed Liquid Lens
Acquisition Speed	Up to 45 Hz	
Inputs	$V_{IL} : \leq \pm 6 V$ $V_{IH} : \geq \pm 12 V$ $I_{TYP} : 4.2 mA @ 24 V$	2 opto-isolated
Outputs	$I_{MAX} : 50 mA$ $V_{OL} : \leq \pm 3 V @ 50 mA$	2 opto-isolated
Power	24 V DC +/- 10%, and Power over Ethernet (PoE Class 3)	
Power Consumption	$\leq 7.5W$	
Dimensions	In-line: 90.6 mm x 42.4 mm x 23.6 mm Right-angle: 78.5 mm x 42.4 mm x 37.8 mm	In-line: Up to 110 mm x 69 mm x Up to 104 mm Right-angle: 68 mm x 69 mm x 104 mm
Weight	6.2 mm: 141 g 16 mm: 169 g (Right angle configuration adds 50 g)	6.2 mm: 141 g 16 mm: 169 g Multi Torch: 290 g (Right angle configuration adds 50 g)
Operating Temperature	0–40 °C (32–104 °F)	
Storage Temperature	-10–60 °C (14–140 °F)	
Humidity	<95% non-condensing	
Protection	IP67	
Communications	Ethernet interface	
Protocols	Ethernet/IP, PROFINET	TCP/IP, PROFINET, EtherNet/IP™, SLMP, OPC/UA, FTP

Getting started

Learn more about your Cognex product with how-to videos and online training and support materials.



cognex.com/getting-started



Barcode Readers for Track and Trace



DataMan 370 Series

High-performance barcode reader designed for **challenging applications**, including multi-code and multi-symbology code reading.



[cognex.com/
dataman-370](https://cognex.com/dataman-370)

DataMan 280 Series

Compact, flexible barcode reader for common code reading applications.



[cognex.com/
dataman-280](https://cognex.com/dataman-280)

DataMan 80 Series

Ultra-compact barcode reader for decoding label-based codes and direct part marks in confined spaces.



[cognex.com/
dataman-80](https://cognex.com/dataman-80)



DataMan 8700DX

Handheld barcode reader for decoding direct part marks and label-based codes.



cognex.com/dataman-8700



DataMan 8700LX

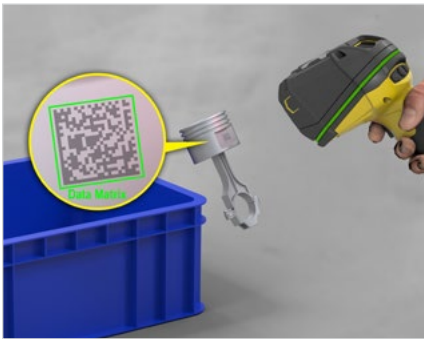
Handheld barcode reader for decoding well-marked label-based codes.



cognex.com/dataman-8700

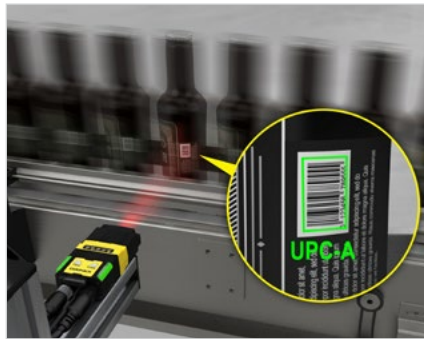
Barcode Reading Application Examples

Automotive



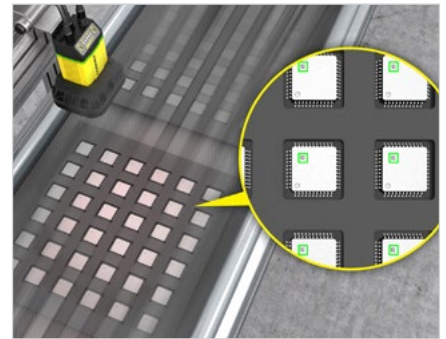
Direct part mark (DPM) reading: Read DPM codes on automotive parts

Food and beverage



1D code reading: Scan 1D codes on product packaging

Electronics



Multi-code reading: Decipher multiple codes at the same time

Logistics



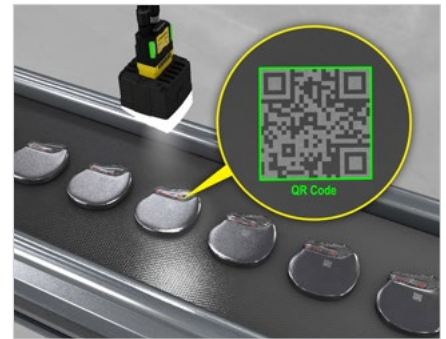
Label-based code reading: Scan and decode 1D barcodes on shipping labels

Packaging



Multi-symbology reading: Decipher multiple code types at once

Pharmaceutical



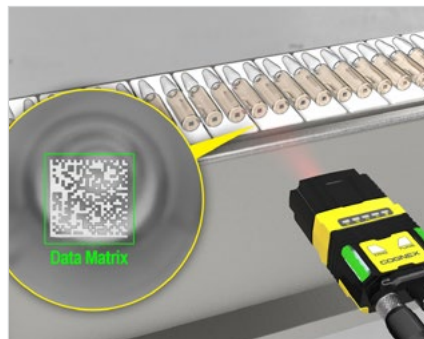
DPM reading: Read DPM codes on medical devices

Electric Vehicle



DPM reading: Scan DPM codes on curved surface of cylindrical batteries

Medical



DPM reading: Decipher codes on the specular surface of glass vials

Consumer product



Label-based code reading: Read codes on final product packaging

Fixed-mount Reader Specifications

	DataMan 80 USB	DataMan 80 PoE	DataMan 280	DataMan 370
Image Sensor	1/3" CMOS		1/3" CMOS 1/2.8" CMOS	1/1.8" CMOS 2/3" CMOS
Image Sensor Properties	Diagonal 6.21 mm, 3.45 μ m square pixels		Diagonal 6.21 mm, 3.45 μ m square pixels Diagonal 6.17 mm, 2.8 μ m square pixels	Diagonal 8.9 mm; 3.45 μ m square pixels Diagonal 11.1 mm; 3.45 μ m square pixels
Image Resolution	1440 x 1080 pixels		1440 x 1080 pixels 1920 x 1080 pixels	2048 x 1536 pixels 2448 x 2048 pixels
Lens Options	6.2 mm or 16 mm High Speed Liquid Lens		6.2 mm or 16 mm High Speed Liquid Lens 8 mm, 12 mm, or 16 mm High Speed Liquid Lens	Liquid lens 10 mm, 16 mm, 24 mm; C-mount 12 mm, 16 mm, 25 mm, 35 mm, 40 mm
Electronic Shutter Speed	Min. exposure: 43 μ s Max. exposure: 1 ms with internal illumination / 200 ms with external illumination		Min. exposure: 29 μ s Max. exposure: Up to 10 ms with internal illumination / Up to 200 ms with external illumination	Min. exposure: 15 μ s Max. exposure: 1000 μ s with internal illumination / 10000 μ s with external illumination
Acquisition	Up to 45 Hz			Up to 80 Hz Up to 55 Hz
Lighting	Standard: 4 LED lights for 6.2mm lens (red) HPIL: 4 LED high-powered lights for 16 mm lens (red) Front cover options: polarized/half-polarized and clear.		Standard: 4 LED lights for 6.2mm lens (red, blue, white, IR, and UV options) HPIL: 4 LED high-powered lights for 16 mm lens (red, white options) Optional bandpass filters. Front cover options: polarized/half-polarized and clear.	Integrated LEDs, red, blue or IR; diffuse, polarized, high powered integrated light (HPIL), high powered integrated torch (HPIT), various controllable external light options
Discrete Inputs	1 fixed input	—	2 opto-isolated, 2 configurable	2 fixed + (*) opto-isolated
Discrete Outputs	1 fixed output	—	2 opto-isolated, 2 configurable	2 fixed + (*) opto-isolated
Other I/O Points	—	1 user-configurable	2 user-configurable	2 user-configurable
Power	External power supply: +5 – +24 VDC. Supplied by limited-energy circuit according to IEC/ UL/ CSA 61010-1*	PoE Class 2	24V +/- 10% and Power over Ethernet (PoE) 24V +/- 10%	24 VDC \pm 10%, 1.5 A maximum (HPIL/HPIT) 24 VDC, 250 mA maximum (reader) Supplied by LPS or NEC class 2 only
Power Consumption	Average: 3.3 W Maximum: 4.2 W	Average: 4.3 W Maximum: 6 W	\leq 7.5W	Average \leq 6 W without illumination Average \leq 36 W with illumination
Dimensions	37 mm x 42.4 mm x 2.6 mm		Up to 109.7 mm x up to 69 mm x up to 66 mm	113 mm x 91 mm x 75 mm
Weight	6.2 mm assembly: 99 g 16 mm assembly: 132 g	6.2 mm assembly: 64 g 16 mm assembly: 97 g	6.2 mm: 141 g; 16 mm: 169 g (Right angle configuration adds 50 g) 290 g (Right angle configuration adds 50 g)	165 g
Operating Temperature	0-40° C (32–104° F)			0 °C–57 °C (32 °F–134.6 °F)2
Storage Temperature	-10–60° C (14–140° F)			-20 °C–80 °C (-4 °F–176 °F)
Operating and Storage Humidity	<95% non-condensing			
Shock	IEC 60068-2-27 - 500 shocks in each polarity of each (X, Y, and Z) axis, 3000 shocks total, semi-sinusoidal, 11 g, 10 ms			IEC 60068-2-27: 18 shocks (3 shocks in each polarity in each (X, Y, Z) axis) 80 Gs (800 m/s ² at 11 ms, half-sinusoidal) with cables or cable plugs and appropriate lens cover attached.
Vibration	IEC 60068-2-6: vibration test in each of the three main axis for 2 hours @ 10 Gs (10 to 500 Hz at 100m/s ² / 15 mm)			
Communications	USB-C and keyboard capability	1GB/second Ethernet interface	Serial and 1 GB/second Ethernet interface, USB-C, and keyboard capability	Ethernet and serial
Ethernet	—	10/100/1000. Full duplex or half duplex.		
RS-232	RxD, TxD according to TIA/EIA-232-F ¹	—	RxD, TxD according to TIA/EIA-232-F	
Protocols	—	TCP/IP, PROFINET (class B), EtherNet/IP™, SLMP, CC-Link, Modbus TCP, NTP, SFTP, FTP, MRS, (Java Scripting enabled for custom protocols)	RS-232, TCP/IP, PROFINET (class B), EtherNet/IP™, SLMP, CC-Link, Modbus TCP, NTP, SFTP, FTP, MRS, (Java Scripting enabled for custom protocols)	RS-232, TCP/IP, PROFINET, EtherNet/ IP™, SLMP, Modbus TCP, NTP, SFTP, FTP, MRS, (Java Scripting enabled for custom protocols)

¹ Note: Only available when using the Serial I/O Adapter (CCB-PIO-DB15-05ST).

	DataMan 80 USB	DataMan 80 PoE	DataMan 280	DataMan 370
Status Outputs	5 status LEDs, audible beeper, 2 visual indicator lights			5 multifunctional LEDs, 10 LED bar array, 360-degree indicator, audible beeper
Protection	IP67			
RoHS Certified	Yes			
Approvals	EU [CE], US [FCC], TUV, CB, NRTL, IEC 61010, Korea [KCC], India [BIS]			CE, UL, FCC

Handheld Reader Specifications

	DataMan 8700 DX	DataMan 8700 LX
Lens	8 mm lens with liquid lens	8 mm fixed lens
Resolution	1.6MP	
Lighting	Red diffuse, polarized, direct	Red direct
Aimer	On-axis green LED aimer	Dual off-axis green LED aimers
Symbologies	1D: UPC/EAN/JAN, Codabar, Interleaved 2 of 5, Code 39, Code 128, Code 93, POSTNET, PLANET Code, IMB, Postal 2D: Data Matrix, QR, MicroQR, PDF417, MaxiCode, Aztec	
Minimum 1D/2D code size	3 mil/5 mil	4 mil/5 mil
Power Supply Requirements	DataMan 8700 with serial/USB: 5.5 V DC, 6.0 W maximum LPS or NEC Class 2 power supply DataMan 8700 with Ethernet: PoE Class 2 power supply DataMan 8700 with Bluetooth: 3.7 V, 5000 mAh Li-ion battery DataMan Intelligent Base Station: 5.5 V DC, 6 W maximum LPS or NEC Class 2 power supply or PoE Class 2 power supply	
Dimensions	Wireless: 221 mm (H) x 114.1 mm (L) Corded: 233.2 mm (H) x 114.1 mm (L)	Wireless: 211.4 mm (H) x 113.1 mm (L) Corded: 223.4 mm (H) x 113.1 mm (L)
Weight	Wireless: 548 g (battery included) Corded: 450 g (+ approx. 130 g for cables)	Wireless: 479 g (battery included) Corded: 395 g (+ approx. 130 g for cables)
Status Outputs	OLED display, LED ring light, beeper, vibration	
Communications	Serial: RS-232 and USB Ethernet: TCP/IP, FTP, industrial protocols: EtherNet/IP, PROFINET, MC protocol, Modbus TCP Intelligent base station: RS-232, USB, Ethernet, industrial protocols Bluetooth connectivity: smartphone, intelligent base station, Bluetooth enabled tablet or PC Wireless infrastructure mode connectivity: PC through Wi-Fi router	
Operating Temperature	0°C–40°C (32°F–104°F)	
Storage Temperature	-40°C–60°C (-40°F–140°F)	
Maximum Humidity	95% (non-condensing)	
Wireless Unit Scans per Full Charge	125,000+	
Protection	Handheld reader: IP67; Base station: IP65	
Drop Test	Multiple drops from 2.5 meters	
Tumble Test	5,000 tumbles from 1 meter	
Environmental	Compliant with latest EU RoHS and China RoHS	
Approvals	EU: CE EMC & RED; USA/Canada: cTUVus IEC 61010-1, part 15, ICES 03; Korea: KCC; India: BIS and WPC; China: SRRC; Brazil: ANATEL; Mexico: NOM and IFETEL; Japan: MIC	
Data Validation	US DoD UID guidelines, GS-1, ISO15434 and ISO15418	
Operating System	Windows 7 and Windows 10	

A solution for every need

With a familiar user experience, easily transition to or add another product within the Cognex portfolio as your needs change. We have a wide range of solutions to support you as your business grows and your application requirements evolve.



cognex.com/products



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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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