

**COGNEX**

Advanced machine vision made easy

# The toughest barcode reading made easy with AI

DataMan 390 Series



# Do more with industrial barcode reading than ever before

## DataMan 390 Series

### More resolution, more speed, more field of view

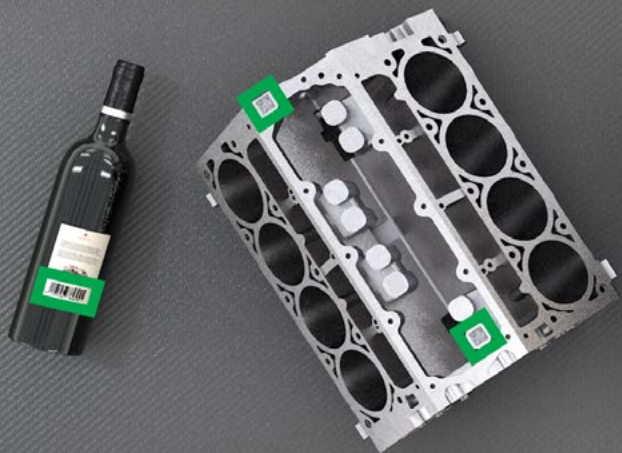
Solve multi-code, multi-symbology applications with embedded AI and industry-leading decoding performance.

### Simply unbox and deploy

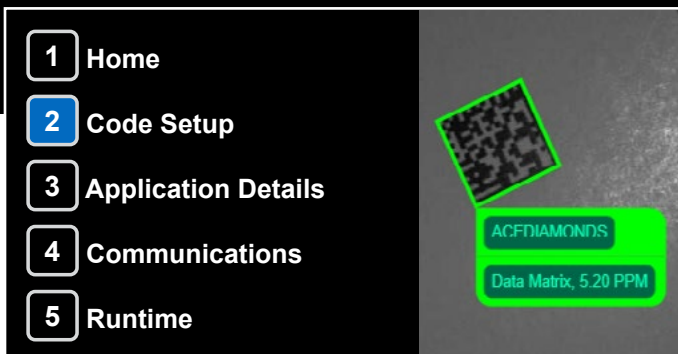
Automate decoding with ease. Guided setup, AI tuning, and real-time feedback ensure success from the start.

### Tailored to your factory floor

Customize your DataMan® 390 with accessories configured to meet your specific challenges.

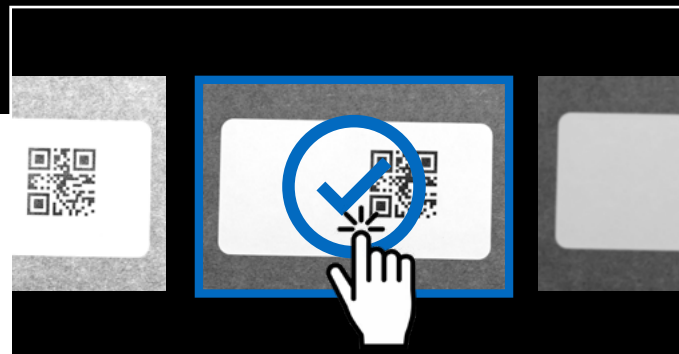


# Key features



## Web UI with guided setup

Follow guided setup to save time and reduce errors.



## AI-enabled tuning

Get successful reads in a single click to minimize downtime.



## AI-enhanced decoding

Read all code types, including damaged or low-quality codes, for guaranteed results.



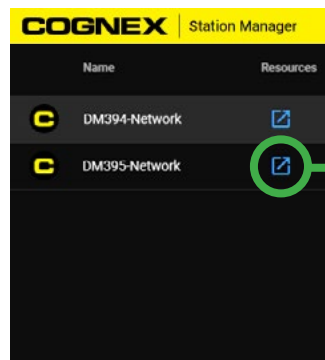
## Advanced connectivity

Control the flow of data and images from your factory floor with two independent Ethernet ports.



## Unparalleled flexibility

Pairing the high-resolution DataMan 390 with numerous lensing and lighting options makes it highly configurable to any application, at any distance and with any code.



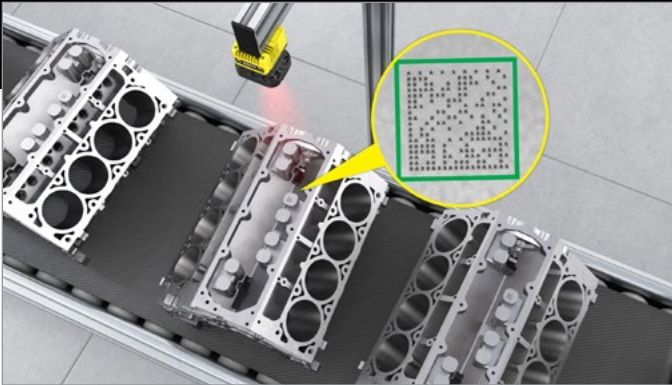
## DataMan 390 Getting Started Resources



## Built-in support gateway

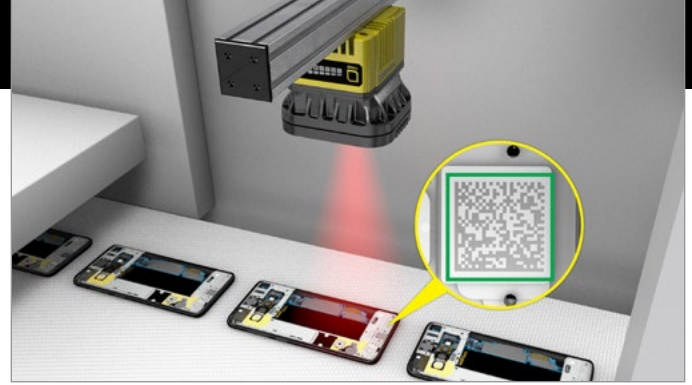
Simplify setup with self-service support, directly accessible from the interface where you configure your device.

# Application examples



## Automotive

Decode on reflective surfaces from a long distance with accuracy, ease, and speed.



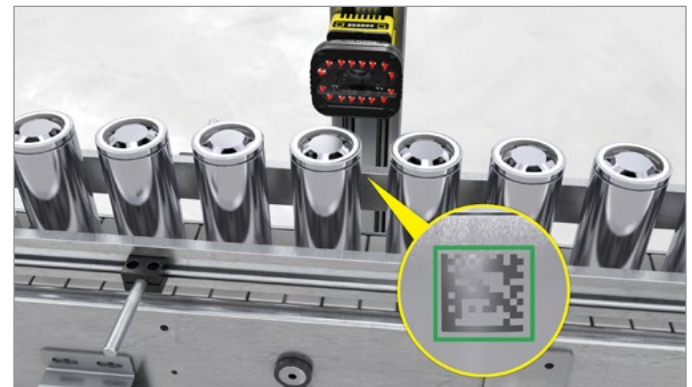
## Electronics

Simultaneously read barcodes on printed circuit boards (PCBs) and chips for accurate tracking and traceability.



## Consumer goods

Read multiple codes at the same time for fast and efficient track and trace operations.



## Electric vehicle

Easily decode direct part marks (DPMs) on EV batteries.



## Food and beverage

Reliably read barcodes at fast line speeds.



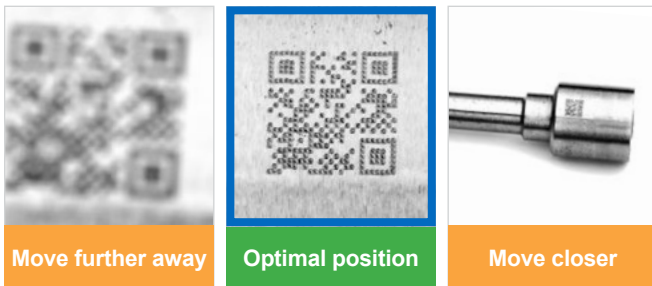
## Logistics and warehouse operations

Accurately locate and read codes, even when placement is inconsistent or unpredictable.

# Optimize your read rates with AI at every step

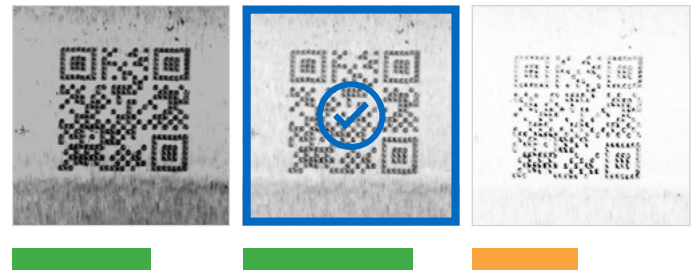
Find, enhance, and read barcodes with unmatched ease and accuracy.

## 1 Find



### AI-guided positioning

**Real-time positioning feedback** ensures the code is at the optimal distance from the reader, maximizing accuracy and improving read rates.



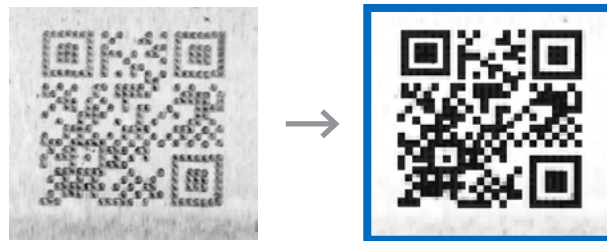
### AI-enabled tuning

**Find the right settings** with automated tuning for easy setup and quickly locate barcodes for faster processing.

## 2 Enhance

### AI-enhanced decoding

**Increase image quality** and detect clocking patterns in damaged or low-quality codes for more reliable code reading.



## 3 Read

### AI-powered analysis

**Read all code types**, including occluded, distorted, or challenging codes with industry-proven decoding algorithms.



# Go from unboxing to scanning in minutes with fast, simple setup

Web-based UI with guided workflow makes it easy

- 1** Find the device and open the home screen.
- 2** Adjust positioning and image acquisition with one-click tuning.
- 3** Set up trigger settings and data formatting.
- 4** Configure IO industrial communications.
- 5** Enter runtime monitoring view.

**Code Setup**

- 1 Positioning
- 2 Tuning
- 3 Test
- 4 Review

**Test**

STOP TEST MODE

Automatic Trigger Mode

Arrival Time	Trigger Index	Read Setup	# Codes	Result	Decode Time
2024-12-03 15:31:25	282		1	ACEDIAMONDS KIN...	100 ms
2024-12-03 15:31:25	281		1	ACEDIAMONDS KIN...	105 ms
2024-12-03 15:31:25	280		1	ACEDIAMONDS KIN...	98 ms
2024-12-03 15:31:25	279		1	ACEDIAMONDS KIN...	100 ms
2024-12-03 15:31:25	278		1	ACEDIAMONDS KIN...	100 ms
2024-12-03 15:31:25	277		1	ACEDIAMONDS KIN...	100 ms
2024-12-03 15:31:24	276		1	ACEDIAMONDS KIN...	99 ms
2024-12-03 15:31:24	275		1	ACEDIAMONDS KIN...	105 ms
2024-12-03 15:31:24	274		1	ACEDIAMONDS KIN...	99 ms

Trigger Count: 14    Min/Max Decode (ms): 98/105  
Read Rate: 100%    Average Decode (ms): 101.07  
Passed Validations: 0    Failed Validations: 0

RESET COUNTS

Statistics    Full Result    Display Configuration

## Support for advanced use cases and existing installations

For specialized applications, use the DataMan Setup Tool to customize the solution to your specific needs.

For existing users, maintain continuity with your current setup.



# Handle a range of industrial barcode reading requirements

Unified design offers flexible performance



**Patented PowerGrid™ technology** optimizes code reading performance

**HDR+** enhances image contrast

**3 or 5 MP sensor** enables greater coverage over applications requiring large fields of view

**Compatible with C-mount and High Speed Liquid Lenses** for the option of dynamic autofocus to maximize depth of field



Optimize image quality with **Red or White** lights and **Clear or Polarized** front cover options.



**Neural processing unit** enables AI acceleration

**Multi-Reader Sync (MRS)** extends the coverage of a single reader with the ability to sync multiple readers together

**High Powered Integrated Torch (HPIT)** offers unmatched illumination power, eliminating the need for external lighting



Laser aimer helps guide field of view to desired target



Multi-colored LED indicators provide operator feedback



Distance sensor allows you to dynamically focus the lens or trigger the reader

**Two Ethernet ports** for independent communication and image offload



**Flexible connectivity** supports USB HID Mode as well as all factory floor protocols for easy installation

# Empowering your success with end-to-end customer support

## Cognex Customer Success

From personalized setup and training to expand your capabilities to continual learning and performance optimization, Cognex guides you at every step of your automation journey.

With Cognex Customer Success, you can focus on what matters most – delivering quality, innovation, and efficiency in your manufacturing process.

- **Plan & Deploy**
- **Run & Support**
- **Expand & Optimize**



## Plan & Deploy

- **Targeted guidance** to choose the right products and validate your deployment
- **Tuning and positioning guidance** built in
- **Curated documentation and videos** for configuration and setup
- **Single-click registration** to access more customized support



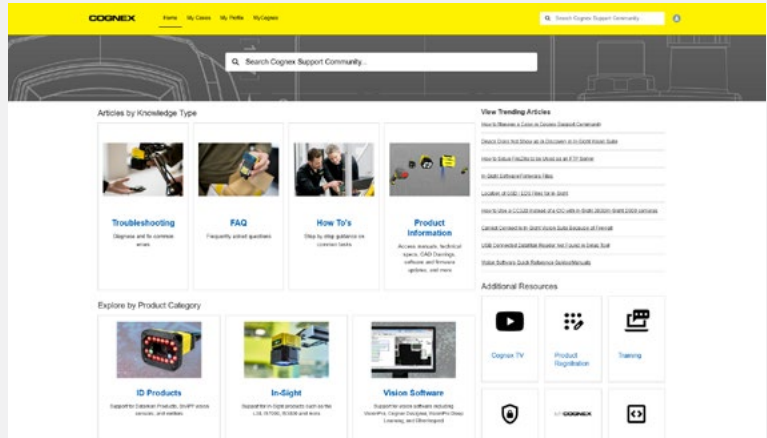
Watch DataMan 390 tutorials:  
[cognex.com/dataman-390-support](https://cognex.com/dataman-390-support)





## Run & Support

- **Connected tech support** flows seamlessly across email, text, WhatsApp, phone, and chat
- **Expert help and guidance** via visual remote assistant and easy online scheduling
- **Self-service training** to take you from beginner to expert, in multiple languages
- **Cognex support community** provides answers, real-time status updates, and transparent case tracking
- **Reliable, resilient products** made to stay running consistently, tolerate harsh environments, and be easy to adjust if needed

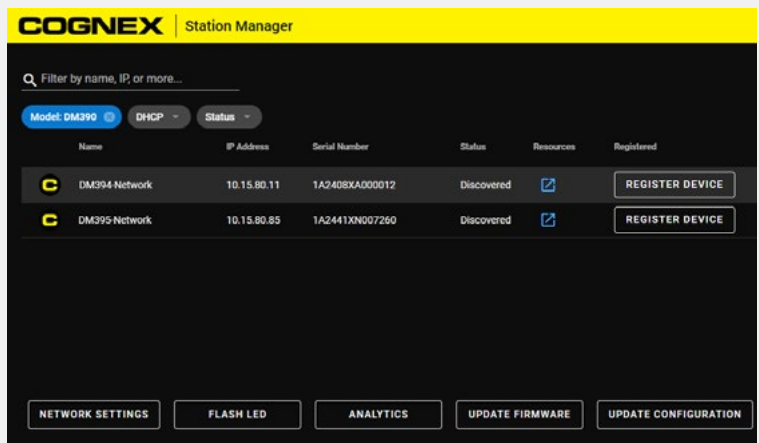


**Cognex Support Community**  
[community.cognex.com/support](https://community.cognex.com/support)



## Expand & Optimize

- **Broad portfolio of products** with common tools and software, plus easy upgrade paths
- **Pre-built dashboards** that help you find performance insights across your entire operation
- **Management tools** to control settings across devices, lines, and plants
- **Out-of-the-box data sharing** makes it easy to connect to enterprise systems
- **Coaching from experts** with decades of experience to help you grow quickly and smoothly



### Station Manager

Connect and manage multiple devices, set up your application, and enhance your performance with direct access to support resources.

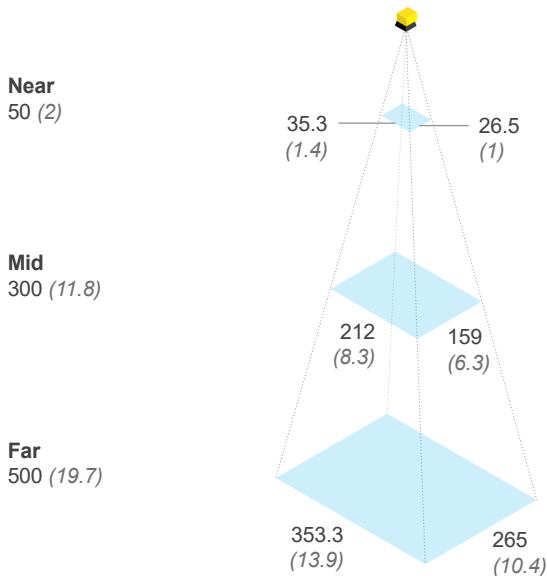
# Specifications

DataMan 390 Series		
	DataMan 394X	DataMan 395X
Image Sensor	1/1.8" CMOS, global shutter	2/3" CMOS, global shutter
Image Sensor Properties	8.99 mm diagonal, 3.45 x 3.45 $\mu\text{m}$ square pixels	11.1 mm diagonal, 3.45 x 3.45 $\mu\text{m}$ square pixels
Image Resolution	2048 x 1536	2448 x 2048
Lens Options	C-mount and Cognex High Speed Liquid Lens	
Electronic Shutter Speed	25.1 $\mu\text{s}$ to 200,000 $\mu\text{s}$	19.1 $\mu\text{s}$ to 200,000 $\mu\text{s}$
Acquisition at Full Resolution	Up to 45 Hz	Up to 33 Hz
Lighting	High Powered Integrated Torch (HPIT): Red or White Lighting with a Distance Sensor, Laser Aimer, and Configurable Indicator Lights Front Cover Options: Polarized and Clear Other: External Light Options	
Status Outputs	Pass/Fail LED and Indicator Ring, Network LED, and Error LED	
Discrete Inputs	1 opto-isolated, acquisition trigger input. Up to 3 general-purpose inputs when connected to the Breakout cable.	
Discrete Outputs	Up to 4 high-speed outputs when connected to the Breakout cable.	
Power	24 V DC at 1.0 A maximum to external light	
Power Consumption	24 V DC +/- 10%, 2.0 A maximum	
Dimensions	DataMan 390 with no accessories: 69 x 89.7 x 45.9 mm (2.72 x 3.53 x 1.81 in) With HPIT: 90.5 x 89.7 x 89.1 mm (3.56 x 3.53 x 3.51 in) With 45 mm C-mount cover: 69 x 89.7 x 99.7 mm (2.72 x 3.53 x 3.93 in)	
Weight	DataMan 390 with no accessories: 569 g (20.1 oz) With HPIT: 762 g (26.9 oz) – no lens included With 45 mm C-mount cover: 624 g (22 oz) – no lens included	
Operating Temperature	0-40 °C (32-122 °F)	
Storage Temperature	-20-80 °C (-4-176 °F)	
Operating and Storage Humidity	< 95% non-condensing	
Shock	IEC 60068-2-27: 18 shocks (3 shocks in each polarity in each (X,Y, Z) axis) 80 Gs (800 m/s <sup>2</sup> at 11 ms, half-sinusoidal) with cables or cable plugs and a 150 gram or lighter lens attached.	
Vibration	IEC 60068-2-6: vibration test in each of the three main axis for 2 hours at 10 Gs (10 to 500 Hz at 100 m/s <sup>2</sup> / 15 mm) with cables or cable plugs and a 150 gram or lighter lens attached.	
Environmental	Altitude: 2000 m, indoor use only, pollution degree II	
Communications	2 Ethernet Ports	
Ethernet	10/100/1000 BaseT with auto MDIX. IEEE 802.3	
RS-232	RxD, TxD according to Tia/EIA-232-F	
Protocols	TCP/IP Protocol Supports DHCP, static, and link-local IP address configuration. One port supports TSN networks	
Protection	IP67	
RoHS Certified	Yes	
Approvals	CE, FCC, TÜV SÜD NRTL	

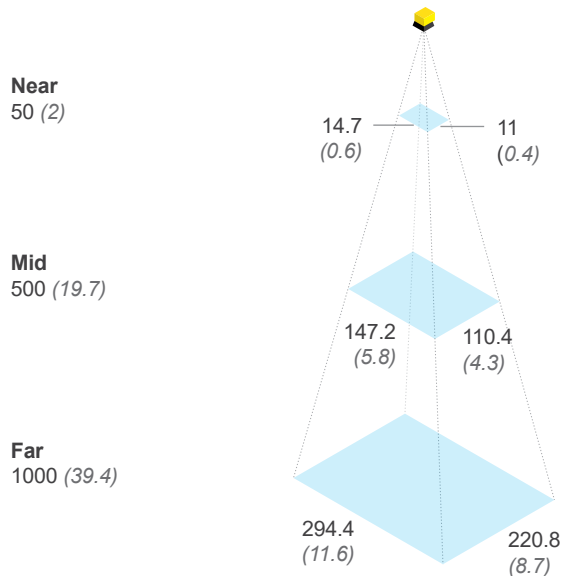
# Field of view diagrams\*

Working distances  
Units: mm (in)

**DM394 3MP  
with 10 mm lens**

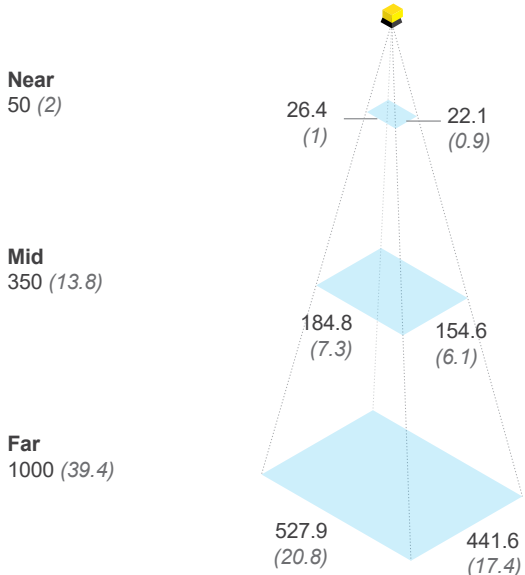


**DM394 3MP  
with 24 mm lens**

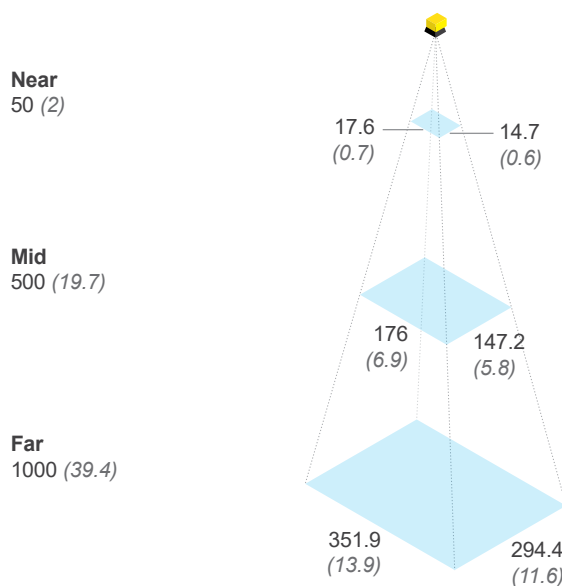


Working distances  
Units: mm (in)

**DM395 5 MP  
with 16 mm lens**







**DM395 5 MP  
with 24 mm lens**



\*These values are not exact minimum and maximum working distances, which are dependent on code size. Please see the DataMan 390 Reference Manual for more information.

## Product IDs and Descriptions\*

DataMan 390					
	Product ID	Resolution	Light	Lens	Cover
	DM394X-10-TP	3.1MP	HPIT (Red)	10 mm HSSL	Polarized
	DM394X-24-TP	3.1MP	HPIT (Red)	24 mm HSSL	Polarized
	DM394X-0000	3.1MP	—	—	—
	DM395X-16-TP	5MP	HPIT (Red)	16 mm HSSL	Polarized
	DM395X-24-TP	5MP	HPIT (Red)	24 mm HSSL	Polarized
	DM395X-0000	5MP	—	—	—

\*This table includes only the most common product models. To get information on other available models, please contact Cognex Sales at [cognex.com/contact-sales](http://cognex.com/contact-sales).

### Cognex: Your Single Supplier for All Barcode Reading Applications

For an even simpler solution, check out the DataMan 290.






With the same user interface, transitioning to this reader is easy for applications that require smaller fields of view or have space constraints.

[cognex.com/dataman290](http://cognex.com/dataman290)







## Components and accessories



### Power and I/O

	Product ID	Length	Description
	CCB-PWRIO-05	5M	M12-12 to flying lead, straight
	CCB-PWRIO-10	10M	
	CCB-PWRIO-15	15M	
	CCB-PWRIO-05R	5M	M12-12 to flying lead, right-angled
	CCB-PWRIO-10R	10M	
	CCB-PWRIO-15R	15M	
	CCB-CIO-40517-100	1M	Right Angle Shielded Secondary Cable
	CCB-CIO-40517-200	2M	
	DMA-CCM-1-US		Single cam I/O box

### Ethernet Cables



	Product ID	Length	Description	
	CCB-84901-2001-02	2M	X-coded M12-8 to RJ-45, straight	
	CCB-84901-2001-05	5M		
	CCB-84901-2001-10	10M		
	CCB-84901-2001-15	15M		
	CCB-84901-2001-30	30M	X-coded M12-8 to RJ-45, right-angled	
	CCB-84901-2002-02	2M		
	CCB-84901-2002-05	5M		
	CCB-84901-2002-10	10M		
		CCB-84901-2RBT-02	2M	Robotic X-coded M12-8 to RJ-45, straight
		CCB-84901-2RBT-05	5M	
CCB-84901-2RBT-10		10M		
	CCB-M12X8MS-XCAC	0.5M	X-coded to A-coded Ethernet cable adapter	
	CCB-CIO-51016-100	1M	Right Angle Ethernet Chain Cable	
	CCB-CIO-51016-200	2M		

### Lenses

	Product ID	Description
	CLN-C10F5FS-HSLL	10 mm f5 Cognex High Speed Liquid Lens*
	CLN-C16F8FS-HSLL	16 mm f8 Cognex High Speed Liquid Lens*
	CLN-C24F6FS-HSLL	24 mm f6 Cognex High Speed Liquid Lens*
	LMC-ML-M1218UR	12 mm Variable Aperture Moritex UR Lens
	LMC-ML-M1616UR	16 mm Variable Aperture Moritex UR Lens
	LMC-ML-M2516UR	25 mm Variable Aperture Moritex UR Lens

\*No IR Blocking Filter

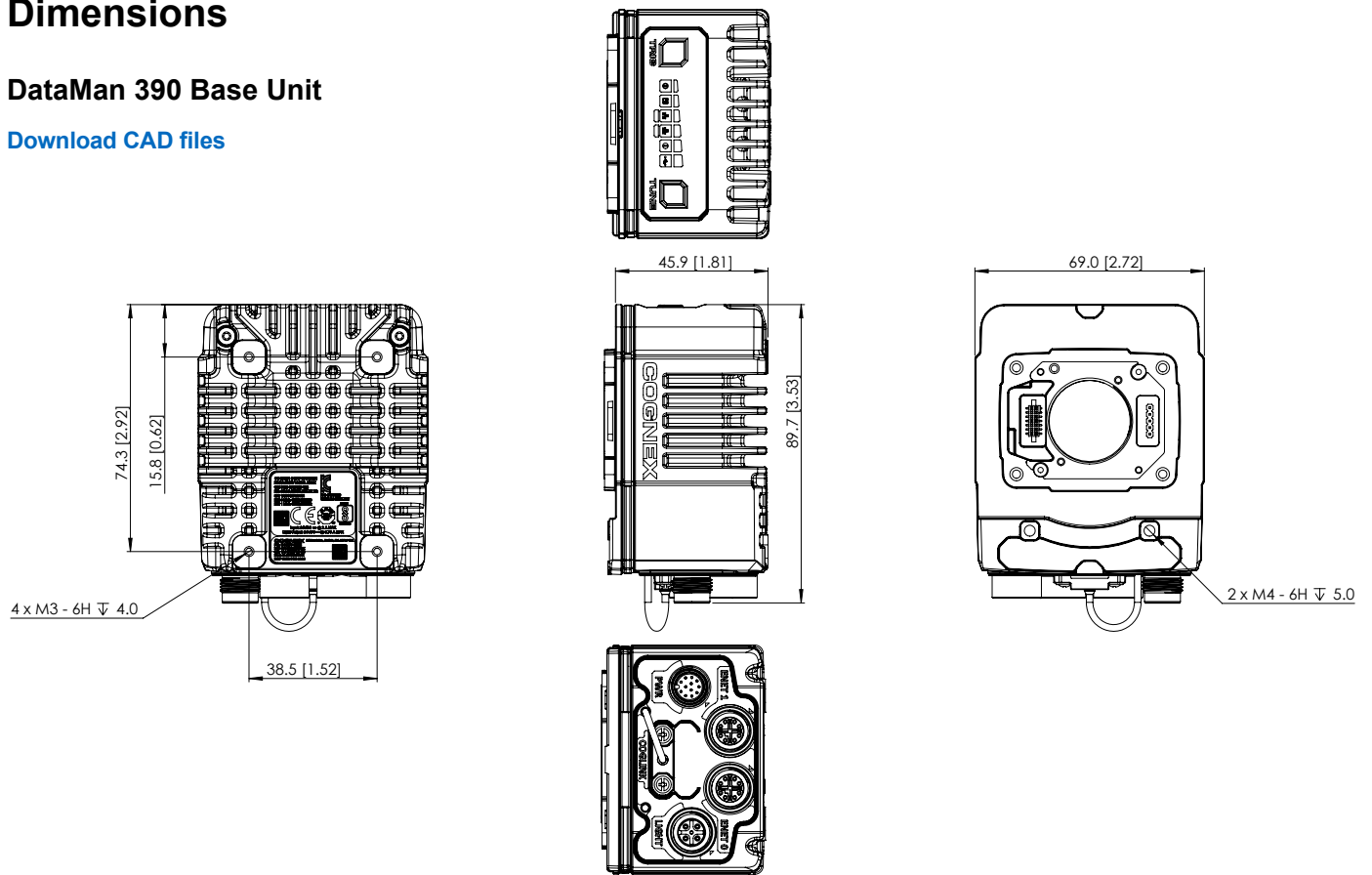
### Mounting Brackets

	Product ID	Description
	DMBK-PIVOT-DM380	Pivot mounting bracket
	BKT-INS-01	Flat mounting bracket

# Dimensions

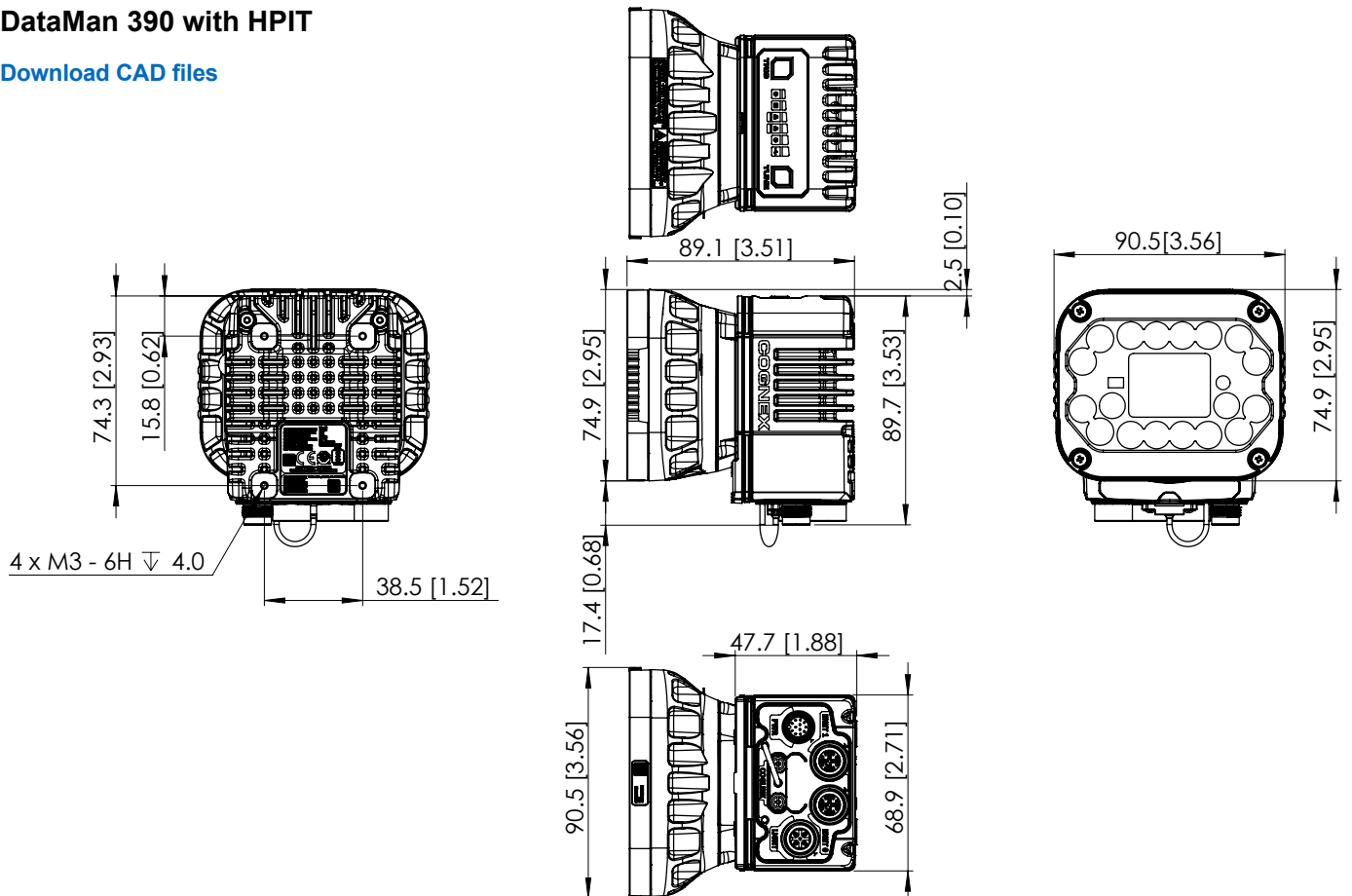
## DataMan 390 Base Unit

[Download CAD files](#)



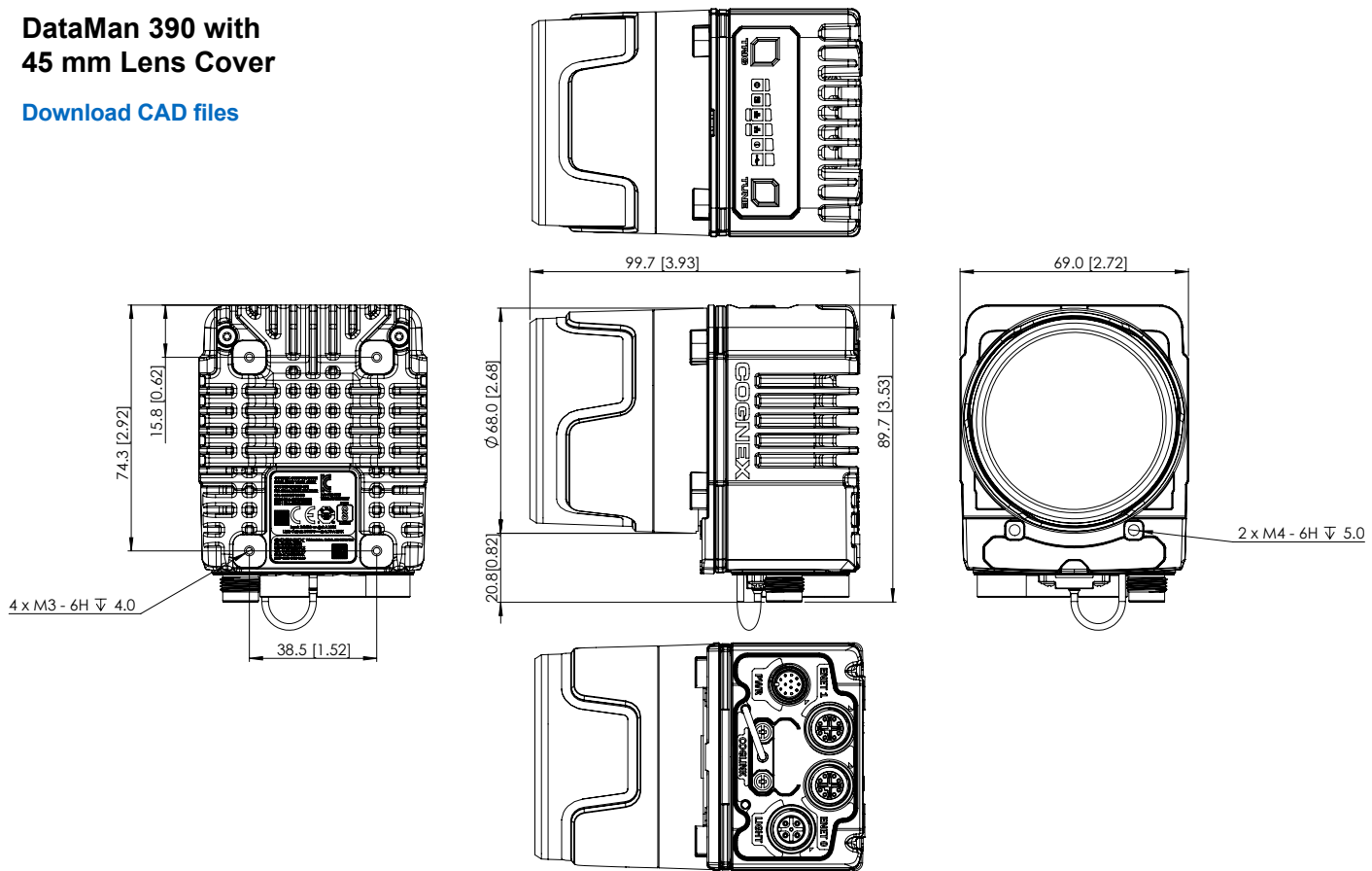
## DataMan 390 with HPIT

[Download CAD files](#)

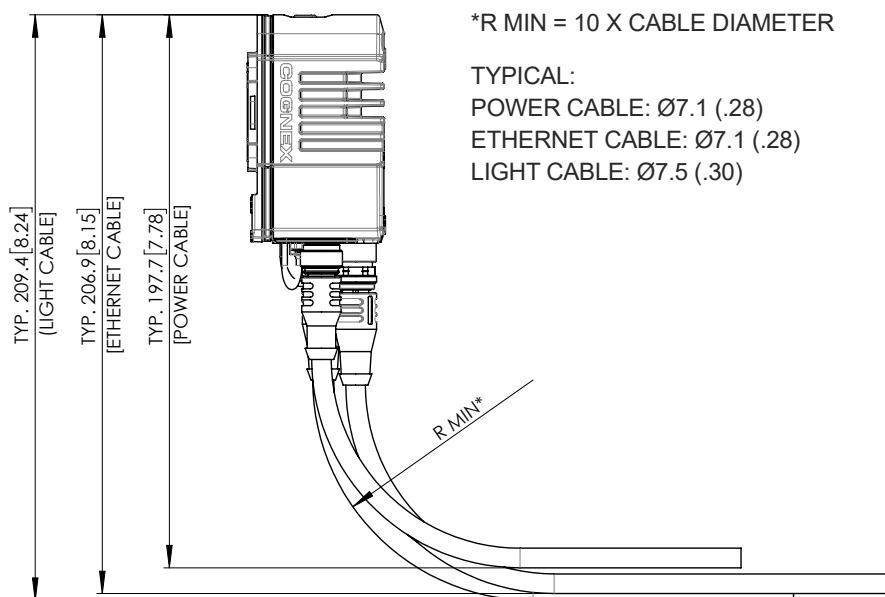


# DataMan 390 with 45 mm Lens Cover

[Download CAD files](#)

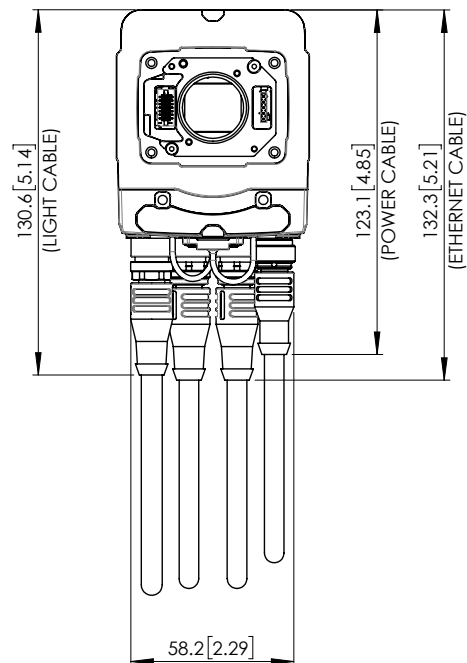


## Cable bend radius



\*R MIN = 10 X CABLE DIAMETER

TYPICAL:  
 POWER CABLE:  $\varnothing$ 7.1 (.28)  
 ETHERNET CABLE:  $\varnothing$ 7.1 (.28)  
 LIGHT CABLE:  $\varnothing$ 7.5 (.30)



# Build Your Vision

## Vision Systems

Advanced AI makes it easy to deploy vision systems for automating inspection tasks, from defect detection to assembly verification and text reading.

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



## Barcode Readers

Track and trace from the floor to dock door, with flexible readers and verifiers designed for ease of use and reliability.

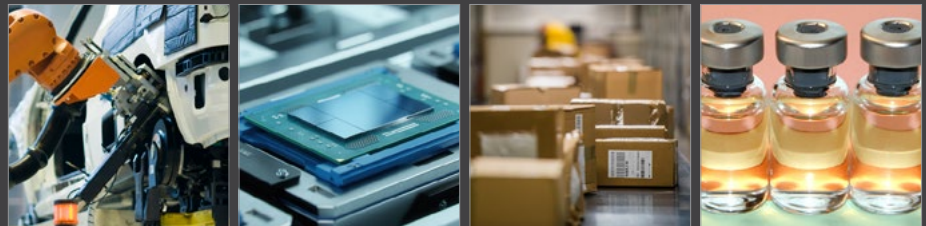
[www.cognex.com/barcodereaders](http://www.cognex.com/barcodereaders)



## Industry Solutions

Tackle complex applications across a wide range of industries with powerful machine vision solutions that simplify today's manufacturing and logistics challenges.

[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.

### Corporate Headquarters One Vision Drive Natick, MA 01760 USA

Contact us or find your regional sales office:  
[www.cognex.com/sales](http://www.cognex.com/sales)

#### Americas

North America +1 855 426 4639  
Brazil +1 855 426 4639  
Mexico +52 552 789 5444

#### Europe

Austria +49 721 958 8052  
Belgium (FR) +33 176 549 318  
France +33 176 549 318  
Germany +49 721 958 8052  
Ireland +353 21 601 9005  
Italy +39 02 9475 4345  
Spain +34 93 220 6237  
Switzerland (DE) +49 721 958 8052  
Switzerland (FR) +33 176 549 318  
United Kingdom +353 21 601 9005  
Other Europe +353 21 601 9005

#### Asia-Pacific

China +86 218 036 5424  
India +91 7305 040397  
Japan +81 345 790 266  
Korea +82 704 784 4038  
Singapore +65 3158 2511  
Taiwan +886 801 492 017  
Other Asia-Pacific +65 3158 2511

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