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

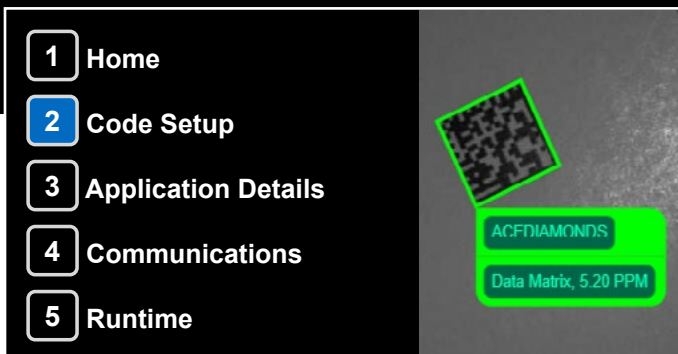Automate decoding with ease. Guided setup, AI tuning, and real-time feedback ensure success from the start.

Tailored to your factory floor

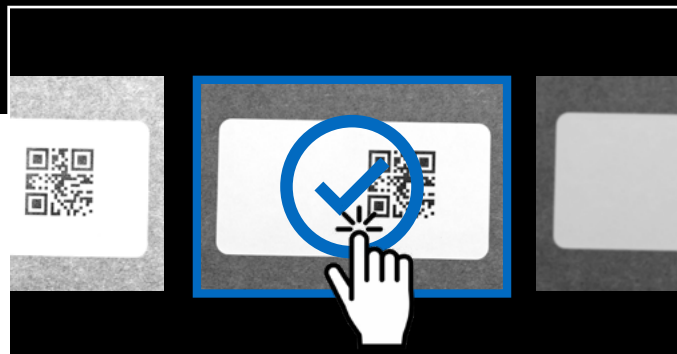Customize your DataMan® 390 with accessories configured to meet your specific challenges.

Key features

1. Home
2. Code Setup
3. Application Details
4. Communications
5. Runtime
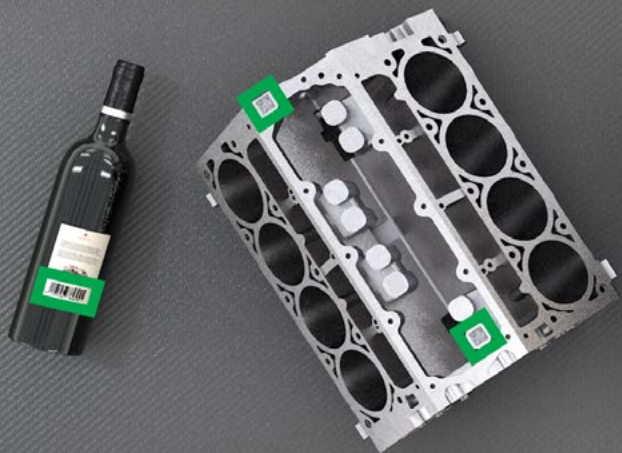
Web UI with guided setup

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.
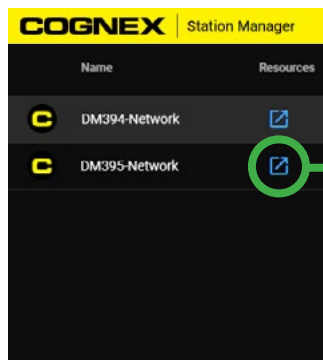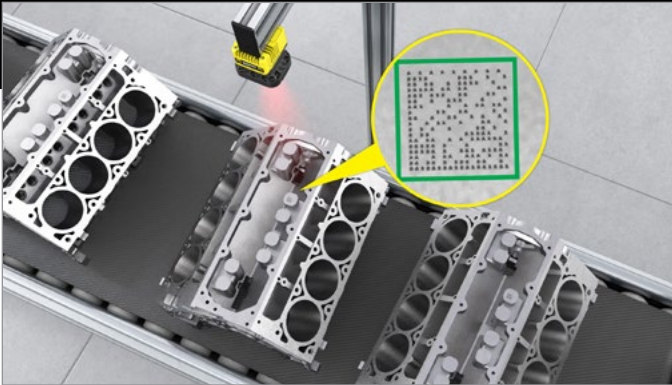

DataMan 390 Getting Started Resources
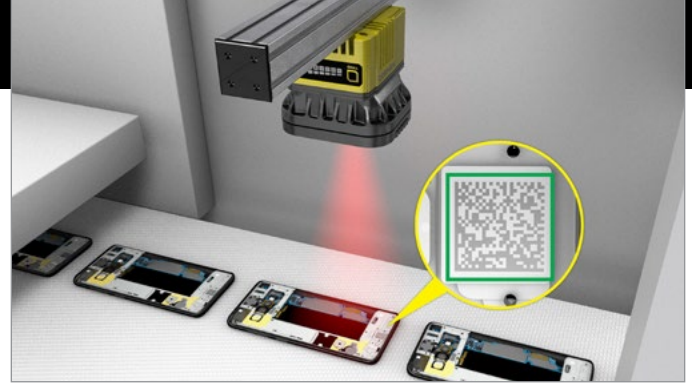
Built-in support gateway

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

Application examples

Automotive

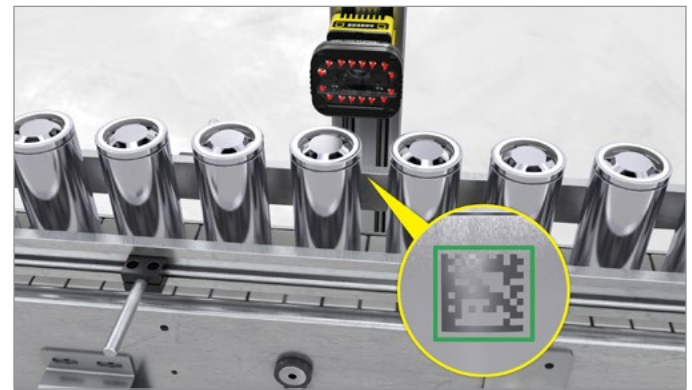Decode on reflective surfaces from a long distance with accuracy, ease, and speed.

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

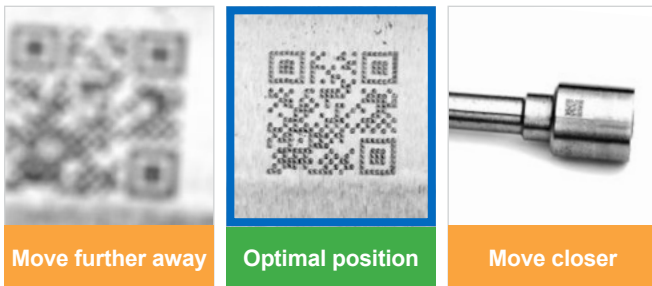Reliably read barcodes at fast line speeds.

Logistics and warehouse operations

Accurately locate and read codes, even when placement is inconsistent or unpredictable.
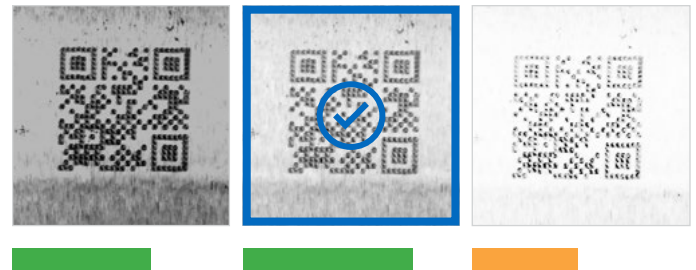
Optimize your read rates with AI at every step

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

1 Find

Move further away | Optimal position | Move closer

AI-guided positioning

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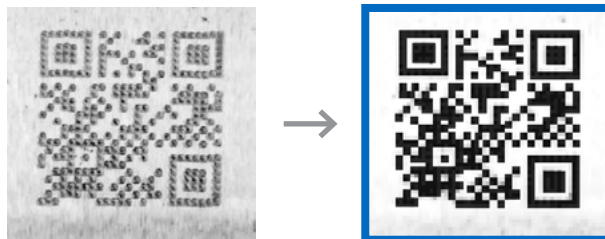
AI-enabled tuning

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.

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 autofocusing to maximize depth of field

Neural processing unit enables AI acceleration

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

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
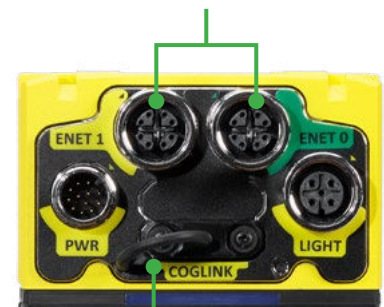
Laser aimer helps guide field of view to desired target

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

▶ 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
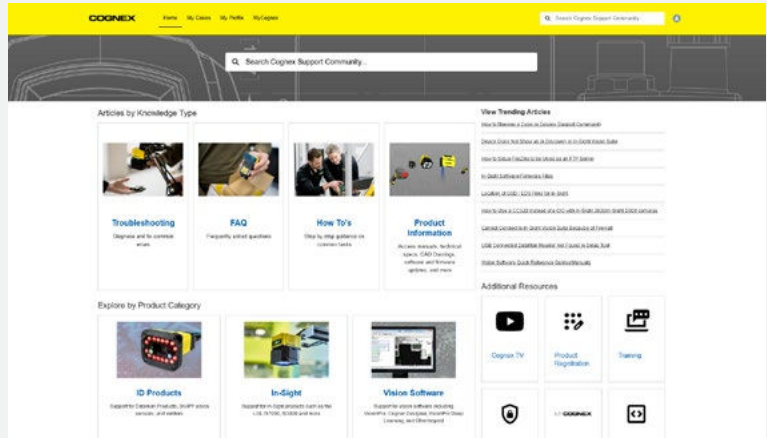

Cognex Support Community
community.cognex.com/support

📈 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
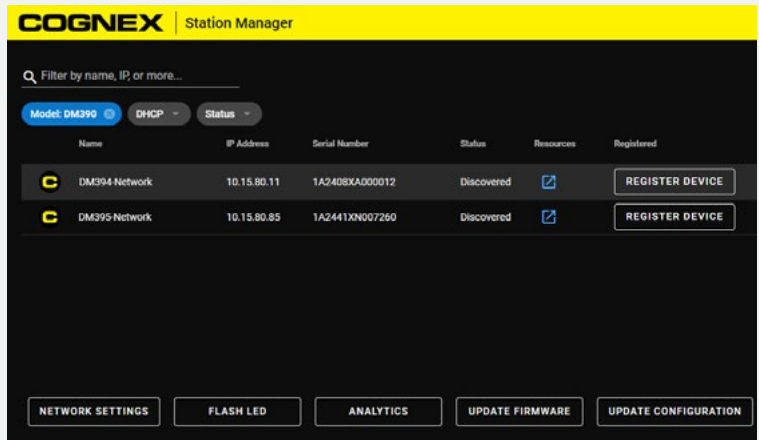
Station Manager

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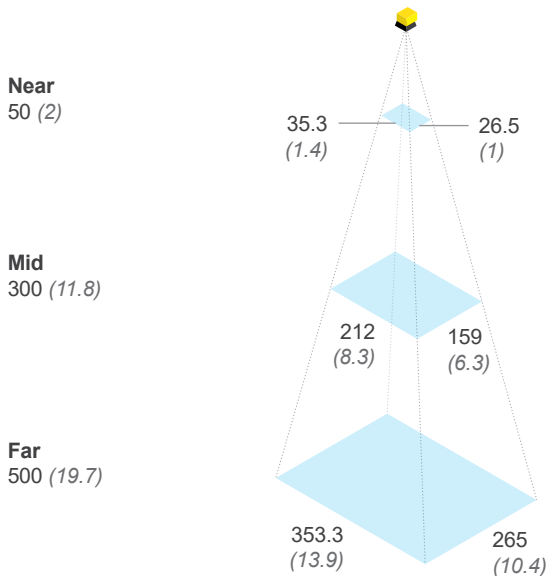
Specifications

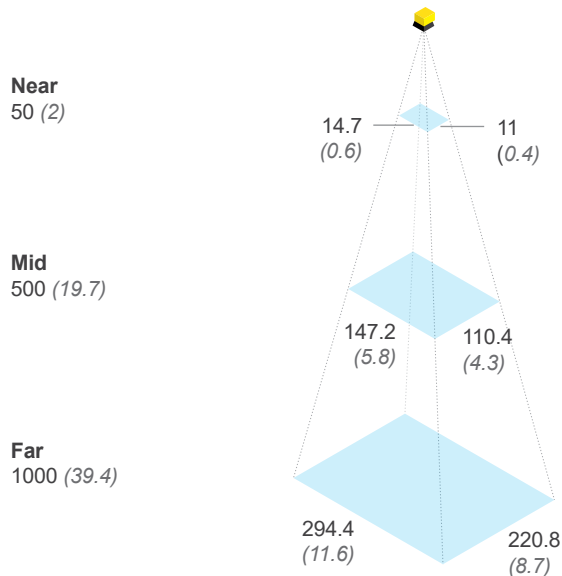| DataMan 390 Series		
	DataMan 394X	DataMan 395X
Image Sensor	1/1.8" CMOS, global shutter	2/3" CMOS, global shutter
Image Sensor Properties	8.99 mm diagonal, 3.45 x 3.45 µm square pixels	11.1 mm diagonal, 3.45 x 3.45 µm square pixels
Image Resolution	2048 x 1536	2448 x 2048
Lens Options	C-mount and Cognex High Speed Liquid Lens	
Electronic Shutter Speed	25.1 µs to 200,000 µs	19.1 µs to 200,000 µs
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^2 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^2 / 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*

DM394 3MP
with 10 mm lens

Near
50 (2)

35.3
(1.4)   26.5
               (1)

Mid
300 (11.8)

212
(8.3)   159
               (6.3)

Far
500 (19.7)

353.3
(13.9)   265
               (10.4)

DM394 3MP
with 24 mm lens

Near
50 (2)

14.7
(0.6)   11
               (0.4)

Mid
500 (19.7)

147.2
(5.8)   110.4
               (4.3)

Far
1000 (39.4)

294.4
(11.6)   220.8
               (8.7)

Working distances
Units: mm (in)

DM395 5 MP
with 16 mm lens

Near
50 (2)

26.4
(1)   22.1
               (0.9)

Mid
350 (13.8)

184.8
(7.3)   154.6
               (6.1)

Far
1000 (39.4)

527.9
(20.8)   441.6
               (17.4)

DM395 5 MP
with 24 mm lens

Near
50 (2)

17.6
(0.7)   14.7
               (0.6)

Mid
500 (19.7)

176
(6.9)   147.2
               (5.8)

Far
1000 (39.4)

351.9
(13.9)   294.4
               (11.6)
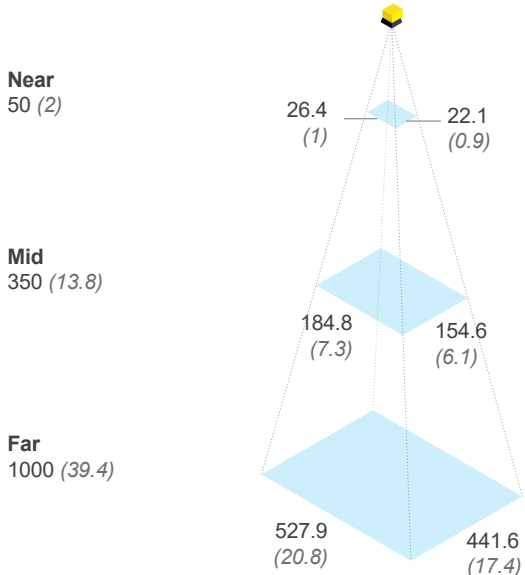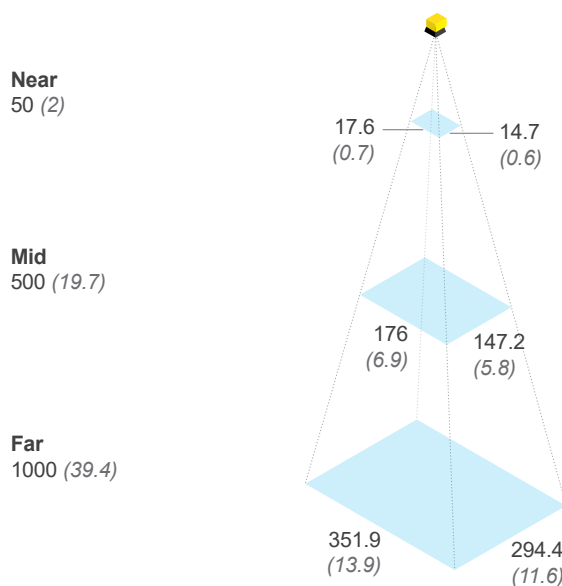
*These values are not exact minimum and maximum working distances, which are dependent on code size. Please see the DataMan 390 Reference Manual for more information.

Product IDs and Descriptions*

DataMan 390

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

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	M12-12 to flying lead, straight
	CCB-PWRIO-15	15M	M12-12 to flying lead, straight
	CCB-PWRIO-05R	5M	M12-12 to flying lead, right-angled
	CCB-PWRIO-10R	10M	M12-12 to flying lead, right-angled
	CCB-PWRIO-15R	15M	M12-12 to flying lead, right-angled
	CCB-CIO-40517-100	1M	Right Angle Shielded Secondary Cable
	CCB-CIO-40517-200	2M	Right Angle Shielded Secondary Cable
	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	X-coded M12-8 to RJ-45, straight
	CCB-84901-2001-10	10M	X-coded M12-8 to RJ-45, straight
	CCB-84901-2001-15	15M	X-coded M12-8 to RJ-45, straight
	CCB-84901-2001-30	30M	X-coded M12-8 to RJ-45, straight
	CCB-84901-2002-02	2M	X-coded M12-8 to RJ-45, right-angled
	CCB-84901-2002-05	5M	X-coded M12-8 to RJ-45, right-angled
	CCB-84901-2002-10	10M	X-coded M12-8 to RJ-45, right-angled
	CCB-84901-2RBT-02	2M	Robotic X-coded M12-8 to RJ-45, straight
	CCB-84901-2RBT-05	5M	Robotic X-coded M12-8 to RJ-45, straight
	CCB-84901-2RBT-10	10M	Robotic X-coded M12-8 to RJ-45, straight
	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	Right Angle Ethernet Chain Cable

Lenses

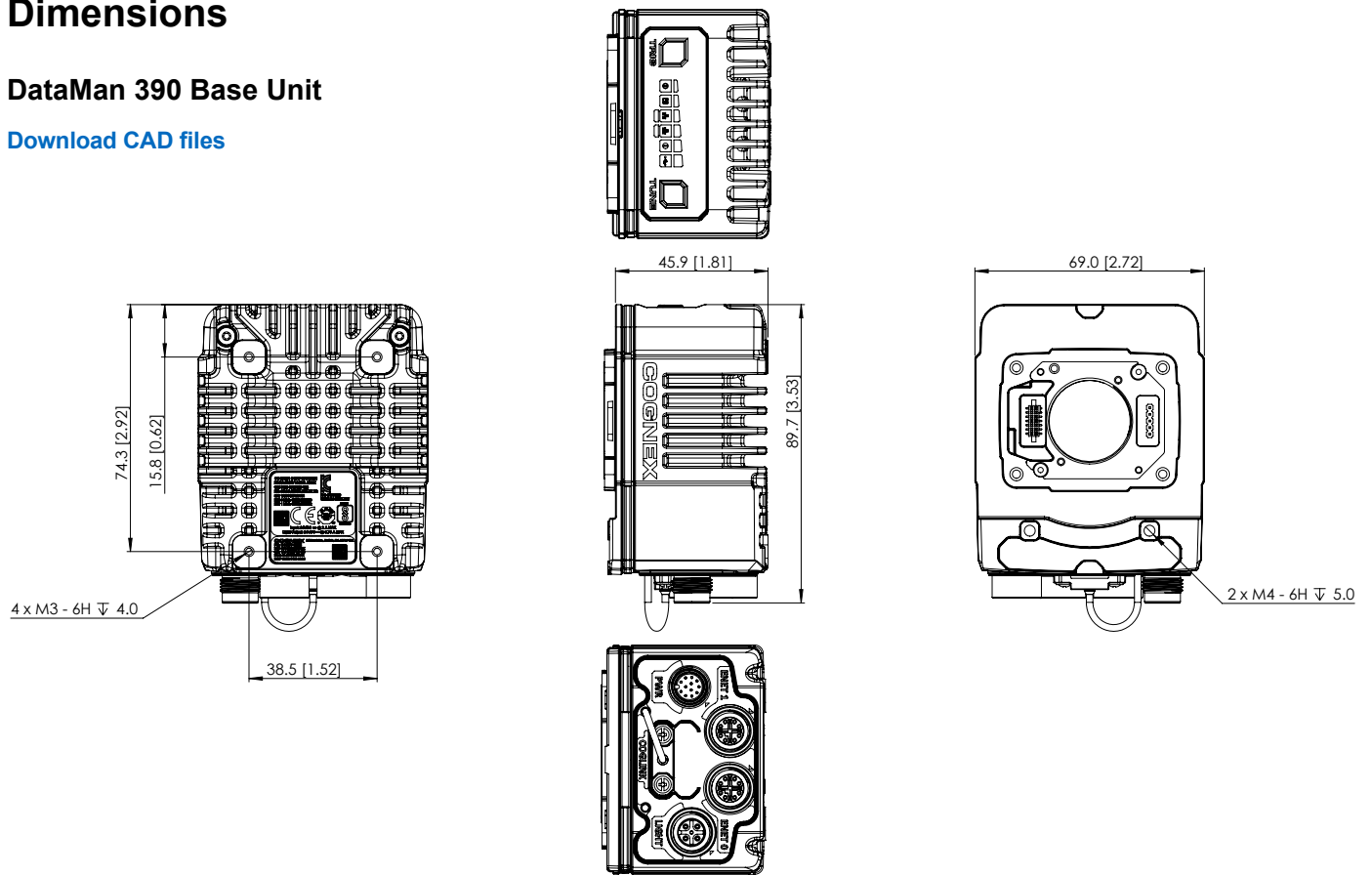|	Product ID	Description
	CLN-C10F5FS-HSLL	10 mm f5 Cognex High Speed Liquid Lens*
	CLN-C16F8FS-HSLL	16 mm f8 Cognex High Speed Liquid Lens*
	CLN-C24F6FS-HSLL	24 mm f6 Cognex High Speed Liquid Lens*
	LMC-ML-M1218UR	12 mm Variable Aperture Moritex UR Lens
	LMC-ML-M1616UR	16 mm Variable Aperture Moritex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

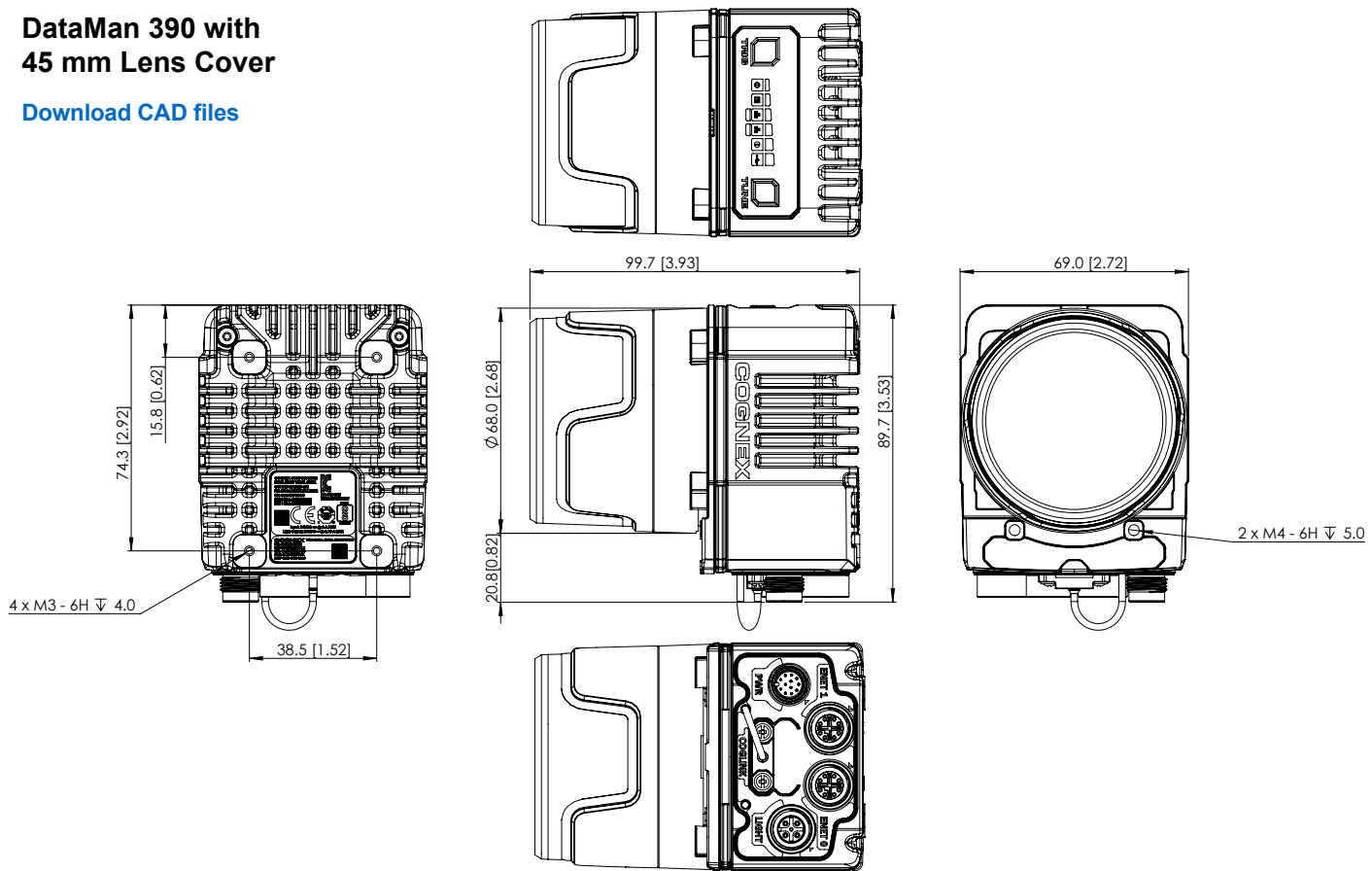# Dimensions

DataMan 390 Base Unit

Download CAD files

45.9 [1.81]

89.7 [3.53]

69.0 [2.72]

74.3 [2.92]

15.8 [0.62]

4 x M3 - 6H ⤓ 4.0

38.5 [1.52]

2 x M4 - 6H ⤓ 5.0

DataMan 390 with HPIT

Download CAD files

89.1 [3.51]

2.5 [0.10]

90.5 [3.56]

74.3 [2.93]

15.8 [0.62]

74.9 [2.95]

89.7 [3.53]

74.9 [2.95]

4 x M3 - 6H ⤓ 4.0

38.5 [1.52]

17.4 [0.68]

47.7 [1.88]

90.5 [3.56]

68.9 [2.71]
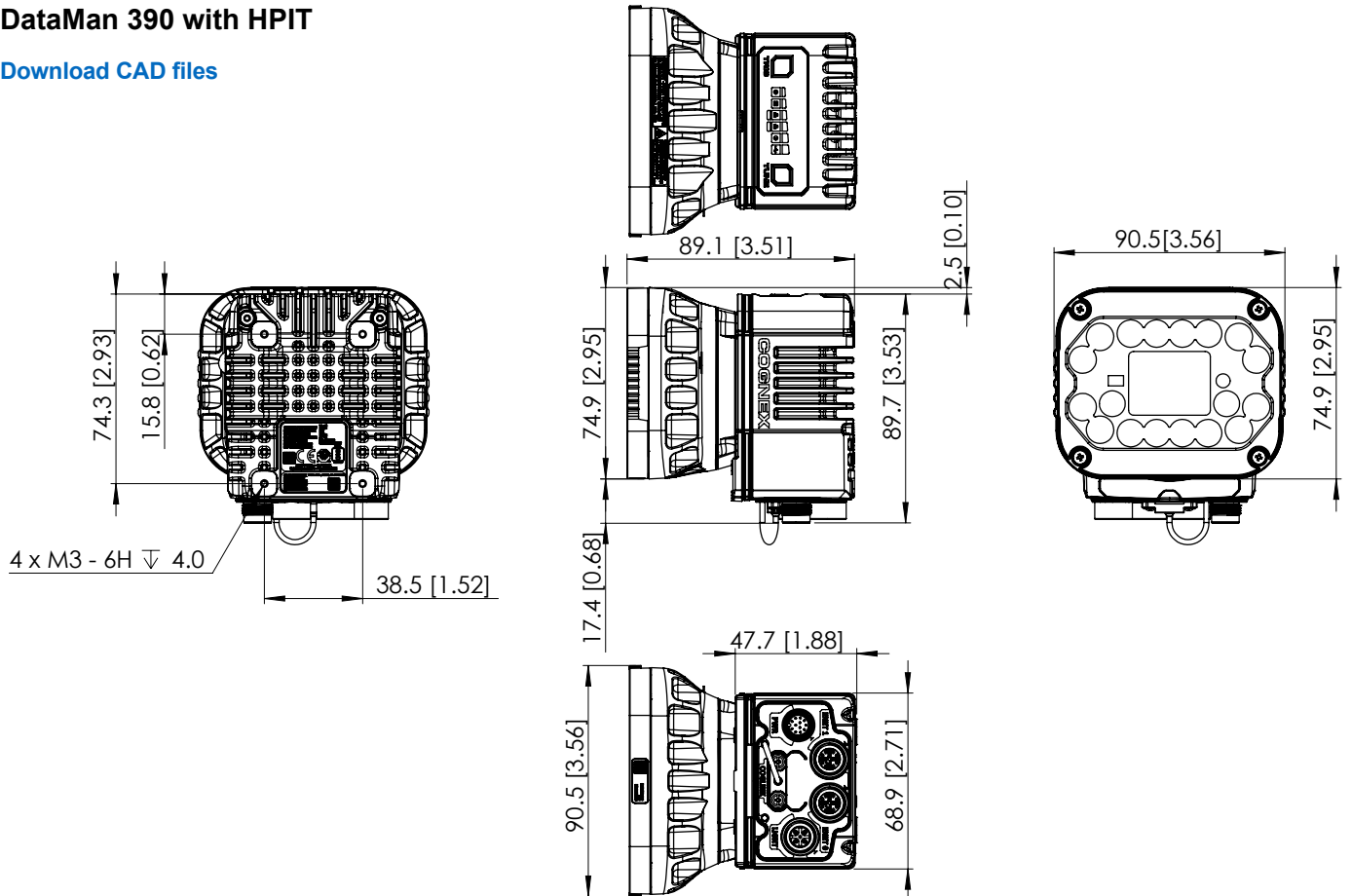
DataMan 390 with 45 mm Lens Cover

Download CAD files

99.7 [3.93]

Ø 68.0 [2.68]

89.7 [3.53]

20.8 [0.82]

69.0 [2.72]

74.3 [2.92]

15.8 [0.62]

38.5 [1.52]

4 x M3 - 6H ▽ 4.0

2 x M4 - 6H ▽ 5.0
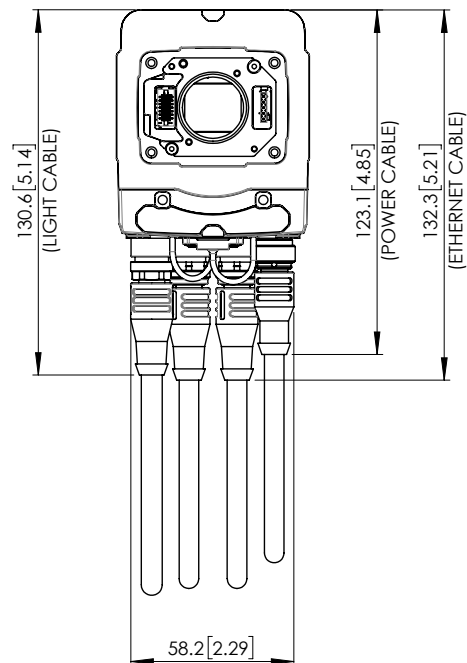
Cable bend radius
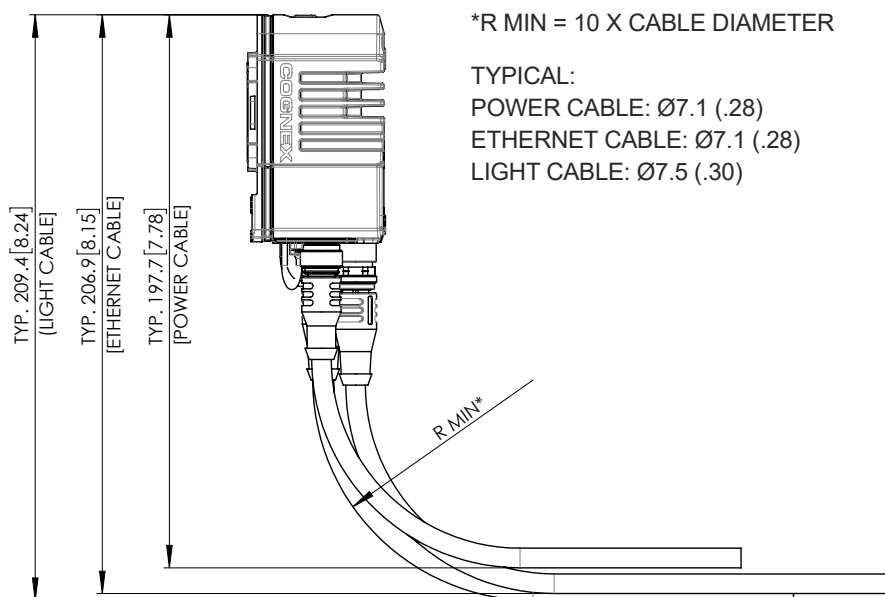
*R MIN = 10 X CABLE DIAMETER

TYPICAL:
POWER CABLE: Ø7.1 (.28)
ETHERNET CABLE: Ø7.1 (.28)
LIGHT CABLE: Ø7.5 (.30)

TYP. 209.4 [8.24]
(LIGHT CABLE)

TYP. 206.9 [8.15]
[ETHERNET CABLE]

TYP. 197.7 [7.78]
[POWER CABLE]

R MIN*

130.6 [5.14]
(LIGHT CABLE)

123.1 [4.85]
(POWER CABLE)

132.3 [5.21]
(ETHERNET CABLE)

58.2 [2.29]

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

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

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

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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