# COGNEX

# Lead with Speed

**Setting the pace of machine vision**

# IN-SIGHT 3800 SERIES

## All-in-one vision system meets all your vision needs

**High speed, high resolution, high flexibility. The In-Sight® 3800 has it all.**

This advanced vision system provides a powerful, yet easy-to-use, solution for automated inspections. Embedded with a full set of robust rule-based tools and innovative edge learning technology, In-Sight 3800 solves a range of manufacturing applications, from defect detection and assembly verification to character reading and more.

- Run more inspections in less time.
- Improve the accuracy of your results.
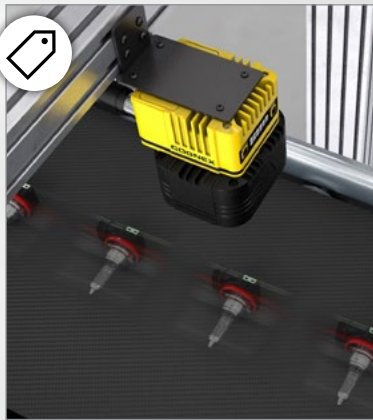- Seamlessly scale your solution.

## Run more inspections in less time

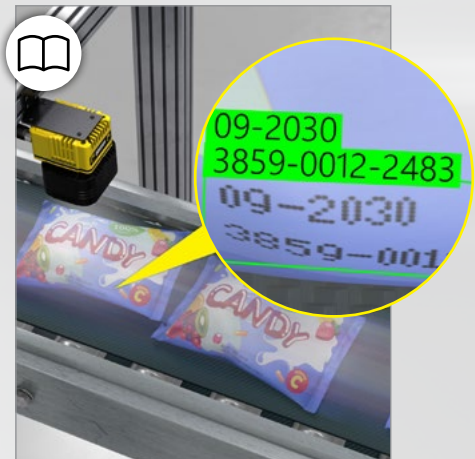Maximize throughput with high-speed processing and quick setup.

**Tools running 2X faster than previous generation vision systems offer ultimate power and performance for any job**

➡ **PAGE 4**

**Advanced defect detection and OCR functionality automates a variety of tasks, from simple to complex**

➡ **PAGE 4**

Red

Gray

Blue

Missing

09-2030
3859-0012-2483

# Improve the accuracy of your results

Generate high-resolution, high-contrast images that detect even the most subtle defects.

**Integrated multi-color lighting accommodates a range of application requirements and operating conditions**
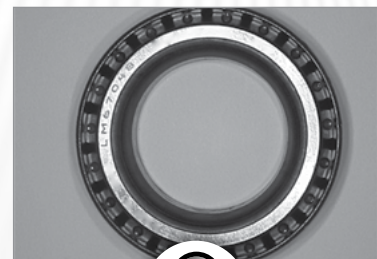
➡ **PAGE 12**

**Unique high-dynamic range plus (HDR+) technology optimizes image formation in a single acquisition**

➡ **PAGE 13**

*Without HDR*

HDR+

# Seamlessly scale your solution

Create jobs in a common software platform that supports scalability across In-Sight products and offers both point-and-click and advanced setup options.

**Robust spreadsheet-based job creation enables more control over tool parameters for complex tasks**

➡ **PAGE 9**

**Intuitive EasyBuilder® interface simplifies the training workflow for quick deployment**

➡ **PAGE 10**
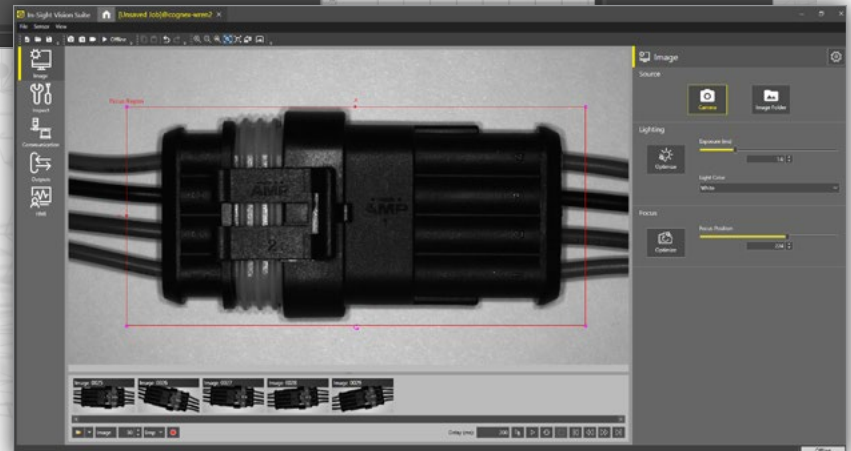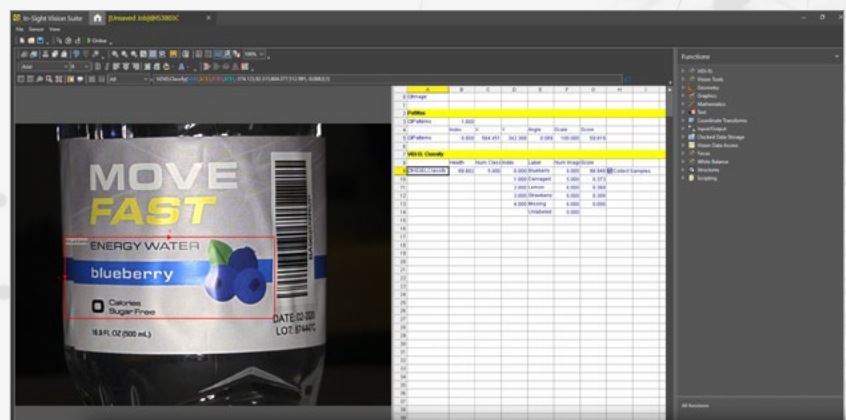
# Comprehensive toolset solves tasks of varying complexity

Integrating AI and rule-based tools in a single vision system, the In-Sight 3800 addresses a wide range of error-proofing applications. The tools can be used individually for simple jobs or combined to automate more challenging problems.

**2–6X**
FASTER
tool processing speeds than previous systems*

UP TO
**2,500**
PARTS/MINUTE
can be inspected with the In-Sight 3800

## AI tools

The In-Sight 3800 is embedded with powerful edge learning tools that leverage AI technology to train and process images on device, or "at the edge" of where the data is collected, to deliver accurate results in real time.

Edge learning tools are easy-to-use and simple to deploy with example-based training and no experience needed.
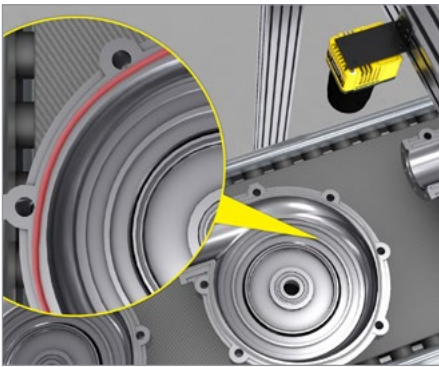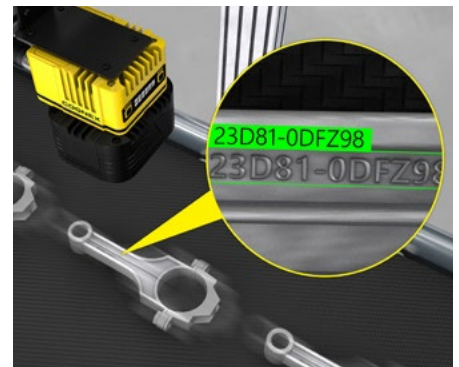
### ViDi EL Segment

Extract defects, regions, and objects from complex parts and backgrounds.
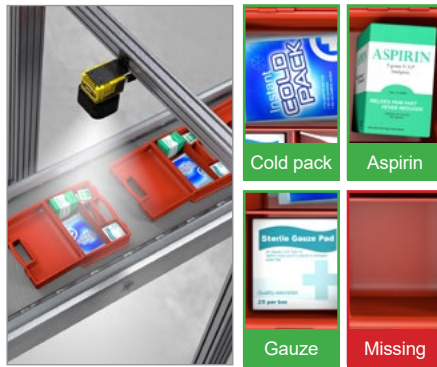
### ViDi EL Classify

Detect and sort parts based on multiple features or characteristics.

### ViDi EL Read

Read characters on reflective, low-contrast, and non-flat surfaces, including multi-line text.

### Training

ViDi EL tools can be trained in minutes, using as few as five to ten example images of the relevant classes or characters. Training is done directly on device, without the use of a central processing unit (CPU).
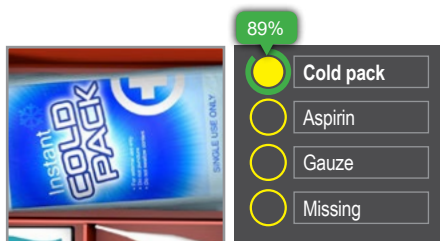
### Confidence score

Get real-time, visual feedback on the accuracy of your results. The confidence score verifies whether the ViDi EL tool correctly predicted the output, leading to less manual intervention and more reliable inspections.
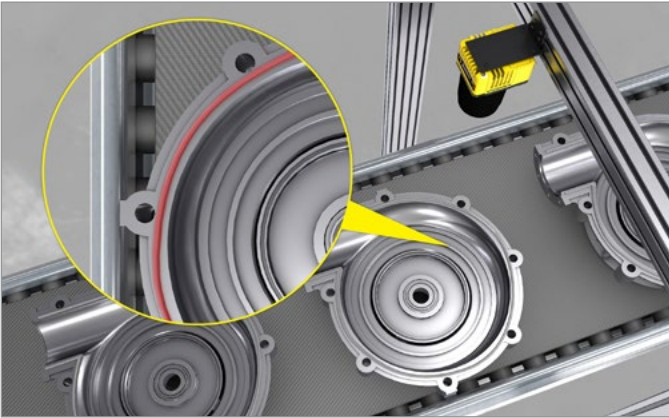
*Rule-based tool performance is 2x faster than In-Sight 7800/7900 series. AI tool performance is 3–6x faster than In-Sight 2800 series.
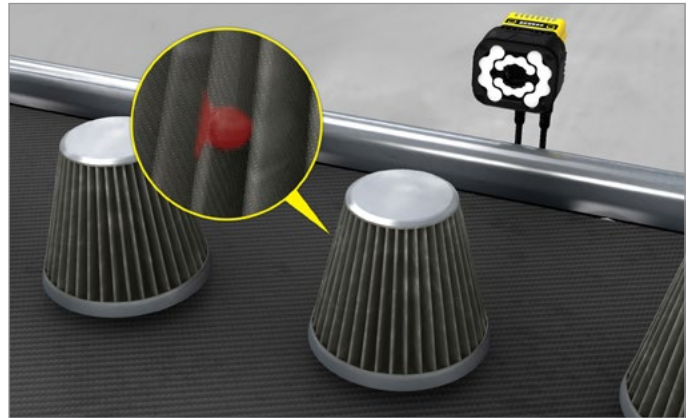
# Segmentation examples

**Automotive: Segment nested parts for targeted inspection**



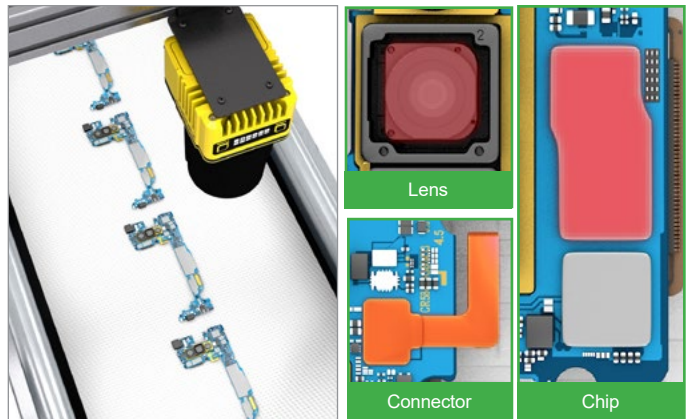**Automotive: Identify subtle, variable defects**
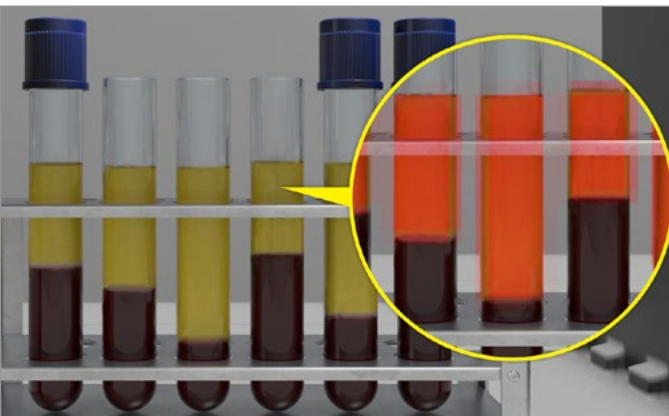


**Food and beverage: Detect and classify multiple types of defects**



Scratch

Dent
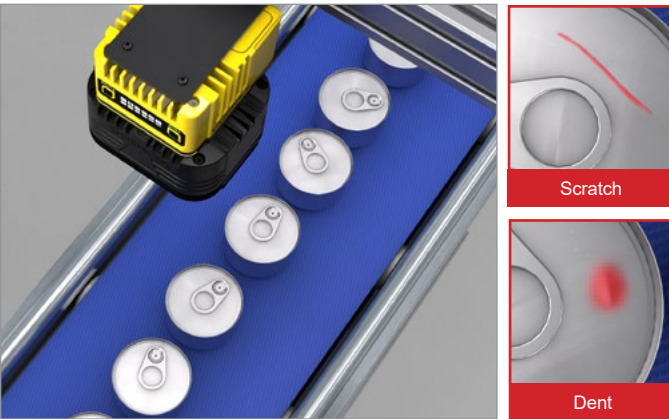
**Electronics: Extract different regions in a part and segment them by class**



Lens

Connector

Chip

**Life sciences: Separate the liquid levels in test tube samples**



**Food and beverage: Ensure shape uniformity of products moving down the line**
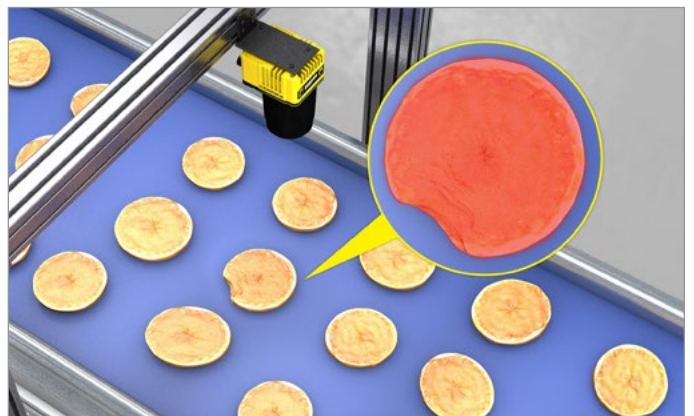
# Classification examples

**Consumer products: Detect presence/absence in kitted products and run multi-ROI classification**



| Tan | Pink | Mauve | Purple |
|-----|------|-------|--------|

| Tan | Pink | None | Purple |
|-----|------|------|--------|
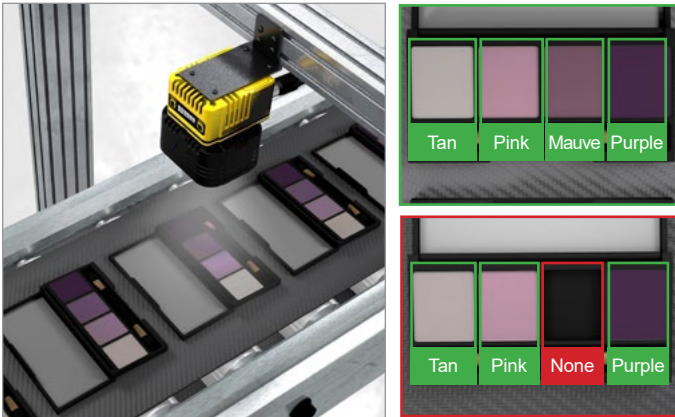
**Electric vehicle (EV) batteries: Check parts for surface-level defects**



OK

NG
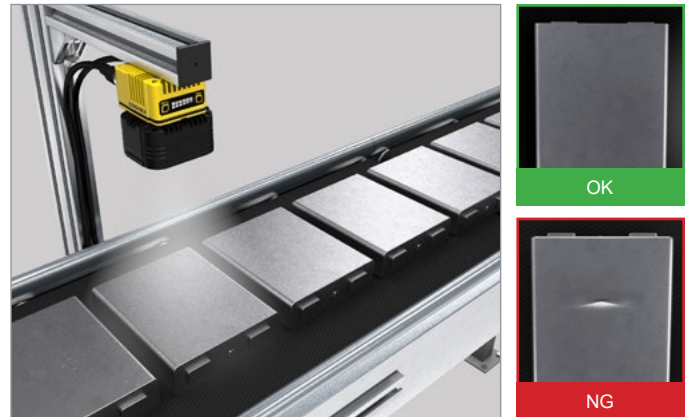
**Automotive electronics: Detect presence/absence of components and classify defects**



| Red | Gray |
|-----|------|
| Blue | Missing |
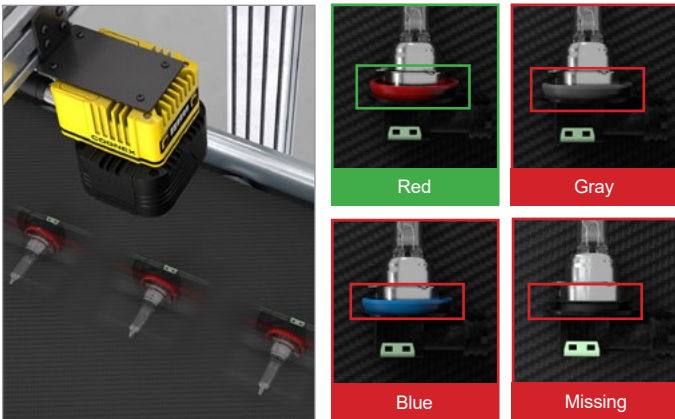
**Automotive assembly: Inspect large parts for subtle defects**



OK

NG
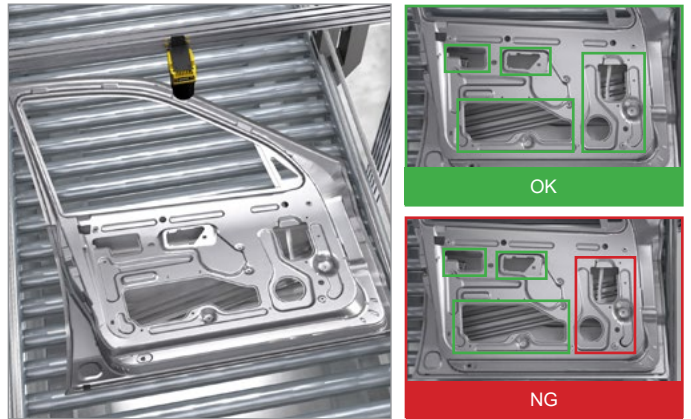
**Consumer products: Classify scents or flavors on packaging**



| Almond | Lavender |
|--------|----------|
| Lemon | Mint |
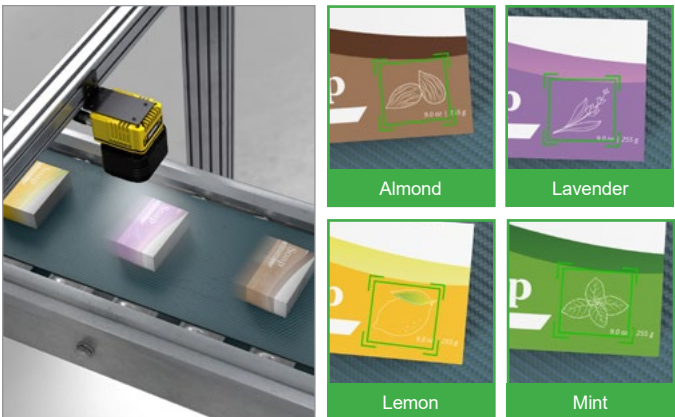
**Food & beverage: Identify damaged or missing components**



| OK | OK |
|----|----|
| Damaged | Missing |

# OCR examples

**Logistics: Read multiple lines of text on different package types**



2495
47U3801575KF
195748356899993

**Consumer product: Decipher lot codes against variable backgrounds**



S767-L311-R971

H394-L243-F48

**Automotive: Read codes on low-contrast and reflective surfaces**



SV0498-2735

**Pharmaceutical: Perform on-line verification at high speeds**



Exp: 09/30/2024
Lot: 89109385B9

**Automotive: Decipher hard-to-read text etched on metallic surfaces**



23D81-0DFZ98
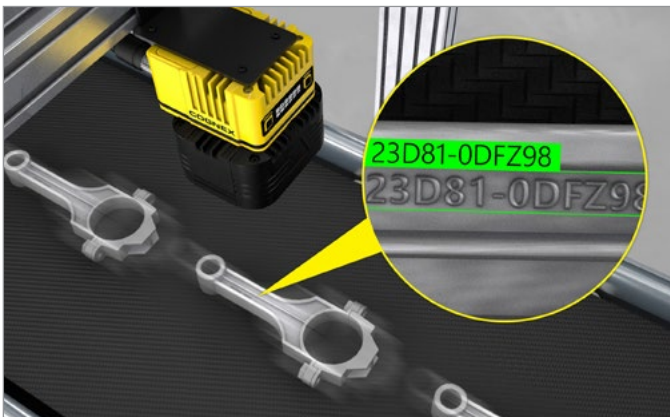
**Food & beverage: Read lot codes on multiple products at the same time**
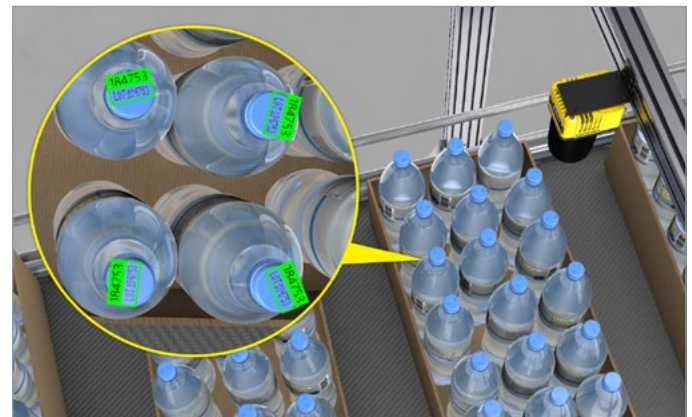
# Rule-based vision tools

In-Sight 3800 is also equipped with an extensive library of industry-proven traditional vision tools that allow you to measure distance and blobs, count pixels, and patterns, read codes, guide robots, perform math and logic, and more. These tools run 2X faster on In-Sight 3800 than previous generation products, so you can solve applications more quickly and accommodate faster line speeds.

**Barcode reading: Read codes on curved surfaces**



**Brightness: Detect presence/absence of components based on varying brightness levels**
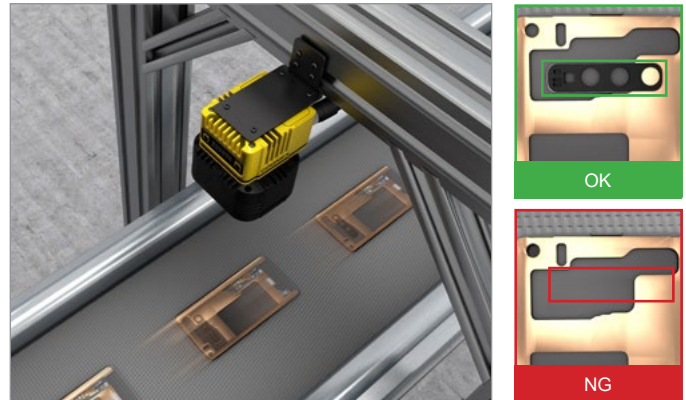


**Gauging: Detect edges and measure the distance between them**



**Robotic guidance: Pick and place finished products into bins**



**Counting: Count components to verify completeness**



**Code reading and OCR: Read multiple 2D codes and text across a large scanning area**

# Common software platform offers flexible development options

In-Sight Vision Suite software is common across all In-Sight products and includes two programming environments — spreadsheet and EasyBuilder — which allows you to seamlessly scale your solution as your business needs evolve.

## Spreadsheet guides users through advanced applications

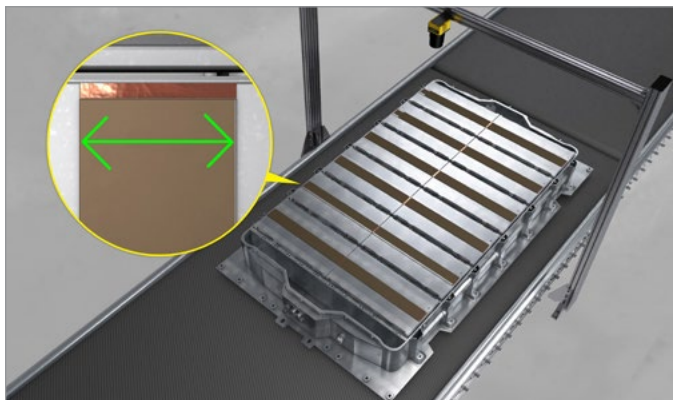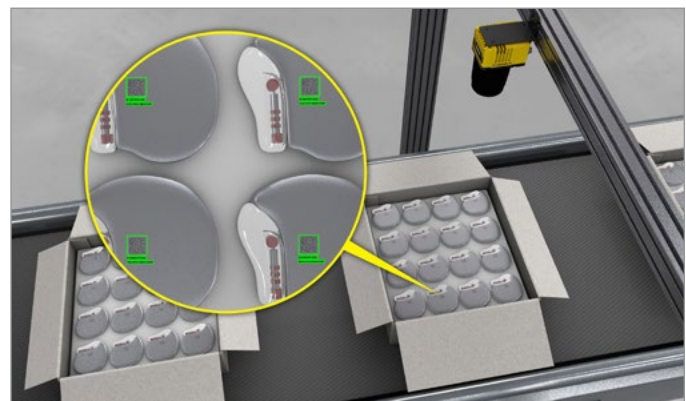The In-Sight spreadsheet interface allows you to quickly set up and run jobs without the need for programming. This robust development environment provides you with the flexibility to make critical adjustments to job parameters, so you can adapt your applications as your requirements change.

Powerful **spreadsheet** interface allows users to solve complex applications

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 0 | ☐Image | | | | | | | | |
| 1 | | | | | | | | | |
| 2 | **PatMax** | | | | | | | | |
| 3 | ☐Patterns | 1.000 | | | | | | | |
| 4 | | Index | X | Y | Angle | Scale | Score | | |
| 5 | ☐Patterns | 0.000 | 564.451 | 342.308 | 0.069 | 100.000 | 59.819 | | |
| 6 | | | | | | | | | |
| 7 | **ViDi EL Classify** | | | | | | | | |
| 8 | | Health | Num Class | Index | Label | Num Image | Score | | |
| 9 | ☐ViDiELClassify | 99.882 | 5.000 | 0.000 | Blueberry | 8.000 | 98.949 | ☑ Collect Samples | |
| 10 | | | | 1.000 | Damaged | 5.000 | 0.373 | | |
| 11 | | | | 2.000 | Lemon | 6.000 | 0.369 | | |
| 12 | | | | 3.000 | Strawberry | 6.000 | 0.309 | | |
| 13 | | | | 4.000 | Missing | 6.000 | 0.000 | | |
| 14 | | | | | Unlabeled | 0.000 | | | |
| 15 | | | | | | | | | |
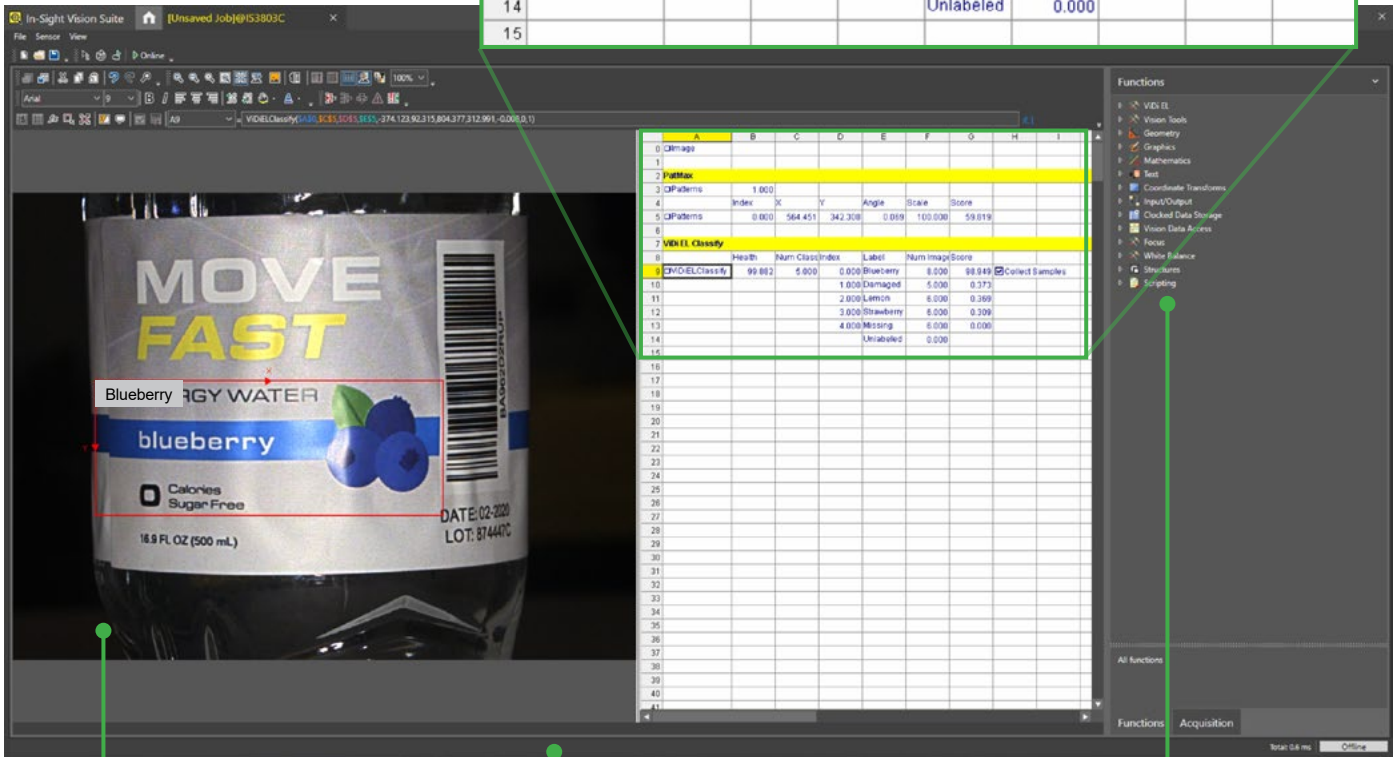


**Easily review and recall files** with image playback

**Full I/O and communications** function set streamlines factory integration

Full suite of AI- and rule-based **vision tools**

# EasyBuilder development environment simplifies setup and delivers rapid turnaround

With its point-and-click programming, the EasyBuilder interface within In-Sight Vision Suite is ideal for developing simple or common jobs. The intuitive process guides developers step-by-step through setup — from image capture to the final result and beyond — allowing both new and experienced users to configure vision applications.

Easy **step-by-step** application setup

Image-centric **point-and-click** functionality allows users to quickly set up tools

Capture images live or upload existing libraries
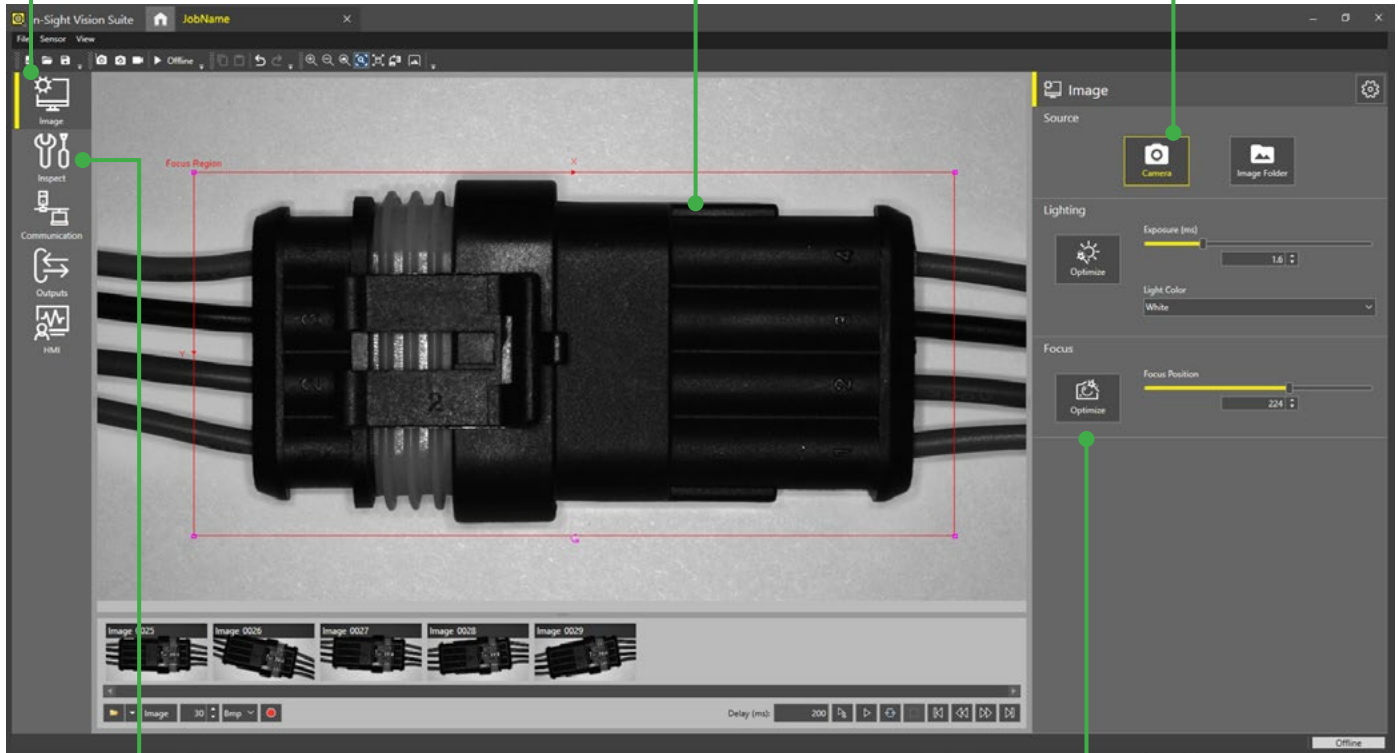


Comprehensive set of traditional rule-based vision tools and **innovative edge learning tools**

Fast, **2-click** image formation

Optimize Exposure    Optimize Focus

# Web-based HMI offers real-time application testing and optimization

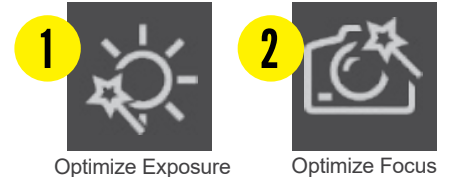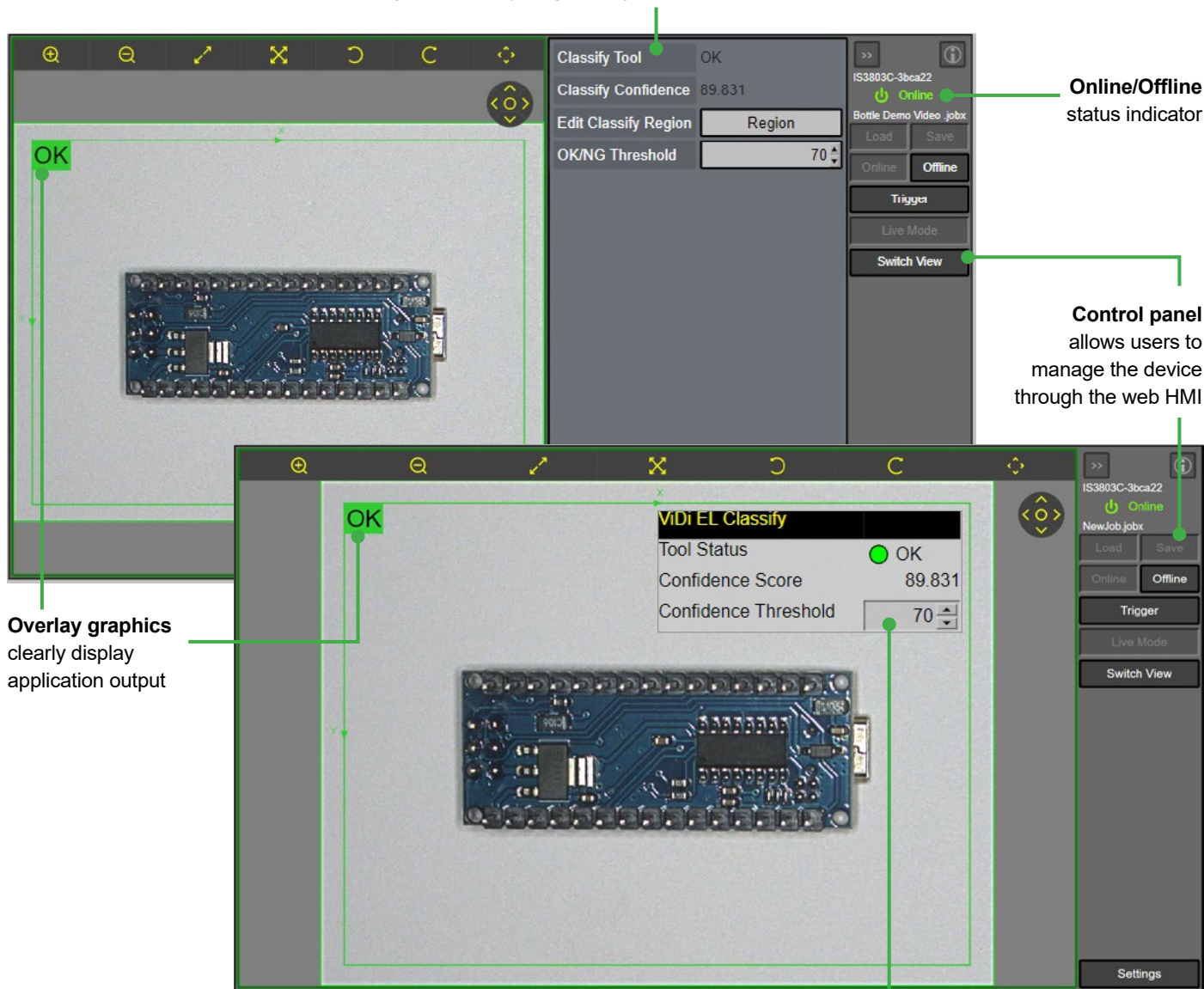The In-Sight 3800 provides access to a web-based human-machine interface (HMI) that enables runtime visualization. From the HMI, users can view inspection results and modify setup parameters to optimize their application.

**EasyView** displays tags from jobs in a simplified format



**Online/Offline** status indicator

**Control panel** allows users to manage the device through the web HMI

**Overlay graphics** clearly display application output

**CustomView** shows advanced settings from the spreadsheet

## Set up applications, directly on the factory floor, with VisionView Web

VisionView Web is a display panel that allows you to quickly train, update, and monitor jobs on the production line, without the need for a PC. Having this technology on the factory floor improves efficiency, facilitates easy device management, and provides real-time feedback for immediate process improvements.

**www.cognex.com/VisionView**

# Full-featured vision system solves wide range of applications

The In-Sight 3800 is engineered with the entire suite of innovative Cognex vision tools and convenient features that deliver fast, reliable automation.

**1.6, 3.2, 5, 8, 12, and 16 MP** resolution options

Field-interchangeable **optical accessories** increase application flexibility

**IP67-rated** housing

**HDR+ mono and color** creates high-quality, high-contrast images

**Indicator lights** for operator feedback

(1) USB-C port for quick connection to PCs

(2) Ethernet ports to isolate PLC communications from other traffic and speed up data transfer
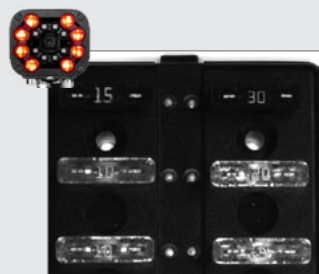
## Powerful, flexible integrated lighting

Multi-color (RGBW and IR) lighting options allow you to optimize image contrast for your application, regardless of operating conditions. Simply click a button in In-Sight Vision Suite to change the light color and generate high-resolution images for more accurate inspections.

*Actual part*

**Red light:**
*Numbers are unclear*

**Blue light:**
*Numbers are clear*

# Innovative technology pushes the boundaries of HDR

HDR+ enhances the capabilities of HDR technology by optimizing contrast automatically. This creates a more uniformed, more detailed image in a single acquisition. Available in both monochrome and color options, HDR+ delivers higher contrast and image quality that allow you to:

▪ See features that were not visible before

▪ Reduce light intensity

▪ Increase depth of field

**Part inspection and OCR**
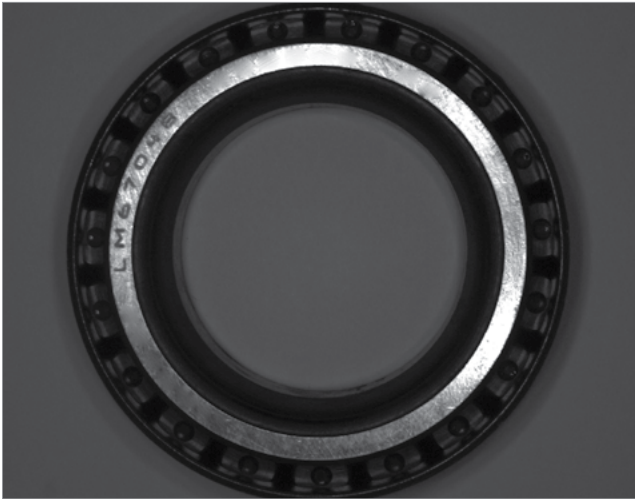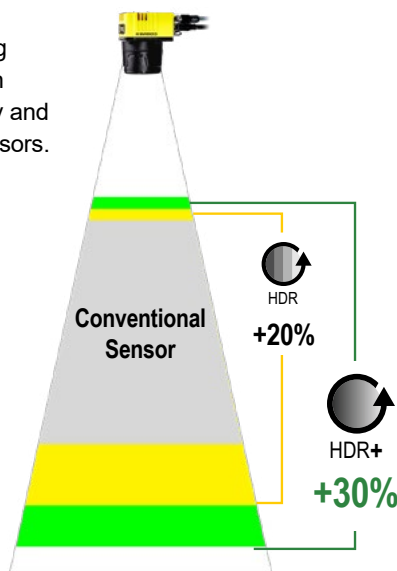


*Without HDR: Embedded parts are unclear.*
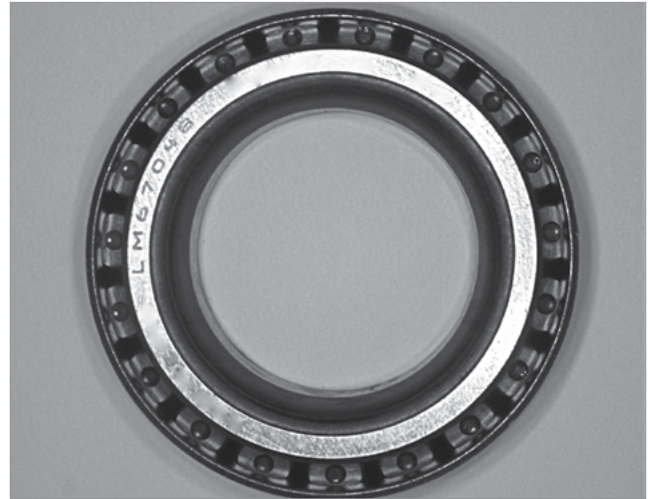


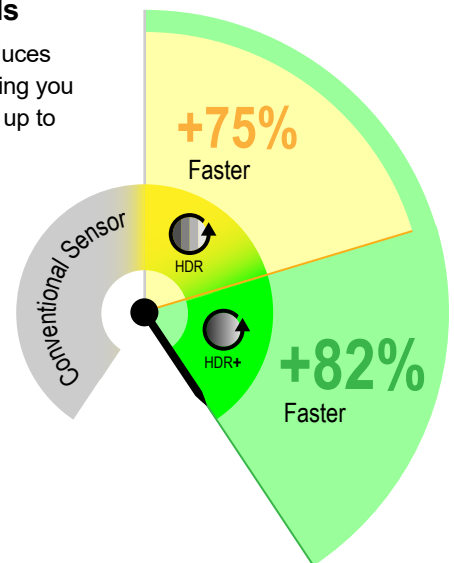*With HDR+: Serial code and bearings are both visible.*

## Greater depth-of-field

HDR+ reduces over- and under-exposure, providing greater depth-of-field than standard HDR technology and conventional imaging sensors.
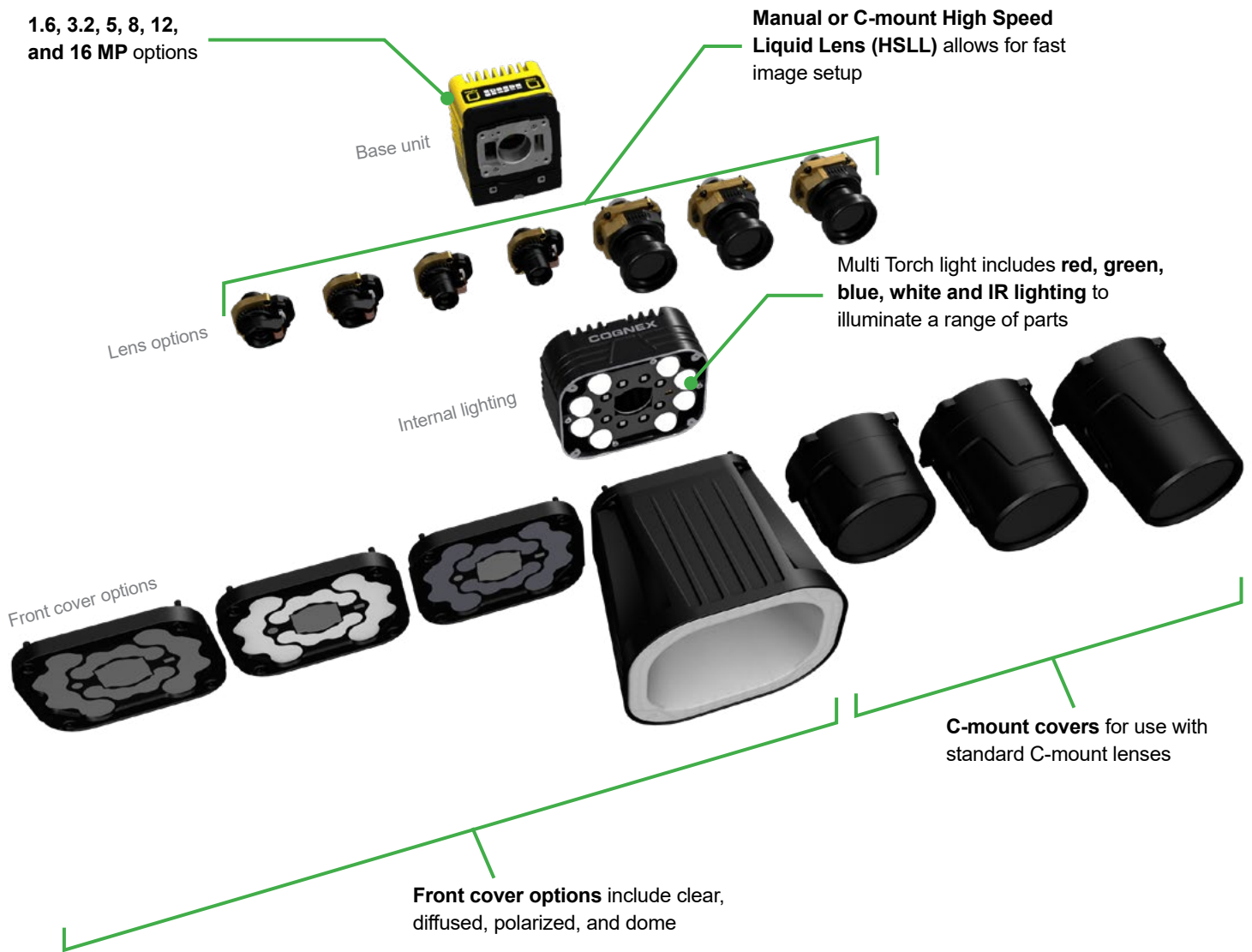


## Faster line speeds

HDR+ significantly reduces exposure times, enabling you to accommodate lines up to 80% faster.

# Scalable architecture for current and future needs

The In-Sight 3800 series offers a variety of accessories and modular components. This flexibility enables users to adapt to keep up with changing demands, such as new changes, faster line speeds, and higher quality standards.

**1.6, 3.2, 5, 8, 12, and 16 MP** options

**Manual or C-mount High Speed Liquid Lens (HSLL)** allows for fast image setup

Base unit

Lens options

Multi Torch light includes **red, green, blue, white and IR lighting** to illuminate a range of parts

Internal lighting

Front cover options

**C-mount covers** for use with standard C-mount lenses

**Front cover options** include clear, diffused, polarized, and dome
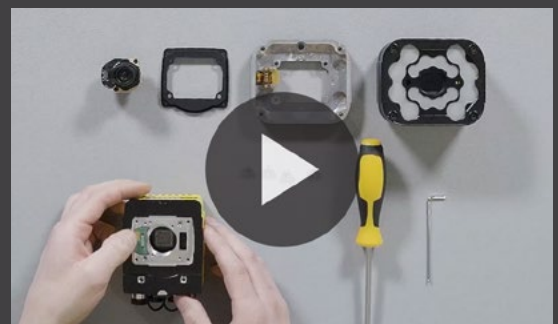
For additional details on accessory compatibility, please refer to page 19.

## Need help configuring your system?

Watch this explainer video that walks you step-by-step through the build-up process.

**www.cognex.com/in-sight-3800-buildup**

# IN-SIGHT 3800 SERIES SPECIFICATIONS

| Image Sensor | IS3801M | IS3801C | IS3803M | IS3803C | IS3805M | IS3805C |
|---|---|---|---|---|---|---|
| Bit Depth | 8-bit monochrome | 24-bit color | 8-bit monochrome | 24-bit color | 8-bit monochrome | 24-bit color |
| Frames per Second (Maximum, Full Resolution) | 125 fps | 52 fps | 47 fps | 30 fps | 32 fps | 21 fps |
| Sensor Type | 1/2.3" CMOS, global shutter | | 1/1.8" CMOS, global shutter | | 2/3" CMOS, global shutter | |
| Sensor Properties | 6.3 mm diagonal, 3.45 x 3.45 µm square pixels | | 11.1 mm diagonal, 3.45 x 3.45 µm square pixels | | 11.1 mm diagonal, 3.45 x 3.45 µm square pixels | |
| Maximum Image Resolution (pixels) | 1440 x 1080 | | 2048 x 1536 | | 2448 x 2048 | |
| Electronic Shutter Speed | 19.5 µs to 200,000 µs | | 25.1 µs to 200,000 µs | | 19.1 µs to 200,000 µs | |

| Image Sensor | IS3808M | IS3808C | IS3812M | IS3812C | IS3816M | IS3816C |
|---|---|---|---|---|---|---|
| Bit Depth | 8-bit monochrome | 24-bit color | 8-bit monochrome | 24-bit color | 8-bit monochrome | 24-bit color |
| Frames per Second (Maximum, Full Resolution) | 24 fps | 12 fps | 22 fps | 11 fps | 18 fps | 8 fps |
| Sensor Type | 2/3" CMOS, global shutter | | 1/1.1" CMOS, global shutter | | 1.1" CMOS, global shutter | |
| Sensor Properties | 11.1 mm diagonal, 2.74 x 2.74 µm square pixels | | 14.0 mm diagonal, 2.74 x 2.74 µm square pixels | | 16.8 mm diagonal, 2.74 x 2.74 µm square pixels | |
| Maximum Image Resolution (pixels) | 2840 x 2840 | | 4096 x 3000 | | 5320 x 3032 | |
| Electronic Shutter Speed | 22 µs to 200,000 µs | | 22 µs to 200,000 µs | | 29.1 µs to 200,000 µs | |

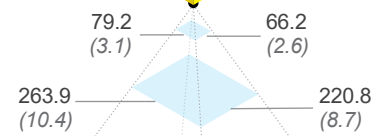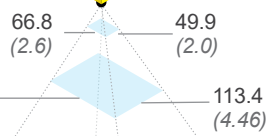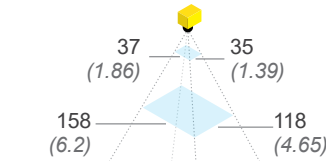| Vision System | |
|---|---|
| Memory | 4 GB |
| Lens Type | C-Mount, Cognex High Speed Liquid Lens Autofocus, or Cognex manual focus lens (used with Multi-Torch Illumination accessory). |
| Trigger | 1 opto-isolated, acquisition trigger input. |
| Discrete Inputs | 1 opto-isolated, acquisition trigger 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. |
| Status LEDs | Pass/Fail LED and Indicator Ring, Network LED and Error LED. |
| High Speed Liquid Lens Lifespan | Number of Focus Cycles: 1800 M cycles |
| Job/Program Memory | 7.2 GB non-volatile flash memory; unlimited storage via remote network device. |
| Image Processing Memory | 512 MB SDRAM |
| Network Communication | 2 Ethernet ports, 10/100/1000 BaseT with auto MDIX. IEEE 802.3 TCP/IP Protocol. 1 USB-C port (supports direct connection to In-Sight Vision Suite on a PC, no factory floor protocols supported). Supports DHCP, static, and link-local IP address configuration. |
| Communication Protocols | TCP/IP, PROFINET, EtherNet/IP, SLMP, ModbusTCP, (S)FTP, RS-232C |
| Power Consumption | 24 V DC ± 10%, 2.0 A maximum. |
| Power Output | 24 V DC at 1.0 A maximum to external light. |
| Material | Die-cast aluminum and zinc housing. |
| Finish | Painted. |
| Mounting | Four M3 threaded mounting holes. See Accessories for supported mounts. Pattern: 38.5 × 58.5 mm (1.52 × 2.60 in) |
| Weight | In-Sight 3800 with no accessories attached: 570 g (20.10 oz). With 45 mm plastic C-Mount cover (COV-380-CMNT-45): 625 g (22.0 oz.) - no lens included. With 60 mm plastic C-Mount cover (COV-380-CMNT-60): 635 g (22.4 oz.) - no lens included. With 75 mm plastic C-Mount cover (COV-380-CMNT-75): 650 g (22.9 oz.) - no lens included. With Multi-Torch Illumination, High Speed Liquid Lens (16 mm), and standard front cover: 840 g (29.6 oz.). With Multi-Torch Illumination, High Speed Liquid Lens (16 mm), and dome attachment: 970 g (34.2 oz.). |
| Ambient/Environment Temperature | 0° C to 40° C (32° F to 104° F) |
| Storage Temperature | -20° C to 80° C (-4° F to 176° F) |
| Humidity | <95% non-condensing |
| Protection | IP67 with all cables properly attached (or the provided connector plug installed), the IP67-rated cover, or Multi Torch attachment properly installed. |
| Shock (Packaging) | IEC 60068-2-27: 18 shocks (3 shocks in each polarity in each (X, Y, Z) axis) 80 Gs (800 m/s2 at 11 ms, half-sinusoidal) with cables or cable plugs and a 150 gram or lighter lens attached. |
| Vibration (Shipping and Storage) | 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/s2 / 15 mm) with cables or cable plugs and a 150 gram or lighter lens attached. |
| Regulations/Conformity | CE, FCC, KCC, TÜV SÜD NRTL, EU RoHS, China RoHS |

# Field of view diagrams*

| Working distances Units: mm (in) | 1.6 MP with 16 mm lens | 3 MP with 16 mm lens | 5 MP with 16 mm lens |
|---|---|---|---|
| **Minimum** 150 (5.9) | 37 (1.86)   35 (1.39) | 66.8 (2.6)   49.9 (2.0) | 79.2 (3.1)   66.2 (2.6) |
| **Midpoint** 500 (19.7) | 158 (6.2)   118 (4.65) | 222.5 (8.8)   113.4 (4.46) | 263.9 (10.4)   220.8 (8.7) |
| **Maximum** 2000 (78.7) | 630 (24.8)   473 (18.6) | 890.1 (35)   665.9 (26.2) | 1055.7 (41.6)   883.2 (34.8) |

| Working distances Units: mm (in) | 1.6 MP with 24 mm lens | 3 MP with 24 mm lens | 5 MP with 24 mm lens |
|---|---|---|---|
| **Minimum** 200 (7.9) | 42 (1.65)   32 (1.24) | 59.3 (2.3)   44.4 (1.7) | 70.4 (2.8)   58.9 (2.3) |
| **Midpoint** 1000 (39.4) | 210 (8.27)   158 (6.2) | 296.7 (11.7)   222 (8.7) | 351.9 (13.9)   294.4 (11.6) |
| **Maximum** 4000 (157.5) | 840 (33.07)   630 (24.8) | 1186.8 (46.7)   887.8 (35) | 1407.6 (55.4)   1177.6 (46.4) |
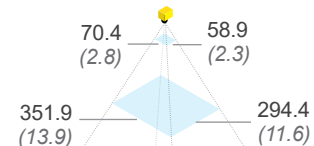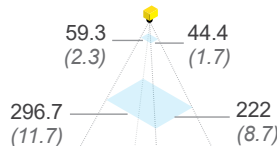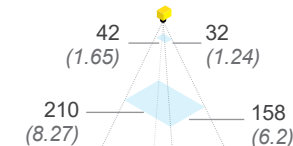
*Field of view diagrams are based on the minimum and maximum focus distances of the High Speed Liquid Lens. If using a High Speed Liquid Lens with the Multi Torch light accessory, the system will perform best at distances between 150–500 mm (5.9–19.7 in) in terms of light intensity/uniformity.

## Find the right lens for your application

The Cognex lens advisor makes it easy to select the right lens for your application. Plug in your specifications, hit "Calculate," and let the advisor take care of the rest.
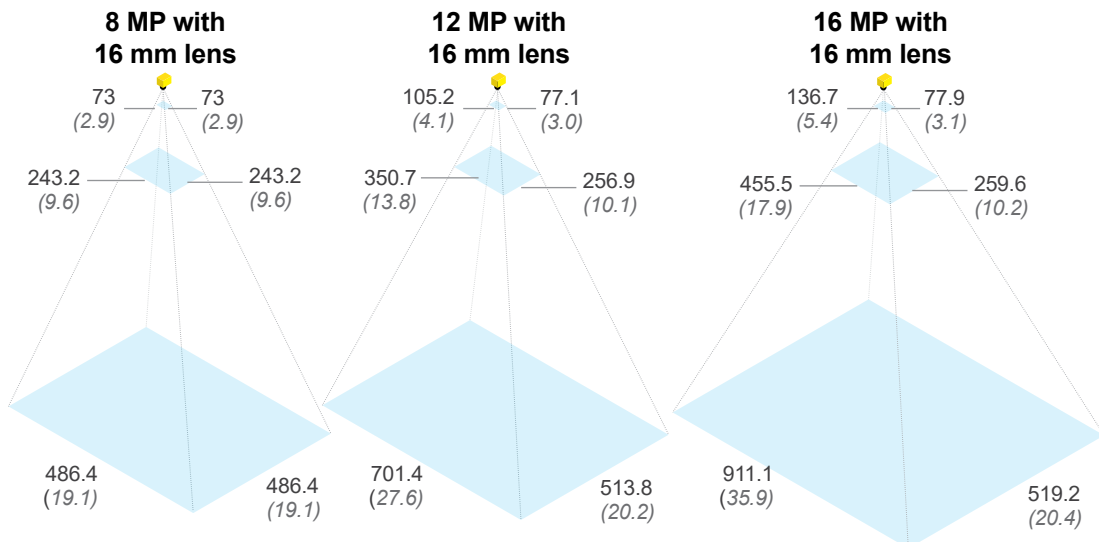
**cognex.com/lens-advisor**

## Working distances
Units: mm *(in)*

### 8 MP with 16 mm lens

**Minimum** 150 *(5.9)*
73 *(2.9)* — 73 *(2.9)*

**Midpoint** 500 *(19.7)*
243.2 *(9.6)* — 243.2 *(9.6)*

**Maximum** 1000 *(39.4)*
486.4 *(19.1)* — 486.4 *(19.1)*

### 12 MP with 16 mm lens

105.2 *(4.1)* — 77.1 *(3.0)*

350.7 *(13.8)* — 256.9 *(10.1)*

701.4 *(27.6)* — 513.8 *(20.2)*

### 16 MP with 16 mm lens

136.7 *(5.4)* — 77.9 *(3.1)*

455.5 *(17.9)* — 259.6 *(10.2)*

911.1 *(35.9)* — 519.2 *(20.4)*

---

## Working distances
Units: mm *(in)*

### 8 MP with 25 mm lens

**Minimum** 300 *(11.8)*
93.4 *(3.7)* — 93.4 *(3.7)*

**Midpoint** 1000 *(39.4)*
311.3 *(12.3)* — 311.3 *(12.3)*

**Maximum** 4000 *(157.5)*
1245.1 *(49.0)* — 1245.1 *(49.0)*

### 12 MP with 25 mm lens

134.7 *(5.3)* — 98.6 *(3.9)*

448.9 *(17.7)* — 328.8 *(12.9)*

1795.7 *(70.7)* — 1315.2 *(51.8)*

### 16 MP with 25 mm lens

174.9 *(6.9)* — 99.7 *(3.9)*

583.1 *(23.0)* — 332.3 *(13.1)*

2332.3 *(91.8)* — 1329.2 *(52.3)*

---

## Working distances
Units: mm *(in)*

### 8 MP with 35 mm lens

**Minimum** 300 *(11.8)*
66.7 *(2.6)* — 66.7 *(2.6)*

**Midpoint** 1000 *(39.4)*
222.3 *(8.8)* — 222.3 *(8.8)*

**Maximum** 4000 *(157.5)*
889.3 *(35.0)* — 889.3 *(35.0)*

### 12 MP with 35 mm lens

96.2 *(3.8)* — 70.5 *(2.8)*

320.7 *(12.6)* — 234.9 *(9.2)*

1282.6 *(50.5)* — 939.4 *(37.0)*

### 16 MP with 35 mm lens

124.9 *(4.9)* — 71.2 *(2.8)*

416.5 *(16.4)* — 237.4 *(9.3)*

1665.9 *(65.6)* — 949.5 *(37.4)*

---
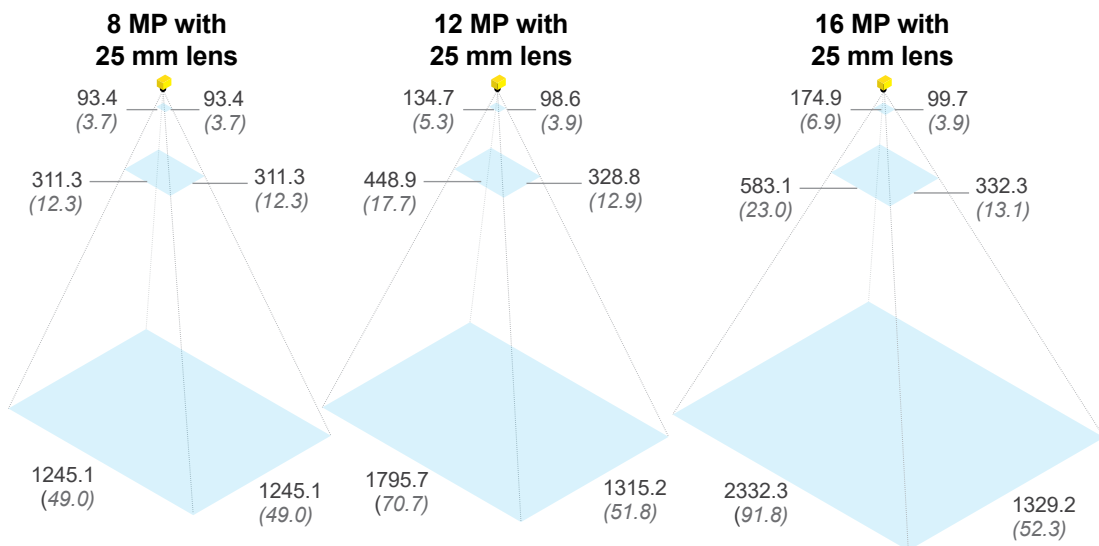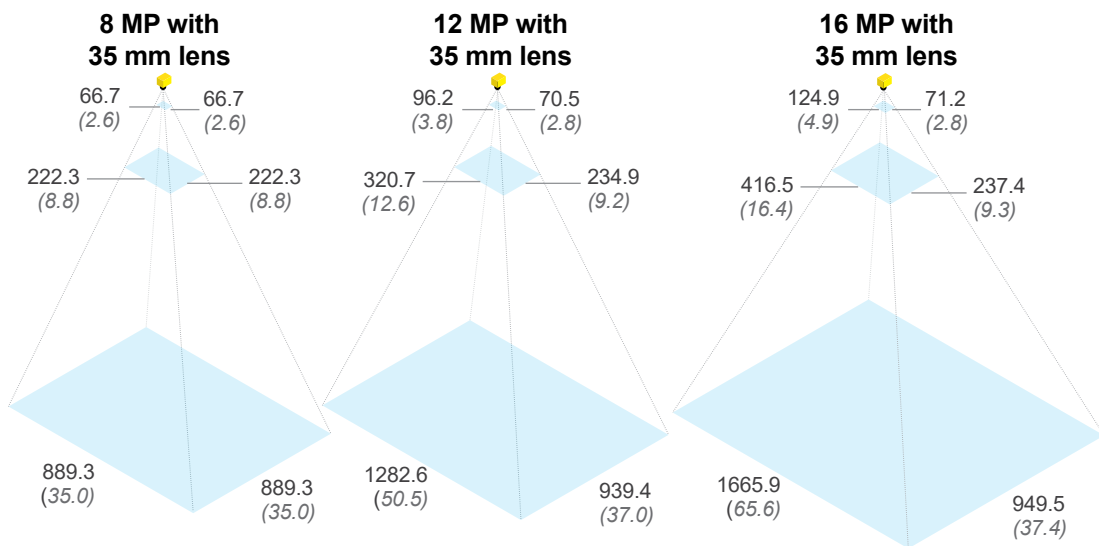
*\*Field of view diagrams are based on the minimum and maximum focus distances of the High Speed Liquid Lens. If using a High Speed Liquid Lens with the Multi Torch light accessory, the system will perform best at distances between 150–500 mm (5.9–19.7 in) in terms of light intensity/uniformity.*

# Product IDs and descriptions*

## IN-SIGHT 3800 SERIES

| | Product ID | Resolution | Mono/Color | Performance | Light | Lens | Cover | Toolset |
|---|---|---|---|---|---|---|---|---|
| | IS3801MP-00001-SA | 1.6 MP | Mono | Performance | None | None | None | EB/SS[1], all tools |
| | IS3801CP-00001-SA | 1.6 MP | Color | Performance | None | None | None | EB/SS, all tools |
| | IS3801MS-00001-SA | 1.6 MP | Mono | Standard | None | None | None | EB/SS, all tools |
| | IS3801CS-00001-SA | 1.6 MP | Color | Standard | None | None | None | EB/SS, all tools |
| | IS3801MP-14621-SA | 1.6 MP | Mono | Performance | Multi Torch | 16 mm HSLL | Diffused | EB/SS, all tools |
| | IS3801CP-14621-SA | 1.6 MP | Color | Performance | Multi Torch | 16 mm HSLL | Diffused | EB/SS, all tools |
| | IS3801MP-14821-SA | 1.6 MP | Mono | Performance | Multi Torch | 24 mm HSLL | Diffused | EB/SS, all tools |
| | IS3801CP-14821-SA | 1.6 MP | Color | Performance | Multi Torch | 24 mm HSLL | Diffused | EB/SS, all tools |
| | IS3803MP-00001-SA | 3.2 MP | Mono | Performance | None | None | None | EB/SS, all tools |
| | IS3803CP-00001-SA | 3.2 MP | Color | Performance | None | None | None | EB/SS, all tools |
| | IS3803MS-00001-SA | 3.2 MP | Mono | Standard | None | None | None | EB/SS, all tools |
| | IS3803CS-00001-SA | 3.2 MP | Color | Standard | None | None | None | EB/SS, all tools |
| | IS3803MP-14621-SA | 3.2 MP | Mono | Performance | Multi Torch | 16 mm HSLL | Diffused | EB/SS, all tools |
| | IS3803CP-14621-SA | 3.2 MP | Color | Performance | Multi Torch | 16 mm HSLL | Diffused | EB/SS, all tools |
| | IS3803MP-14821-SA | 3.2 MP | Mono | Performance | Multi Torch | 24 mm HSLL | Diffused | EB/SS, all tools |
| | IS3803CP-14821-SA | 3.2 MP | Color | Performance | Multi Torch | 24 mm HSLL | Diffused | EB/SS, all tools |
| | IS3805MP-00001-SA | 5 MP | Mono | Performance | None | None | None | EB/SS, all tools |
| | IS3805CP-00001-SA | 5 MP | Color | Performance | None | None | None | EB/SS, all tools |
| | IS3805MS-00001-SA | 5 MP | Mono | Standard | None | None | None | EB/SS, all tools |
| | IS3805CS-00001-SA | 5 MP | Color | Standard | None | None | None | EB/SS, all tools |
| | IS3805MP-14621-SA | 5 MP | Mono | Performance | Multi Torch | 16 mm HSLL | Diffused | EB/SS, all tools |
| | IS3805CP-14621-SA | 5 MP | Color | Performance | Multi Torch | 16 mm HSLL | Diffused | EB/SS, all tools |
| | IS3805MP-14821-SA | 5 MP | Mono | Performance | Multi Torch | 24 mm HSLL | Diffused | EB/SS, all tools |
| | IS3805CP-14821-SA | 5 MP | Color | Performance | Multi Torch | 24 mm HSLL | Diffused | EB/SS, all tools |
| | IS3808MX-00001-SA | 8 MP | Mono | Max | None | None | None | EB/SS, all tools |
| | IS3808CX-00001-SA | 8 MP | Color | Max | None | None | None | EB/SS, all tools |
| | IS3808MS-00001-SA | 8 MP | Mono | Standard | None | None | None | EB/SS, all tools |
| | IS3808CS-00001-SA | 8 MP | Color | Standard | None | None | None | EB/SS, all tools |
| | IS3812MX-00001-SA | 12 MP | Mono | Max | None | None | None | EB/SS, all tools |
| | IS3812CX-00001-SA | 12 MP | Color | Max | None | None | None | EB/SS, all tools |
| | IS3812MS-00001-SA | 12 MP | Mono | Standard | None | None | None | EB/SS, all tools |
| | IS3812CS-00001-SA | 12 MP | Color | Standard | None | None | None | EB/SS, all tools |
| | IS3816MX-00001-SA | 16 MP | Mono | Max | None | None | None | EB/SS, all tools |
| | IS3816CX-00001-SA | 16 MP | Color | Max | None | None | None | EB/SS, all tools |
| | IS3816MS-00001-SA | 16 MP | Mono | Standard | None | None | None | EB/SS, all tools |
| | IS3816CS-00001-SA | 16 MP | Color | Standard | None | None | None | EB/SS, all tools |

*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.

1   EasyBuilder/Spreadsheet

# Components and accessories

## MULTI TORCH LIGHT

| | Product ID | Description |
|---|---|---|
| | 380-TORCH-MULTI-AF[1] | **Multi Torch Accessory Kit for autofocus lenses.** Includes: Multi Torch illumination module, mount for illumination module (CLN-CXXFXX-HSLL High-Speed Liquid Lenses only), diffused cover, illumination PCB, 2 mm hex tool. |
| | 380-TORCH-MULTI-MF[1] | **Multi Torch Accessory Kit for manual focus lenses.** Includes: Multi Torch illumination module, mount for illumination module (CLN-CXXFXX manual lenses only), diffused cover, illumination PCB, 2 mm hex tool. |

## MULTI TORCH FRONT COVERS

| | Product ID | Description |
|---|---|---|
| | 380-TORCH-COVDIF[1] | Multi Torch diffused front cover |
| | 380-TORCH-COVPOL[1] | Multi Torch cross-polarized front cover |
| | 380-TORCH-COVCLR[1] | Multi Torch clear front cover |
| | 380-TORCH-DOME[1] | Multi Torch dome attachment |

## BANDPASS FILTERS

| | Product ID | Description |
|---|---|---|
| | 380-TORCH-BP470[1] | Blue bandpass filter for Multi Torch |
| | 380-TORCH-BP635[1] | Red bandpass filter for Multi Torch |

## MOUNTING BRACKETS

| | Product ID | Description |
|---|---|---|
| | BKT-INS-01 | Mounting bracket with M3, M4 and 1/4 - 20 mounting holes |
| | ISB-7000-7K | Converter mounting bracket with M3 socket head screws/wrench |
| | ISB-7000-5K | Converter mounting bracket with Phillips flat head M3 screws and M4 screws |

## LENSES

| | Product ID | Description |
|---|---|---|
| | CLN-C16F8FS-HSLL[1] | 16 mm HSLL |
| | CLN-C24F6FS-HSLL[1] | 24 mm HSLL |
| | CLN-C16F8FS[1] | 16 mm manual focus lens |
| | CLN-C24F6FS[1] | 24 mm manual focus lens |
| | CLN-C16F65-HSLL-HR[3] | 16 mm HSLL - high resolution |
| | CLN-C25F65-HSLL-HR[3] | 25 mm HSLL - high resolution |
| | CLN-C35F06-HSLL-HR[3] | 35 mm HSLL - high resolution |
| | LMC-ML-M0818HR[2] | 8 mm Moritex HR series lens |
| | LMC-ML-M1218HR[2] | 12 mm Moritex HR series lens |
| | LMC-ML-M1618HR[2] | 16 mm Moritex HR series lens |
| | LMC-ML-M2518HR[2] | 25 mm Moritex HR series lens |
| | LMC-ML-M3520HR[2] | 35 mm Moritex HR series lens |
| | LMC-ML-M5025HR[2] | 50 mm Moritex HR series lens |
| | LMC-ML-M0625UR[1] | 6 mm Moritex UR series lens |
| | LMC-ML-M0822UR[1] | 8 mm Moritex UR series lens |
| | LMC-ML-M1218UR[1] | 12 mm Moritex UR series lens |
| | LMC-ML-M1616UR[1] | 16 mm Moritex UR series lens |
| | LMC-ML-M2516UR[1] | 25 mm Moritex UR series lens |
| | LMC-ML-M3520UR[1] | 35 mm Moritex UR series lens |
| | LMC-ML-M5025UR[1] | 50 mm Moritex UR series lens |
| | LMC-ML-U0618SR[4] | 6 mm Moritex SR series lens |
| | LMC-ML-U1217SR[4] | 12 mm Moritex SR series lens |
| | LMC-ML-U1615SR[4] | 16 mm Moritex SR series lens |
| | LMC-ML-U2515SR[4] | 25 mm Moritex SR series lens |
| | LMC-ML-U3518SR[4] | 35 mm Moritex SR series lens |
| | LMC-ML-U5022SR[4] | 50 mm Moritex SR series lens |

## LENS COVERS

| | Product ID | Description |
|---|---|---|
| | COV-380-CMNT-45 | 45 mm plastic lens cover |
| | COV-380-CMNT-60 | 60 mm plastic lens cover |
| | COV-380-CMNT-75 | 75 mm plastic lens cover |
| | COV-7000-CMNT-LGX | 30 mm lens cover extender |

1    Compatible with IS3801/3803/3805.

2    Compatible with IS3801.

3    Compatible with IS3808/3812.

4    Compatible with IS3808/3812/3816.

## CABLES

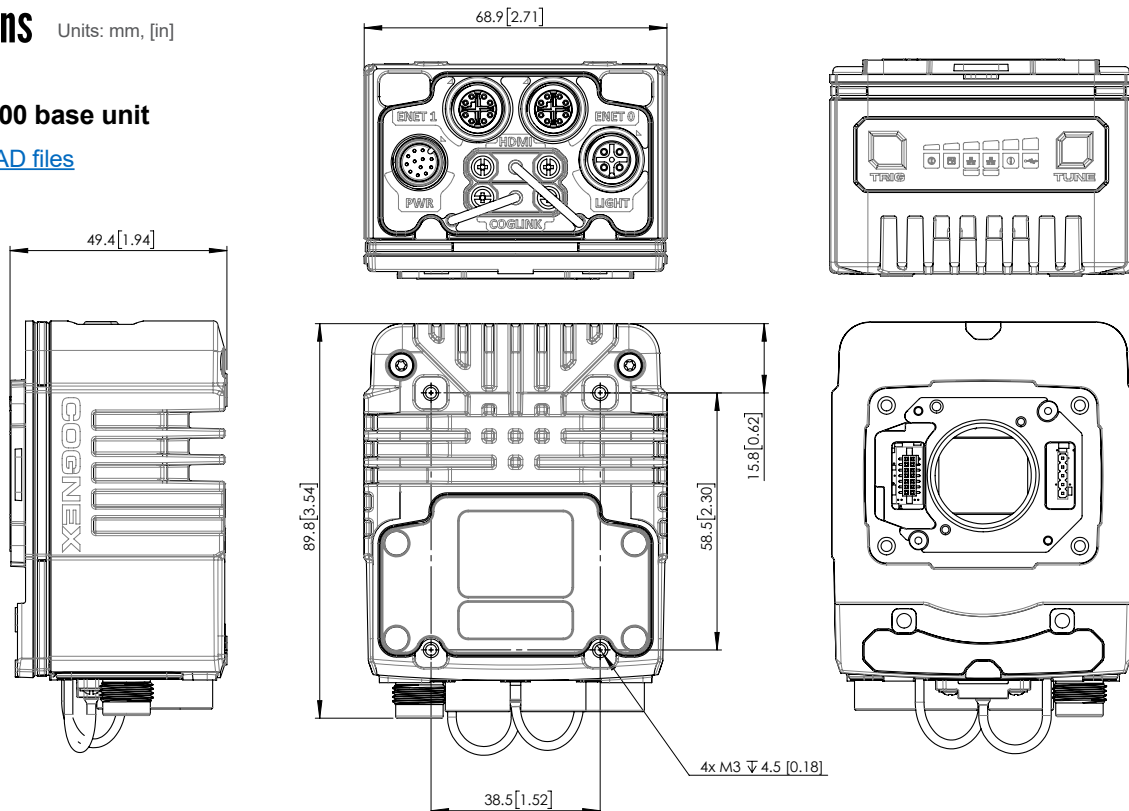| | Product ID | Description |
|---|---|---|
| | IVSL-5PM12-JXXX | External light cable, yellow (300 mm, 500 mm, 1000 mm, 2000 mm) |
| | IVSL-M12-NSB-XXX | External light cable, black (300 mm, 1000 mm, 2000 mm) |
| | CCB-M12LTF-XX | External light cable, gray (0.5 m, 1 m, 2 m, 5 m) |
| | ICQ-CB-0.5-IFL-M12 | Black M12 to M12 cable with a small in-line capacitor (2 m) |
| | CCB-84901-2001-XX | Ethernet cable, X-coded M12-8 to RJ-45 (2 m, 5 m, 10 m, 15 m, 30 m) |
| | CCB-84901-2RBT-XX | Ethernet cable, X-coded M12-8 to RJ-45 (2 m, 5 m, 10 m) |
| | CCB-PWRIO-XX | Breakout cable, M12-12 to flying lead (5 m, 10 m, 15 m) |

## VISIONVIEW WEB

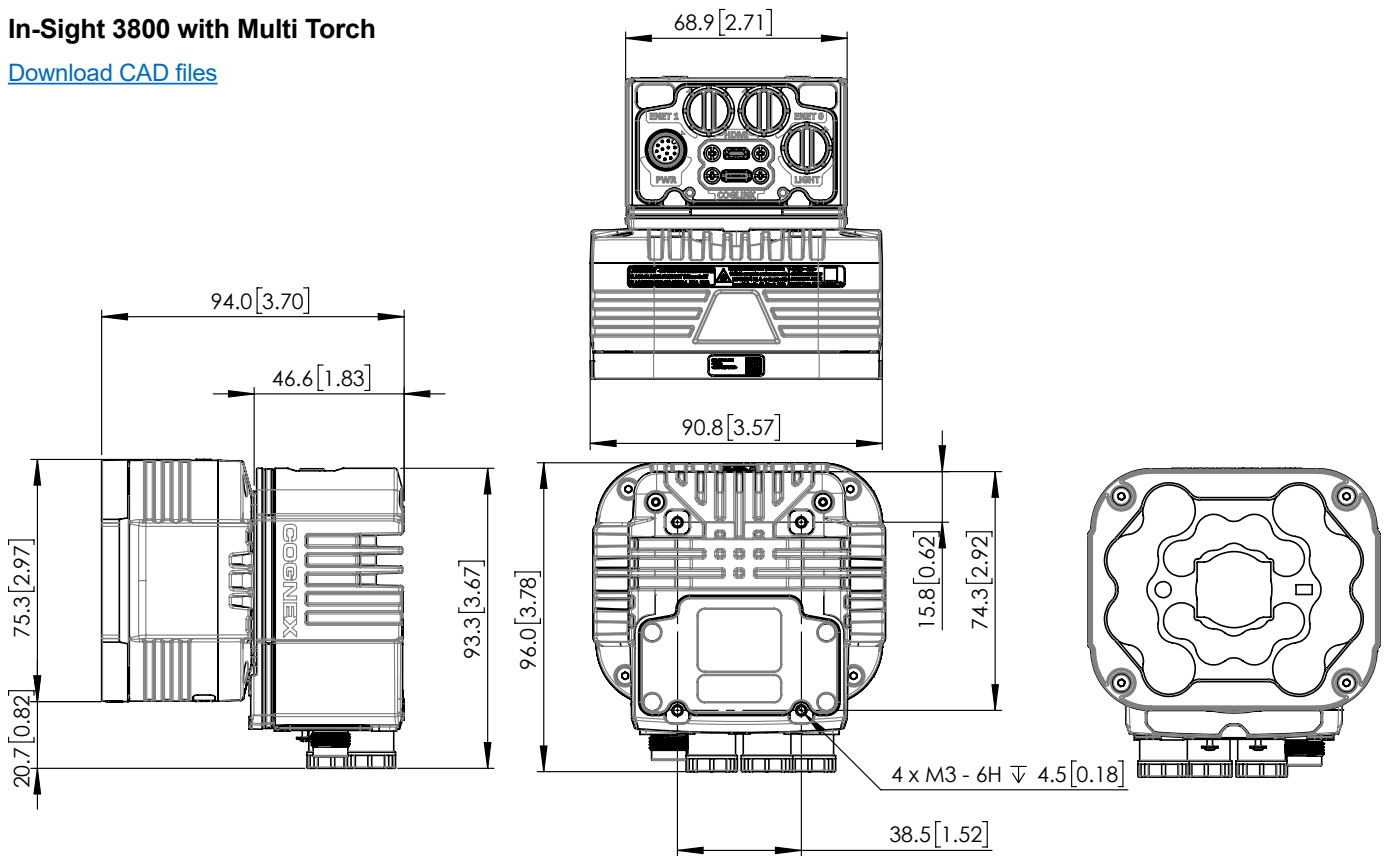| | Product ID | Description |
|---|---|---|
| | VVW-P | VV Web HDMI Panel |
| | VVW-H-AU | CFKIT, VV Web HDMI with AU PS |
| | VVW-H-EU | CFKIT, VV Web HDMI with EU PS |
| | VVW-H-NOM | CFKIT, VV Web HDMI with NOM PS |
| | VVW-H-UK | CFKIT, VV Web HDMI with UK PS |
| | VVW-H-US | CFKIT, VV Web HDMI with US PS |

# Dimensions   Units: mm, [in]

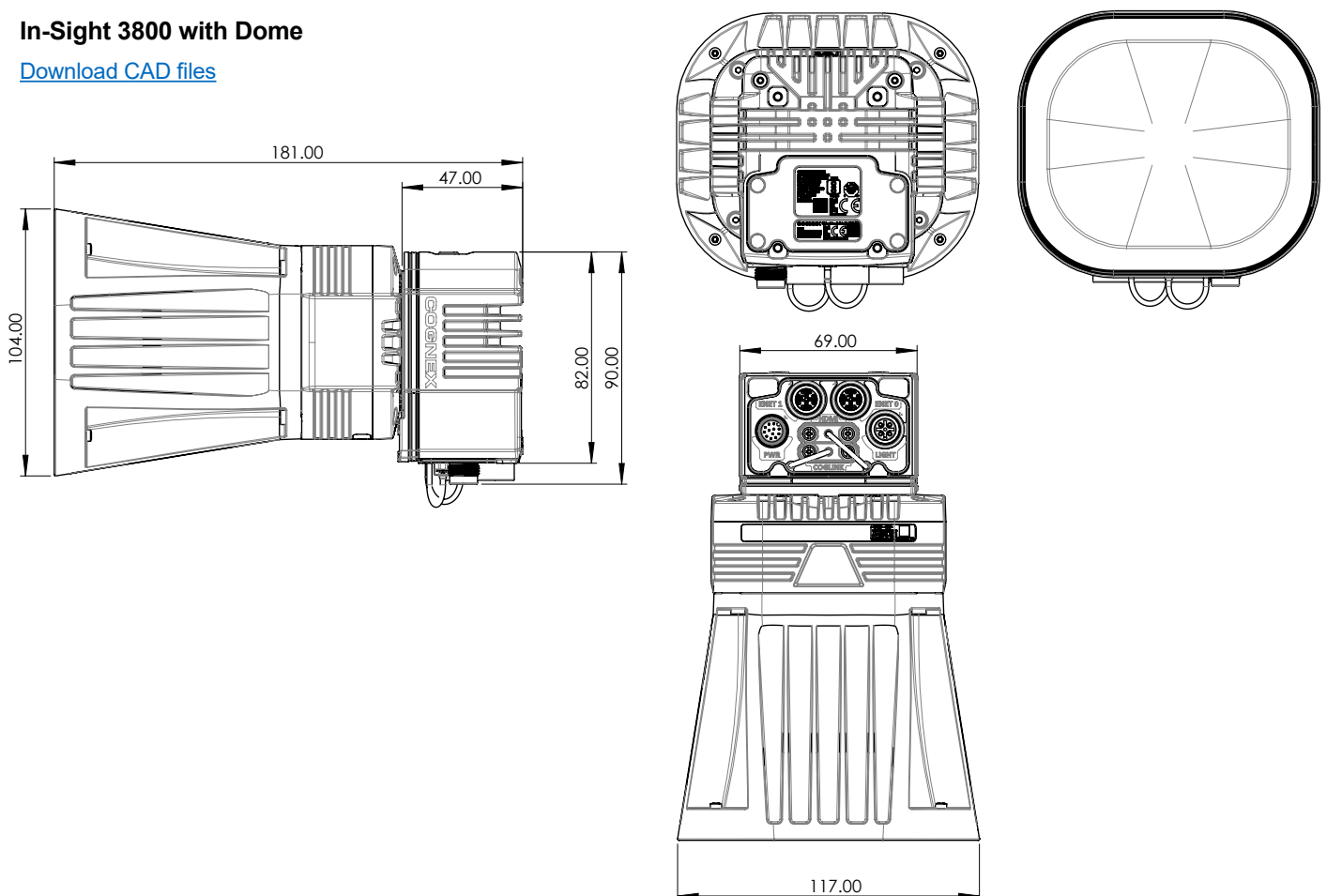### In-Sight 3800 base unit

Download CAD files

**In-Sight 3800 with Multi Torch**

Download CAD files

68.9 [2.71]

94.0 [3.70]

46.6 [1.83]

75.3 [2.97]

20.7 [0.82]

93.3 [3.67]

96.0 [3.78]

90.8 [3.57]

15.8 [0.62]

74.3 [2.92]

4 x M3 - 6H ⊽ 4.5 [0.18]

38.5 [1.52]

**In-Sight 3800 with Dome**

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181.00

47.00

104.00

82.00

90.00

69.00

117.00
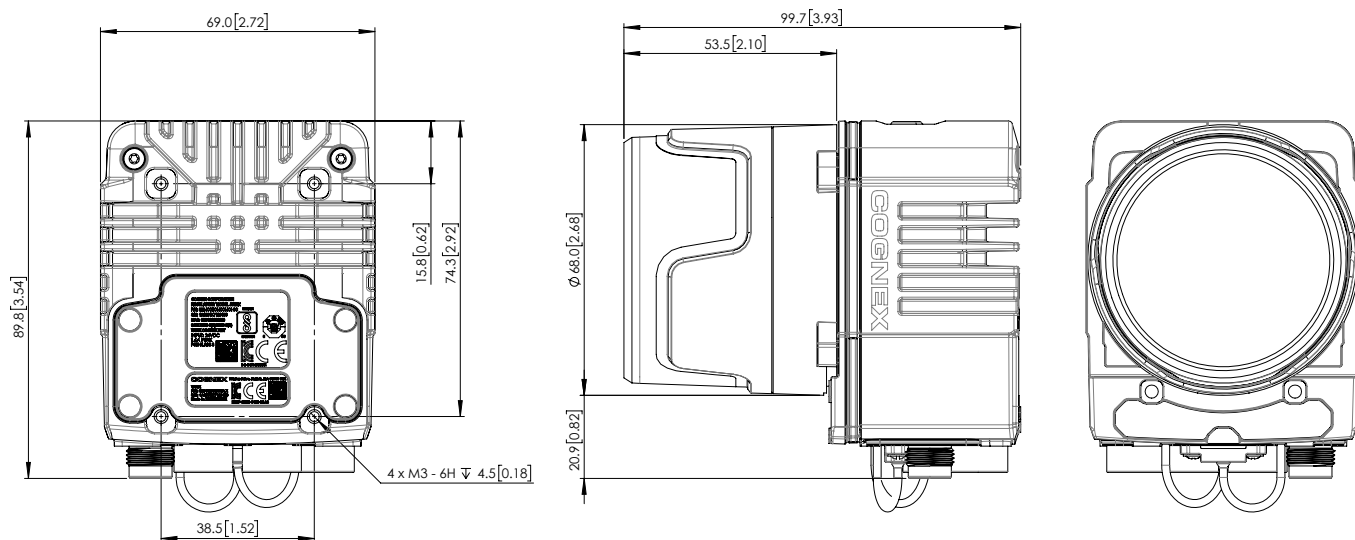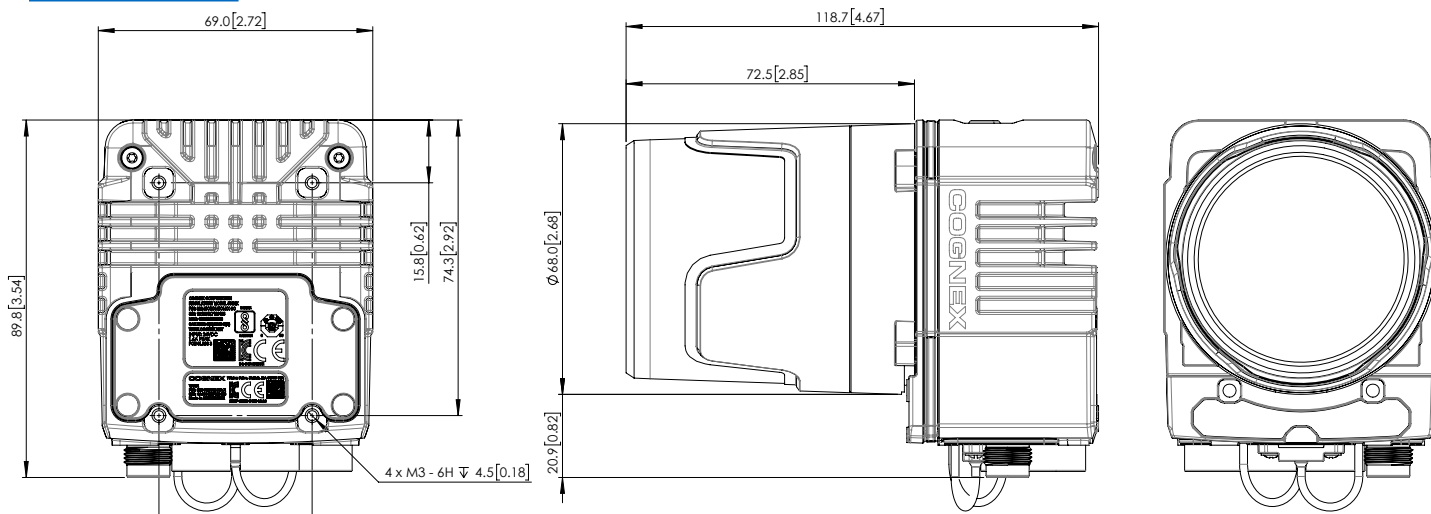
# In-Sight 3800 with C-mount

## 45 mm C-mount cover

[Download CAD files](#)



## 60 mm C-mount cover

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## 75 mm C-mount cover
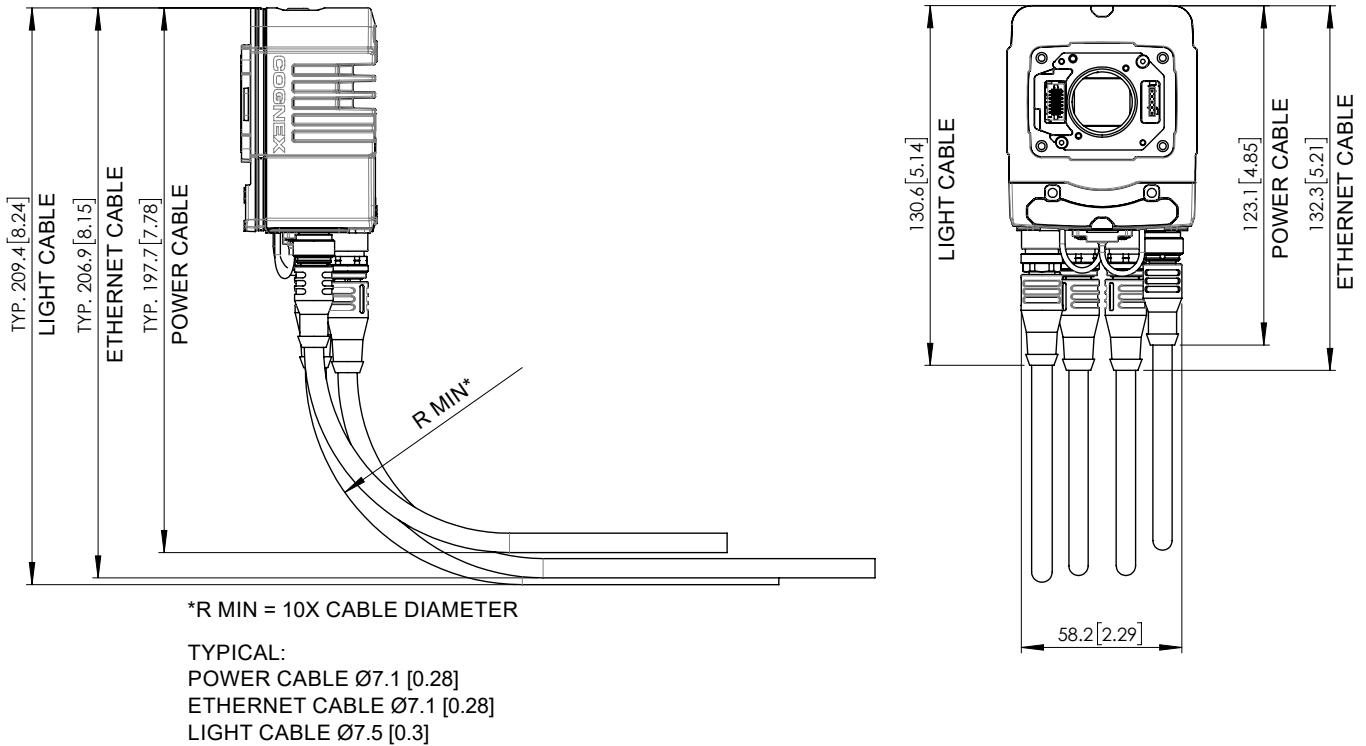
[Download CAD files](#)



69.0 [2.72]
89.8 [3.54]
15.8 [0.62]
74.3 [2.92]
4 x M3 - 6H ∇ 4.5 [0.18]

133.7 [5.26]
87.5 [3.44]
Ø68.0 [2.68]
20.9 [0.82]

## Cable bend radius



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]

*R MIN = 10X CABLE DIAMETER

TYPICAL:
POWER CABLE Ø7.1 [0.28]
ETHERNET CABLE Ø7.1 [0.28]
LIGHT CABLE Ø7.5 [0.3]

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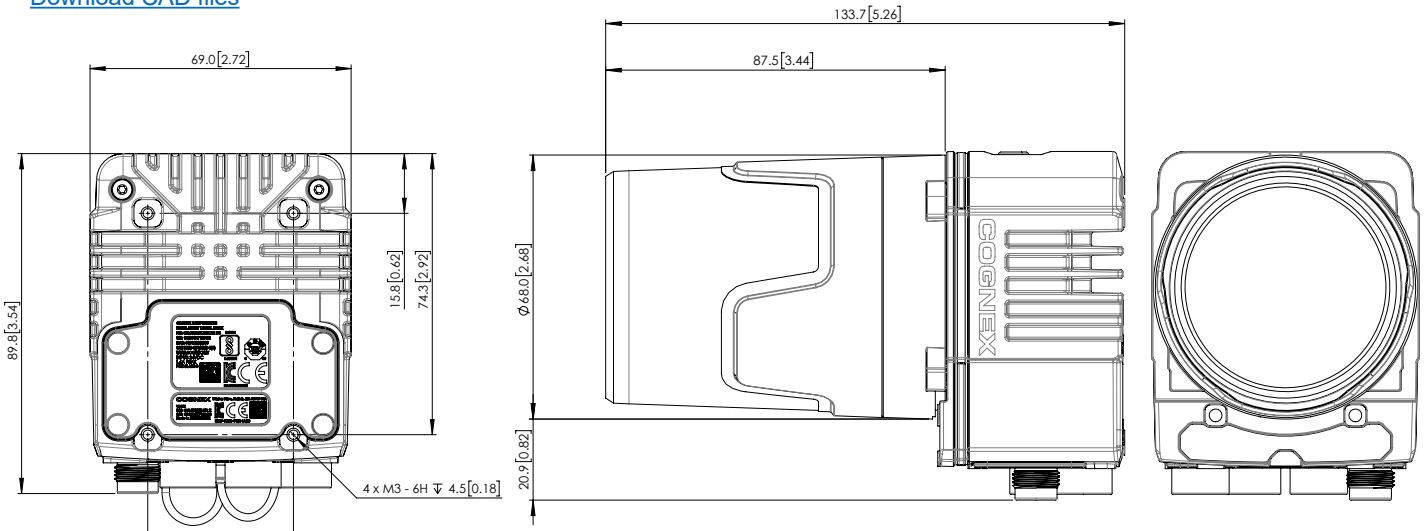
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