In-Sight® 3800 Series Quick Reference Guide



Precautions

To reduce the risk of injury or equipment damage, observe the following precautions when you install the Cognex product:

- The safety of any system incorporating this product is the responsibility of the assembler of the system.
- Do not install Cognex products where they are exposed to environmental hazards such as excessive heat, dust, moisture, humidity, impact, vibration, corrosive substances, flammable substances, or static electricity.
- Route cables and wires away from high-current wiring or high-voltage power sources to reduce the risk of damage or malfunction from the following causes: over-voltage, line noise, electrostatic discharge (ESD), power surges, or other irregularities in the power supply.
- Do not expose the image sensor to laser light. Image sensors can be damaged by direct, or reflected, laser light. If your application requires laser light that might strike the image sensor, use a lens filter at the corresponding laser wavelength. For suggestions, contact your local integrator or application engineer.
- This product does not contain user-serviceable parts. Do not make electrical or mechanical modifications to product components. Unauthorized modifications can void your warranty.
- Changes or modifications not expressly approved by the party responsible for regulatory compliance could void the user's authority to operate the equipment.
- Include service loops with cable connections.

- Ensure that the cable bend radius begins at least six inches from the connector. Cable shielding can be degraded or cables can be damaged or wear out faster if a service loop or bend radius is tighter than 10X the cable diameter
- This device should be used in accordance with the instructions in this manual.
- All specifications are for reference purposes only and can change without notice.

Symbols

The following symbols indicate safety precautions and supplemental information:



WARNING: This symbol indicates a hazard that could cause death, serious personal injury or electrical shock.



CAUTION: This symbol indicates a hazard that could result in property damage.



Note: This symbol indicates additional information about a subject.



Tip: This symbol indicates suggestions and shortcuts that might not otherwise be apparent.

Accessories

You can purchase the following components separately. For a list of options and accessories, contact your local Cognex sales representative.

Lenses

| Accessory | Product Number | Illustration |
|--|------------------|--------------|
| 16 mm High Speed Liquid Lens - Visible and Near-IR Light | CLN-C16F8FS-HSLL | |
| 24 mm High Speed Liquid Lens - Visible and Near-IR Light | CLN-C24F6FS-HSLL | |
| 16 mm Manual Focus lens for Multi Torch - Visible and Near IR Light | CLN-C16F8FS | |
| 24 mm Manual Focus lens for Multi Torch - Visible and Near-IR Light | CLN-C24F6FS | |

| Accessory | Product Number | Illustration |
|------------------------------|------------------|--------------|
| 8 mm Moritex HR series lens | LMC-ML-M0818HR | |
| 12 mm Moritex HR series lens | LMC-ML-M1218HR | |
| 16 mm Moritex HR series lens | LMC-ML-M1618HR | |
| 25 mm Moritex HR series lens | LMC-ML-M2518HR | |
| 35 mm Moritex HR series lens | LMC-ML-M3520HR | |
| 50 mm Moritex HR series lens | LMC-ML-M5025HR | |
| 6 mm Moritex UR series lens | LMC-ML-M0625UR | |
| 8 mm Moritex UR series lens | LMC-ML-M0822UR | |
| 12 mm Moritex UR series lens | LMC-ML-M1218UR | |
| 16 mm Moritex UR series lens | LMC-ML-M1616UR | |
| 25 mm Moritex UR series lens | LMC-ML-M2516UR | |
| 35 mm Moritex UR series lens | LMC-ML-M3520UR | |
| 50 mm Moritex UR series lens | LMC-ML-M5025UR | |
| 25 mm HSLL - high resolution | CLN-C25F65-HSLL- | |
| | HR | |
| 35 mm HSLL - high resolution | CLN-C35F06-HSLL- | |
| | HR | |

| Accessory | Product Number | Illustration |
|--------------------------------------|------------------|--------------|
| 16 mm HSLL - high resolution | CLN-C16F65-HSLL- | |
| | HR | |
| 6 mm Moritex SR series lens | LMC-ML-U0618SR | |
| 12 mm Moritex SR series lens | LMC-ML-U1217SR | |
| 16 mm Moritex SR series lens | LMC-ML-U1615SR | |
| 25 mm Moritex SR series lens | LMC-ML-U2515SR | |
| 35 mm Moritex SR series lens | LMC-ML-U3518SR | |
| 50 mm Moritex SR series lens | LMC-ML-U5022SR | |
| Blue bandpass filter for Multi Torch | 380-TORCH-BP470 | |
| Red bandpass filter for Multi Torch | 380-TORCH-BP635 | |

Lens Covers

| Accessory | Product Number | Illustration |
|---|-------------------|--------------|
| 45 mm Plastic Lens Cover | COV-380-CMNT-45 | |
| 60 mm Plastic Lens Cover | COV-380-CMNT-60 | |
| 75 mm Plastic Lens Cover | COV-380-CMNT-75 | |
| 30 mm Lens Cover Extender | COV-7000-CMNT-LGX | |
| Multi Torch front cover - Diffused | 380-TORCH-COVDIF | |
| Multi Torch front cover - Cross-Polarized | 380-TORCH-COVPOL | |

| Accessory | Product Number | Illustration |
|---|------------------|--------------|
| Multi Torch front cover - Clear | 380-TORCH-COVCLR | |
| Dome Attachment for 380 platform Multi Torch and DataMan HPIT | 380-TORCH-DOME | |

Integrated Lights

| Accessory | Product Number | Illustration |
|---|----------------------------|--------------|
| Multi Torch Accessory Kit for autofocus lenses (RGBW-IR Light w/ ToF and Laser Aimer) Includes: Multi Torch Illumination module, mount for illumination module (High Speed Liquid Lenses only), Diffused cover, Illumination PCB, 2 mm hex tool Accessory Model 50231 | 380- TORCH- MULTI-AF | |
| Multi Torch Accessory Kit for manual focus lenses (RGBW-IR w/ ToF and Laser Aimer) Includes: Multi Torch Illumination module, mount for illumination module (manual focus lenses only), Diffused cover, Illumination PCB, 2 mm hex tool Accessory Model 50231 | 380- TORCH- MULTI-MF | (3) |
| Red Torch-HR Accessory kit for high resolution IS3800 models Includes: Red Torch-HR illumination module, diffused cover, illumination cable, 2 mm hex tool | 380- TORCH- HR-RED | |

| Accessory | Product Number | Illustration |
|--|----------------------------|--------------|
| White Torch-HR Accessory kit for high resolution IS3800 models Includes: White Torch-HR illumination module, diffused cover, illumination cable, 2 mm hex tool | 380- TORCH- HR-WHITE | |

Cables

Note: Cables are sold separately.

| Accessory | Product Number | Illustration |
|---|---|--------------|
| External Light Cable, Yellow | IVSL-5PM12-J300 IVSL-5PM12-J500 | |
| Note: This cable supports intensity control. | IVSL-5PM12-J1000 IVSL-5PM12-J2000 | |
| External Light Cable, Black | IVSL-M12-NSB-300 IVSL-M12-NSB-1000 | |
| Note: This cable supports intensity control and is used with standard SVL lights. | IVSL-M12-NSB-2000 | 0 |
| External Light Cable, Grey | CCB-M12LTF-xx (xx specifies length: 0.5m, | |
| Note: This cable does not support intensity control. | 1m, 2m, 5m) | |
| Black M12 to M12 cable with a small in-line | ICQ-CB-0.5-IFL-M12 | 1 |
| capacitor (2 m) | | |
| Ethernet Cable, X-coded M12-8 to RJ-45 | CCB-84901-2001-xx (straight, xx specifies | |
| | length: 2m, 5m, 10m, 15m, 30m) | |
| Ethernet Cable, X-coded M12-8 to RJ-45 | CCB-84901-2RBT-xx (straight, xx specifies | |
| | length: 2m, 5m, 10m) | |

| Accessory | Product Number | Illustration |
|---------------------------------------|---------------------------------------|--------------|
| Breakout Cable, M12-12 to Flying Lead | CCB-PWRIO- xx (straight, xx specifies | |
| | length: 5m, 10m, 15m) | |

Mounting Brackets

| Accessory | Product Number | Illustration |
|--|-----------------------|--------------|
| U-shaped mounting bracket for IS3800 with Torch-HR, M6 mounting holes | DMBK-PVT-HPIT- 380 | |
| Mounting bracket with M3, M4 and 1/4 - 20 mounting holes | BKT-INS-01 | |
| Converter mounting bracket with M3 socket head screws/wrench | ISB-7000-7K | |
| Converter mounting bracket with Phillips flat head M3 screws and M4 screws | ISB-7000-5K | |

Setting Up Your In-Sight Vision System

Read this section to learn how the vision system connects to its standard components and accessories.

Note:

· Cables are sold separately.

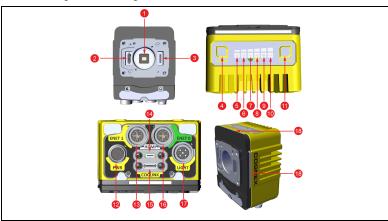


 If a standard component is missing or damaged, immediately contact your Cognex Authorized Service Provider (ASP) or Cognex Technical Support.

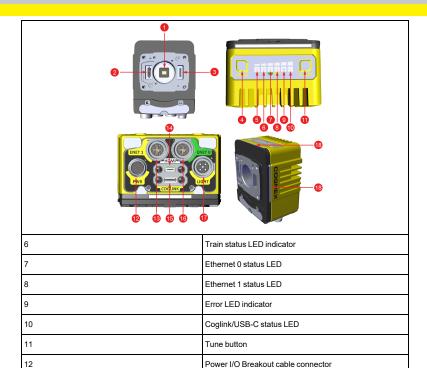


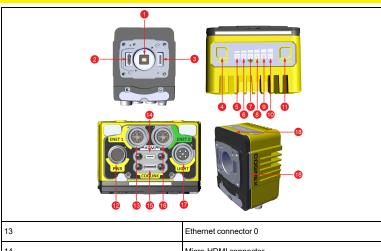
CAUTION: All cable connectors are keyed to fit the connectors on the vision system. Do not force the connections or damage may occur.

Vision System Layout



| Number | Description |
|--------|-----------------------------------|
| 1 | Imager/C-mount flange |
| 2 | Integrated Illumination connector |
| 3 | Lens connector |
| 4 | Trigger button |
| 5 | Power LED indicator |





| 13 | Ethernet connector 0 |
|----|-------------------------|
| 14 | Micro-HDMI connector |
| 15 | Coglink/USB-C connector |
| 16 | Ethernet connector 1 |
| 17 | Light connector |
| 18 | Indicator lights |

Dimensions

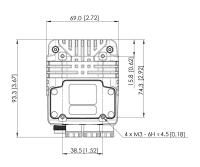
The following sections list dimensions of the vision system.

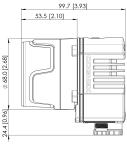
Note:

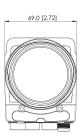


- Dimensions are in millimeters and are for reference purposes only.
- All specifications are for reference purposes only and can change without notice.

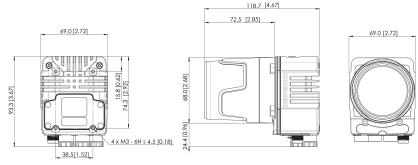
In-Sight 3800 with 45 mm Lens Cover



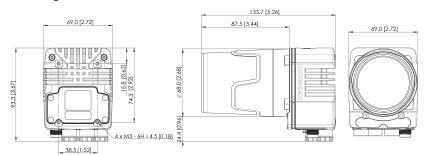




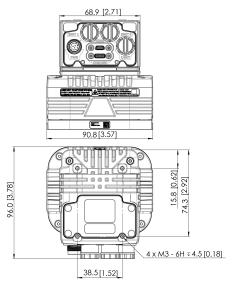
In-Sight 3800 with 60 mm Lens Cover

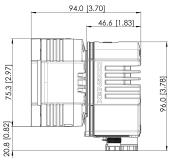


In-Sight 3800 with 75 mm Lens Cover



In-Sight 3800 Multi-Torch with Standard Front Cover

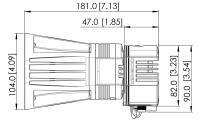




In-Sight 3800 Multi-Torch with Dome Attachment

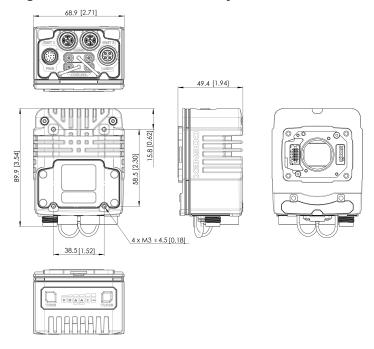








In-Sight 3800 - Smart Camera Only



Field of View and Distance

This section provides the Field of View (FoV) values for the various In-Sight 3800 image sensors.

In-Sight 3800 FoV values with 1.6 MP Sensor (IS3801) 16 mm Focal Length:

| Working Distance | Horizontal Values | Vertical Values | Diagonal Values |
|--------------------|-------------------|------------------|------------------|
| 150 mm [5.91 in] | 47 mm [1.86 in] | 35 mm [1.39 in] | 59 mm [2.33 in] |
| 200 mm [7.87 in] | 63 mm [2.48 in] | 47 mm [1.86 in] | 79 mm [3.1 in] |
| 500 mm [19.69 in] | 158 mm [6.2 in] | 118 mm [4.65 in] | 197 mm [7.75 in] |
| 1000 mm [39.37 in] | 315 mm [12.4 in] | 236 mm [9.3 in] | 394 mm [15.5 in] |
| 2000 mm [78.74 in] | 630 mm [24.8 in] | 473 mm [18.6 in] | 788 mm [31 in] |

24 mm Focal Length:

| Working Distance | Horizontal Values | Vertical Values | Diagonal Values |
|---------------------|-------------------|------------------|--------------------|
| 200 mm [7.87 in] | 42 mm [1.65 in] | 32 mm [1.24 in] | 53 mm [2.07 in] |
| 500 mm [19.69 in] | 105 mm [4.13 in] | 79 mm [3.1 in] | 131 mm [5.17 in] |
| 1000 mm [39.37 in] | 210 mm [8.27 in] | 158 mm [6.2 in] | 263 mm [10.33 in] |
| 2000 mm [78.74 in] | 420 mm [16.54 in] | 315 mm [12.4 in] | 525 mm [20.67 in] |
| 4000 mm [157.48 in] | 840 mm [33.07 in] | 630 mm [24.8 in] | 1050 mm [41.34 in] |

In-Sight 3800 FoV values with 3 MP Sensor (IS3803) 16 mm Focal Length:

| Working Distance | Horizontal Values | Vertical Values | Diagonal Values |
|--------------------|-------------------|-------------------|--------------------|
| 150 mm [5.90 in] | 67 mm [2.64 in] | 50 mm [1.97 in] | 83 mm [3.27 in] |
| 200 mm [7.87 in] | 89 mm [3.50 in] | 67 mm [2.64 in] | 111 mm [4.37 in] |
| 500 mm [19.69 in] | 223 mm [8.78 in] | 167 mm [6.57 in] | 278 mm [10.94 in] |
| 1000 mm [39.37 in] | 445 mm [17.52 in] | 333 mm [13.11 in] | 579 mm [22.80 in] |
| 2000 mm [78.74 in] | 890 mm [35.04 in] | 666 mm [26.22 in] | 1112 mm [43.78 in] |

24 mm Focal Length:

| Working Distance | Horizontal Values | Vertical Values | Diagonal Values |
|---------------------|--------------------|-------------------|--------------------|
| 200 mm [7.87 in] | 59 mm [2.32 in] | 44 mm [1.73 in] | 74 mm [2.91 in] |
| 500 mm [19.69 in] | 148 mm [5.83 in] | 111 mm [4.37 in] | 185 mm [7.28 in] |
| 1000 mm [39.37 in] | 297 mm [11.69 in] | 222 mm [8.74 in] | 371 mm [14.60 in] |
| 2000 mm [78.74 in] | 593 mm [23.35 in] | 444 mm [17.48 in] | 741 mm [29.17 in] |
| 4000 mm [157.48 in] | 1187 mm [46.73 in] | 888 mm [34.96 in] | 1482 mm [58.35 in] |

In-Sight 3800 FoV values with 5 MP Sensor (IS3805) 16 mm Focal Length:

| Working Distance | Horizontal Values | Vertical Values | Diagonal Values |
|--------------------|--------------------|-------------------|--------------------|
| 150 mm [5.90 in] | 79 mm [3.11 in] | 66 mm [2.60 in] | 103 mm [4.06 in] |
| 200 mm [7.87 in] | 106 mm [4.17 in] | 88 mm [3.46 in] | 138 mm [5.43 in] |
| 500 mm [19.69 in] | 264 mm [10.39 in] | 221 mm [8.70 in] | 344 mm [13.54 in] |
| 1000 mm [39.37 in] | 528 mm [20.79 in] | 442 mm [17.40 in] | 688 mm [27.09 in] |
| 2000 mm [78.74 in] | 1056 mm [41.57 in] | 883 mm [34.76 in] | 1376 mm [54.17 in] |

24 mm Focal Length:

| Working Distance | Horizontal Values | Vertical Values | Diagonal Values |
|---------------------|--------------------|--------------------|--------------------|
| 200 mm [7.87 in] | 70 mm [2.76 in] | 59 mm [2.32 in] | 92 mm [3.62 in] |
| 500 mm [19.69 in] | 176 mm [6.93 in] | 147 mm [5.79 in] | 229 mm [9.02 in] |
| 1000 mm [39.37 in] | 352 mm [13.86 in] | 294 mm [11.57 in] | 459 mm [18.07 in] |
| 2000 mm [78.74 in] | 704 mm [27.72 in] | 589 mm [23.19 in] | 918 mm [36.14 in] |
| 4000 mm [157.48 in] | 1408 mm [55.43 in] | 1178 mm [46.38 in] | 1835 mm [72.24 in] |

Mounting the Vision System

The vision system provides mounting holes for attachment to a mounting surface.

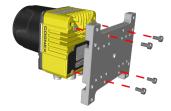
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CAUTION: The vision system has to be grounded, either by mounting the vision system to a fixture that is electrically grounded or by attaching a wire from the mounting fixture of the vision system to frame ground or Earth ground. If a ground wire is used, it has to be attached to one of the mounting points on the bottom plate of the vision system and not to the mounting points on the front of the vision system.

Mounting Bracket (BKT-INS-01)

- Align the mounting bracket with the mounting holes on the vision system. If using the M3 mounting holes, you can attach the mounting bracket in either orientation.
- 2. Insert the M3 screws into the mounting holes and tighten. The maximum torque is 0.90 Nm (8 in-lb).





Converter Mounting Bracket (ISB-7000-7K)

- Align the converter mounting bracket with the mounting holes on the vision system.
- 2. Insert the M3 screws into the mounting holes and use a 2.5 mm hex wrench to tighten. The maximum torque is 0.90 Nm (8 in-lb).



Converter Mounting Bracket (ISB-7000-5K)

- Align the converter mounting bracket with the mounting holes on the vision system.
- Insert the Phillips flat head screws into the mounting holes and tighten. The maximum torque is 0.56 Nm (5 in-lb).



Connection Options

This section summarizes connection options.

Connecting the Ethernet Cable



CAUTION: The Ethernet cable shield has to be grounded at the far end. Whatever this cable is plugged into (typically a switch or router) should have a grounded Ethernet connector. A digital voltmeter has to be used to validate the grounding. If the far end device is not grounded, a ground wire should be added in compliance with local electrical codes.

- Connect the M12 connector of the Ethernet cable to the green ENET0 connector of the vision system.
- Connect the RJ-45 connector of the Ethernet cable to a switch, router, or PC.

Connecting the Power and I/O Breakout Cable



CAUTION: To reduce emissions, connect the far end of the Breakout cable shield to frame ground.

Note:

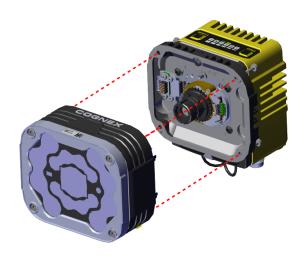


- Perform wiring or adjustments to I/O devices when the vision system is not receiving power.
- You can clip unused wires short or use a tie made of non-conductive material to tie them back. Keep bare wires separated from the +24 V DC wire.
- Verify that the 24 V DC power supply is unplugged and not receiving power.
- Attach the +24 V DC connector of the Power and I/O Breakout cable and Ground wires to the corresponding terminals on the power supply. For more information, see *Specifications* on page 39.
- Attach the M12 connector of the Power and I/O Breakout Cable to the 24 V DC connector of the vision system.
- 4. Restore power to the 24 V DC power supply and turn it on if necessary.

Installing and Changing Lenses Installing Lenses with Multi Torch

This procedure is valid for both the High Speed Liquid Lens and the Manual Lens installations.

1. Remove the adapter from the sensor.



2. Unscrew the two captive screws holding the lens.



3. Remove the lens from the sensor.

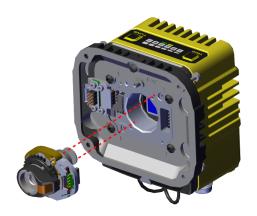


Note: When swapping the lens out, make sure not to pull on the lens itself but on the housing of the lens.





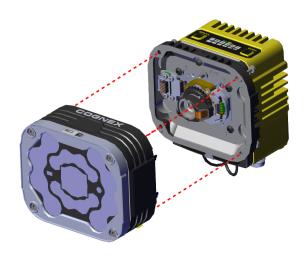
4. Insert the new lens and tighten the two captive screws.



5. Tighten one of the M2 x 8 mm screws halfway, then tighten the other M2 x 8 mm screw halfway. Incrementally tighten each screw to 0.34 Nm using a torque wrench.

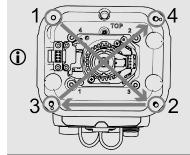


6. Replace the adapter on the sensor.



Note:

Observing the tightening sequence below, tighten all four screws to 0.5 Nm using a torque wrench.



Specifications

The following sections list general specifications for the vision system.

In-Sight 3800 Series Vision System

| Specification | In-Sight 3800 |
|-----------------------|---|
| 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. |
| Memory | 4 GB |
| Image Processing | 512 MB SDRAM |
| Memory | |
| Job / Program Storage | 7.2 GB non-volatile flash memory; unlimited storage via remote network device. |
| Network Communication | 2 Ethernet ports, 10/100/1000 BaseT with auto MDIX. IEEE 802.3 TCP/IP Protocol. Supports DHCP, static, and link-local IP address configuration. One port supports TSN networks. |
| 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 and extruded aluminum housing. |

| Specification | In-Sight 3800 | | | | | |
|------------------------------|--|--|--|--|--|--|
| Finish | Painted. | | | | | |
| Mounting | Four M3 threaded mounting holes. See <i>Mounting Brackets</i> on page 13 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.). | | | | | |
| Case Temperature | 0° C to 40° C (32° F to 122° 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 (Shipping and Storage) | 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 | IEC 60068-2-6: vibration test in each of the three main axis for 2 hours at 10 Gs (10 | | | | | |
| Storage) | 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 | | | | | |

In-Sight 3800 Series Vision System Image Sensor

| Specification | IS3801M | IS3801C | IS3803M | IS3803C | IS3805M | IS3805C |
|---------------------|-------------------------|--------------|-------------------------|---------|---------------------------|---------|
| Bit Depth | 8-bit | 24-bit color | 8-bit | 24-bit | 8-bit | 24-bit |
| | monochrome | | monochrome | color | monochrome | color |
| Frames Per Second | 125 FPS | 52 FPS | 47 FPS | 30 FPS | 32 FPS | 21 FPS |
| (Maximum, Full | | | | | | |
| Resolution) | | | | | | |
| Sensor Type | 1/2.3" CMOS, g | global | 1/1.8" CMOS, global | | 2/3" CMOS, global shutter | |
| | shutter | | shutter | | | |
| Image Sensor | 6.3 mm diagonal, 3.45 × | | 8.9 mm diagonal, 3.45 × | | 11.1 mm diagonal, 3.45 × | |
| Properties | 3.45 µm square pixels | | 3.45 µm square pixels | | 3.45 µm square pixels | |
| Maximum Image | 1440 × 1080 | | 2048 × 1536 | | 2448 × 2048 | |
| Resolution (pixels) | | | | | | |
| Electronic Shutter | 19.5 µs to 200,000 µs | | 25.1 µs to 200,000 µs | | 19.1 µs to 200,000 µs | |
| Speed | | | | | | |
| Specification | IS3808M | IS3808C | IS3812M | IS3812C | IS3816M | IS3816C |

| Specification | IS3808M | IS3808C | IS3812M | IS3812C | IS3816M | IS3816C |
|---------------|------------|---------|------------|--------------|------------|---------|
| Bit Depth | 8-bit | 24-bit | 8-bit | 24-bit color | 8-bit | 24-bit |
| | monochrome | color | monochrome | | monochrome | color |

| Specification | IS3808M | IS3808C | IS3812M | IS3812C | IS3816M | IS3816C |
|---------------------|---------------------------|---------|--------------------------|---------|---------------------------|---------|
| Frames Per Second | 24 | 12 | 22 | 11 | 18 | 8 |
| (Maximum, Full | | | | | | |
| Resolution) | | | | | | |
| Sensor Type | 2/3" CMOS, global shutter | | 1/1.1" CMOS, global | | 1.1" CMOS, global shutter | |
| | | | shutter | | | |
| Image Sensor | 8.9 mm diagonal, 2.74 × | | 14.0 mm diagonal, 2.74 × | | 16.8 mm diagonal, 2.74 x | |
| Properties | 2.74 µm square pixels | | 2.74 µm square pixels | | 2.74 µm square pixels | |
| Maximum Image | 2840 × 2840 | | 4096 × 3000 | | 5320 × 3032 | |
| Resolution (pixels) | | | | | | |
| Electronic Shutter | 22 µs to 200,000 µs | | 22 µs to 200,000 µs | | 29.1 µs to 200,000 µs | |
| Speed | | | | | | |

LED Wavelengths

| Model | LED | Wavelength |
|--------------------------------|------------|--|
| In-Sight 3800 with Multi-Torch | Multicolor | • 453 nm (blue) |
| Illumination | | • 525 nm (green) |
| | | • 625 nm (red) |
| | | Color temperature: 6740 Kelvin (white) Chromaticity coordinates acc. to CIE 1931 |
| | | • Cx 0.31 (typ.) |
| | | • Cy 0.32 (typ.) |
| | | IR Wavelength: 850 nm |
| | | Note: For color vision systems, select the White option. |

Regulations and Conformity

Note: For the most current CE and UKCA declarations and regulatory Conformity information, see the Cognex support site: cognex.com/support.

In-Sight 3800 vision systems have Regulatory Model number 50103 and meet or exceed the requirements of all applicable standards organizations for safe operation. However, as with any electrical equipment, the best way to ensure safe operation is to operate them according to the agency guidelines that follow. Please read these guidelines carefully before using your device.

| | Safety and Regulatory | | | | | |
|--------------|--|--|--|--|--|--|
| Manufacturer | Cognex Corporation Ong Vision Drive Natick, MA 01760 USA | | | | | |
| CE | In-Sight 3800 1.6 MP, 3 MP, 5 MP: Regulatory Model 50103 This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take immediate measures. This equipment complies with the essential requirements of the EU Directive 2014/30/EU. Declarations are available from your local representative. | | | | | |
| EU RoHS | Compliant to the most recent applicable directive. | | | | | |
| FCC | FCC Part 15, Class A This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. | | | | | |

| Safety and Regulatory | | | | | | |
|-----------------------|---|--|--|--|--|--|
| Korea | This device is certified for office use only and if used at home, there can be frequency interference problems. A급 기기(업무용 방송통신기자재): 이 기기는 업무용(A급) 전자파적합기기로서 판 매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다. In-Sight 3800 1.6 MP, 3 MP, 5 MP: Regulatory Model 50103 | | | | | |
| TÜV | In-Sight 3800 1.6 MP, 3 MP, 5 MP: Regulatory Model 50103 | | | | | |
| | NRTL: TÜV SÜD SCC/NRTL OSHA Scheme for UL/CAN 61010-1. | | | | | |
| | CB report available upon request. TÜV SÜD, IEC/EN 61010-1. | | | | | |
| UK | Regulatory Model 50103 This is a class A product. In a domestic environment, this product can cause radio interference, in which case the user is required to take adequate measures. This equipment complies with the essential requirements of the Electromagnetic Compatibility Regulations 2016. Declarations are available from your local representative. | | | | | |

中国大陆RoHS (Information for China RoHS Compliance)



| | Hazardous Substances 有害物质 | | | | | | |
|------------------------------|--|---|---|---|---|--|--|
| Part Name 部件名称 | 铅 (Hg) (Cd) Chromium biphenyls (PBB) diphenyl eth (PBDE) | | | | | Polybrominated diphenyl ethers (PBDE) 多溴二苯醚 | |
| Regulatory Model 50103 | х | 0 | 0 | 0 | 0 | 0 | |

This table is prepared in accordance with the provisions of SJ/T 11364. 这个标签是根据SJ/T 11364的规定准备的。

O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB / T26572 - 2011.

表示本部件所有均质材料中含有的有害物质低于GB/T26572-2011的限量要求。

X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB / T26572 - 2011.

表示用于本部件的至少一种均质材料中所含的危害物质超过GB/T26572-2011的限制要求。

For European Community Users

Cognex complies with Directive 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE).

This product has required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment, if not properly disposed.

In order to avoid the dissemination of those substances in our environment and to diminish the pressure on the natural resources, we encourage you to use the appropriate take-back systems for product disposal. Those systems will reuse or recycle most of the materials of the product you are disposing in a sound way.

The crossed out wheeled bin symbol informs you that the product should not be disposed of along with municipal waste and invites you to use the appropriate separate take-back systems for product disposal.

If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You may also contact your supplier for more information on the environmental performance of this product.