







# IN-SIGHT HARDWARE

## IN-SIGHT 5000, 5100, 5400, 5400S, 5400C, 5401, AND 5403

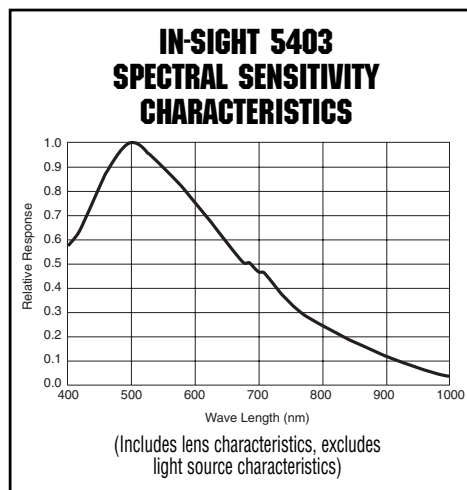
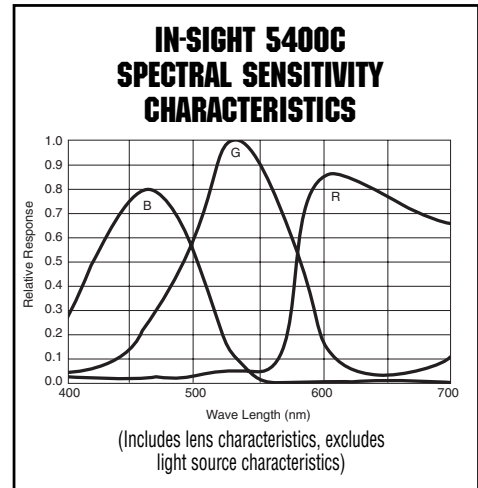
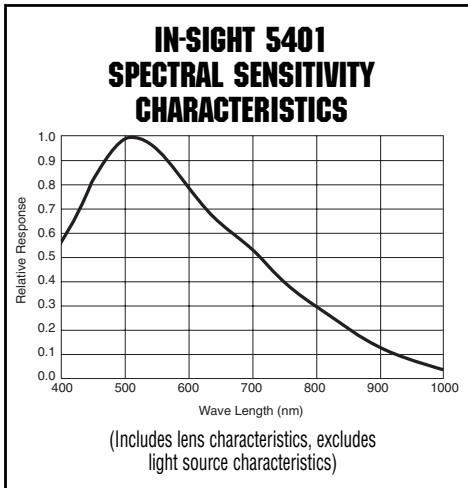
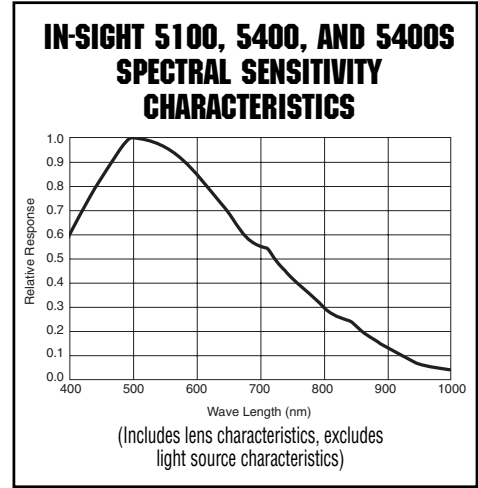
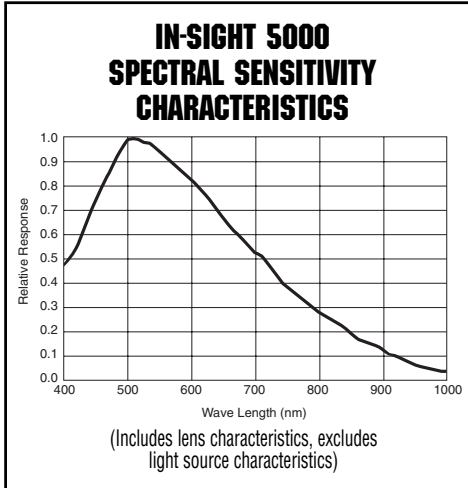
**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).

| I/O (cont.)                                |  |
|--|--|
| High-speed output voltage                  | 28V maximum through external load  |
| High-speed output current                  | 200mA maximum sink current   |
|  | OFF state leakage current 200µA maximum  |
|  | External load resistance 120 to 10K Ohms   |
|  | Each line rated at a maximum 200mA, protected against over-current, short circuit, and transients from switching inductive loads. High current inductive loads require external protection diode.  |
| Status LEDs                                | Power, Network Status, Network Traffic, 2 user configurable  |
| Communications                             |  |
| Network                                    | 1 Ethernet port, 10/100 BaseT, TCP/IP protocol. Supports DHCP (factory default) or static IP address   |
| Serial                                     | 1 RS-232C port (1200 to 115,200 baud rates. 1200 and 2400 baud is not supported by the Model 1450 I/O Expansion Module.)   |
| Power                                      |  |
| Power consumption                          | <i>5000, 5100, 5400, 5400S, 5400C &amp; 5401</i>   |
|  | <i>5403</i>  |
|  | 24VDC ± 10%, 350mA   |
|  | 24VDC ± 10%, 500mA   |
| Mechanical                                 |  |
| Material & finish                          | <i>All models except 5400S:</i> Die-cast aluminum housing, painted<br><i>5400S:</i> ASTM 316L stainless steel electropolished-passivated   |
| Mounting                                   | Eight M4 threaded mounting holes (four front and four back)  |
| Dimensions                                 | <i>All models except 5400S:</i><br>84mm (3.34in) x 124.7mm (4.91in) x 61.6mm (2.43in) with lens cover installed<br>41mm (1.62in) x 124.7mm (4.91in) x 61.6mm (2.43in) without lens cover installed |
|  | <i>5400S:</i> 91.44mm (3.60in) x 124.21mm (4.89in) x 61.47mm (2.42in) with lens cover installed  |
| Weight                                     | <i>All models except 5400S:</i> 297.6g (10.5oz) lens cover installed, w/o lens<br><i>5400S:</i> 909.45g (2lb .08oz) lens cover installed, w/o lens   |
| Environmental                              |  |
| Operating temperature                      | 0°C to 45°C (32°F to 113°F)  |
| Operating humidity                         | 95%, non-condensing  |
| Storage temperature                        | -30°C to 80°C (-22°F to 176°F)   |
| Storage humidity                           | 95%, non-condensing  |
| Protection (With lens enclosure installed) | 5400S model is NEMA 6P/IP68 rated; all other models are NEMA 6/IP67 rated  |
| Shock                                      | 80 Gs (800 M/S <sup>2</sup> at 11 ms) per IEC 68-2-27 EA   |
| Vibration                                  | 10 Gs (10-to 500 Hz at 100 M/S <sup>2</sup> / 15mm for two hours in each axis) per IEC 68-2-6 FC   |
| Certifications                             |  |
| Approvals                                  | CE, CUL, FCC   |

# IN-SIGHT HARDWARE

## IN-SIGHT 5000, 5100, 5400, 5400S, 5400C, 5401, AND 5403

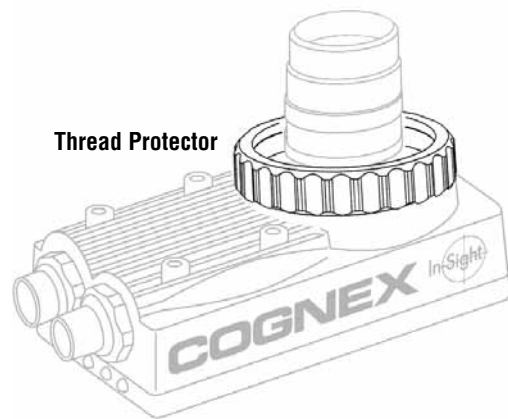
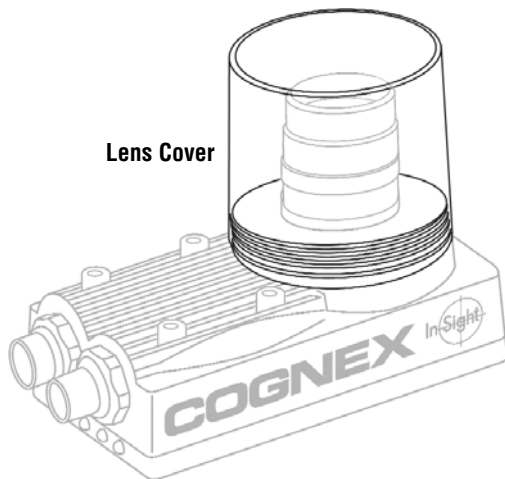
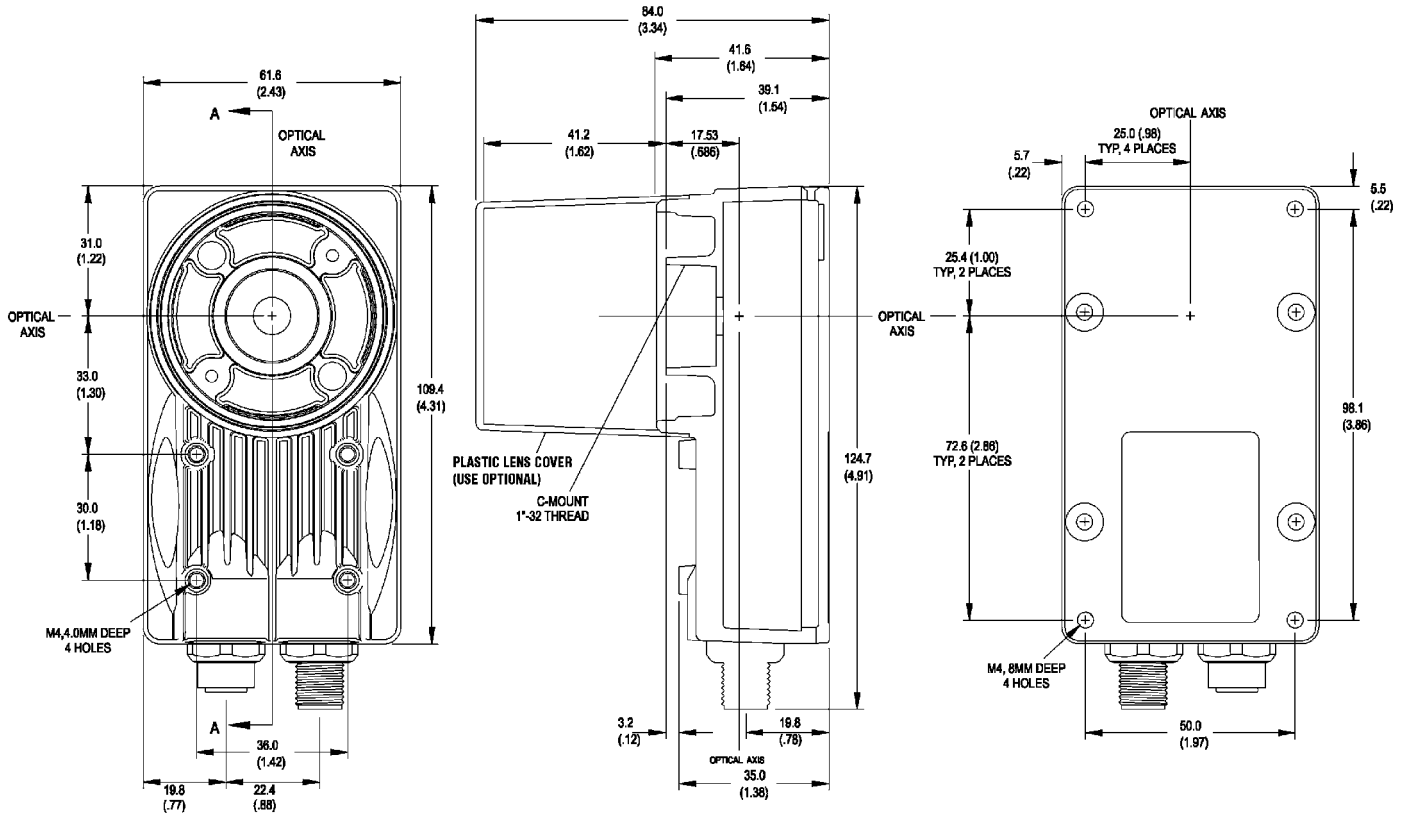
**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).



# IN-SIGHT HARDWARE

## IN-SIGHT 5000, 5100, 5400, 5400C, 5401, AND 5403

**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).

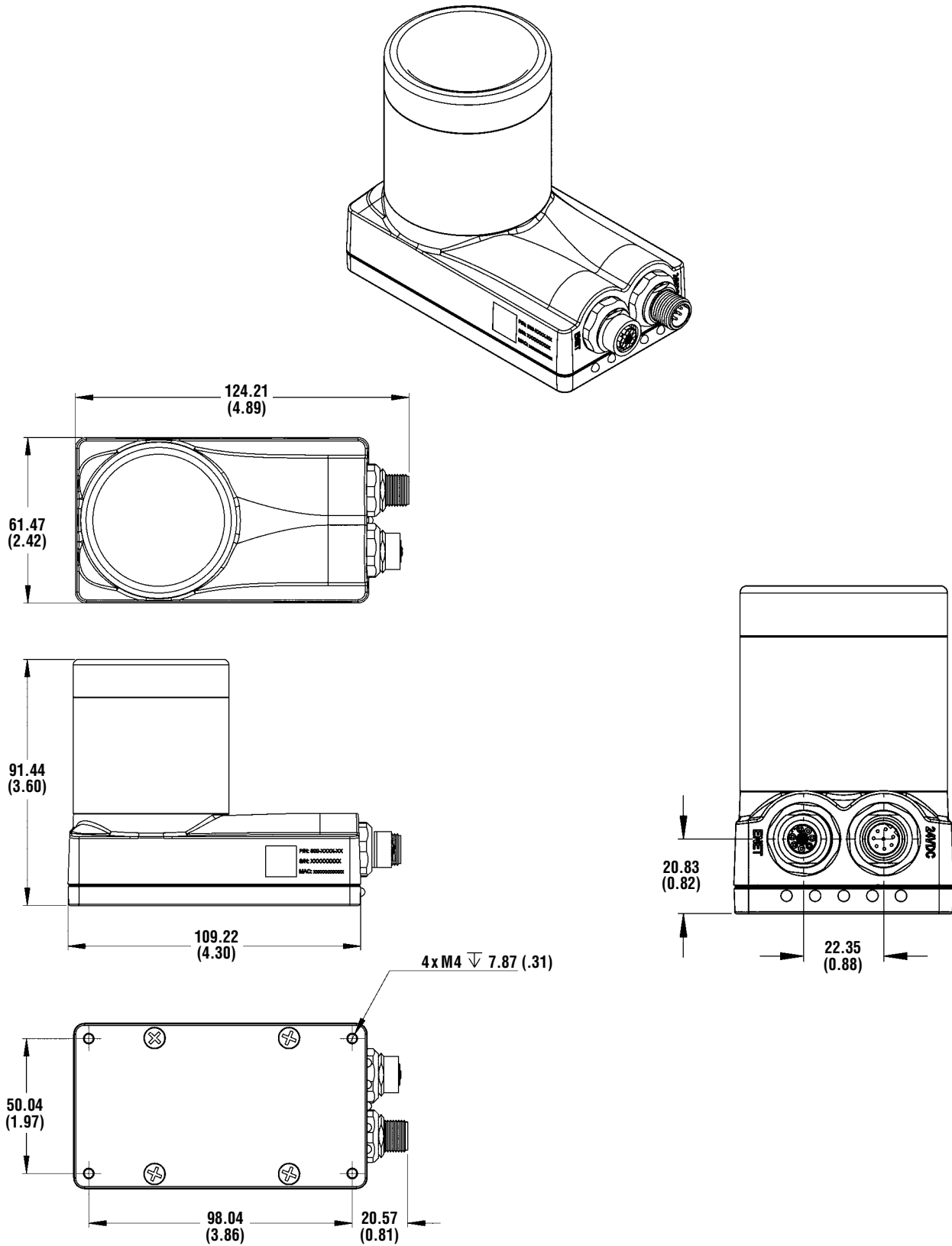


The lens cover included with In-Sight 5000 Series vision sensors provides wash-down and dust protection. A thread protector, also included, protects the threads when the lens cover is not used.

# IN-SIGHT HARDWARE

## IN-SIGHT 5400S

**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).





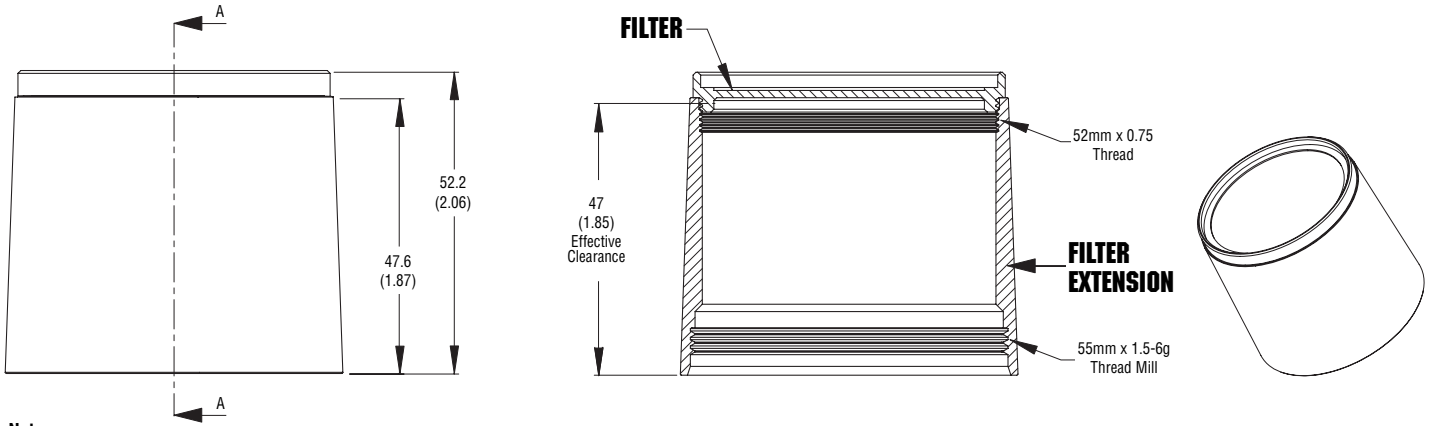


# IN-SIGHT HARDWARE

## METAL LENS COVER (OPTIONAL FOR ALL IN-SIGHT 5000 SERIES VISION SENSORS EXCEPT THE 5400S)

**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).

LNS-CVR-R-00 (Red)  
LNS-CVR-UV-00 (UV)



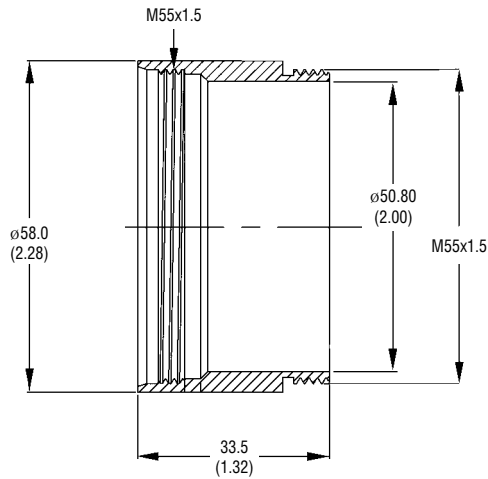
**Notes:**

Any standard 52mm x .75 mm filter can be used with the extension.

The maximum distance from the top of the In-Sight 5XXX C-mount to the inside surface of the filter glass is typically 41.5mm (1.63).

## METAL EXTENSION RING (OPTIONAL FOR ALL IN-SIGHT 5000 SERIES VISION SENSORS EXCEPT THE 5400S)

LNS-CVR-EXT-01

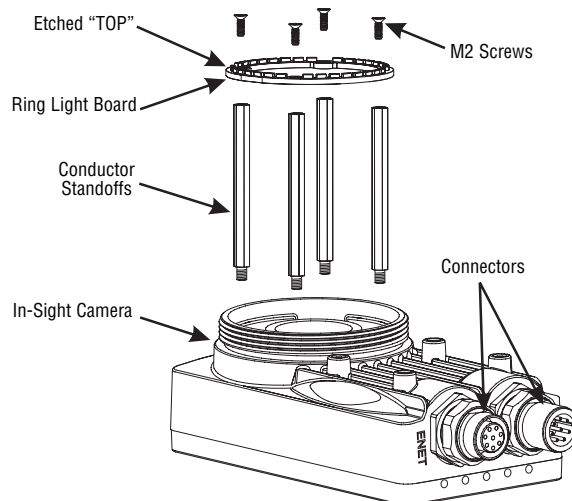


**Note:**

Material: Black anodized aluminum

## DIFFUSE RING LIGHT (DRL) (OPTIONAL FOR IN-SIGHT 5110, 5410, AND 5411 ID READERS)

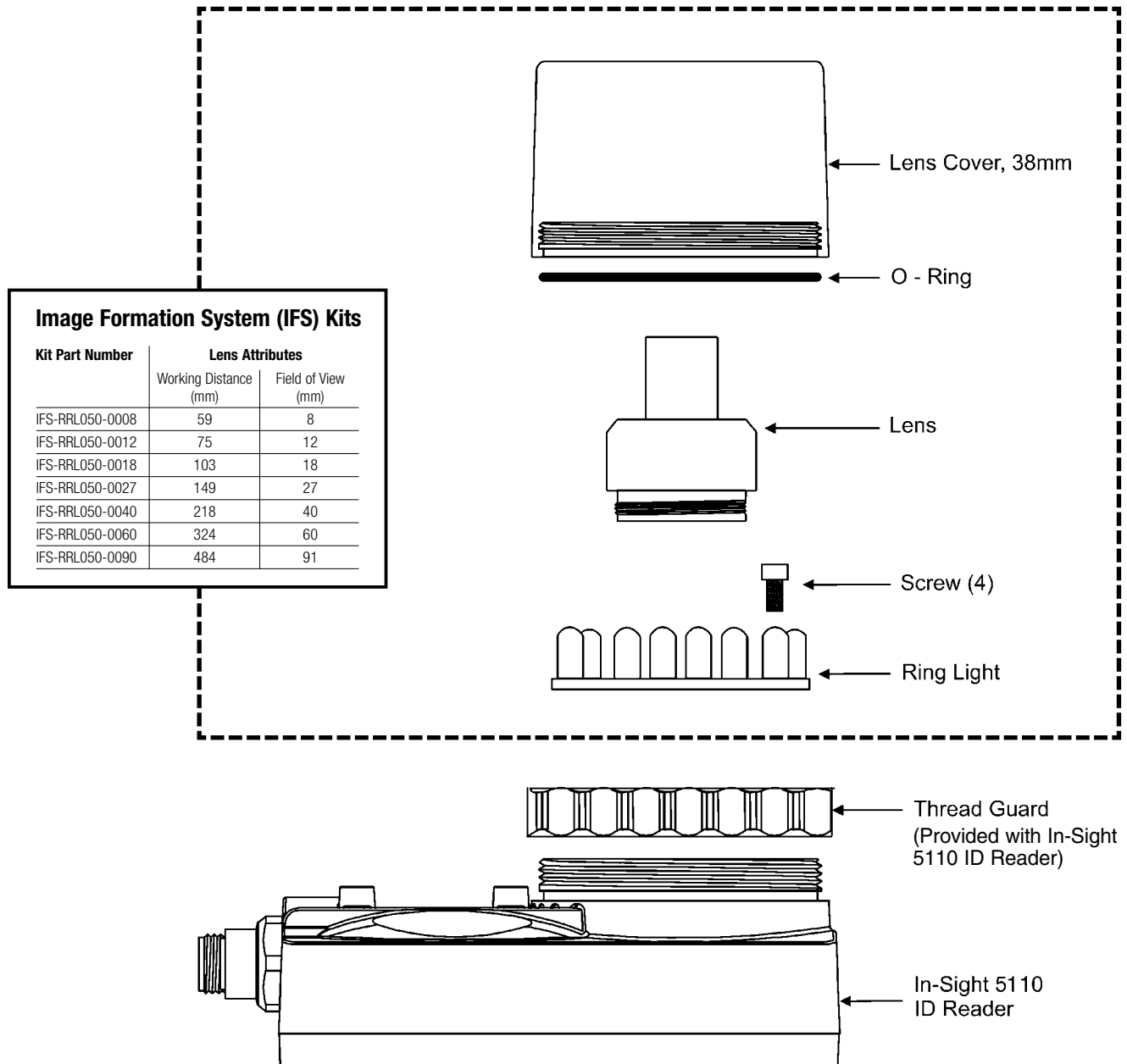
IFS-DRL-050



# IN-SIGHT HARDWARE

## IMAGE FORMATION SYSTEM (IFS) KIT (OPTIONAL FOR IN-SIGHT 5110, 5410, AND 5411 ID READERS)

Seven kits are available, each with a different lens





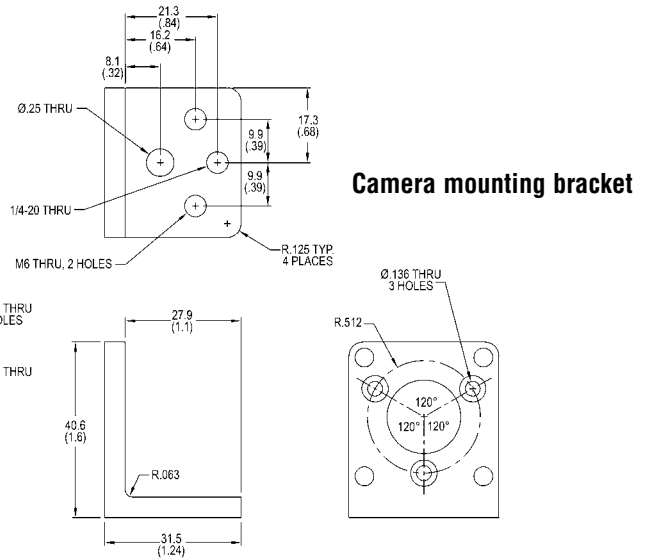
# IN-SIGHT HARDWARE

## IN-SIGHT 3400 CAMERA MOUNTING

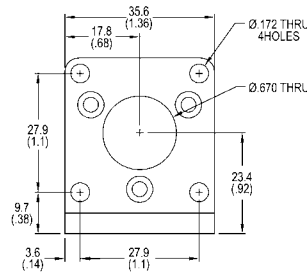
**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).

The In-Sight 3400 vision sensor camera is supplied with a mounting bracket, vibration dampener, and related mounting hardware. While the bracket alone is sufficient for most installations, the vibration dampener is required for the following installations:

- Vibration levels over 3G
- Use of lenses weighing more than 55 grams (1.94 ounces)

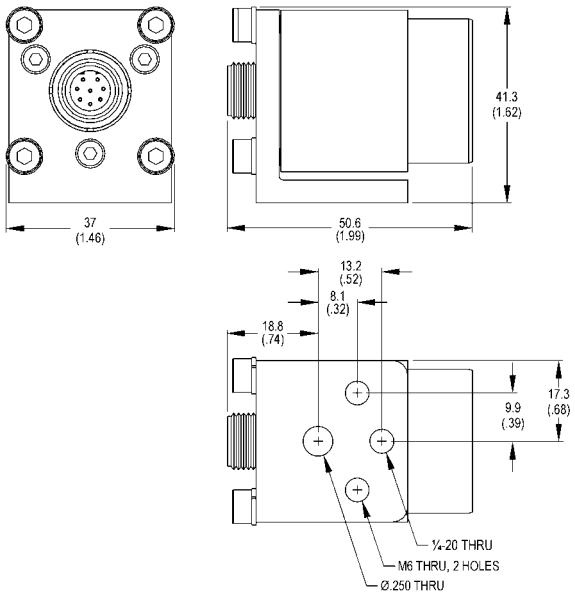


Camera mounting bracket



### Camera, mounting bracket, and vibration dampener assembly

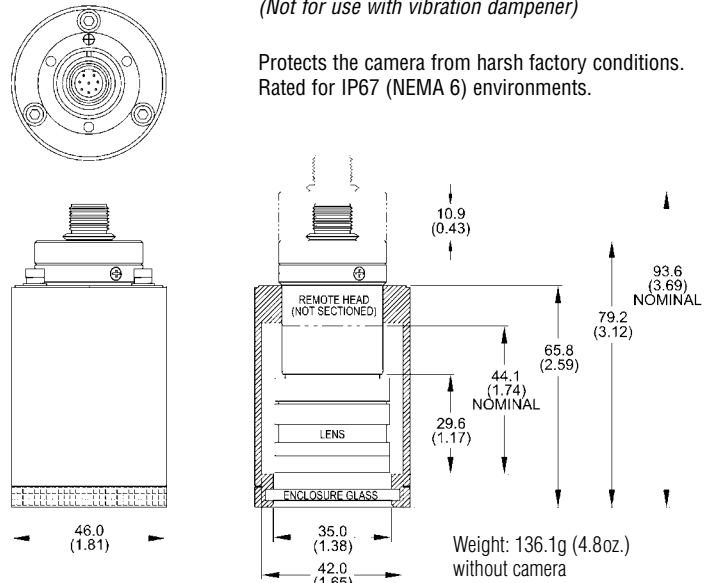
(See note at top of page)



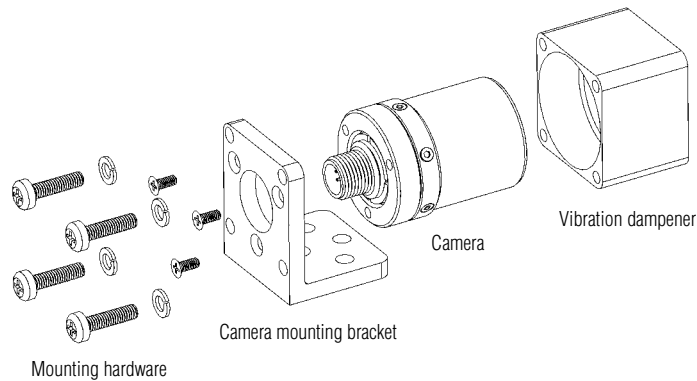
### Optional industrial camera enclosure

(Not for use with vibration dampener)

Protects the camera from harsh factory conditions. Rated for IP67 (NEMA 6) environments.



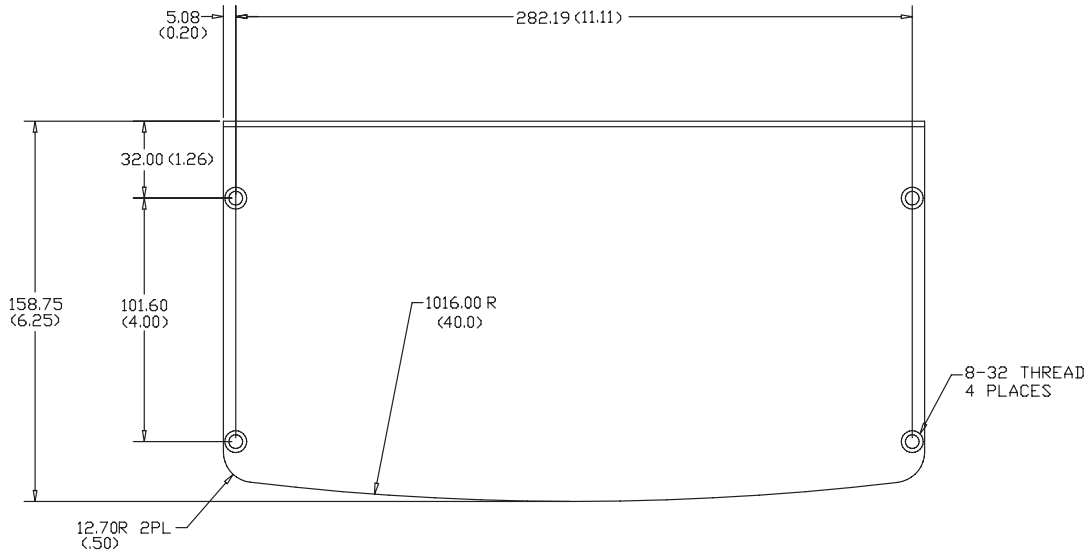
### Exploded view of assembly



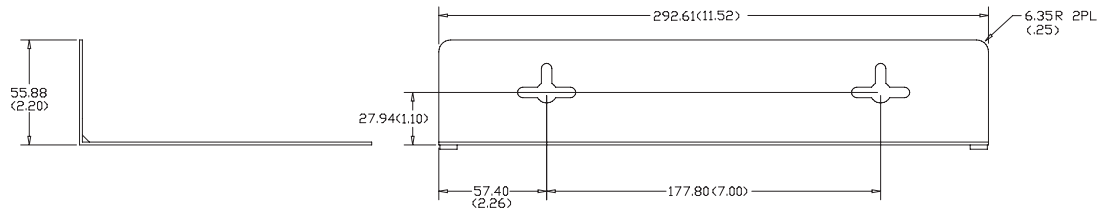
# IN-SIGHT HARDWARE

## PROCESSOR MOUNTING BRACKETS (OPTIONAL FOR IN-SIGHT 3400 VISION SENSOR)

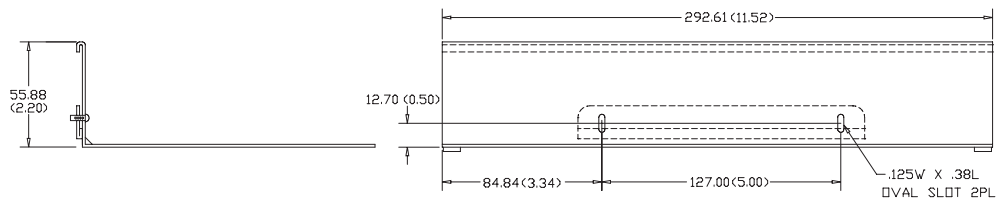
**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).



### WALL MOUNT 370-0253



### DIN RAIL MOUNT 370-0252



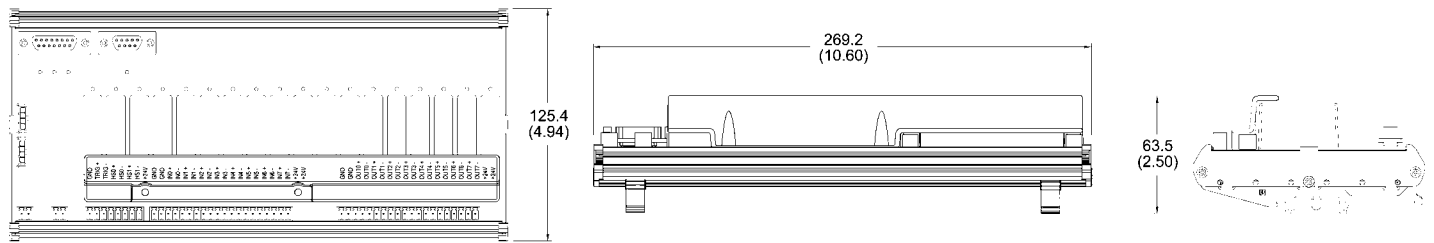


# IN-SIGHT I/O

## IN-SIGHT EXPANSION MODULE (FOR USE WITH IN-SIGHT 5000 SERIES VISION SENSORS AND ID READERS, AND 3400 VISION SENSORS)

**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).

CIO-1460-XX



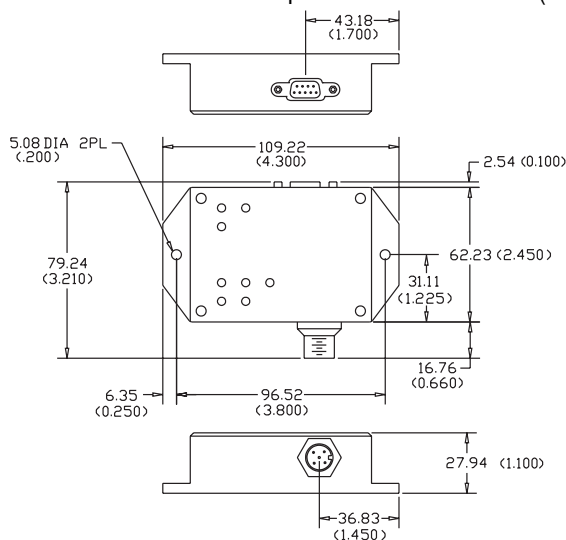
| I/O                      |  |
|--------------------------|--|
| Acquisition trigger      | 1 independent discrete input, optically isolated   |
| General purpose inputs   | 8 opto-isolated discrete   |
| General purpose outputs  | 10 opto-isolated discrete (2 high-speed, 8 general-purpose)  |
| Serial                   | 1 RS-232C port (1200 to 115,200 baud rates), Rx/D, Tx/D, and Flow control (RTS/CTS)                                      |
| Input voltage            |  |
| Trigger input            | ON 20 to 28V (24V nominal)<br>OFF 0 to 3V (12V nominal threshold)  |
| 8 general-purpose inputs | ON 3 to 32V (24V nominal)<br>OFF 0 to 1.5V (10V nominal threshold)   |
| Input current            |  |
| Trigger input            | ON 10 to 14.4mA; OFF <300µA<br>Resistance ~2K Ohms   |
| 8 general-purpose inputs | ON >50mA; OFF <50mA  |
| Delay                    |  |
| Trigger input            | 250 µSec latency between leading edge of trigger and start of acquisition. Input pulse should be a minimum of 1 ms wide. |
| 8 general-purpose inputs | 600 µSec max. between change of input state and completion of serial transmission to the In-Sight sensor.                |
| Outputs                  |  |
| Voltage                  | 60V maximum through external load  |
| Current                  | ON >50mA, 2.5A max, Fuse protected; OFF <50mA  |

| Mechanical                     |  |
|--------------------------------|--|
| Housing                        | Black plastic  |
| Mounting                       | #3 DIN-rail (35mm)   |
| Terminal block torque          | 0.3 N-m (2.7 in-lb) Maximum  |
| Cable                          | 4.6m (15ft) supplied; 12.3m (40ft) and 15.2m (50ft) optional   |
| Weight                         | 691.8 g (24.4 oz)  |
| Power                          |  |
| Operating voltage (field side) |  |
| Power consumption              | 24VDC ± 10%, ~ 250mA with camera <sup>a</sup>  |
| Status LEDs                    | 1 each for power, external lights, acquisition trigger, inputs and outputs<br>1 each for Camera and Remote RS232 |
| Light input/output             | 12VDC to 24VDC   |
| Field wiring size              | 26 to 16 AWG   |
| Environmental                  |  |
| Operating temperature          | 0°C to 50°C (32°F to 122°F)  |
| Operating humidity             | 10 to 90%, non-condensing  |
| Storage temperature            | -10°C to 65°C (14°F to 149°F)  |
| Storage humidity               | 10 to 90%, non-condensing  |
| Shock                          | 30Gs per IEC 68-2-27 (Pending)   |
| Vibration                      | 2Gs per IEC 68-2-6 (Pending)   |
| Certifications                 |  |
| Pending                        | CE, UL, FCC  |

<sup>a</sup> Maximum draw when the 1460 I/O Expansion Module supplies power to an In-Sight sensor, and when all inputs, outputs, and LED indicators are in use. Draw will be less than 30W under typical usage.

## DEVICENET INTERFACE MODULE (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS AND ID READERS) CIO-2550-00

**Note:** All measurements are provided in millimeters (first number) and inches (number in parenthesis).

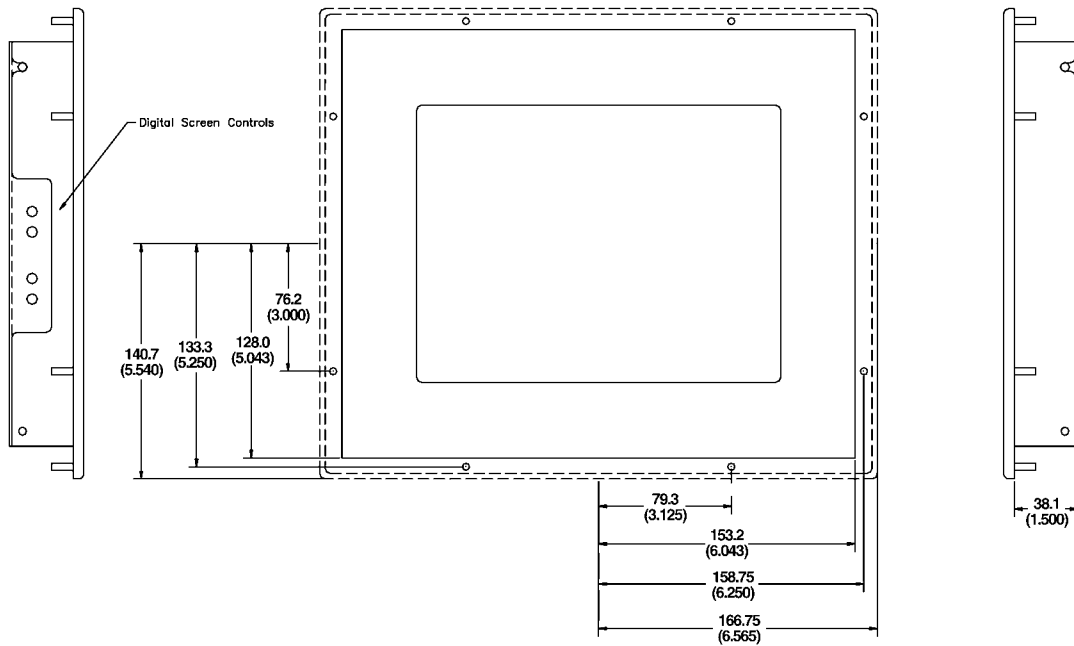


| Data                  |   |
|-----------------------|---|
| Data size             | 8/7 bits (software config.)                               |
| Parity                | Even/odd/none   |
| Stop bits             | 1 (fixed)   |
| Data rate (serial)    | 300, 1220, 2400, 4800, 9600, 19.2 kbs (software selected) |
| (DeviceNet)           | 125, 250, 500 kbs   |
| Flow control          | None. RTS/CTS, X-On/X-Off                                 |
| Power                 |   |
| Isolation             | 500v  |
| ESD protection        | +/-10kv   |
| Overload protection   | +/-30kv   |
| Short circuit         | Indefinite  |
| Output levels         | +/-7.9v (typical)   |
| Environmental         |   |
| Operating temperature | 0°C to 70°C (32°F to 158°F)                               |

# IN-SIGHT DISPLAYS

## FLAT PANEL MONITOR (OPTIONAL FOR IN-SIGHT 3400 VISION SENSOR) CIM-LCD-104

### 10.4" DIAGONAL/TFT ACTIVE MATRIX



| Liquid Crystal Display (LCD) |   |
|------------------------------|---|
| Active area                  | 211mm (8.31")(h) x 158.75mm (6.25")(v)      |
| Pixel format                 | 640(h) x 480(v)                             |
| Brightness                   | 400 Nits Typical                            |
| Contrast ratio               | 300:1 Typical                               |
| Viewing angle                | (Horizontal) 60° / 60° (Vertical) 45° / 55° |
| Back light life              | 50,000 Hours (Half Life)                    |
| Colors supported             | 256,000                                     |
| Impact Window                |   |
| Thickness                    | .118 Nominal                                |
| Finish                       | Anti Glare                                  |
| Finish external              | UV Hard Coat                                |
| Material                     | Polycarbonate                               |
| Mechanical                   |   |
| Bezel outside dimension      | 333.5mm (13.130")(h) x 281mm (11.080")(v)   |
| Bezel material               | 6.35mm (.250") 6061 Aluminum                |
| Bezel finish                 | Black Powder Coating                        |

| Mechanical (cont.)     |   |
|------------------------|---|
| Front end construction | NEMA 4/12   |
| Chassis depth          | (Behind Cabinet Door) 28.54mm (1.125") (add 63.5mm (2.5") for cables unless bottom exit cables specified) |
| Chassis construction   | 18 Ga. Stainless Steel  |
| Weight                 | 3.18kg (7lbs)   |
| Power                  |   |
| Input voltage          | 24VDC nominal   |
| Input wattage          | 25 Watts typical  |
| Environmental          |   |
| Operating temperature  | 0°C to 50°C (32°F to 122°F)   |
| Operating humidity     | 10 to 95%, non-condensing   |
| Storage temperature    | 0°C to 60°C (32°F to 140°F)   |
| Storage humidity       | 10 to 95%, non-condensing   |
| Certifications         |   |
| Approvals              | UL  |

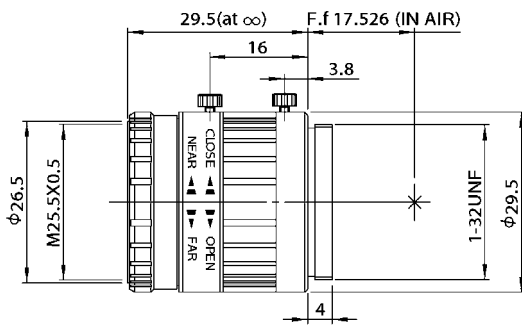




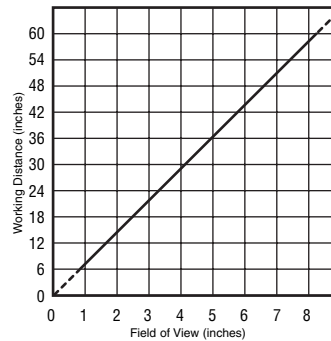
# IN-SIGHT LENSES

## FUJINON

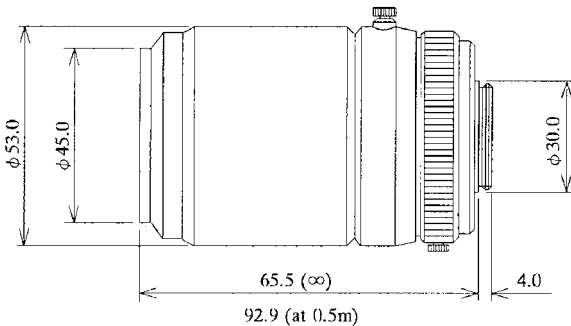
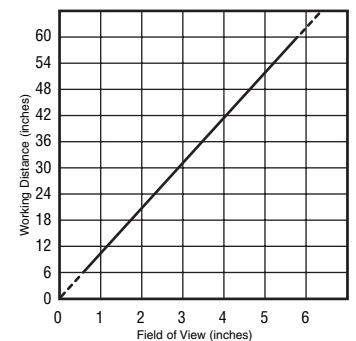
- Notes:** - Measurements are provided in millimeters.  
 - Solid lines in charts are measured values; dashed lines are extrapolated values.



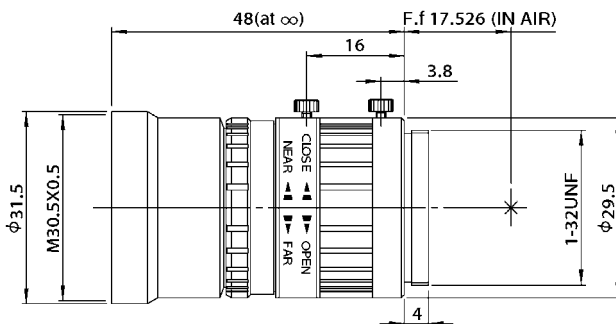
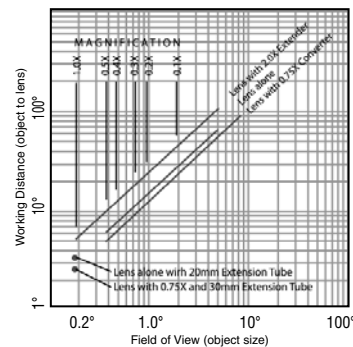
**35MM LENS** LNS-HF35HA1-00



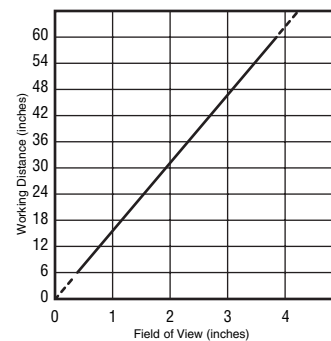
**50MM LENS** LNS-HF50HA1-00



**55MM LENS Telecentric** 114-0050



**75MM LENS** LNS-HF75HA-1B



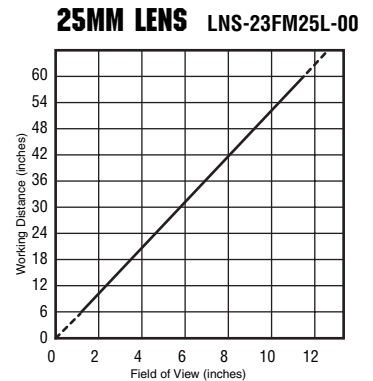
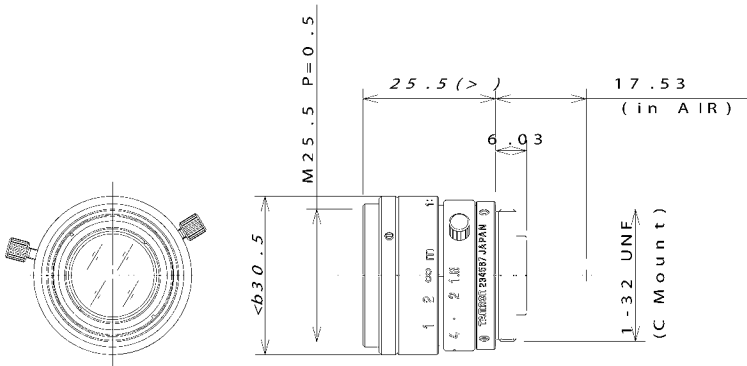
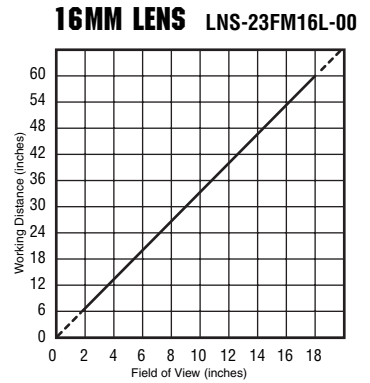
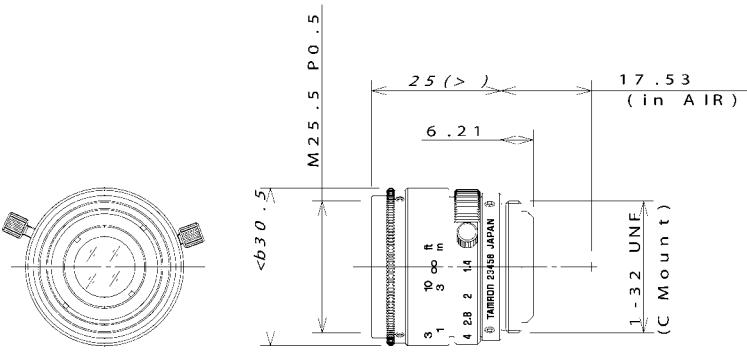
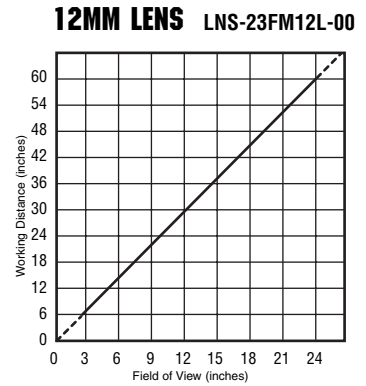
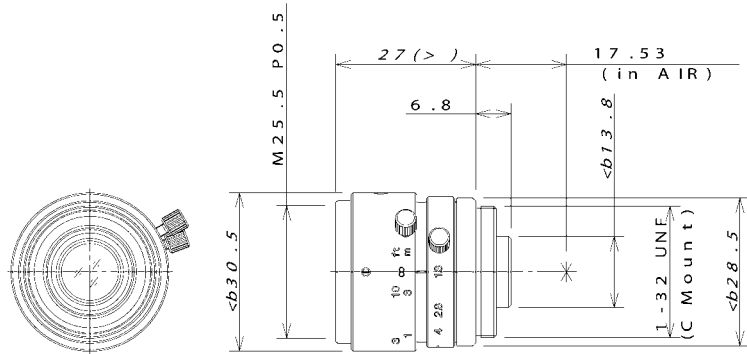
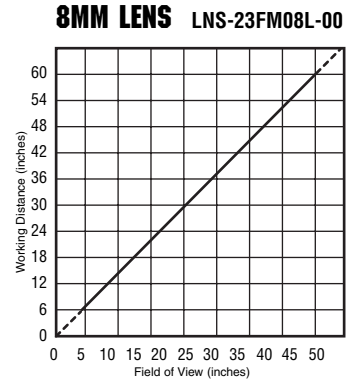
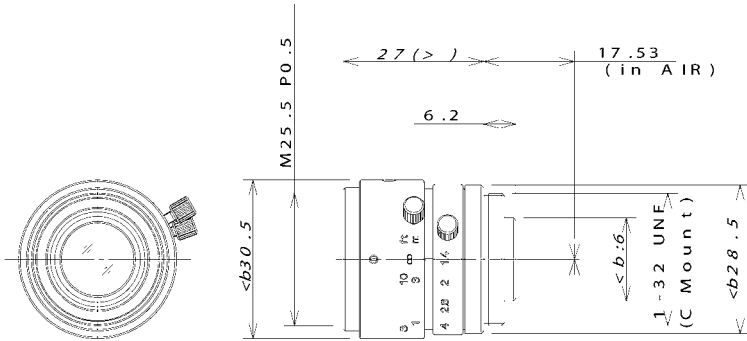
| Part Number     | Size   | Manufacturer | Lock-down screws | Sharp Cut Filter | Polarizer       | Can be used with In-Sight 3400 camera enclosure |
|-----------------|--------|--------------|------------------|------------------|-----------------|---|
| LNS-DF6HA1-00*  | 6mm    | Fujinon      | Yes              | LNS-R6427-00     | LNS-FLTRPL27-00 | Yes   |
| LNS-HF9HA1-00   | 9mm    | Fujinon      | Yes              | LNS-R6427-00     | LNS-FLTRPL27-00 | Yes   |
| LNS-HF125HA1-00 | 12.5mm | Fujinon      | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-HF16HA1-00  | 16mm   | Fujinon      | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-HF25HA1-00  | 25mm   | Fujinon      | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-HF35HA1-00  | 35mm   | Fujinon      | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-HF50HA1-00  | 50mm   | Fujinon      | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-HF75HA-1B   | 75mm   | Fujinon      | Yes              | LNS-R6430-00     | LNS-FLTRPL30-00 | Yes   |

\* Not for use with the In-Sight Model 5403 vision sensor, which utilizes a 1/1.8-inch CCD. This lens is designed for 1/2-inch and smaller CCDs used on other In-Sight models.

# IN-SIGHT LENSES

## TAMRON

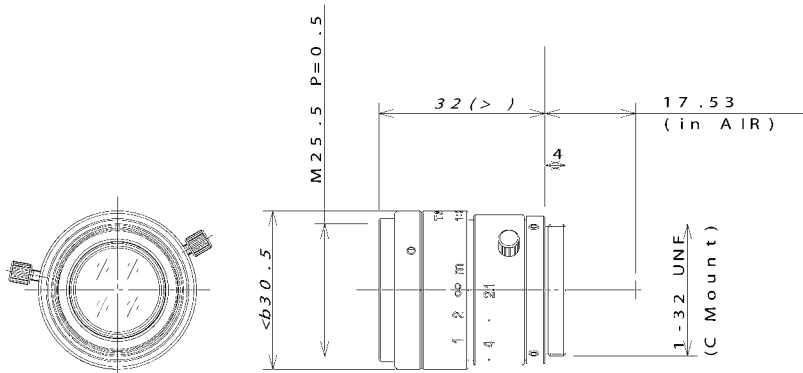
- Notes:** - Measurements are provided in millimeters.  
 - Solid lines in charts are measured values; dashed lines are extrapolated values.



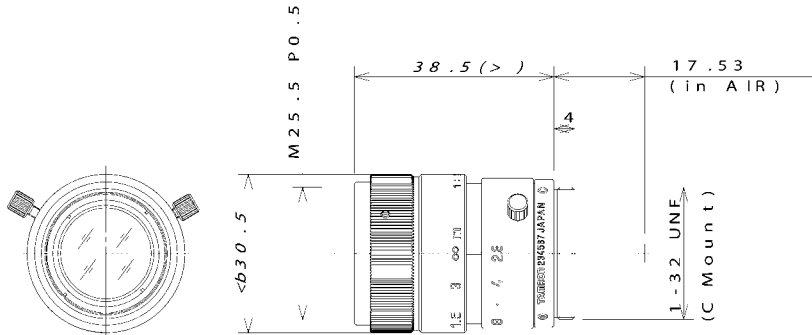
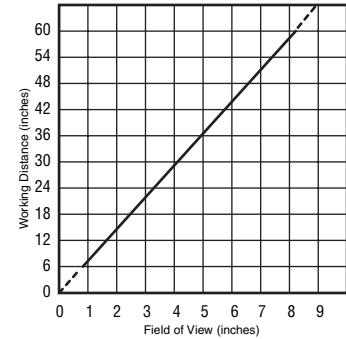
# IN-SIGHT LENSES

## TAMRON

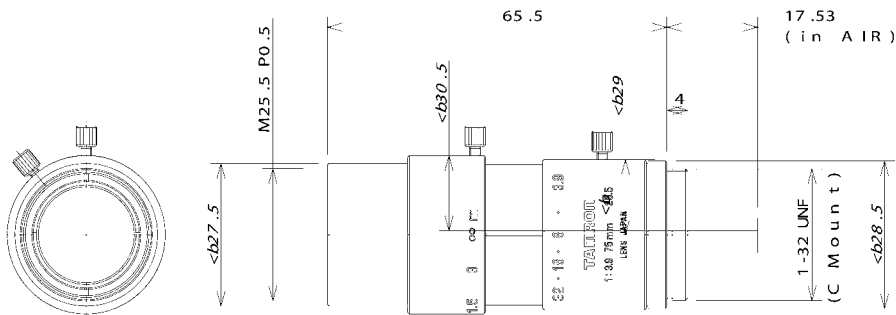
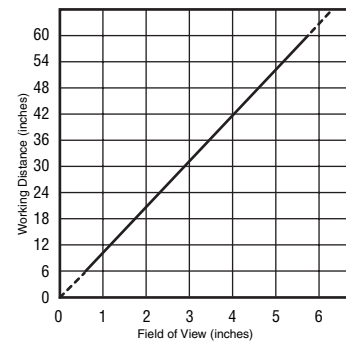
- Notes:** - Measurements are provided in millimeters.  
 - Solid lines in charts are measured values; dashed lines are extrapolated values.



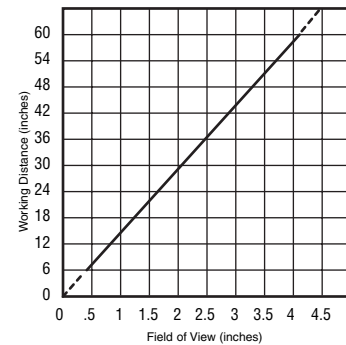
**35MM LENS** LNS-23FM35L-00



**50MM LENS** LNS-23FM50L-00



**75MM LENS** LNS-23FM75L-00



| Part Number    | Size | Manufacturer | Lock-down screws | Sharp Cut Filter | Polarizer       | Can be used with In-Sight 3400 camera enclosure |
|----------------|------|--------------|------------------|------------------|-----------------|---|
| LNS-23FM08L-00 | 8mm  | Tamron       | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-23FM12L-00 | 12mm | Tamron       | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-23FM16L-00 | 16mm | Tamron       | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-23FM25L-00 | 25mm | Tamron       | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-23FM35L-00 | 35mm | Tamron       | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-23FM50L-00 | 50mm | Tamron       | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | Yes   |
| LNS-23FM75L-00 | 75mm | Tamron       | Yes              | LNS-R6425-00     | LNS-FLTRPL25-00 | No  |

\* Above lenses for use with all 5000 Series vision sensors utilizing 2/3-inch or smaller CCDs.



# IN-SIGHT LIGHTING

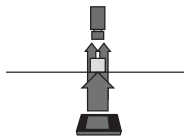

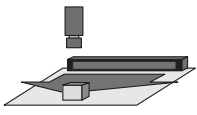
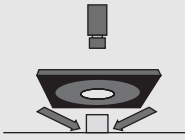
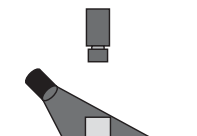
## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS)

| Cognex Lighting Module<br>Part Numbers & Description |                                   | Power Requirements   |                               |  |                               |
|--|-----------------------------------|--|-------------------------------|--|-------------------------------|
|  |                                   | Non-Strobed Applications   |                               | Strobed Applications   |                               |
|  |                                   | In-Sight 1000, 4000,<br>5000 Series                              | In-Sight 2000,<br>3000 Series | In-Sight 1000, 4000,<br>5000 Series  | In-Sight 2000, 3000<br>Series |
| CLM-4260-00 <sup>1</sup>                             | 100mm outer diameter ring         | CLA-400-00 or CLA-CS100-00                                       | CLA-2000-01                   | CLA-4000-00  | CLA-1000-00                   |
| CLM-LDR232RD-00                                      | 32mm outer diameter ring          | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |                               | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |                               |
| CLM-LDR250RD-00                                      | 50mm outer diameter ring          |  |                               |  |                               |
| CLM-LDR270RD-00                                      | 70mm outer diameter ring          |  |                               |  |                               |
| CLM-LDR270IR95-00                                    | 70mm outer diameter ring (IR)     |  |                               |  |                               |
| CLM-LDR290RD-00                                      | 90mm outer diameter ring          |  |                               |  |                               |
| CLM-LDR250BL-00                                      | 50mm outer diameter ring (Blue)   |  |                               |  |                               |
| CLM-LFR100SW-00                                      | 100mm outer diameter ring         | CLA-PD3024-00 and CLAFCBx-00                                     |                               | CLA-PD3024-00 and CLA-STU3000-00 and CLAFCBx-00,<br>or CLA-PTU3024-00 and CLAFCBX-00 |                               |
| CLM-LDR274BLLA-00                                    | 74mm outer diameter ring (Blue)   |  |                               |  |                               |
| CLK-LDR270SW-00                                      | 70mm outer diameter ring (White)  |  |                               |  |                               |
| CLK-LDR290SW-00                                      | 90mm outer diameter ring (White)  |  |                               |  |                               |
| CLK-3010-00  | Fluorescent Ring Light            |  |                               |  |                               |
| CLK-3010-01  | Fluorescent Ring Light            | 220VAC, 50/60Hz14W   |                               |  |                               |
| CLM-LDR274RDLA-00                                    | 74mm outer diameter ring          | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |                               | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |                               |
| CLM-LDR2132RDLA-00                                   | 132mm outer diameter ring         |  |                               |  |                               |
| CLM-LDR2170RDLA-00                                   | 170mm outer diameter ring         |  |                               |  |                               |
| CLM-FPQ75BL-00                                       | 75mm x 75mm square light (Blue)   | CLA-PD3024-00 and CLAFCBx-00                                     |                               | CLA-PD3024-00 and CLA-STU3000-00 and CLAFCBx-00,<br>or CLA-PTU3024-00 and CLAFCBX-00 |                               |
| CLM-LDQ100ASW-00                                     | 4-bar array (White) 108mm x 108mm |  |                               |  |                               |
| CLM-LDQ100A-00                                       | 4-bar array 108mm x 108mm         | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |                               | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |                               |
| CLM-LDQ150A-00                                       | 4-bar array 148mm sq.             |  |                               |  |                               |
| CLM-FPR100-00  | 100mm outer diameter ring         |  |                               |  |                               |
| CLM-FPQ75-00   | 75mm square                       |  |                               |  |                               |
| CLK-003630-00  | 630mm outer diameter ring         |  |                               |  |                               |
| CLM-2449-00 <sup>1</sup>                             | 52mm illumination window          | CLA-400-00 or CLA-CS100-00                                       | CLA-2000-01                   | CLA-4000-00  | CLA-1000-00                   |
| CLM-LFVCP18-00                                       | 18mm illumination window          | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |                               | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |                               |
| CLM-LFV50A-00  | 50mm illumination window          |  |                               |  |                               |
| CLM-LFV70A-00  | 70mm illumination window          |  |                               |  |                               |
| CLM-LFR130-00  | 125mm outer diameter flat         |  |                               |  |                               |
| CLM-LKR70A-00  | 74mm shallow dome                 |  |                               |  |                               |
| CLM-LFV70-00   | 84mm x 120mm                      |  |                               |  |                               |
| CLM-LFV34BL-00                                       | 46mm square (Blue)                | CLA-PD3024-00 and CLAFCBx-00                                     |                               | CLA-PD3024-00 and CLA-STU3000-00 and CLAFCBx-00,<br>or CLA-PTU3024-00 and CLAFCBX-00 |                               |
| CLK-LFV50ASW-00                                      | 50mm illumination window (White)  |  |                               |  |                               |

<sup>1</sup> Includes bracket B2 on page 39

# IN-SIGHT LIGHTING

## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS)

| Light Type Category | Operation   | Attributes of Light Type   | Application   | Category* | Drawing No. ** |
|---------------------|---|--|---|-----------|----------------|
| Back Lights         |    | <ul style="list-style-type: none"> <li>Provides maximum contrast between part outline and background.</li> <li>Emphasizes outline of part and part features.</li> <li>De-emphasizes interior features.</li> </ul>  | <ul style="list-style-type: none"> <li>Measuring external part edges.</li> <li>Verifying hole patterns in stamped metal parts.</li> </ul>   | A         | L17            |
|                     |   |  |   | B         | L18            |
|                     |   |  |   |           | L19            |
|                     |   |  |   |           | L20            |
|                     |   |  |   |           | L21            |
|                     |   |  |   |           | L54            |
|                     |   |  |   |           | L40            |
|                     |   |  |   |           | L50            |
| L22                 |   |  |   |           |                |
| Dome Lights         |   | <ul style="list-style-type: none"> <li>Provides extremely even, diffuse illumination.</li> <li>Evenly illuminates mirrored surfaces.</li> <li>De-emphasizes 3-dimensional part surface characteristics.</li> </ul> | <ul style="list-style-type: none"> <li>Detecting printing on wrinkled foil.</li> <li>Measuring connector pins.</li> </ul>   | A         | L23            |
|                     |   |  |   | B         | L24            |
| Linear Array Lights |  | <ul style="list-style-type: none"> <li>Provides even, concentrated illumination along a straight line.</li> <li>Emphasizes part surface irregularities and "raised" features.</li> </ul>                           | <ul style="list-style-type: none"> <li>Measuring long, thin parts, and parts where edges need to be highlighted.</li> </ul>   | A         | L25            |
|                     |   |  |   | B         | L26            |
|                     |   |  |   |           | L27            |
|                     |   |  |   |           | L28            |
|                     |   |  |   |           | L30            |
|                     |   |  |   |           | L29            |
| L31                 |   |  |   |           |                |
| Dark Field Lights   |  | <ul style="list-style-type: none"> <li>Provides extremely low-angle illumination for imaging of part surface irregularities.</li> <li>Emphasizes surface irregularities and "raised" features on parts.</li> </ul> | <ul style="list-style-type: none"> <li>Inspecting metal parts with dents, bumps, or other "raised" features.</li> </ul>   | A         | L32            |
|                     |   |  |   | B         | L33            |
|                     |   |  |   |           | L34            |
|                     |   |  |   |           | L35            |
|                     |   |  |   |           | L36            |
| Spot Lights         |  | <ul style="list-style-type: none"> <li>Provides diffuse beam of light for achieving maximum contrast in a certain direction.</li> <li>Emphasizes a specific feature on a part.</li> </ul>                          | <ul style="list-style-type: none"> <li>Verifying the presence of individual components in an assembly.</li> <li>Inspecting parts with features that are angled in a certain direction.</li> </ul> | A         | L37            |
|                     |   |  |   | B         | L38            |
|                     |   |  |   |           | L41            |

\* Denotes compatible power supply and cable category

\*\* Designates outline drawings on pages 26 to 36

# IN-SIGHT LIGHTING

## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS)

| Cognex Lighting Module<br>Part Numbers & Description |                               | Power Requirements   |                               |  |                               |
|--|-------------------------------|--|-------------------------------|--|-------------------------------|
|  |                               | Non-Strobed Applications   |                               | Strobed Applications   |                               |
|  |                               | In-Sight 1000, 4000,<br>5000 Series                              | In-Sight 2000,<br>3000 Series | In-Sight 1000, 4000,<br>5000 Series  | In-Sight 2000, 3000<br>Series |
| CLM-4401-00  | 100mm x 100mm back light      | CLA-400-00 or CLA-CS100-00                                       | CLA-2000-01                   | CLA-4000-00  | CLA-1000-00                   |
| CLM-LDLTP27x27-00                                    | 27mm x 27mm back light        | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |                               | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |                               |
| CLM-LDLTP51x51-00                                    | 51mm x 51mm back light        |  |                               |  |                               |
| CLM-LDLTP100100-00                                   | 100mm x 100mm back light      | CLA-PD5024-00 or CLA-CBx-00                                      |                               | CLA-PD5024-00, CLA-CBx-00 and CLA-STU3000-00   |                               |
| CLM-LDLTP211200-00                                   | 211mm x 200mm back light      |  |                               |  |                               |
| CLM-LDLTP250X190                                     | 250mm x 190mm                 | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |                               | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |                               |
| CLK-LFL100IR95-00                                    | 100x80 IR back light          |  |                               |  |                               |
| CLM-LFL100-00  | 100mm x 80mm edge-lit         | CLA-PD3024-00 and CLAFCBx-00                                     |                               | CLA-PD3024-00 and CLA-STU3000-00 and CLAFCBx-00,<br>or CLA-PTU3024-00 and CLAFCBx-00 |                               |
| CLK-LFL100SW-00                                      | 100mm x 80mm edge-lit (White) |  |                               |  |                               |

|                          |                         |  |             |  |             |
|--------------------------|-------------------------|--|-------------|--|-------------|
| CLM-7248-00 <sup>1</sup> | Covers areas up to 80mm | CLA-400-00 or CLA-CS100-00                                       | CLA-2000-01 | CLA-4000-00  | CLA-1000-00 |
| CLM-LDM90A-00            | Covers areas up to 90mm | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |             | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |             |

|                    |  |  |             |  |             |
|--------------------|--|--|-------------|--|-------------|
| CLM-4554-00        | 233mm x 20mm line illumination         | CLA-400-00 or CLA-CS100-00                                       | CLA-2000-01 | CLA-4000-00  | CLA-1000-00 |
| CLM-LDL42X15-00    | 42mm x 15mm line illumination          | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |             | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |             |
| CLM-LDL74X27N-00   | 74mm x 27mm line illumination          |  |             |  |             |
| CLM-LDL130X15-00   | 130mm x 15mm line illumination         | CLA-PD3024-00 and CLAFCBx-00                                     |             | CLA-PD3024-00 and CLA-STU3000-00 and CLAFCBx-00,<br>or CLA-PTU3024-00 and CLAFCBx-00 |             |
| CLM-LDL247X16-00   | 247mm x 16mm line illumination         |  |             |  |             |
| CLK-LDL42x15SW-00  | 42mm x 15mm line illumination (White)  | CLA-PD3024-00 and CLAFCBx-00                                     |             | CLA-PD3024-00 and CLA-STU3000-00 and CLAFCBx-00,<br>or CLA-PTU3024-00 and CLAFCBx-00 |             |
| CLK-LDL130x15SW-00 | 130mm x 15mm line illumination (White) |  |             |  |             |

|                          |                           |  |             |  |             |
|--------------------------|---------------------------|--|-------------|--|-------------|
| CLM-1660-00 <sup>2</sup> | 101mm inner ring diameter | CLA-400-00 or CLA-CS100-00                                       | CLA-2000-01 | CLA-4000-00  | CLA-1000-00 |
| CLM-LDR75LA1-00          | 46mm inner ring diameter  | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |             | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |             |
| CLM-LDR96LA1-00          | 60mm inner ring diameter  |  |             |  |             |
| CLM-LDR146LA1-00         | 110mm inner ring diameter |  |             |  |             |
| CLM-LDR206LA1-00         | 170mm inner ring diameter |  |             |  |             |



|                    |   |  |             |  |             |
|--------------------|---|--|-------------|--|-------------|
| CLM-2420-00        | Covers up to 50mm<br>at a distance of 100mm                       | CLA-400-00 or CLA-CS100-00                                       | CLA-2000-01 | CLA-4000-00  | CLA-1000-00 |
| CLM-1236880100L-00 | Covers up to 50mm at a distance<br>of 100mm (Infrared spot light) |  |             |  |             |
| CLM-LSP41RD-00     | Covers up to 50mm<br>at a distance of 100mm                       | CLA-PD3012-00 and CLA-CBx-00,<br>or CLA-PB2430-00 and CLA-CBx-00 |             | CLA-PD3012-00 and CLA-STU3000-00 and<br>CLA-CBx-00, or CLA-PTU3012-00 and CLA-CBx-00 |             |



<sup>1</sup> Includes bracket B3 on page 39    <sup>2</sup> Includes bracket B4 on page 39







# IN-SIGHT LIGHTING

## LIGHT MODULE POWER SOURCES AND ADAPTERS

| POWER SUPPLIES  |           |               |               |                    |                      |
|---|-----------|---------------|---------------|--------------------|----------------------|
|   | Category* | Drawing No.** | Model         | Power Requirements | Voltage/Power Output |
|  | A         | P1            | CLA-400-00    | AC90~264VAC        | 24V/30w              |
|  | B         | P2            | CLA-PD3012-00 | AC90~264VAC        | 12V/28w              |
|   |           | P2            | CLA-PD3024-00 | AC90~264VAC        | 24V/28w              |
|   |           | P3            | CLA-PD5024-00 | AC90~264VAC        | 24V/50w              |

| POWER SUPPLY AND STROBE ADAPTER COMBINATION                                       |           |               |                |  |  |
|---|-----------|---------------|----------------|--|--|
|   | Category* | Drawing No.** | Model          | Trigger Input                              |  |
|  | A         | P5            | CLA-4000-00    | TTL level positive & negative edge trigger |  |
|   |           | P6            | CLA-6000-00    | TTL level positive & negative edge trigger |  |
|  | B         | P10           | CLA-PTU3012-00 | Photocoupler input (5mA)                   |  |

| STROBE ADAPTERS   |           |               |                |  |  |
|---|-----------|---------------|----------------|--|--|
|   | Category* | Drawing No.** | Model          | Trigger Input  |  |
|  | A         | P4            | CLA-1000-00    | Supplied by an In-Sight 2000 or 3000 camera via 13' 2" cable |  |
|  | B         | P7            | CLA-STU3000-00 | Photocoupler input (4mA)                                     |  |

| POWER ADAPTERS  |           |               |               |                                 |  |
|---|-----------|---------------|---------------|---------------------------------|--|
|   | Category* | Drawing No.** | Model         | Trigger Input                   |  |
|  | A         | P8            | CLA-CS100-00  | None (Doesn't support strobing) |  |
|  | B         | P9            | CLA-PB2430-00 | None (Doesn't support strobing) |  |

## LIGHT MODULE CABLES AND ADAPTERS

| CABLE & CABLE ADAPTERS |             |   |
|------------------------|-------------|---|
| Category*              | Model       | Description   |
| A                      | CLA-2000-01 | Patch cable connecting any category "A" light to an In-Sight 2000 or 3000   |
|                        | 185-0036    | Extension cable that adds additional length to any category "A" light   |
|                        | 185-0035    | Extension cable that adds additional length to any category "A" light   |
|                        | 185-0037    | Dual "Spot" Light adapter cable, provides power to 2 spot lights  |
| B                      | CLA-CB2-00  | Extension cable that adds additional length to any 12V category "B" light   |
|                        | CLA-CB5-00  | Extension cable that adds additional length to any 12V category "B" light   |
|                        | CLA-CBW-00  | Dual light adapter. Enables two category "B" 12V lights to be connected to a single power supply. Total power of the 2 lights must not exceed power supplies limit. |

# IN-SIGHT LIGHTING

## LIGHT MODULE POWER SOURCES AND ADAPTERS

| Digital Light Control | External Light Control                                     | No. of Lights Supported  |
|-----------------------|--|--|
| none                  | none   | 2 Lights (supports any 2 category "A" lights)  |
| 256 levels            | External light control bit, light pulse, int/ext switching | 2 Lights (combined power draw of the 2 lights must not exceed power output of unit). |

| Output   | Power Requirements                        | Pulse Width    |
|--|---|----------------|
| Provides power & strobe output for a single category "A" light | 24VDC @ 1.25A max. w/ overload protection | .01 to 64 msec |
| Provides power & strobe output for 2 category "A" lights       | 24VDC @ 1.25A max. w/ overload protection | .01 to 64 msec |
| 12V, 80mA Max per circuit, 2 circuits, 28 Watts Max            | VAC 100-240                               | .01 to 99 msec |

| Output  | Power Requirements                                   | Pulse Width       |
|---|--|-------------------|
| Provides power & strobe output for a single category "A" light (can strobe 2 spot lights) | Supplied by an In-Sight 2000 or 3000 via 6' 4" cable | .01 to 1.9 msec   |
| High-speed CMOS output; drive on/off control input of power unit                          | Supplied by digital power supplies                   | .01 to 99.99 msec |

| Output   | Power Requirements   |
|--|----------------------|
| 14.4W  | 24VDC input          |
| 12V and 24V outputs; L1:24W, L2:24W (Sum of L1 and L2 must be less than 30W) | 24VDC input, 50W max |

| Length    | No. of Lights Supported |
|-----------|-------------------------|
| 3 feet    | 1                       |
| 10 feet   | 1                       |
| 30 feet   | 1                       |
| 30 feet   | 2 (spot lights)         |
| 6.5 feet  | 1                       |
| 15 feet   | 1                       |
| 14 inches | 2                       |

\* Denotes compatible light module category

\*\*Designates outline drawings on pages 37 and 38

# IN-SIGHT LIGHTING

## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) "L" numbers refer to charts on pages 20-23.

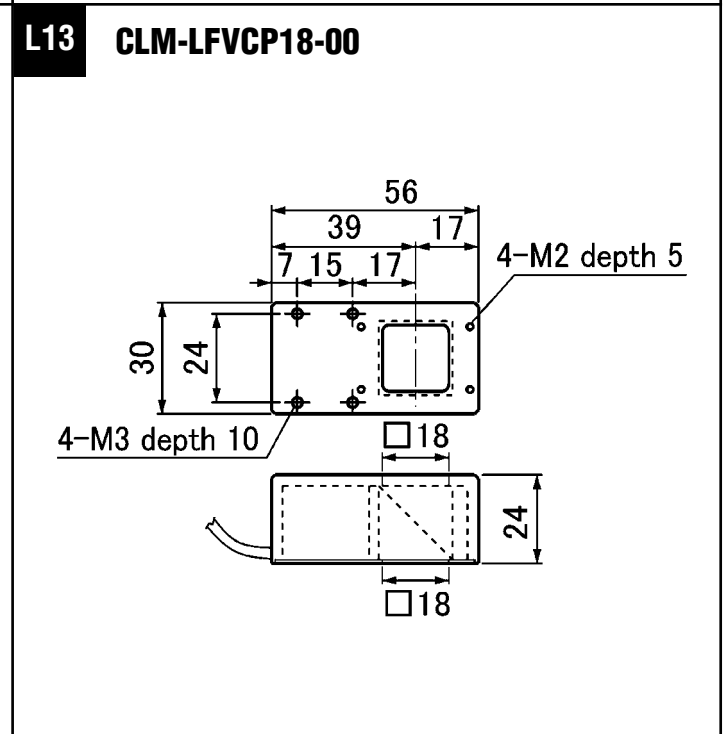
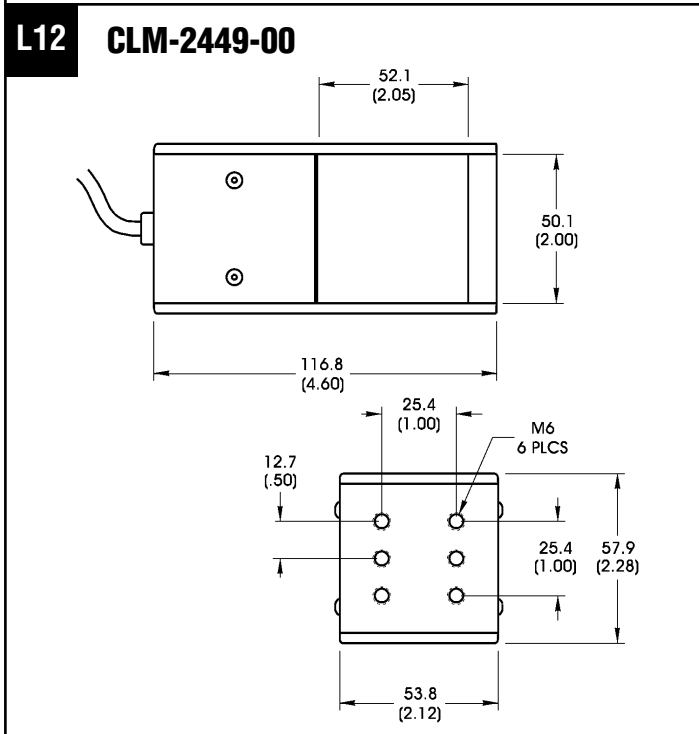
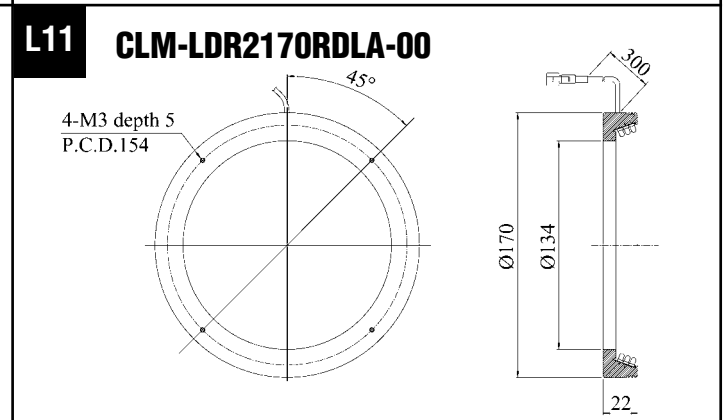
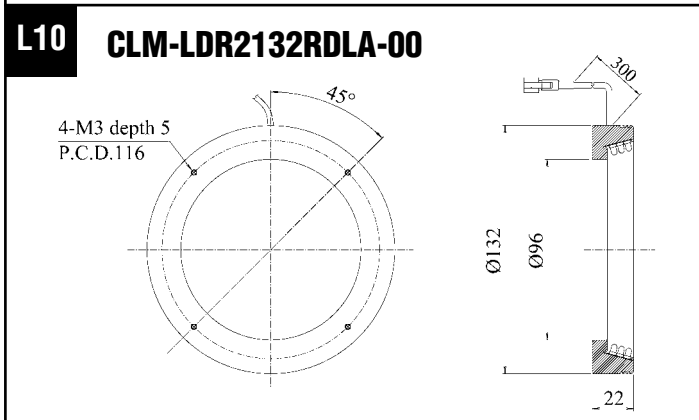
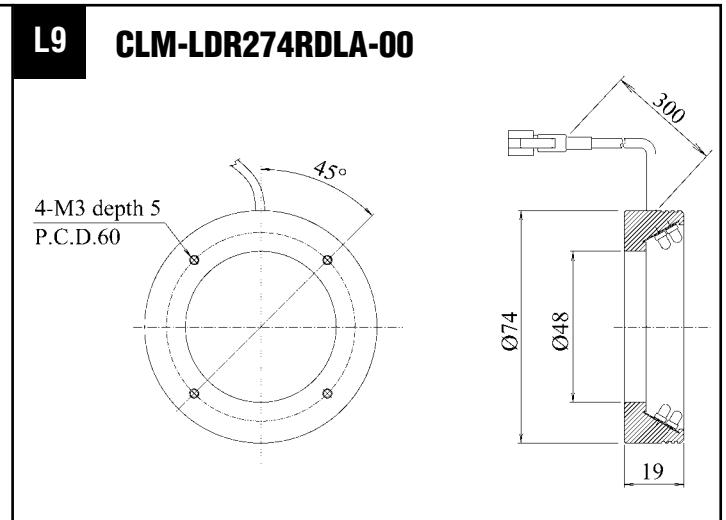
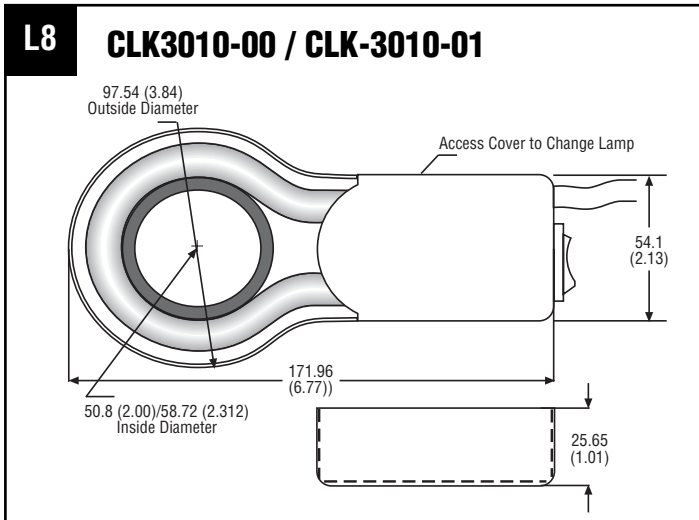
**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

|   |   |
|---|---|
| <p><b>L1</b> <b>CLM-4260-00</b></p> <p>Ø100.0 (3.94)<br/>Ø55.5 (2.18)<br/>33.7 (1.33)<br/>15.2 (60)<br/>15.2 (60)<br/>38.1 (1.50)<br/>38.1 (1.50)</p>   | <p><b>L2</b> <b>CLM-LDR232RD-00</b></p> <p>4-M3 depth 4<br/>P.C.D.20<br/>45°<br/>Ø32<br/>Ø10<br/>16<br/>300</p>                   |
| <p><b>L4</b> <b>CLM-LDR270RD-00 / CLM-LDR270SW-00<br/>CLM-LDR270IR95-00</b></p> <p>4-M3 depth 5<br/>P.C.D.50<br/>45°<br/>Ø70<br/>Ø35<br/>22<br/>300</p> | <p><b>L3</b> <b>CLM-LDR250RD-00 / CLM-LDR250BL-00</b></p> <p>4-M3 depth 4<br/>P.C.D.40<br/>45°<br/>Ø50<br/>Ø28<br/>16<br/>300</p> |
| <p><b>L6</b> <b>CLK-LDR270SW-00</b></p> <p>4-M3 depth 5<br/>P.C.D.50<br/>45°<br/>Ø70<br/>Ø35<br/>27<br/>300</p>   | <p><b>L5</b> <b>CLM-LDR290RD-00</b></p> <p>4-M3 depth 4<br/>P.C.D.70<br/>45°<br/>Ø90<br/>Ø50<br/>20<br/>300</p>                   |
| <p><b>L7</b> <b>CLK-LDR290SW-00</b></p> <p>4-M3 depth 4<br/>P.C.D.70<br/>45°<br/>Ø90<br/>Ø50<br/>20<br/>300</p>   | <p><b>L7</b> <b>CLK-LDR290SW-00</b></p> <p>4-M3 depth 4<br/>P.C.D.70<br/>45°<br/>Ø90<br/>Ø50<br/>20<br/>300</p>                   |

# LIGHTING

## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) “L” numbers refer to charts on pages 20-23.

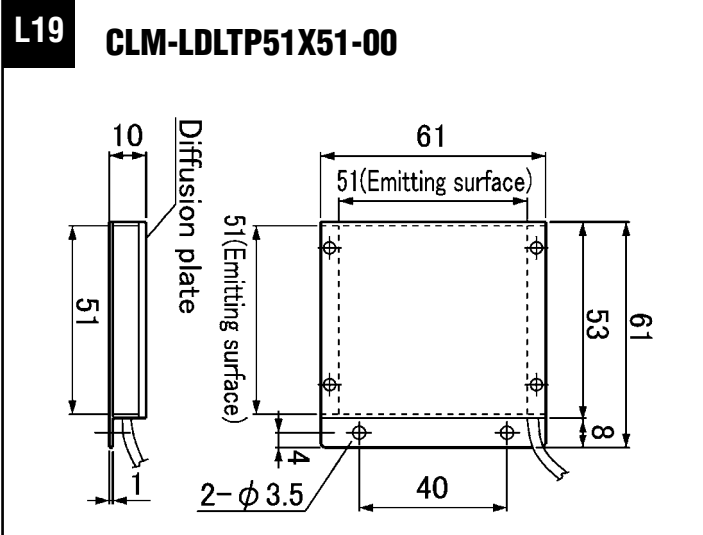
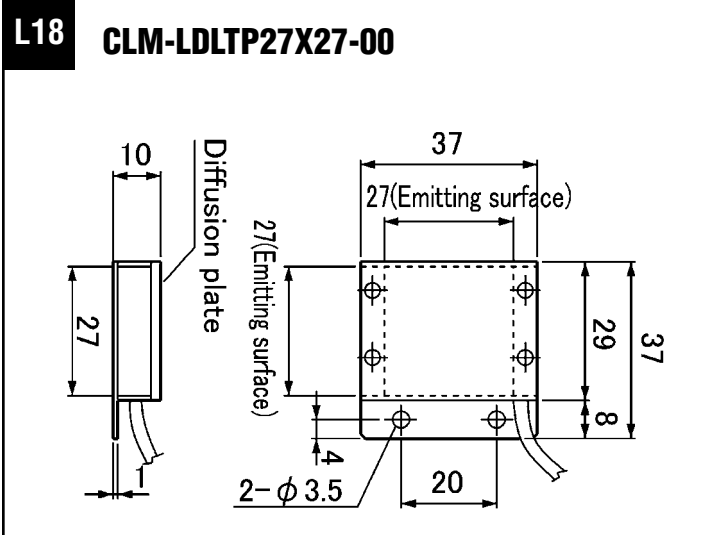
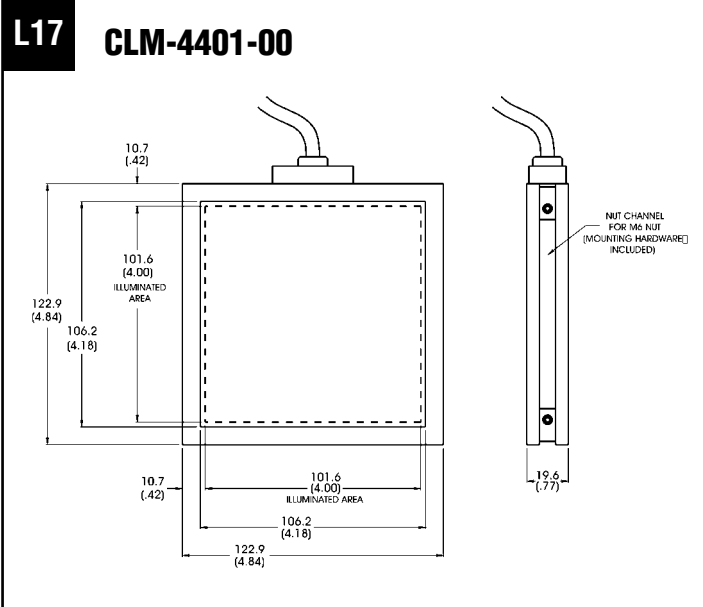
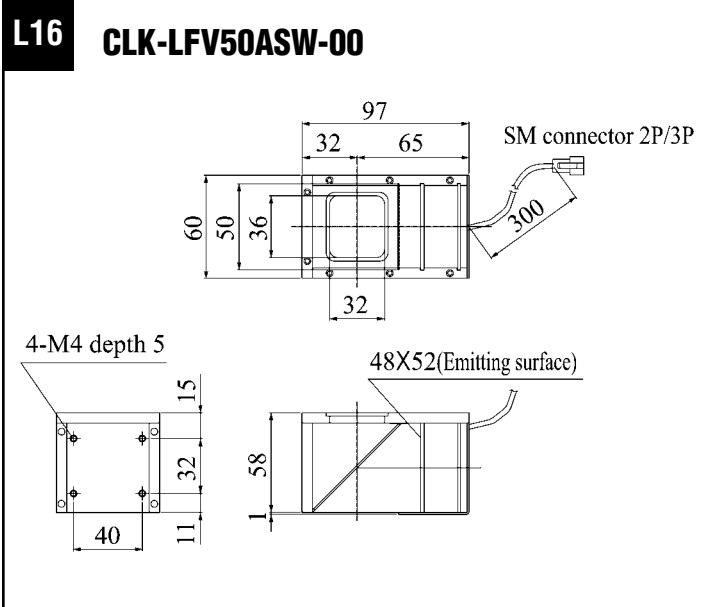
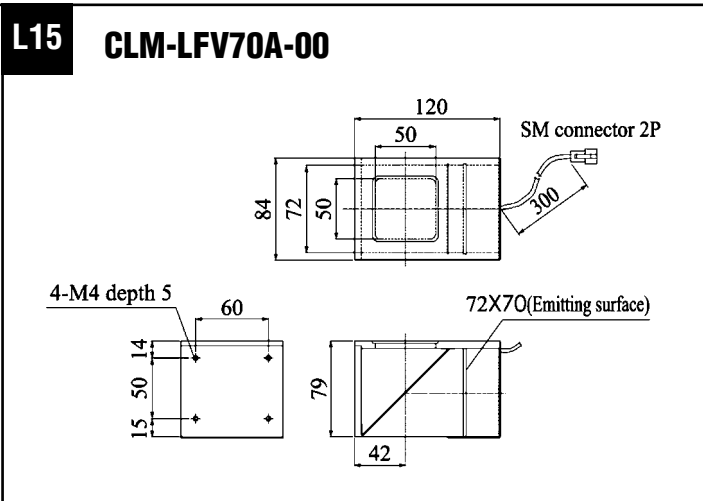
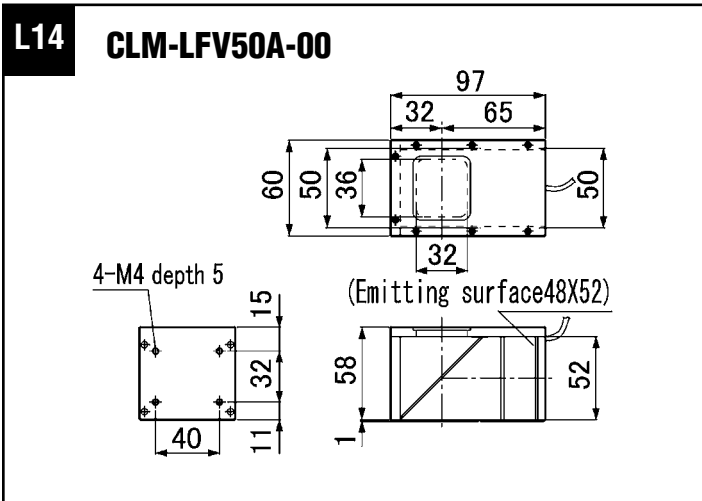
**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.



# IN-SIGHT LIGHTING

## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) “L” numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

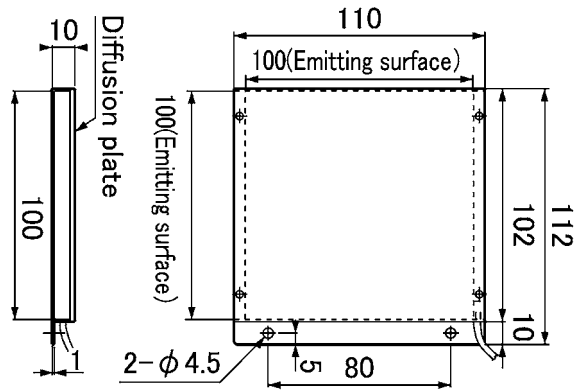


# IN-SIGHT LIGHTING

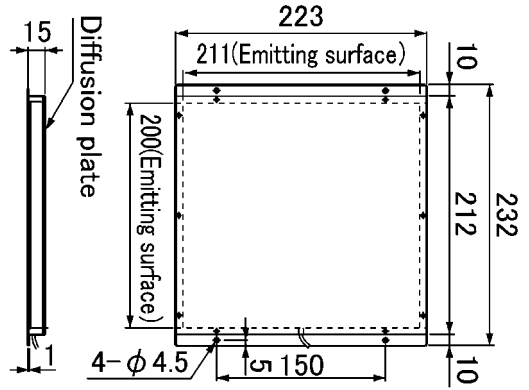
## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) "L" numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

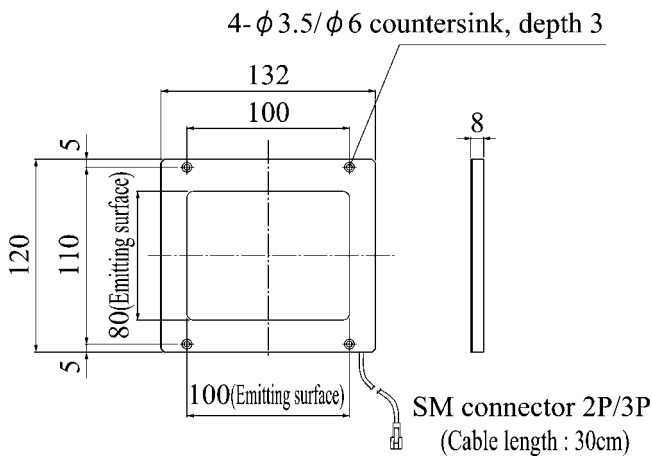
**L20** CLM-LDLTP100100-00



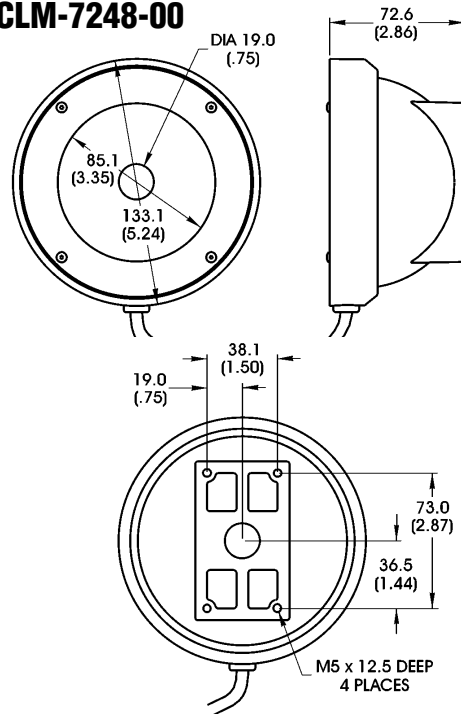
**L21** CLM-LDLTP211200-00



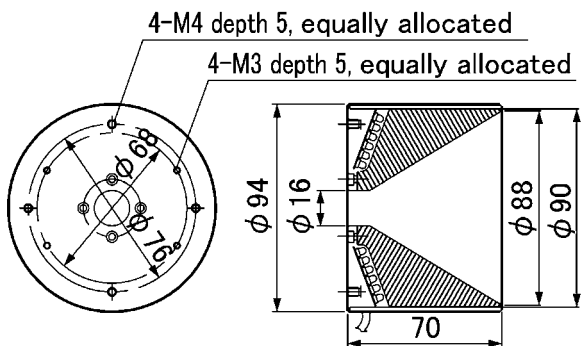
**L22** CLK-LFL100SW-00



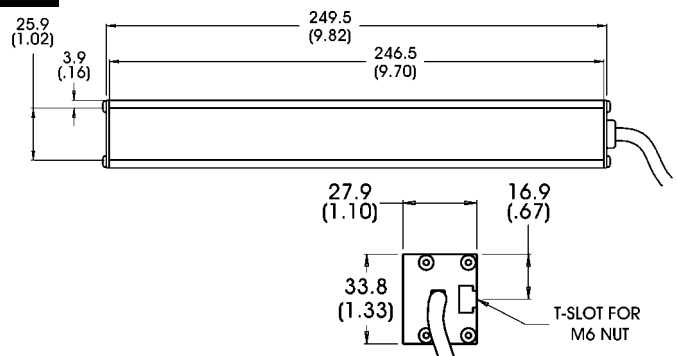
**L23** CLM-7248-00



**L24** CLM-LDM90A-00



**L25** CLM-4554-00

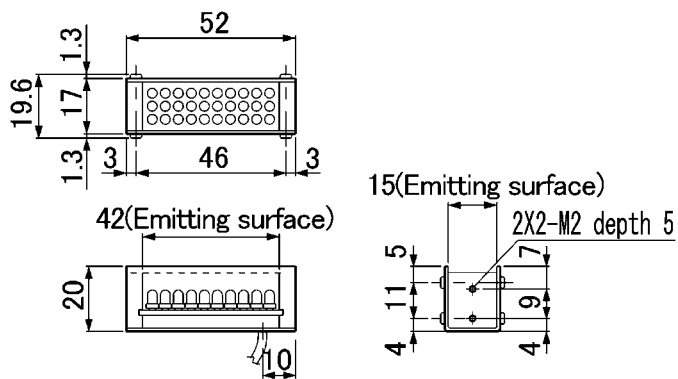


# IN-SIGHT LIGHTING

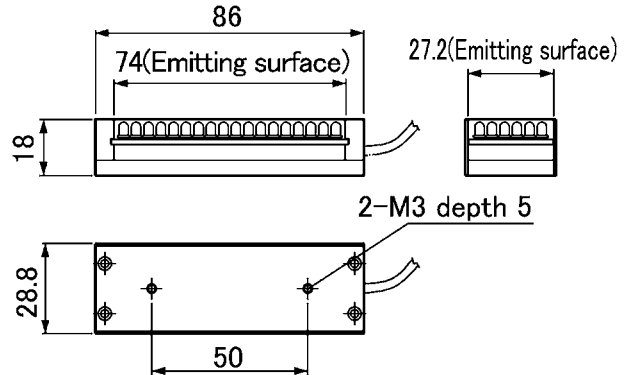
## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) "L" numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

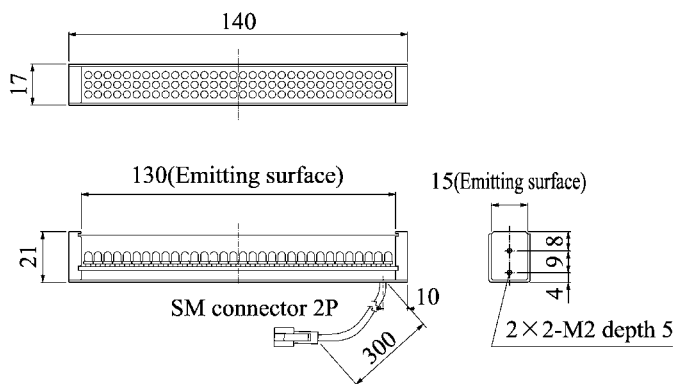
**L26 CLM-LDL42X15-00**



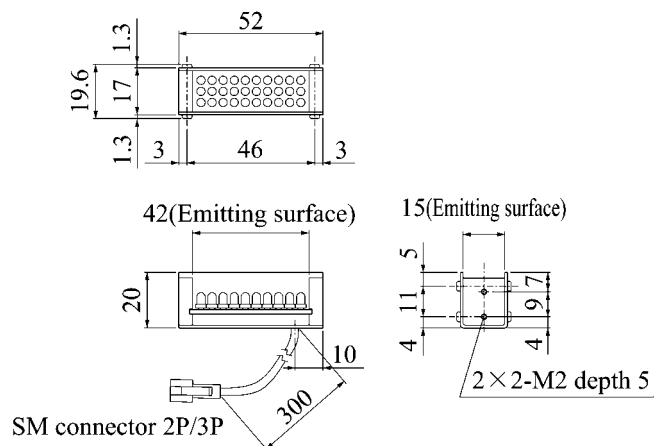
**L27 CLM-LDL74X27N-00**



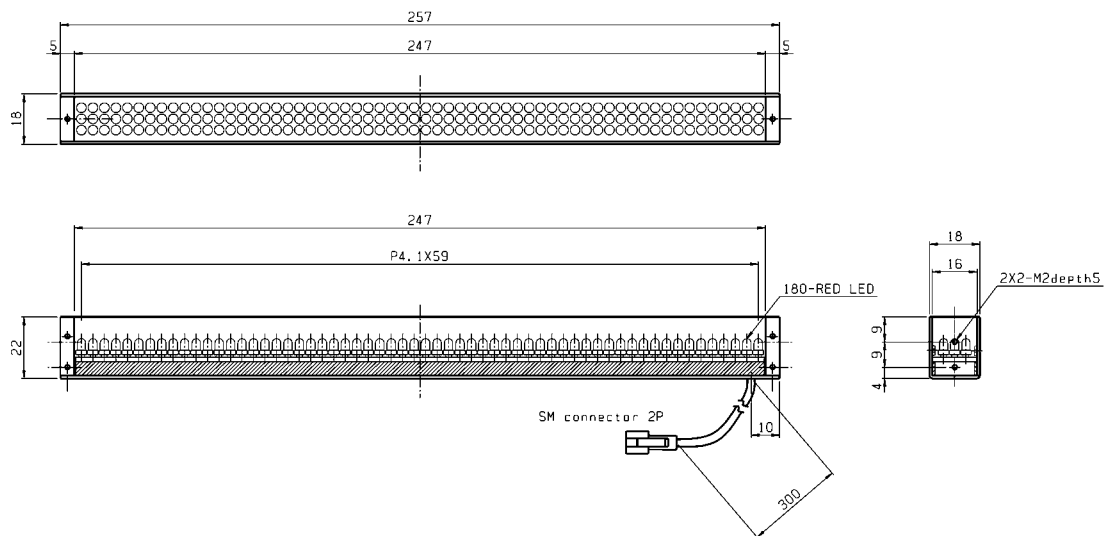
**L28 CLM-LDL130X15-00**



**L29 CLK-LDL42X15SW-00**



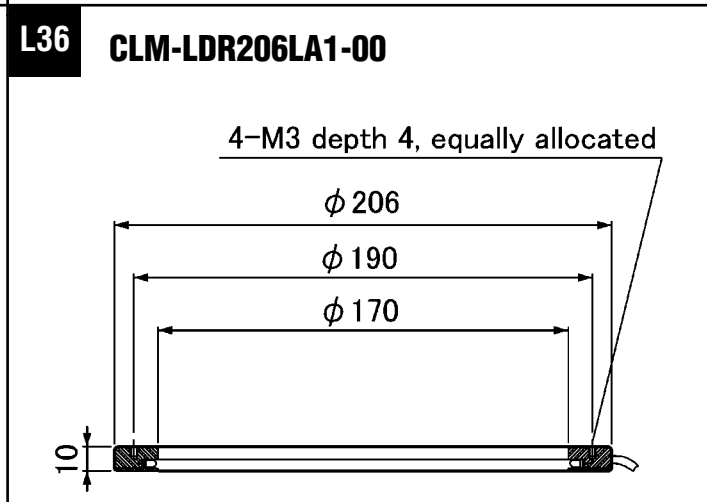
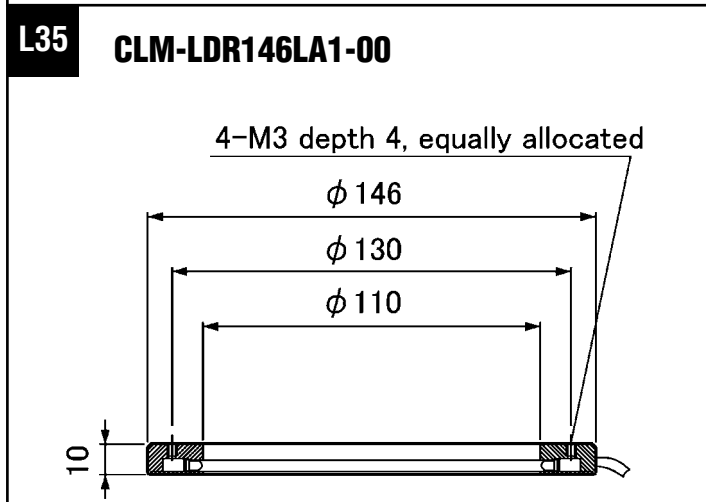
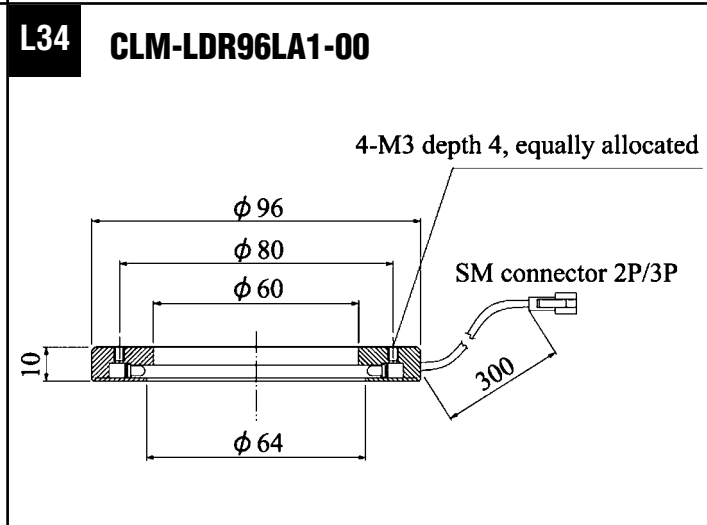
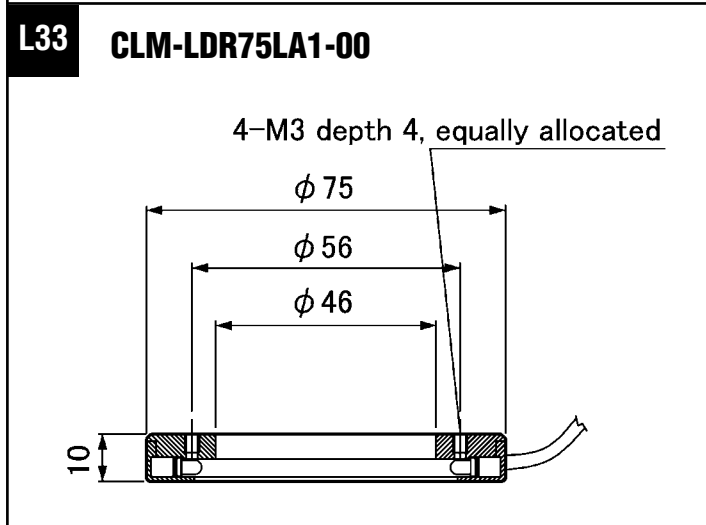
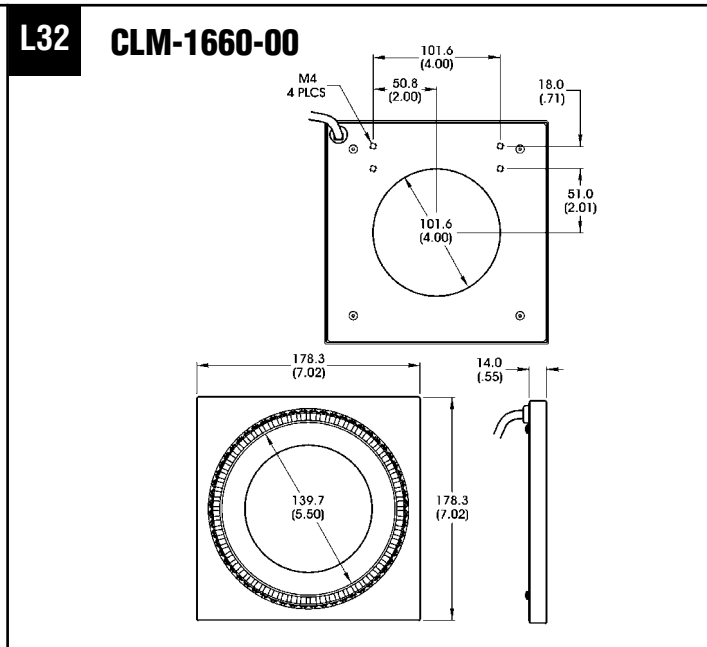
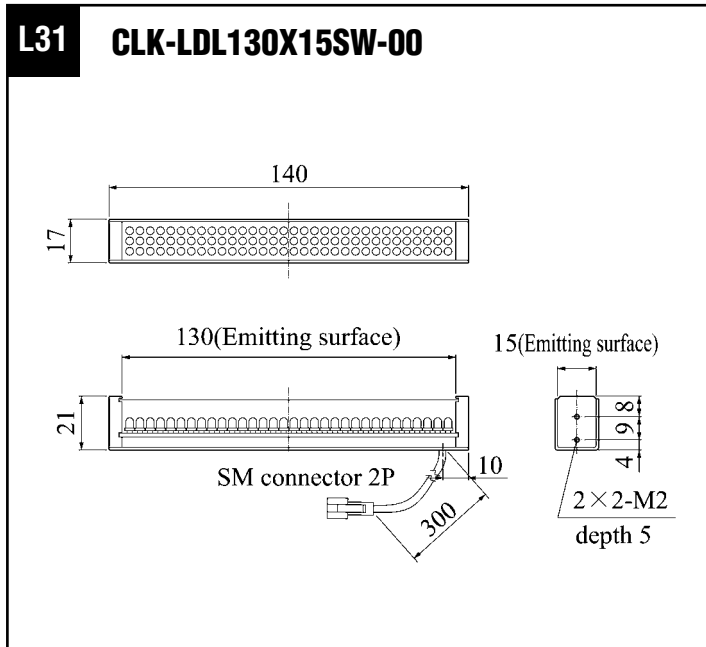
**L30 CLM-LDL247X16-00**



# IN-SIGHT LIGHTING

## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) “L” numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

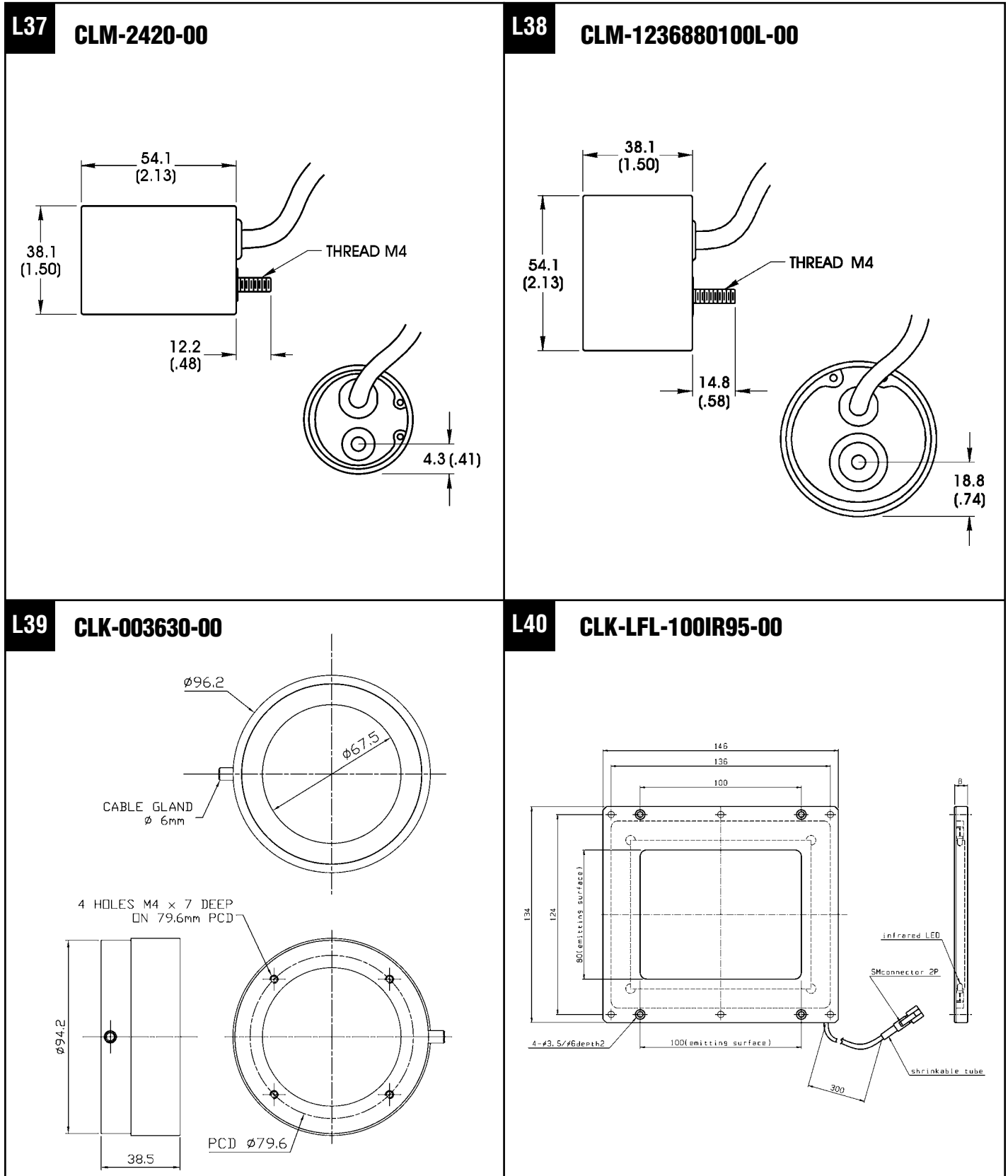




# IN-SIGHT LIGHTING

## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) "L" numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

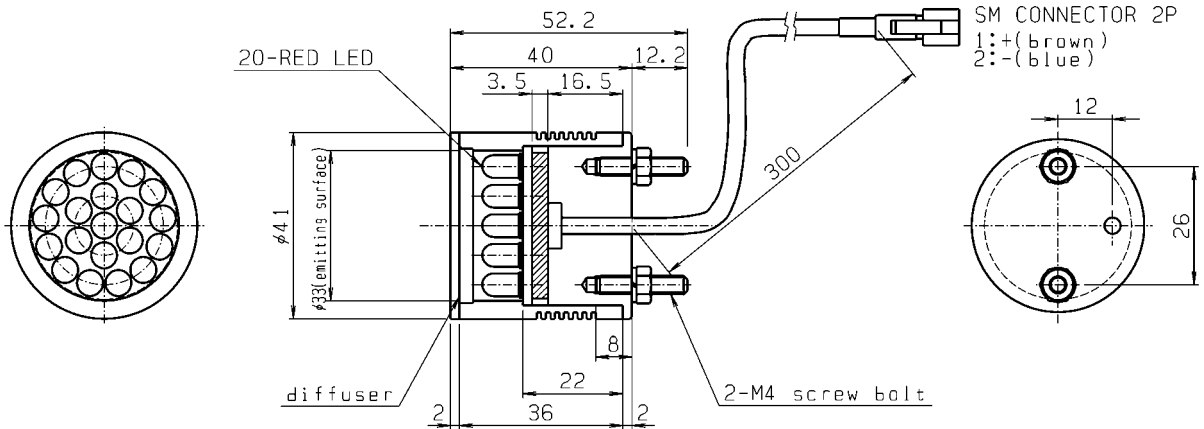


# IN-SIGHT LIGHTING

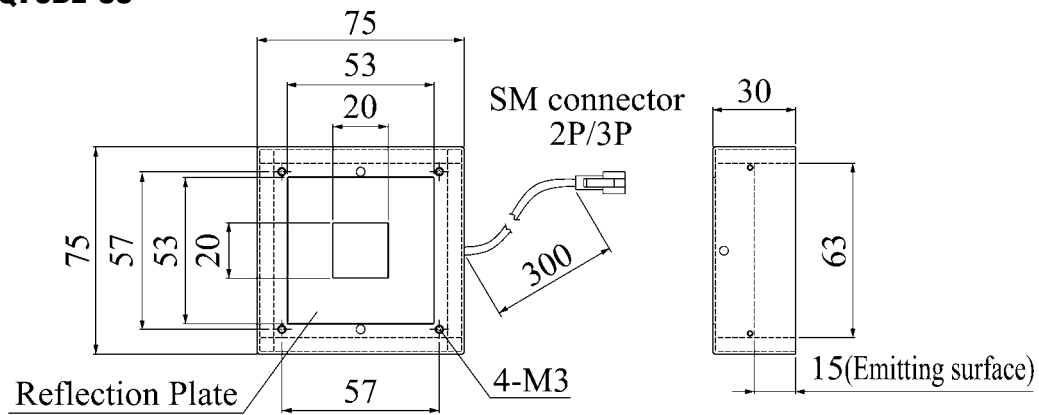
## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) "L" numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

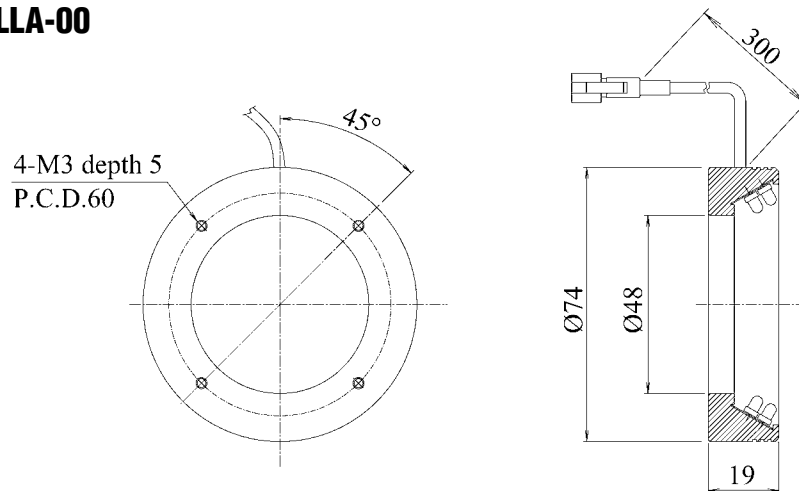
### L41 CLM-LSP41RD-00



### L42 CLM-FPQ75BL-00



### L43 CLM-LDR274BLLA-00

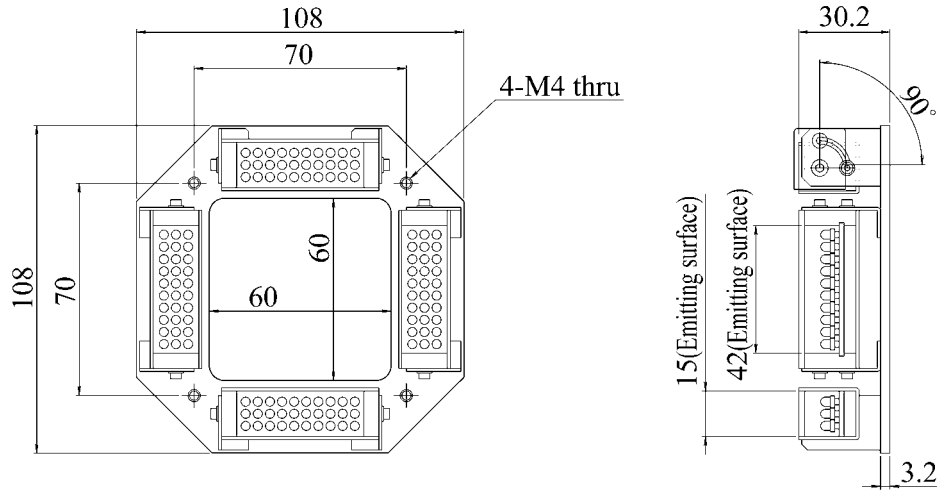


# IN-SIGHT LIGHTING

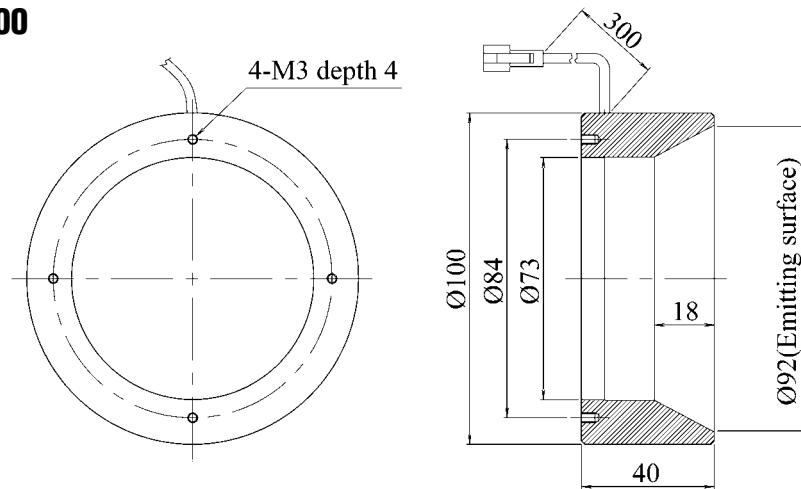
## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) “L” numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

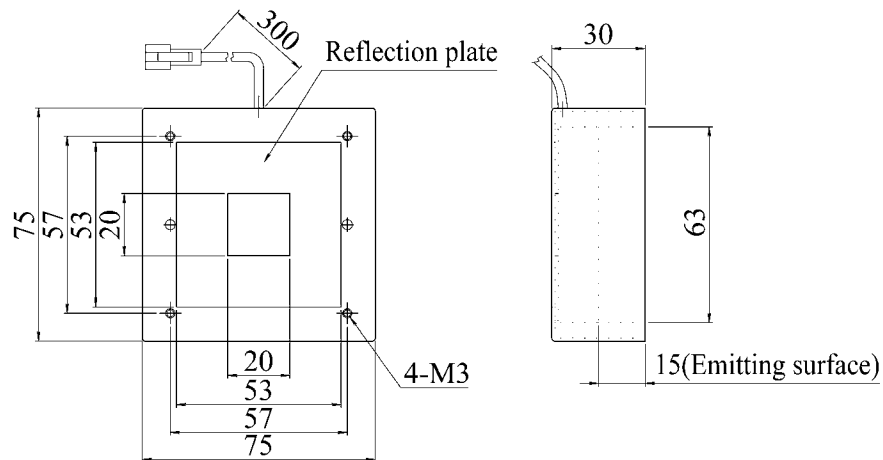
### L44 CLM-LDQ100ASW-00 / CLM-LDQ100A-00



### L45 CLM-FPR100-00



### L46 CLM-FPQ75-00

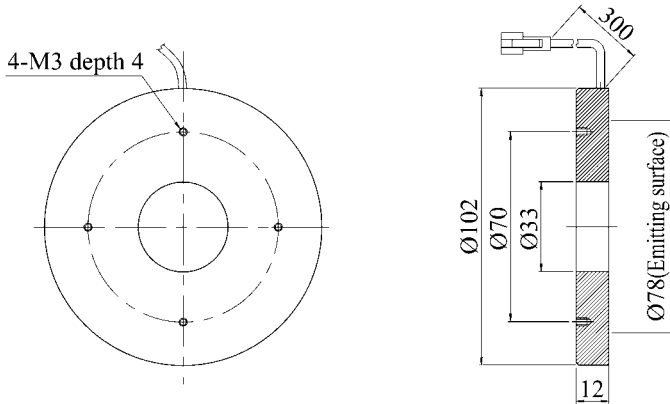


# IN-SIGHT LIGHTING

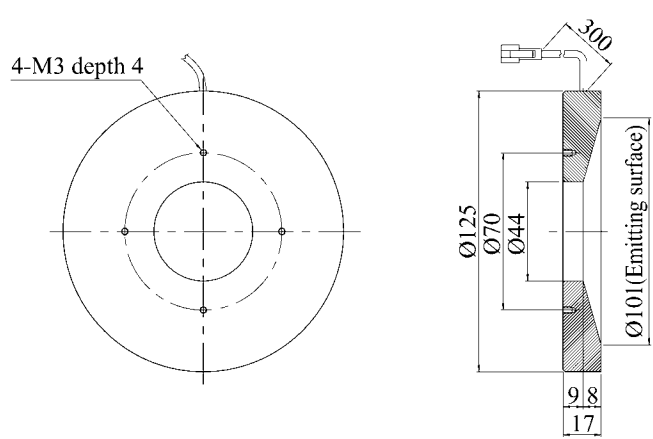
## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) “L” numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

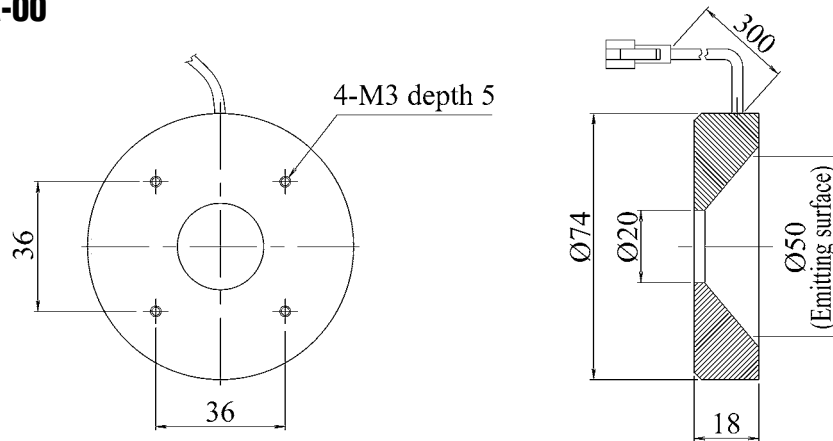
**L47 CLM-LFR100SW-00**



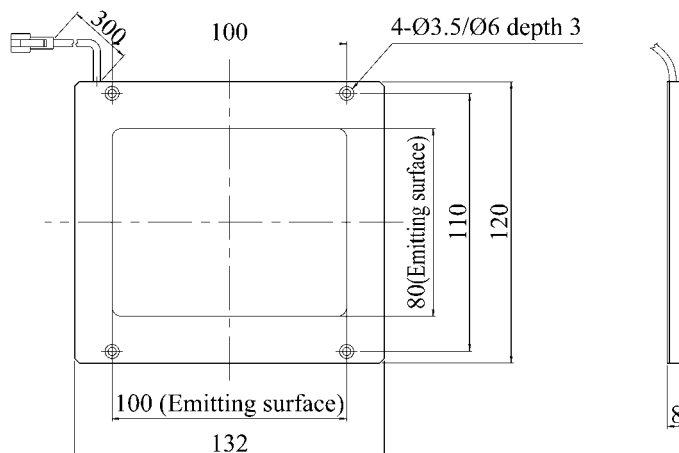
**L48 CLM-LFR130K-00**



**L49 CLM-LKR70A-00**



**L50 CLM-LFL100-00**

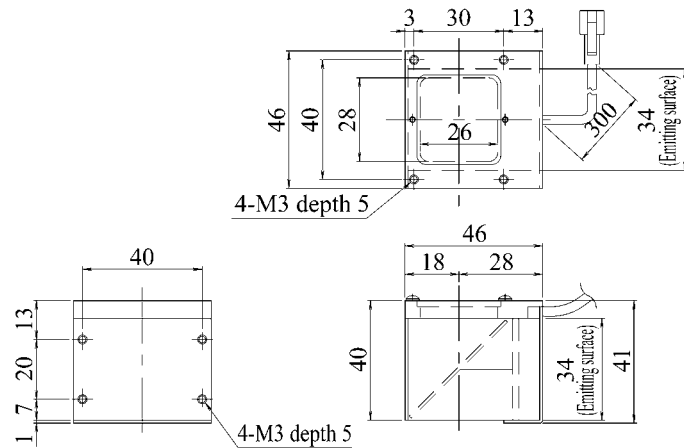


# IN-SIGHT LIGHTING

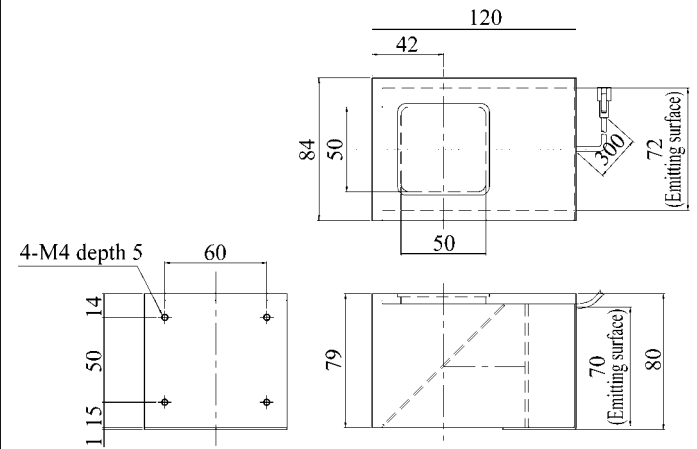
## COGNEX LIGHT MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) “L” numbers refer to charts on pages 20-23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

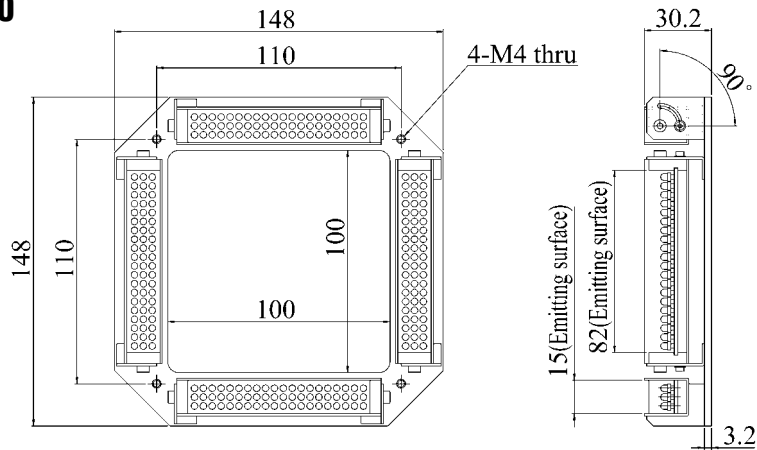
**L51 CLM-LFV34BL-00**



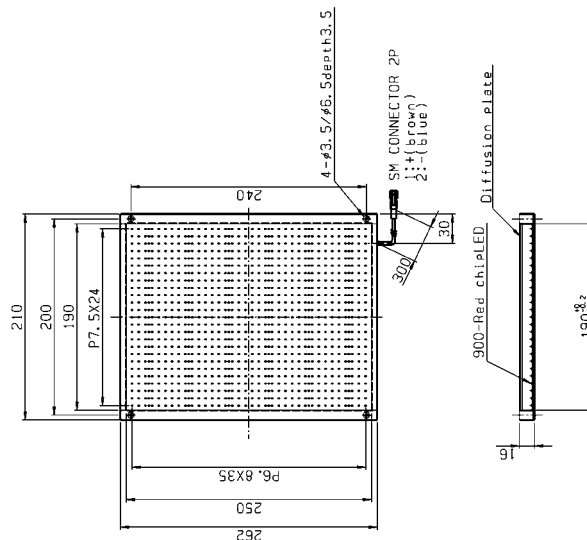
**L52 CLM-LFV70-00**



**L53 CLM-LDQ150A-00**



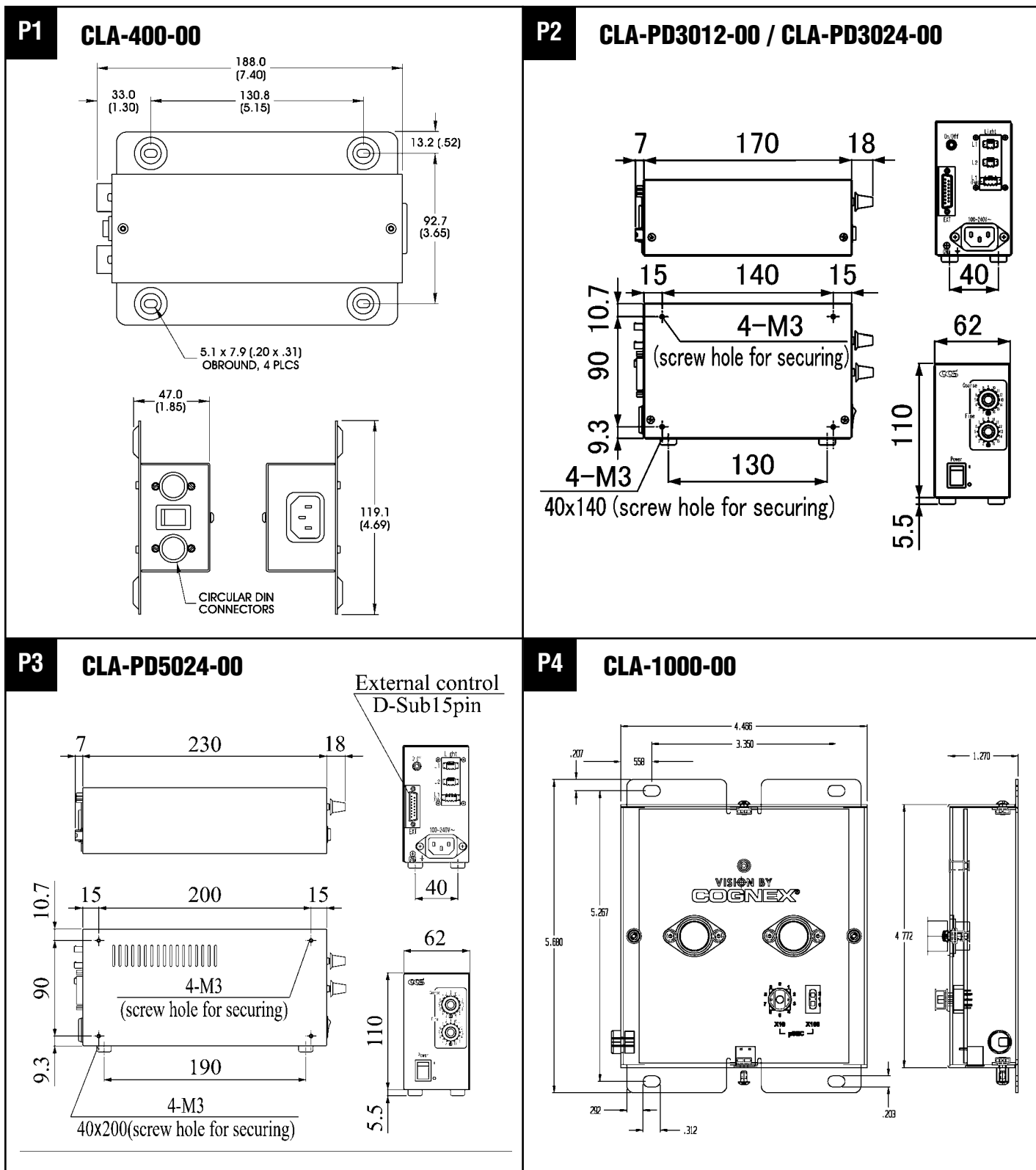
**L54 CLM-LDLTP250X190-00**



# IN-SIGHT LIGHTING

## COGNEX POWER MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) "P" numbers refer to chart on page 24-25.

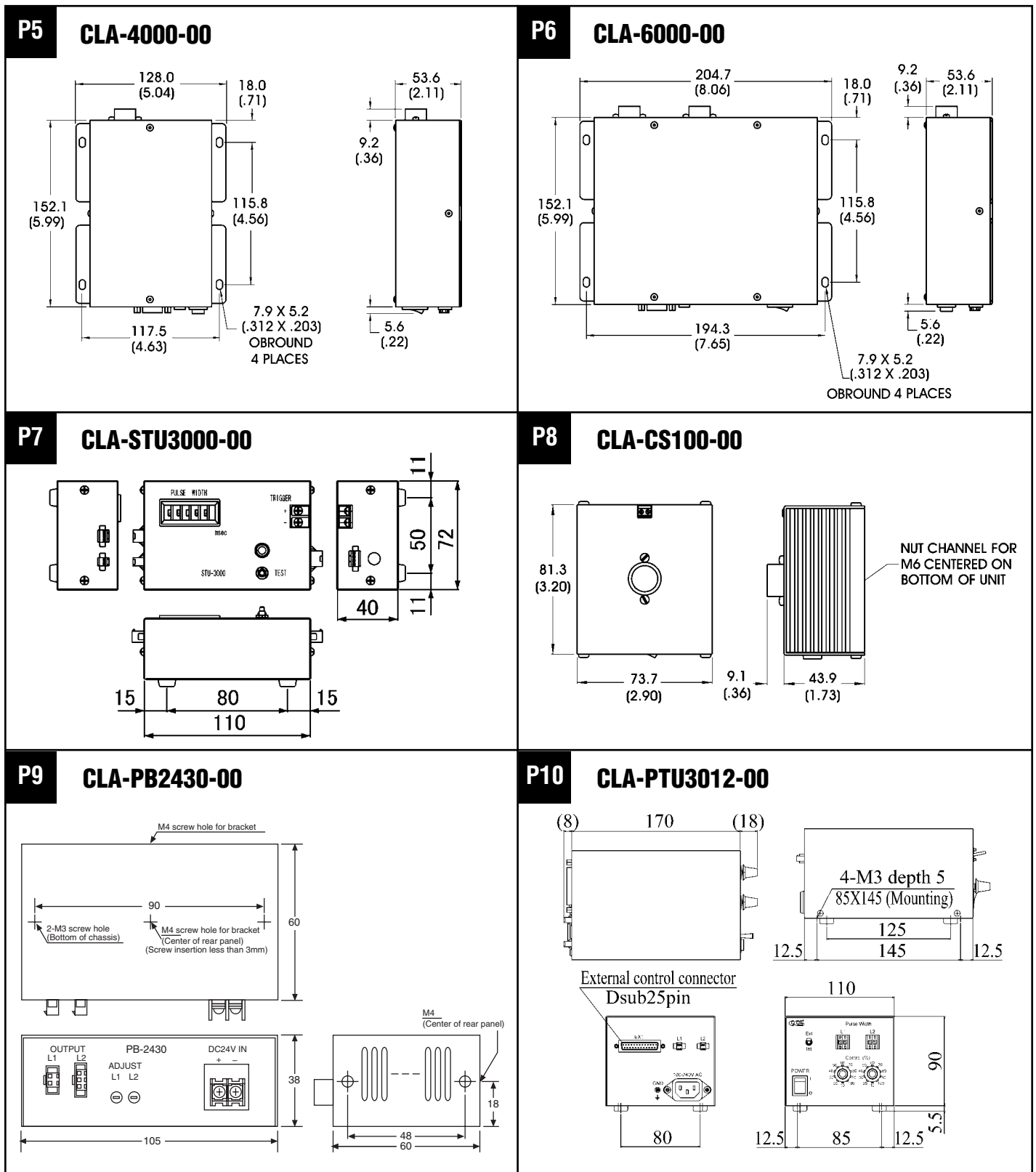
**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.



# IN-SIGHT LIGHTING

## COGNEX POWER MODULES (OPTIONAL FOR ALL IN-SIGHT VISION SENSORS) "P" numbers refer to chart on page 24-25.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

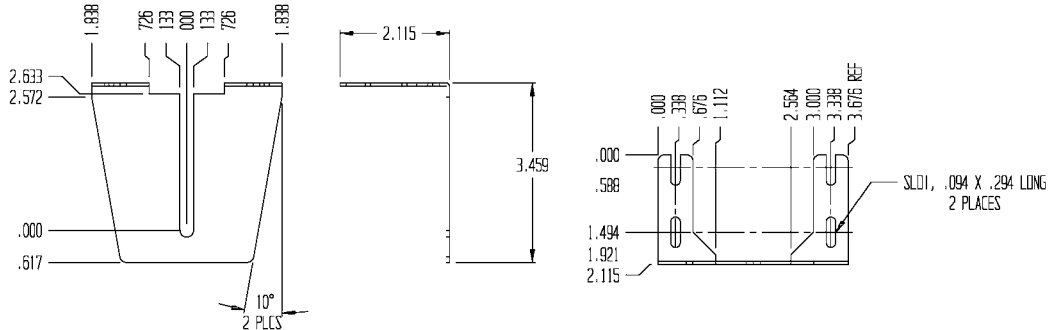


# IN-SIGHT LIGHTING

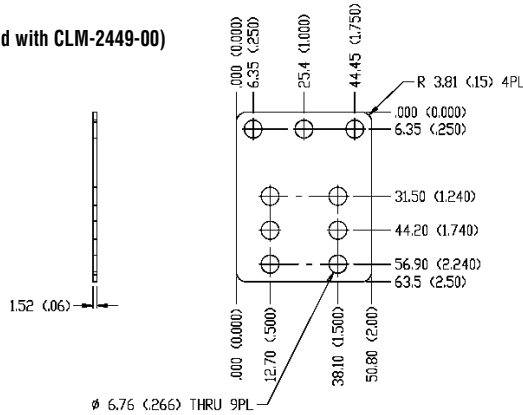
## COGNEX LIGHT MODULE BRACKETS "B" numbers refer to chart on page 21 and 23.

**Note:** Measurements are provided in millimeters. Numbers in parenthesis are in inches.

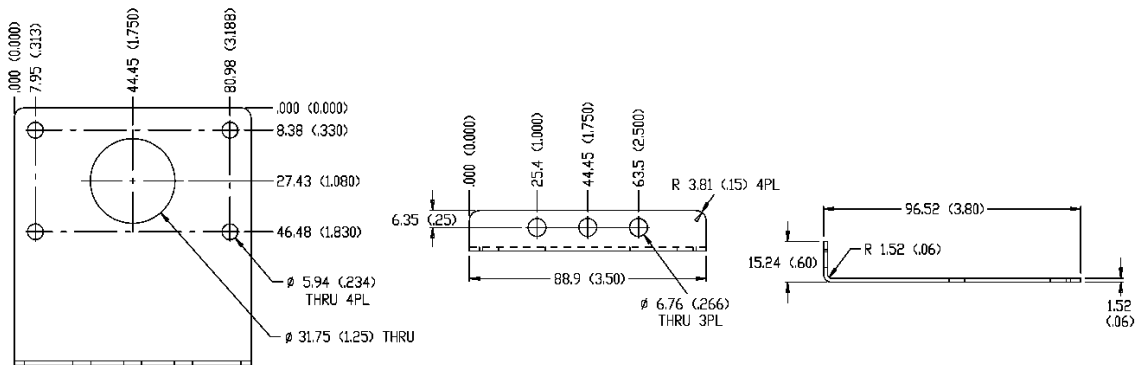
### B1 RING LIGHT BRACKET (Included with CLM-4260-00)



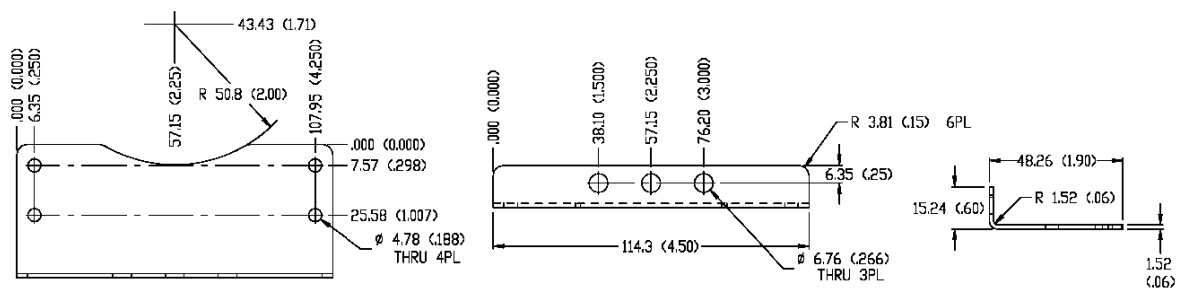
### B2 DIFFUSE LIGHT BRACKET (Included with CLM-2449-00)



### B3 DOME LIGHT BRACKET (Included with CLM-7248-00)



### B4 DARK FIELD LIGHT BRACKET (Included with CLM-1660-00)







2 rue René Laennec 51500 Taissy France  
Fax: 03 26 85 19 08, Tel : 03 26 82 49 29

Email: [hvssystem@hvssystem.com](mailto:hvssystem@hvssystem.com)  
Site web : [www.hvssystem.com](http://www.hvssystem.com)