IU Series
LED lighting with Intensity Control Unit

HPR2 Series  LDR2 Series  LFR Series  LKR Series  LDR-LA1 Series  LDR2-LA Series  HPD2 Series
LFX3 Series  LDL2 Series  FPQ2 Series  TH2 Series  LFL Series  LFV3 Series

LIGHTING SOLUTION
CCS Inc.
Features

**With the IU Series, there is no need for an external controller to change light intensity**

- Direct connect to smart camera or power source
- Change light intensity by pressing buttons

![Intensity Control Unit](image)

**More than 117 models of light units available**

Using IU Series

**Connect to smart camera**

![Smart camera](image)

Light unit can receive On/Off signals from a smart camera

**Connect to power source**

![24V Power supply](image)

By using an optional cable, the light can be directly connected to 24V power supply

**Unlock the Intensity Control Unit**

Hold down the plus and minus buttons at the same time for 2 seconds or more to release the lock.

The Intensity Control Unit will automatically lock if it is not used for 5 seconds.

**Changing the Light Intensity**

<table>
<thead>
<tr>
<th>Action</th>
<th>Light intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press</td>
<td>Increases for the plus button. Decreases for the minus button</td>
</tr>
<tr>
<td>Hold down for 1 second or more</td>
<td>Changes faster</td>
</tr>
<tr>
<td>Press both buttons at the same time</td>
<td>Changes to: minimum, middle, maximum, minimum, middle, maximum, minimum ...</td>
</tr>
</tbody>
</table>
**Line-up**

### Ring Lights
**HPR2 Series**
- HPR2-50RD-IU: Red, 8.1 W
- HPR2-50SW-IU: White, 9.6 W
- HPR2-75RD-IU: Red, 11.0 W
- HPR2-75SW-IU: White, 11.0 W
- HPR2-100RD-IU: Red, 11.0 W
- HPR2-100SW-IU: White, 11.0 W
- HPR2-150RD-IU: Red, 11.0 W
- HPR2-150SW-IU: White, 11.0 W

### LDR2 Series
- LDR2-32RD2-IU: Red, 2.0 W
- LDR2-32SW2-IU: White, 2.4 W
- LDR2-42RD2-IU: Red, 2.5 W
- LDR2-42SW2-IU: White, 3.2 W
- LDR2-50RD2-IU: Red, 3.6 W
- LDR2-50SW2-IU: White, 4.3 W
- LDR2-70RD2-IU: Red, 6.6 W
- LDR2-70SW2-IU: White, 8.1 W
- LDR2-90RD2-IU: Red, 11.0 W
- LDR2-90SW2-IU: White, 11.0 W

### LFR Series
- LFR-100RD2-IU: Red, 4.1 W
- LFR-100SW2-IU: White, 5.1 W
- LFR-130RD2-IU: Red, 5.1 W
- LFR-130SW2-IU: White, 6.2 W

### LKR Series
- LKR-70RD2-IU: Red, 3.0 W
- LKR-70SW2-IU: White, 4.3 W

### LDR-LA1 Series
- LDR-75RD2-LA1-IU: Red, 3.0 W
- LDR-75SW2-LA1-IU: White, 4.3 W
- LDR-96RD2-LA1-IU: Red, 3.6 W
- LDR-96SW2-LA1-IU: White, 4.3 W
- LDR-146RD2-LA1-IU: Red, 5.1 W
- LDR-146SW2-LA1-IU: White, 6.6 W
- LDR-176RD2-LA1-IU: Red, 6.6 W
- LDR-176SW2-LA1-IU: White, 8.1 W
- LDR-206RD2-LA1-IU: Red, 7.6 W
- LDR-206SW2-LA1-IU: White, 9.6 W

### LDR2-LA Series
- LDR2-48RD2-LA-IU: Red, 2.5 W
- LDR2-48SW2-LA-IU: White, 3.6 W
- LDR2-74RD2-LA-IU: Red, 5.1 W
- LDR2-74SW2-LA-IU: White, 6.2 W
- LDR2-100RD2-LA-IU: Red, 9.6 W
- LDR2-100SW2-LA-IU: White, 11.0 W
- LDR2-132RD2-LA-IU: Red, 11.0 W
- LDR2-132SW2-LA-IU: White, 11.0 W

### Flat Dome Lights
**LFX3 Series**
- LFX3-50RD-IU: Red, 11.0 W
- LFX3-50SW-IU: White, 11.0 W
- LFX3-75RD-IU: Red, 11.0 W
- LFX3-75SW-IU: White, 11.0 W
- LFX3-100RD-IU: Red, 11.0 W
- LFX3-100SW-IU: White, 11.0 W

### Dome Lights
**HPD2 Series**
- HPD2-75RD-IU: Red, 11.0 W
- HPD2-75SW-IU: White, 11.0 W
- HPD2-100RD-IU: Red, 11.0 W
- HPD2-100SW-IU: White, 11.0 W
- HPD2-150RD-IU: Red, 11.0 W
- HPD2-150SW-IU: White, 11.0 W

### Coaxial Lights
**LFV3 Series**
- LFV3-34RD-IU: Red, 4.2 W
- LFV3-34SW-IU: White, 3.7 W
- LFV3-35RD-IU: Red, 3.6 W
- LFV3-35SW-IU: White, 4.2 W
- LFV3-40RD-IU: Red, 5.1 W
- LFV3-40SW-IU: White, 5.1 W
- LFV3-50RD-IU: Red, 8.6 W
- LFV3-50SW-IU: White, 11.0 W
- LFV3-70RD-IU: Red, 11.0 W
- LFV3-70SW-IU: White, 11.0 W
- LFV3-CP-13RD-IU: Red, 2.5 W
- LFV3-CP-13SW-IU: White, 2.8 W
- LFV3-CP-18RD-IU: Red, 3.8 W
- LFV3-CP-18SW-IU: White, 4.6 W

### Bar Lights
**LDL2 Series**
- LDL2-33X8RD2-IU: Red, 3.0 W
- LDL2-33X8SW2-IU: White, 2.5 W
- LDL2-41X16RD2-IU: Red, 4.3 W
- LDL2-41X16SW2-IU: White, 4.3 W
- LDL2-41X16SW2-DW-IU: White, 4.3 W
- LDL2-41X16SW2-WD-IU: Red, 4.3 W
- LDL2-80X16RD2-IU: Red, 8.1 W
- LDL2-80X16SW2-IU: White, 8.1 W
- LDL2-80X16SW2-DW-IU: White, 8.1 W
- LDL2-80X16SW2-WD-IU: Red, 8.1 W
- LDL2-119X16SW2-IU: White, 11.0 W
- LDL2-119X16SW2-DW-IU: Red, 11.0 W
- LDL2-119X16SW2-WD-IU: White, 11.0 W
- LDL2-74X30RD2-IU: Red, 11.0 W
- LDL2-74X30SW2-IU: White, 11.0 W
- LDL2-74X30RD2-WD-IU: Red, 11.0 W
- LDL2-74X30SW2-WD-IU: White, 11.0 W

### Square Lights
**FPQ2 Series**
- FPQ2-32RD-IU: Red, 6.6 W
- FPQ2-32SW-IU: White, 5.6 W
- FPQ2-48RD-IU: Red, 6.3 W
- FPQ2-48SW-IU: White, 11.0 W

### Back Lights
**TH2 Series**
- TH2-27X27RD-IU: Red, 2.8 W
- TH2-27X27SW-IU: White, 3.4 W
- TH2-43X35RD-IU: Red, 5.4 W
- TH2-43X35SW-IU: White, 5.3 W
- TH2-51X51RD-IU: Red, 7.0 W
- TH2-51X51SW-IU: White, 8.7 W
- TH2-63X60RD-IU: Red, 10.4 W
- TH2-63X60SW-IU: White, 10.2 W
- TH2-83X75RD-IU: Red, 11.0 W
- TH2-83X75SW-IU: White, 11.0 W

### LFL Series
- LFL-612RD2-P-IU: Red, 1.0 W
- LFL-612SW2-P-IU: White, 0.9 W
- LFL-1012RD2-IU: Red, 1.0 W
- LFL-1012SW2-IU: White, 1.3 W
- LFL-1012RD2-P-IU: Red, 1.0 W
- LFL-1012SW2-P-IU: White, 1.3 W
- LFL-3212RD2-IU: Red, 2.0 W
- LFL-3212SW2-IU: White, 2.8 W
- LFL-4012RD2-IU: Red, 2.5 W
- LFL-4012SW2-IU: White, 3.2 W
- LFL-50RD2-IU: Red, 3.0 W
- LFL-50SW2-IU: White, 3.6 W
- LFL-100RD2-IU: Red, 5.6 W
- LFL-100SW2-IU: White, 5.8 W

CCS accepts custom orders for such as types of LED light unit, sizes, and colors of LED.
To ensure proper and safe use of the product, please read the Instruction Guide completely before using the product. The design and specifications of this product are subject to change without notification for product improvement. The workpiece imaging examples included in this pamphlet are intended to serve only as references to help you select a suitable Light Unit. Please verify the functionality and conditions required for your particular application before you make a final selection. The sample workpieces used in this pamphlet have been processed specifically for sample imaging. They are not intended to represent product quality and performance.

**Dimensions (mm) and specifications**

### Common Specifications

<table>
<thead>
<tr>
<th>Lighting method</th>
<th>Continuous lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Method</td>
<td>Constant-voltage system</td>
</tr>
<tr>
<td>Intensity control method</td>
<td>PWM control</td>
</tr>
<tr>
<td>PWM frequency</td>
<td>125 kHz</td>
</tr>
<tr>
<td>Input voltage (rating)</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Input voltage (range)</td>
<td>21.6 to 24 VDC</td>
</tr>
<tr>
<td>Input connector</td>
<td>M12 (4pins, plug)</td>
</tr>
<tr>
<td>Power consumption (typ.)</td>
<td>Refer to our web page and others</td>
</tr>
<tr>
<td>Cable length</td>
<td>670mm (including the Intensity Control Unit)</td>
</tr>
</tbody>
</table>

### Input Connector

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24 VDC*¹</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
</tr>
<tr>
<td>3</td>
<td>COMMON GND</td>
</tr>
<tr>
<td>4</td>
<td>ON/OFF input (+24 V)*²</td>
</tr>
</tbody>
</table>

*¹ Voltage rating: 24 VDC, Voltage range: 21.6 to 24 VDC
*² Voltage rating: 24 VDC, Voltage range: 20 to 26.4 VDC

### Optional Accessories

#### Extension Cable

Model name: FRCB-n-M12-4M-4F
This robot cable is used to extend the Light Unit cable length.

<table>
<thead>
<tr>
<th>Model name</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRCB-1-M12-4M-4F</td>
<td>1 m</td>
<td>190 g max.</td>
</tr>
<tr>
<td>FRCB-2-M12-4M-4F</td>
<td>2 m</td>
<td>340 g max.</td>
</tr>
<tr>
<td>FRCB-3-M12-4M-4F</td>
<td>3 m</td>
<td>500 g max.</td>
</tr>
</tbody>
</table>

Select the required cable length.

#### Continuous Lighting Adapter

Model name: FRCB-0.5-M12-AL-4M4F
This Adapter is used to continuously turn ON the Light Unit. A robot cable is used. (Pins 1 and 4 are internally connected.)

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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*² Voltage rating: 24 VDC, Voltage range: 20 to 26.4 VDC

### Intensity Control Unit

- **For specifications of each model, please refer to our web page.**

- **For quick access.**

### CCS Inc.

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