Product Highlights

- The Inline Current Source (iCS 3) provides steady and optimal current to lights from a small package when a larger, more flexible external controller is not necessary.

- Switching between continuous-on, gating on/off and strobe overdrive is seamless. The iCS 3 and iCS 3S employ Ai’s exclusive Adaptive Overdrive that optimizes strobe power regardless of input Pulse Width.

- The iCS 3 is a default-on device on power-up, whereas the iCS 3S is a default-off device, requiring a trigger to illuminate.

General Specifications

<table>
<thead>
<tr>
<th>Modes</th>
<th>Pulsed, Continuous, Gated Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage Range</td>
<td>24V nom.</td>
</tr>
<tr>
<td>Maximum Input Current</td>
<td>1.5A DC</td>
</tr>
<tr>
<td>Output Power</td>
<td>Continuous: 35W, 1.5A Strobe: 5x Overdrive Typical</td>
</tr>
<tr>
<td>User Interface</td>
<td>5 Tinned Wire Leads: OR optional 5-pin mail M12 cordset</td>
</tr>
<tr>
<td>Trigger</td>
<td>Single PNP - active HIGH trigger input, TTL compatible</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP50</td>
</tr>
<tr>
<td>Max Frequency</td>
<td>10 KHz - User must limit duty cycle to &lt;=5% beyond 1 KHz</td>
</tr>
<tr>
<td>Trigger Latency</td>
<td>60 µsec typical</td>
</tr>
<tr>
<td>Maximum Operating</td>
<td>Ambient: 90°F Case: 125°F</td>
</tr>
</tbody>
</table>
I3 & I3S

Mechanical Specs

Standard

Washdown Option

Cable Length and Positioning

Standard
1.82m (6) cable

For custom cables the maximum overall length allowed is 7.62 meters (25).
For longer cable lengths please contact us. Please note this is not an option on MT2.
Additional Specs

This is flextech™ enabled with the following software:

Adaptive Overdrive™

For lights with an integrated driver, Adaptive Overdrive™ control provides a safe, maximal output pulse regardless of camera exposure time.

Upon receiving an external trigger input, an Adaptive Overdrive™ enabled device produces a high power output pulse for up to 5 mSec. Should the external trigger pulse exceed 5 mSec, the light output pulse gradually trails off to a sustained, safe level for the remaining exposure period. Traditional fixed duration strobo drivers cannot provide similar performance (see Fig. 1). Adaptive Overdrive™ is provided with ICS 3 and ICS 3S inline controllers as well as EuroBrite™ lighting products.

Adaptive Power™

For lights with an integrated driver and built-in temperature sensor, Adaptive Power™ control maximizes light output by factoring in the ambient temperature, as well as the heat sinking potential of the customer's light-head mounting structure.

Upon initialization, an Adaptive Power™ enabled lighting system can ‘learn’ about its thermal dissipation potential by monitoring the temperature rise of the assembly versus time. Performance increases of 3X are achievable, compared to a device that is mounted in free space. This optimization process applies to both strobed and continuus modes of operation.
### Electrical Specs

#### Standard Wiring Information

<table>
<thead>
<tr>
<th>Pin</th>
<th>Channel</th>
<th>Wire Color</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V DC</td>
<td>Brown</td>
<td>Power</td>
</tr>
<tr>
<td>2</td>
<td>RESERVED</td>
<td>White</td>
<td>Input</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>Blue</td>
<td>Power</td>
</tr>
<tr>
<td>4</td>
<td>PNP/Active High Trigger</td>
<td>Black</td>
<td>Input</td>
</tr>
<tr>
<td>5</td>
<td>0-10V Analog Control</td>
<td>Gray</td>
<td>Input</td>
</tr>
</tbody>
</table>

#### Typical Connection - Strobe Mode

**I3: Connect TRIGGER+, Or leave floating to enable the output**

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### I3 Version

- Light is in CONTINUOUS MODE when power is applied. The light will remain operating in continuous mode until a trigger pulse is detected, or for as long as the trigger input is HIGH.
- The first trigger pulse will initiate STROBE MODE. The controller remains in STROBE MODE until the power is toggled. In STROBE MODE the output light pulse width always corresponds to the duration of the input trigger width.
- A period of overdrive occurs within 5ms after the beginning of the pulse. After this period of time, the on-time of the pulse is at the continuous output level.
- Analog control is optional for remote dimming (0-10VDC) in both models.

### I3S Version

- The "I3S" version is identical to I3 except that the device will not power on continuous by default. **The output is only active when the trigger input is HIGH.**

### I3 / I3S Wiring, Best Practices

To prevent any unwanted behavior from the controller use the following guidelines:

- Unused wires should be trimmed, or isolated to prevent accidental shorting of leads
- If floating, tie unused analog input: GRAY to +24VDC
- If floating tie unused trigger input: BLACK to +24VDC
- Tie drain wire to EARTH GND, or DC GND if earth is not available (noise immunity)
It is possible to connect controller to cameras with dedicated driver outputs. (M12 Connector option required.)

**Typical Connection, Camera - Teledyne DALSA: BOA / BOA PRO**

*External resistors may not be needed. Check documentation on I/O for recommendations and voltage limits.*

**Typical Connection, Camera - Cognex: Insight 7000**

The ICS 3 does not have a true sinking input. The emitter must be tied to the trigger as shown.

*External resistors may not be needed. Check documentation on I/O for recommendations and voltage limits.*

*Analog Dimming: 0 – 10%, 10 – 100% output. Analog dimming works in both strobe and continuous.*
Warranty Information

Every Advanced illumination, Inc. (Ai) product is thoroughly inspected and tested before leaving the factory. Products are warranted to be free of defects in workmanship and materials for a period of FIVE YEARS from the original date of purchase. Should a defect develop during this period, customers may return the complete product, freight prepaid, to one of Ai’s distributors or to the Ai factory. All product warranty returns require a Return Merchandise Authorization (RMA) number which is obtained from Customer Service. The RMA number must be clearly marked on the outside of the package. Ai will inspect the unit, and if a defect is found will, at our option, repair or replace the product without charge. Ai disclaims liability for any implied warranties, including implied warranties of “merchantability” and “fitness for a specific purpose.” For products under warranty that have since been discontinued, Ai will make an effort to replace with equivalent parts; for circumstances that do not allow for equivalent replacement, Ai reserves the right to repair or replace these products with an updated version. Ai cannot be held responsible for the unauthorized or inappropriate use of its products. Any unauthorized repair or modifications will result in a voided warranty.

No Liability for Consequential Damages: In no event shall Ai be liable for any consequential, special, incidental, or indirect damages of any kind arising from the sale or use of the products.

Electromagnetic Compatibility

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC) as stated in the product specifications. These requirements and limits are designed to provide reasonable protection against harmful interference only when the product is operated in its intended industrial electromagnetic environment. To minimize the potential for electromagnetic interference or unacceptable performance degradation, install and use this product in strict accordance with the instructions in the product documentation.

Customer Service

For information on existing orders, or to make an order adjustment, contact us Monday through Friday 8:00 am to 5:00 pm ET or send an email to orders@advill.com.

Company Information

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