

### Product Highlights

- The I3 and I3S Inline Controllers provide overdrive strobe and continuous operation to lights from a small package when larger, more versatile discrete controllers are not necessary.
- Switching between continuous-on, gating on/off and strobe overdrive is seamless. The I3 and I3S employ Ai's exclusive Adaptive Overdrive™ that optimizes strobe power regardless of input Pulse Width.
- The I3 is a default-on device on power-up, whereas the I3S is a default-off device, requiring a trigger to illuminate.



### General Specifications

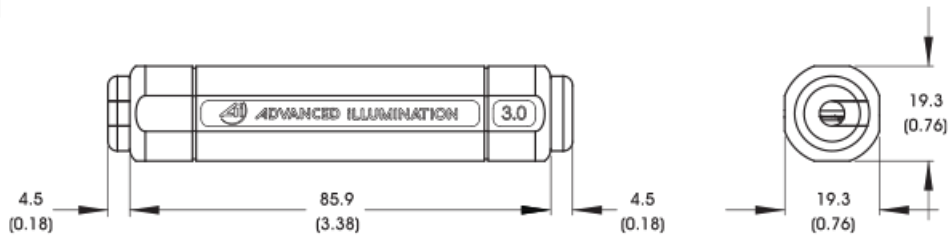
<b>Controller Style</b>	Inline Control System (Cable Inline, Permanently Affixed)
<b>Operating Modes</b>	Pulse (Overdrive Strobe), Gated Continuous, Continuous
<b>Input Connection</b>	Flying Tinned Leads or Optional A-coded 5-pin Male M12 Connector
<b>Input Supply Requirements</b>	24V DC Nominal, 1.25A Recommended 21V Min - 30V Max; Power Inputs Reverse-Polarity Protected
<b>Output Channels</b>	1 Inline Channel
<b>Output Power</b>	Continuous: 25W Max* Pulsed: 125W Peak Max*
<b>Output Current</b>	Continuous: 1.25A Max* Pulsed: 8A Max* (Load Dependent)
<b>Output Voltage</b>	Vin - 1V
<b>Trigger Signal</b>	Single PNP, Active High, TTL Compatible 2.5V Min - 30V Max, <=5mA

Trigger Protection	Protected up to 30V
Trigger Delay	20 $\mu$ s + 10 $\mu$ s LED rise-time
Trigger Frequency Limit	2KHz *Requires Duty Cycle <= 1% beyond 1KHz
Pulse Width Range	30 $\mu$ s - ?
Duty Cycle Range	<5% up to 5ms <10% up to 10ms >= 10% past 10ms
Analog Dimming	0V - 10V (0% - 100%); <=5mA
Operating Temperature Range	0°C to +40°C
Storage Temperature Range	-25°C to +85°C
IP Rating	Non-sealed: Not Rated Sealed: IP67
Dimensions	Non-sealed: 3.73" x 0.82" DIA (94.6mm x 20.6mm DIA) Sealed: 5.06" x 0.82 DIA (128.7mm x 20.6mm DIA)
Weight	Approx. 0.106lb (48g)
Mounting	N/A (In-line)
Case Material	Polycarbonate
Warranty	5 Years
Compliance	CE, RoHS

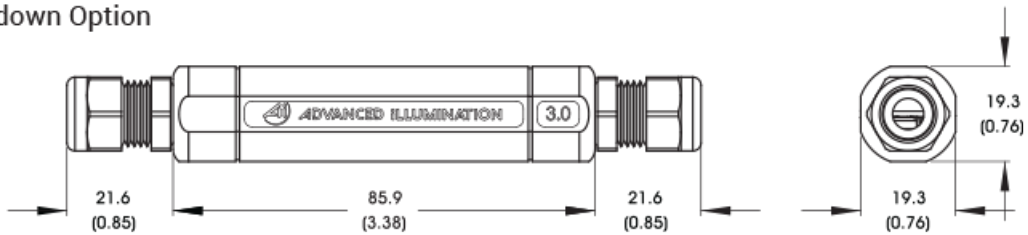
\*Values shown are based on controller component limitations. Actual limitations will vary depending on the limits set for the connected light head. These limits are hardcoded into each in-line controller to prevent LED failure from occurring when driven beyond the light's acceptable range.

## 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 M12.

## 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 width exceed 5 mSec, the light output pulse gradually trails off to a sustained, safe level for the remaining exposure period.

Traditional fixed duration strobe 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.

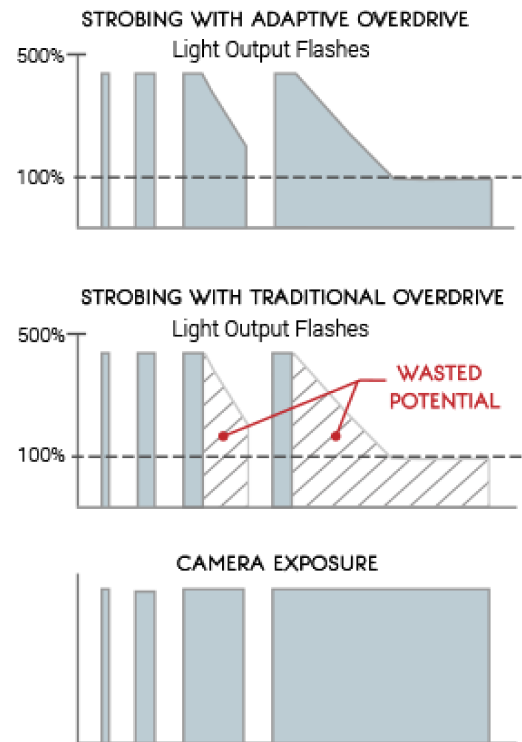
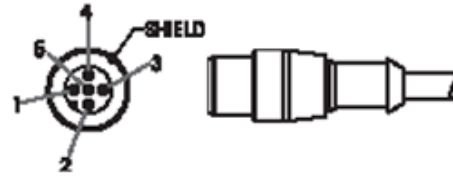


Fig. 1

## Standard Wiring Information

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



## TYPICAL CONNECTION - STROBE MODE



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

## 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 5msec from 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:

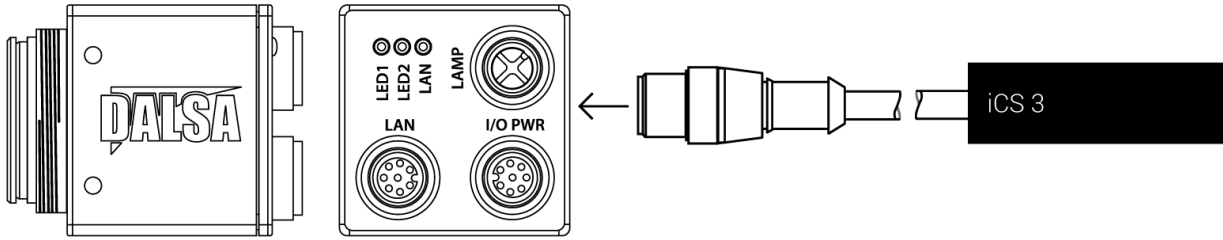
- Unused wires should be trimmed, or isolated to prevent accidental shorting of leads
- If floating, tie unused analog input: GRAY to +24VDC
- If floating tie unused trigger input: BLACK to +24VDC
- Tie drain wire to EARTH GND, or DC GND if earth is not available (noise immunity)

## Wiring Diagrams

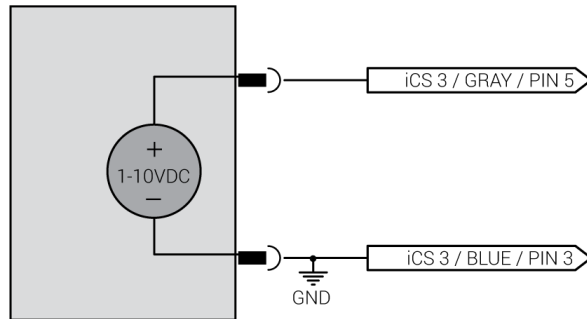
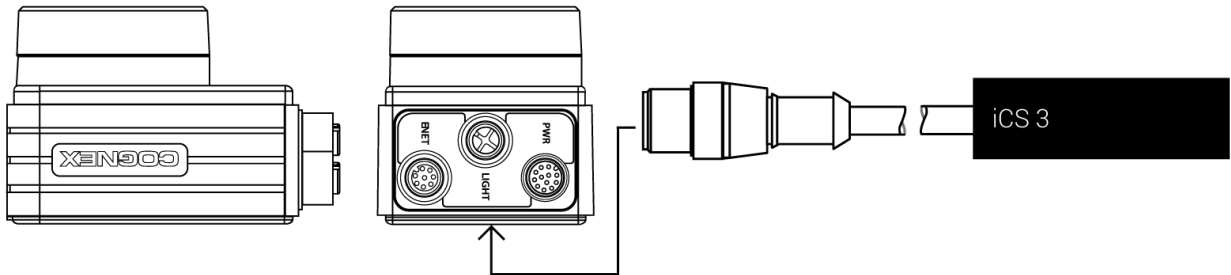
### CAMERA SPECIFIC WIRING DIAGRAMS

It is possible to connect controller to cameras with dedicated driver outputs. (M12 Connector option required.)

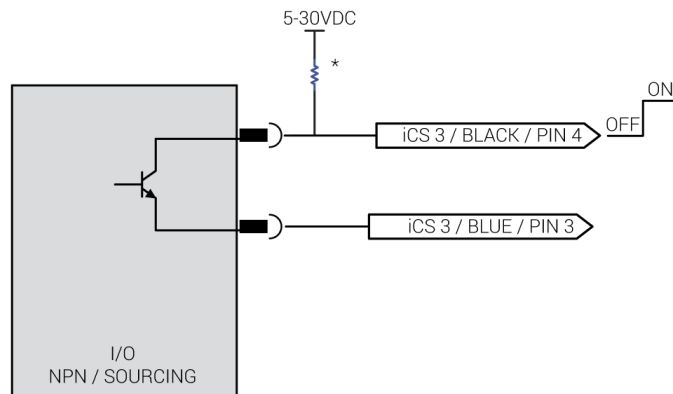
#### TYPICAL CONNECTION, CAMERA - TELEDYNE DALSA: BOA / BOA PRO



#### TYPICAL CONNECTION, CAMERA - COGNEX: INSIGHT 7000



Analog Dimming: 0 = 10%, 10 = 100% output.  
Analog dimming works in both strobe and continuous.



\* Typical resistor is 2.2-4.7K  
Refer to 3<sup>rd</sup> party documentation for your trigger source.

## 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@advancedillumination.com](mailto:orders@advancedillumination.com).

## Company Information

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