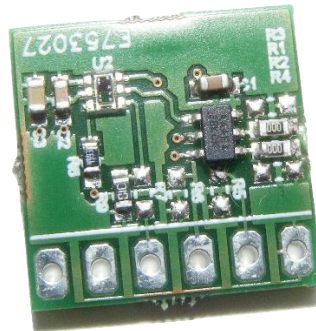


## OVERVIEW

The iCog™ Light sensor uses the Intersil ISL29023 digital light sensor to measure ambient and infrared light. Users should consult the Intersil ISL29023 datasheet for full information about the sensor.

CognIoT™ iCog™ sensor boards come fitted with an 'ID-IoT' system chip. This is an EEPROM with 1kbytes of user storage (for calibration data etc.). The ID-IoT chip contains a unique 32-bit number to identify the sensor board.



Top View.  
iCog-Ls.1 Light Sensor

## KEY FEATURES

### The Sensor – ISL29023

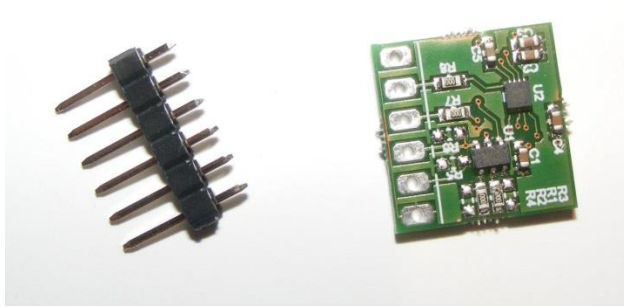
- I<sup>2</sup>C Interface
- Interrupt output available
- 16-bit resolution
- 4 ranges
  - 0.015 to 1000 Lux
  - 0.06 to 4000 Lux
  - 0.24 to 16000 Lux
  - 0.96 to 64000 Lux
- -40C to +85C
- Ambient and Infrared light
- Self calibrating
- 11us to 90ms conversion rates
- Interrupt when light outside limits
- Close to human eye response

### ID-IoT chip – eeprom

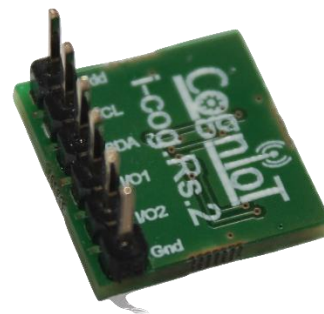
- Prewired for device base I<sup>2</sup>C address
- Configurable for different addresses
  - A0,A1 address selection may be changed
  - Allows up to 4 iCogs™ on same bus
  - See application note for details
- 1KB user data space
- 32-bit Unique ID No. (UID)
- Option to fit pull up resistors on SDA/SCL lines if required

## SHIPPING AND ASSEMBLY

The iCog™ Sensors are shipped with a 6-way 0.1" header that may be soldered into the sensor board for plugging into a suitable socket. Alternatively the sensor may be connected with 'flying lead' wiring.



iCog and 6-way header.

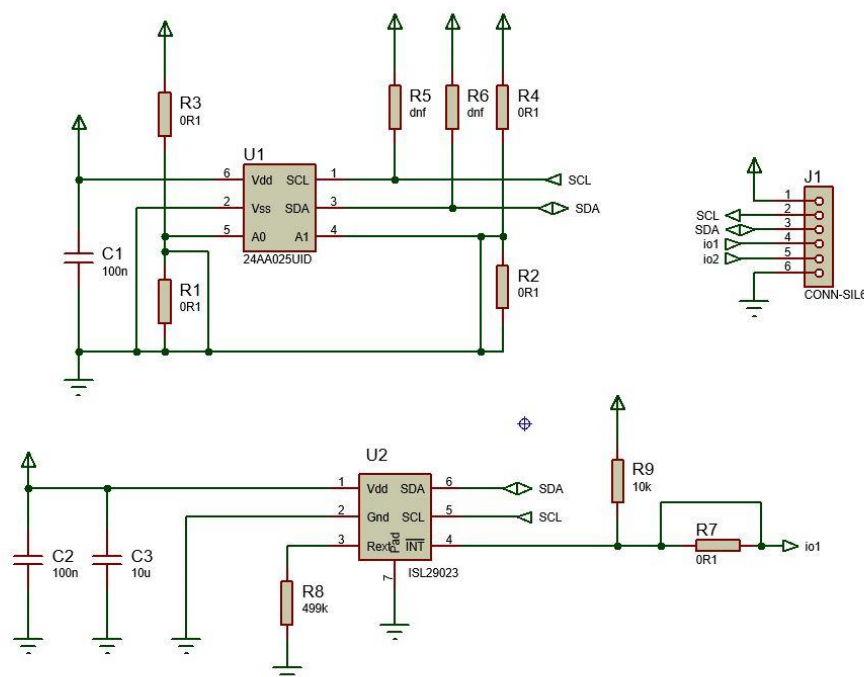


Assembled iCog sensor

## DIMENSIONS

The family of iCog™ sensor boards are 15mm x 15mm

## SCHEMATIC



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**CONNECTOR**

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The CognIoT™ iCog™ sensor board is connectable via a 6-way 0.1" (2.54mm) pitch header.  
Pin-out is:

- 1 – Vdd (nominally 3.3V)
- 2 – SCL (I2C clock)
- 3 – SDA (I2C data)
- 4 – IO1 – dependant on fitted sensor (see schematic)
- 5 – IO2 – dependant on fitted sensor (see schematic)
- 6 - GND

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**ORDERING INFORMATION**

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Part Number	Description
iCog-Ls.1	iCog™ Light Sensor

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**REVISION HISTORY**

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Version	Date	Comment
V0.1	May 2016	First version.
V1.0	Sep 2016	Minor cosmetic changes. Images updated.