

CoolLED

PRO

LED DRIVERS

CASAMBI

CLi15 (15 watt)

### 15W (up to 1050mA)

New to Harvard's CLi LED driver range is a Casambi model featuring the same high dimming accuracy, safety and reliability in an ultra slim compact format.

This new addition to the CoolLEDpro range offers ultra low dimming, with all the benefits of the Casambi wireless control and range of programmable dimming features. Through the convenience of the Casambi app and with exceptionally low flicker performance over the full operating range means the CLi range can be set to suit the most demanding applications.

- Wireless controllable by Bluetooth 4.0 Smart device
- Range between drivers - 35 meters
- Up to 4dBm output power
- -93dBm Rx sensitivity
- Integrated antenna
- Mesh network
- Ultra Compact- Fits through a 40mm hole
- Support for 1-18 LEDs
- Isolated output
- Programmable current available
- Programmable dimming curve options
- Smooth dimming to 0.1%
- Low inrush current
- Exceptionally low LED flicker. Near perfect light quality
- Passes IEEE1789:2015
- Designed in the U.K.



### Technical Highlights

- Fully programmable in 1mA step increments
- Less than 1% flicker at 100Hz/120Hz - Meets IEEE1789:2015 'No Effect' Region 1Hz to greater than 2kHz
- Minimum dimming of 350µA - 25 bit dimming resolution
- Small size 21mm x 39.5mm x 133mm (149mm remote version)
- Input voltage range 220-240VAC
- Remote mount version (order end caps separately)
- Up to 15 Years Operation (See Driver lifetime graph for more details)
- Up to 85% efficiency
- Power factor corrected (0.97)
- Operation up to 50°C ambient
- Supports a large LED string voltage range - 2V to 38V or 4.5V to 52V (model dependent)

- Self-resetting thermal trip
- Mains to LED output: Reinforced isolation 3kV
- Standby mode
- LED lamp fault reporting
- Surge protection 2kV Differential, 4kV Common mode

LOW  
Flicker


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SOLUTIONS

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## Technical Specification

	15W					
Mains input voltage	220 to 240VAC Nominal					
DC input voltage	220 - 240VDC Nominal / 176 -280VDC Operational range					
Input Current	0.1A					
Input Power	19W Max					
Emergency supply currents	@220VDC - 83mA (±10%) / @240VDC - 76mA (±10%)					
Driver emergency output factor (EOF)	1.00 (Light output on AC or DC supply is identical)					
Mains frequency	0/50/60Hz					
100/120 Hz ripple	<1%					
Flicker	IEEE1789:2015 compliant with NO RISK category					
Mains surge protection	4kV common-mode 2kV differential-mode					
Input-output isolation	3kVAC rms					
Mains inrush current	25A peak decaying to zero over 30µS (0.1R + 100µH mains impedance)					
Number drivers per MCB (maximum typical)	B6	B10	B16	C6	C10	C16
	35	60	100	45	75	120
Output protection	Overvoltage, short, reverse polarity. Auto re-start					
Hot plug protection features	low output capacitance <9µF, current limiting and software restart features (01,02 models only)					
Input current THD	8% typical @ full load					
Mains harmonics	IEC/EN61000-3-2 Class C limit, Table 2					
Touch Current	0.28mA (spec limit is 0.7mA) @ 240VAC mains EN60990					
Humidity	85% max non-condensing					
EMC emissions	Meets EN55015:2013. Conducted (9kHz-30MHz), Radiated (30MHz-300MHz)					
Standby power	0.5W					
'Cold' start-up time	500ms typical					
DALI response time	<50ms (Time to go from standby to on)					
Off load voltage	<58V					
Ambient temperature range	-25°C to 50°C					
Maximum Tc temperature	80°C					
Dimming range	100 - 0.1% (See models for minimum current)					
Dimming method	Linear amplitude dimming (No PWM dimming)					
Dimming port classification	FELV (DALI) / LV (Switch + Touch Dim)					
Terminal blocks	45° Push fit connectors, Input: 7mm pitch, Output/DALI: 3.5mm pitch					
Enclosure	White polycarbonate UL94-V0 rated					
Wire size	0.5mm <sup>2</sup> to 1.5mm <sup>2</sup> (20-16 AWG)					

Case Style	Dimensions	Weight	Box Quantity	IP Rating
Integral	133.3mm x 21mm x Ø39.5mm	92g	TBC	N/A
With cable clamps	149mm x 21mm x Ø39.5mm	100g	TBC	IP40

## Operation

\*Drivers are suitable for DC & AC operation at 0/50/60 Hz and compliant to EN50172.

The operation is compliant to EN 60598-2-22 except with the 'high risk task lighting' applications.

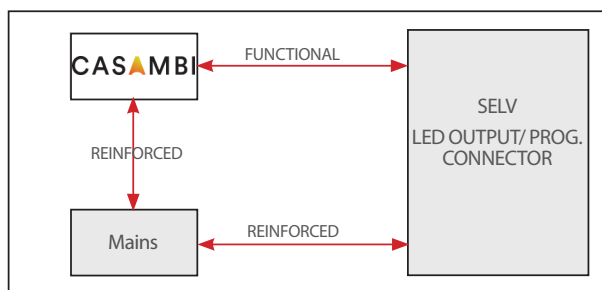


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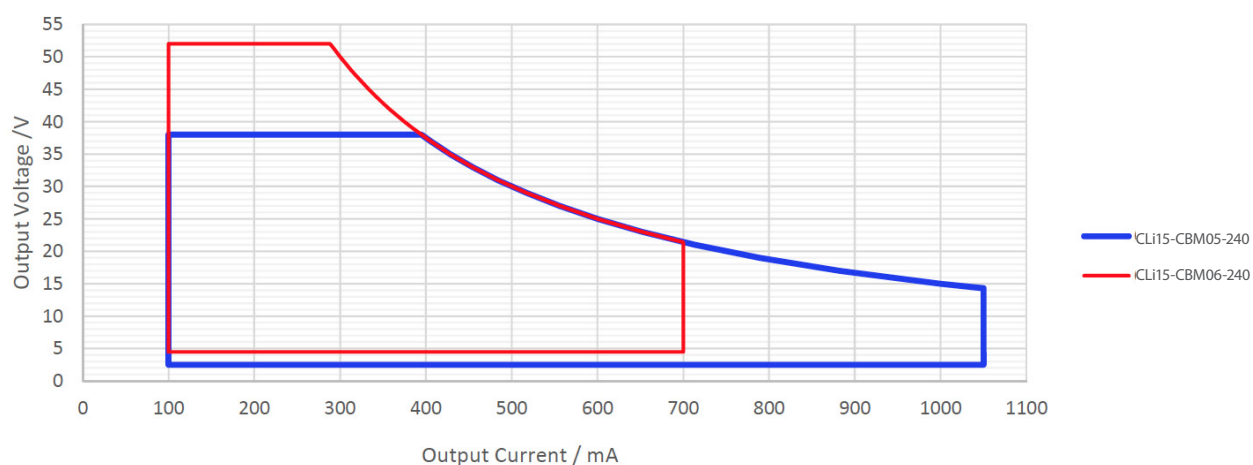


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Insulation classes for isolated circuits  
Casambi model isolation barrier definition

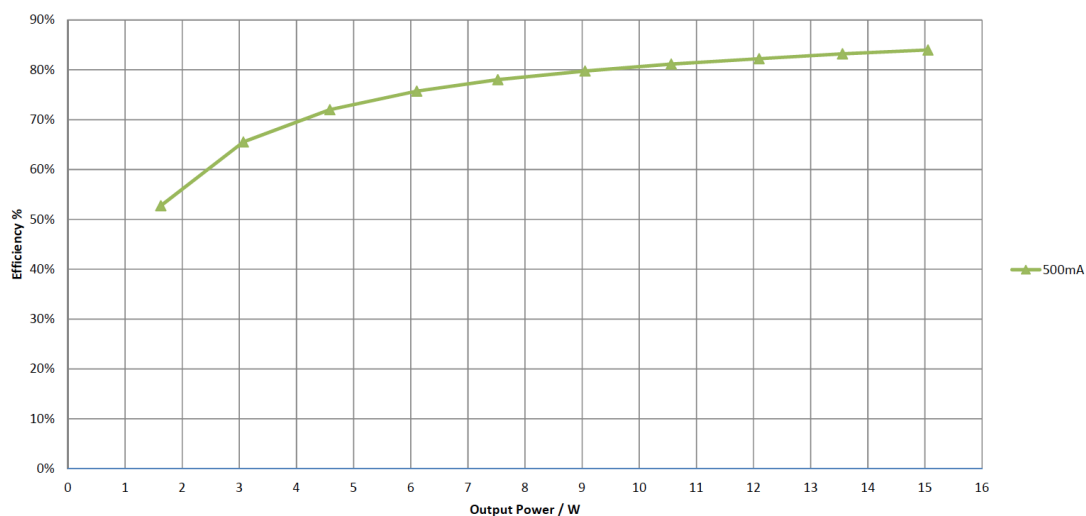


Operating Range (undimmed)

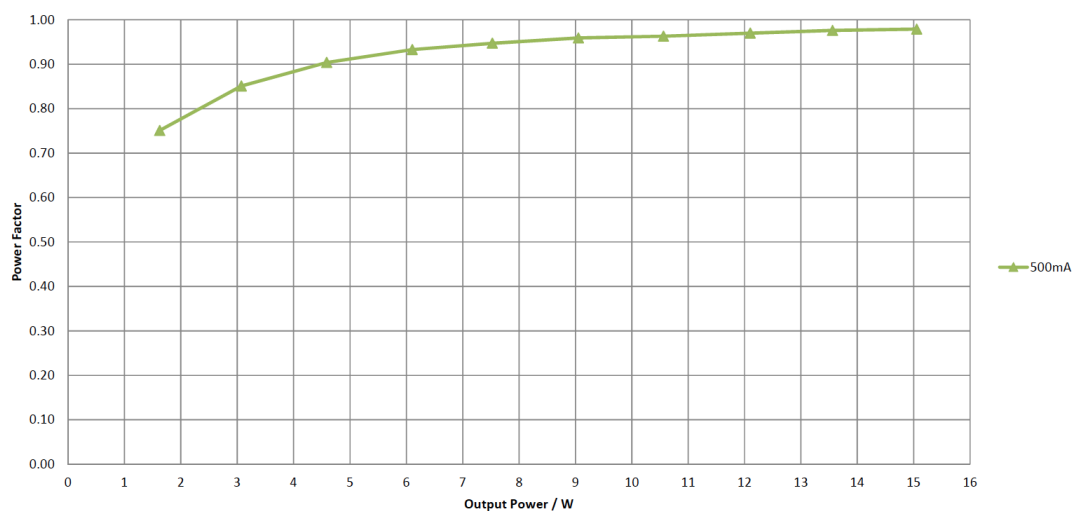


LED constant current is set in software according to application/customer requirement.

Efficiency

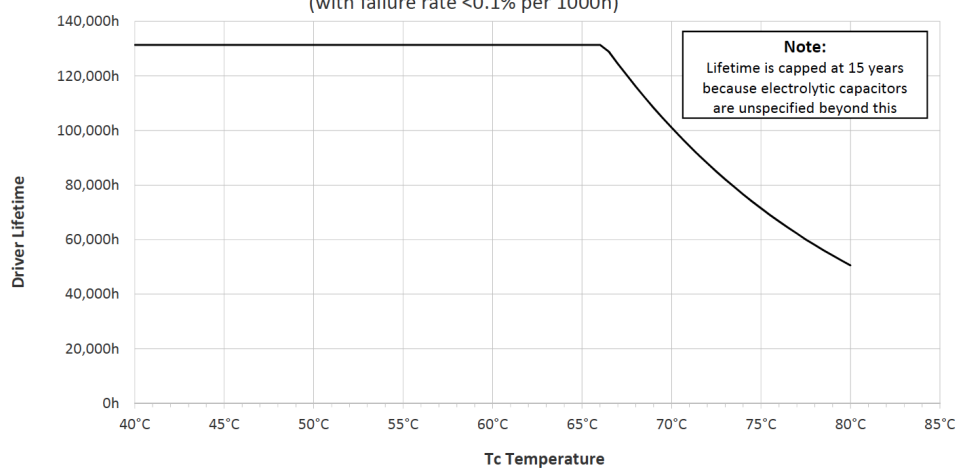


Power Factor



Driver Lifetime with Temperature at Full Load

(with failure rate &lt;0.1% per 1000h)



## Variants

Part number	Programmable Current Range	LED String Voltage	Max. Tc Temperature	Ambient Temperature Range	Thermal Trip (Self - resetting)	Maximum Power	Power factor at full load	Efficiency at full load	Minimum Dimmed Current
CLi15-CBM05-240/xxxx	100 - 1050mA (±5%)	2.5V to 38V	80°C	-25 - 50°C	100°C	15W	0.97	85%	350µA
CLi15-CBM06-240/xxxx	100 - 700mA (±5%)	4.5V to 52V	80°C	-25 - 50°C	100°C	15W	0.97	85%	350µA

# To order, customer replace xxxx with the required LED current in mA  
 Order Examples: CLi15-CBM05-240/1050, CLi15-CBM06-240/350



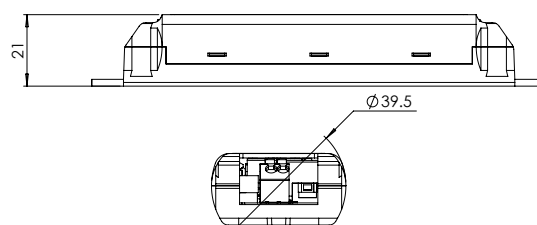
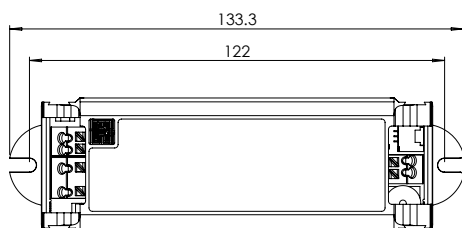
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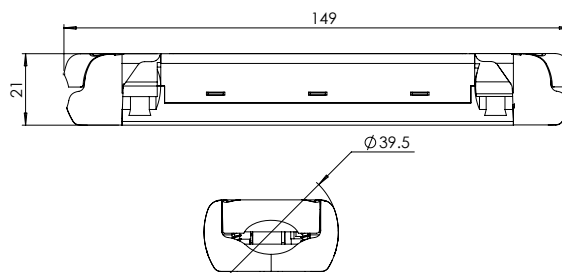
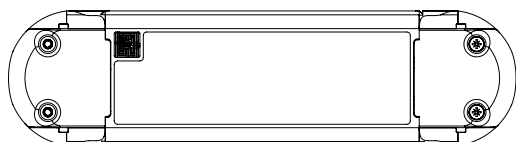
## Dimensions

### Integral style



### Cable clamps (remote) style

For remote mount, cable clamps are required  
Order CLi15 clamp kit part number: CLi-CC39-SET



## Compliance

Designed to meet the following:

Approval	Standards
CE (Europe)	RED 2014/53/EU, RoHS:2011/65/EU, ECOD/2009/125/EC
ENEC (Europe) Applied for	EN61347-1:2015, EN61347-2-13+A1:2017+ANNEX J, EN62384+A1:2009
CB (International) Applied for	IEC61347-1:2015, IEC61347-2-13+A1:2016+ANNEX J, IEC62384+A1:2009



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### PLEASE NOTE

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