

CoolLED

PROGRAMMABLE DRIVERS

## CLS40 Low Voltage Class 2 (LED Class 2)

### Up to 40W

#### CLS40: 200mA - 700mA

CoolLED drivers provide a high performance solution for powering high-brightness LEDs from a mains supply.

The power factor corrected, UL class 2 driver, delivers up to 40W of power.

The output features smooth linear dimming over the entire output range with low output ripple. The output current is adjustable by either resistive programming or software programming.

Dimming port (0-10V) is provided with BASIC insulation to mains, Supplementary Insulation to Output (in accordance with EN61347 / FELV (Functional extra low voltage) circuit). Dimming wires can be run alongside mains cables.

All CoolLED Drivers have a high efficiency design, which ensures cool operation and long life. The compact enclosure is available in integral (B) versions.

CoolLED Drivers are open and short-circuit protected and have a over temperature fold back.



### Product Description

- Universal Input voltage
- Analog dimming 1-10/0-10V
- Also suitable for non-dimming applications
- SELV isolated output - Class 2
- Power factor corrected (0.95)
- Constant current output
- Over temperature foldback
- Low output ripple (flicker)
- Push wire terminal blocks
- Up to 88% efficiency
- Surge protection up to 4kV
- Programmable features -
  - Output current
  - Minimum dim current
  - Dim to off
  - Linear or log-arithmetic dim curve
  - Emergency mode with DC input supply
  - Resistive current programme on/off

#### Advanced features -

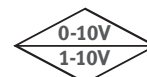
Eyenuit wireless Zigbee controls ready (can override 0-10V wired dimming control when connected to a PEBL adaptor)

#### Find out more about EyeNut at

[www.harvardtechnology.com/solutions/eyenuit/](http://www.harvardtechnology.com/solutions/eyenuit/)



LOW  
Flicker



C **UL** US

CE



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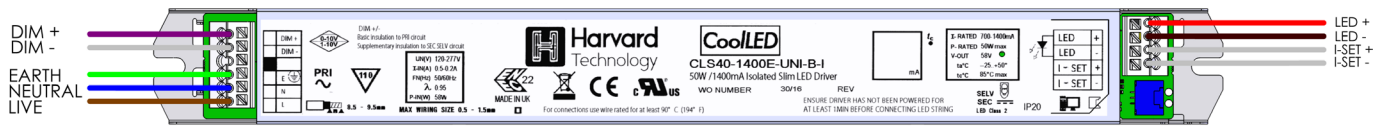
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**LED**  
SOLUTIONS

## Wiring diagram



## Technical Specification

Mains input voltage	120 / 220 - 240 / 277V Vac RMS
Maximum Input Range	108 - 305 Vac RMS
DC Input voltage	175 - 265 Vdc
Mains frequency	0 / 50 - 60Hz
100/120 Hz ripple	<1%
Flicker	IEE1789:2015 compliant with NO RISK category
Mains surge protection	4kV common-mode 2kV differential Class 4
Input-output isolation	3 kV
Humidity	95% max non-condensing
Switch on time	0.5 seconds
Off load voltage	59V
Ambient temperature range	-25°C to 50°C
Maximum Tc temperature	85°C
Dimming range	100% - 1% (across full programmable current range)
Dimming method	Analog current control (No output PWM)
Dimming port classification	FELV, Basic insulation to mains, Supplementary insulation to output
Terminal blocks	Push wire
Wire size	0.5mm to 1.5mm <sup>2</sup>
Enclosure	Zintec steel

**Please note:** the ISET port has a failsafe feature whereby if a programming resistor is not fitted, the driver will DEFAULT to the minimum output current of 100mA. A programming resistor **MUST** be fitted to deactivate the failsafe. This failsafe mode may also be deactivated using the PDI software tool and suitable programming jig. The programming resistor is calculated as  $I_{out} = 5000 / R_{set}$  where  $I_{out}$  is in Amps and  $R_{set}$  is in Ohms.

Case Style	Dimensions	Weight	Box Quantity
B - Integral	280mm x 30mm x 21mm	240g	40

Tolerance: + or - 0.5mm

## Variants

	Part number	Current	LED String Voltage	Output power range	Maximum off load voltage	Power Factor	Efficiency
	CLS40-700A-UNI-B-1	200 - 700mA	15 - 58V	40W	59V	>0.95	88%

## Compliance

Approval	Standards
UL	UL 8750, UL 1310 & UL 60950-1
ENEC/CE	EN61347-1:2015, EN61347-2-13:2014, EN61547:2009, EN62384:2006+A1:2009, EN61000-3-2:2014 EN55015:2006+A1:2009, EN61000-3-3:2013, EN61000-4-2:2009, EN61000-4-3:2009, EN61000-4-4:2004, EN61000-4-5:2006, EN61000-4-6:2009, EN61000-4-11:2004



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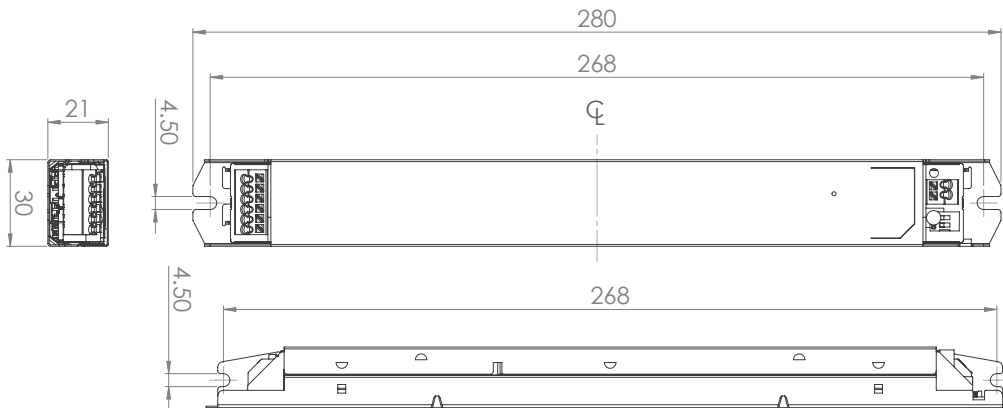
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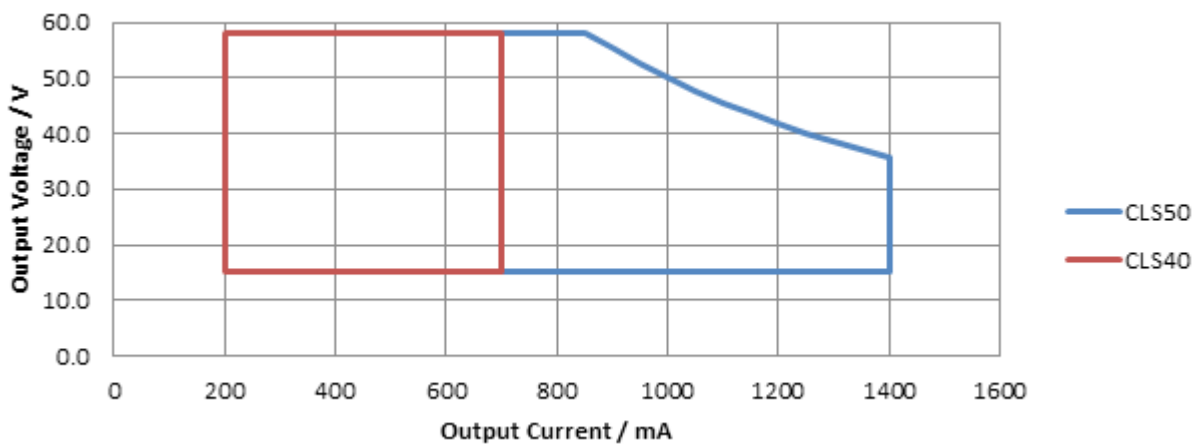
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## Dimensions



## CLS40 Operating Range



## Programmable Driver Set-up

The programmable CLS utilises 2 pieces of hardware. A **windows based PC** is required to run the programming software, which gives options of either auto or manual programming.

This is connected via USB to USB Type B to a **programming jig** that is used to rapidly program drivers or check driver settings. The driver can be inserted into the enclosure which will automatically program it when detected.



CLS Programming Jig



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