Harvard Technology

REV 1.1

CoolLED PROGRAMMABLE DRIVERS

CLS50 Low Voltage Class 2 (LED Class 2)

Up to 50W

CLS50 : 700mA - 1400mA

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 50W 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

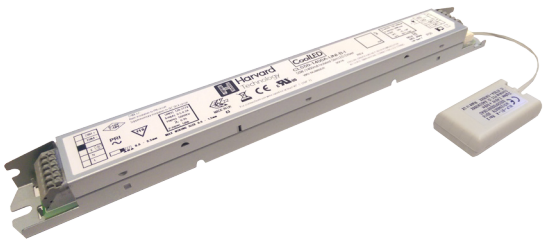
- Universal Input voltage
- Analog dimming 1-10/0-10V
- Also suitable for non-dimming applications
- SELV isolated output - Class 2
- Power factor corrected (0.95)
- Constant current output
- Over temperature foldback
- Low output ripple (flicker)
- Push wire terminal blocks
- Up to 88% efficiency
- 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 -

  Eyenut 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/eyenut/



LOW Flicker | 0-10V 1-10V | c UL us | CE | ENEC 15

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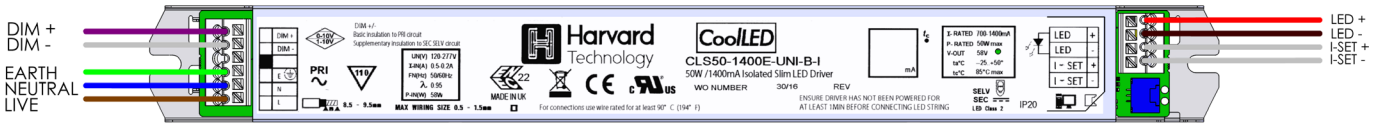
Wiring diagram



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	IEEE1789:2015 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 1.5mm²
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 350mA. 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 Iout = 5000 / Rset where I out is in Amps and Rset is on 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
0-10V 1-10V	CLS50-1400A-UNI-B-I	700 - 1400mA	15 - 58V	50W	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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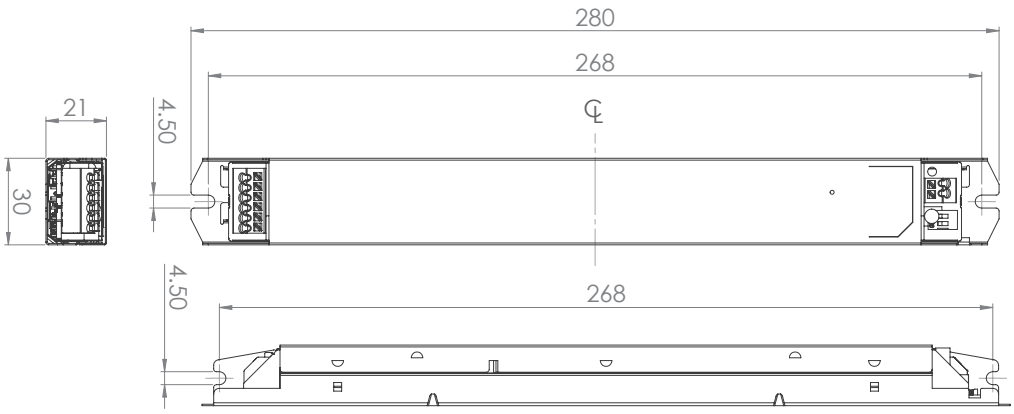
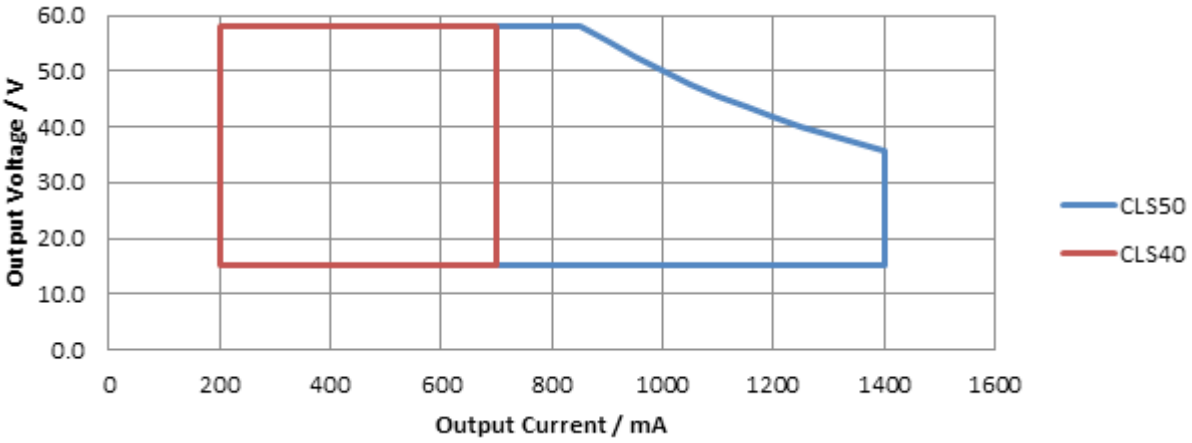
Dimensions



CLS50 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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