Intelligent 15/30/45 Watt LED Driver/Controller

ECOdrive Series
ECOdrives are highly integrated, cost-effective, enclosed and easy-to-configure constant current driver/controllers for high-brightness, indoor LED lighting applications. ECOdrives can be integrated in a network or used as standalone devices. ShowMaster, supported on all eldoLED driver/controllers, allows you to upload show sequences for use in standalone mode. You can create and manage your own show sequences with the TOOLbox and freely available PC software.

ECOdrives feature one LED current source that drives up to 4 LED groups. They are DMX- and LedSync-compatible, allowing 15-bit dimming and colour control and bidirectional communication for driver configuration and temperature read-out.

ECOdrive 15/30/45
With their wide supply voltage range (12V-32V DC), ECOdrive 15, 30 and 45 are the ideal choice for powering 15W 200mA - 500mA HB LEDs, 30W 200mA - 1050mA HB LEDs, and 45W 200mA - 1.4A HB LEDs respectively.

Single current source, multiple LED colour groups
eldoLED technology enables running 4 LED groups from a single, high-precision LED current source. It gives ECOdrive a 15-bit control resolution per LED group, a power efficiency of up to 95% and its break-through form factor.

Suitable for practically all LED types
The ECOdrive user interface lets you set the LED current to any value between 200mA and 1.4A in 50mA steps, making it the perfect match for practically all LED types and configurations.

Setup is a breeze!
Configure the ECOdrive over its intuitive, 3-button user interface with display. The easy-to-navigate menu allows you to set parameters such as number of channels, DMX network start address for networked mode and show/colour/dim values for standalone operation. You can also lock the driver's configuration and perform a test run of the connected LED groups.

LEDcode-compatible
Set up your ECOdrive even faster by simply entering the 7-digit code generated on the LEDcode website. This code finetunes all settings specifically for your LED application.

Robust thermal management
All ECOdrives have built-in over temperature protection and ECOdrive 30 and 45 have an interface for connecting an NTC. An NTC provides feedback on LED engine temperature and allows LED throttling, a graceful decrease of light output until normal operating temperatures are reached.

Low EMI
ECOdrive’s EMI is very low due to slew-rate controlled dimming, shielded conductors and the use of only one LED current source.

Easy to connect
Take off ECOdrive’s top cover to discover that connecting is self-explanatory: the spring-cage connectors for LEDs, power and network leads are all clearly marked. Strain reliefs prevent leads from being pulled out by accident.

Advantages
• Available in 15-, 30- and 45-watt versions
• DMX and 0-10V compatible
• High power efficiency of up to 95%
• Suited for practically all LED types
• Unprecedented ease-of-configuration
• LEDcode compatible
• Extremely smooth dimming and fine colour mixing:
  15-bit control resolution for each LED group
• ShowMaster: user-definable show sequences
• Very low EMI
• Compact form factor: 153x50x23mm / 6.02”x1.97”x0.91”
**Datasheet ECOdrive Display**

**ECOdrive Series**

**Electrical data**
- LED current settings in 50mA steps:
  - ECOdrive 15: 200mA - 500mA
  - ECOdrive 30: 200mA - 1050mA
  - ECOdrive 45: 200mA - 1.4A
- Power output range:
  - ECOdrive 15: 0 - 15W
  - ECOdrive 30: 0 - 30W
  - ECOdrive 45: 0 - 45W
- Operating supply voltage range: 12V-32V DC
- Efficiency: up to 95%
- Processor: eldoLED FluxLogic 1650 Series
- Independent LED groups: up to 4
- Reverse polarity protection

**Mounting data**
- Mounting orientation: any
- Mounting holes: for M4 screws (4)
- SELV-equivalent: 96% typ
- T_a range: -20°C...50°C (-4°F...122°F)
- T_c max: 65°C (149°F)
- T_heatsink max: 60°C (140°F)
- Relative humidity: non-condensing

**Network control**
- Network input: USITT DMX512A or LedSync
- Network throughput: LedSync
- Network input/throughput: based on RS485 specification
- DMX/LedSync-in update rate: 8ms
- Network resolution: 8 or 16 bit
- Network channels used by driver in 8-bit resolution: 4
- Network channels used by driver in 16-bit resolution: 8
- Communication: bidirectional for driver configuration and temperature readout
- Configuration: via menu buttons and display or via TOOLbox and freely available PC software

**Thermal data**
- Cooling: passive (integrated heat spreader). Second heat spreader on ECOdrive 45 ensures ease of mounting onto required heat sink.
- Built-in protection against overheating of driver/controller
- NTC interface: for reliable over temperature protection of connected LEDs (on ECOdrive 30 and ECOdrive 45)
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**Dynamic effects**
- Hydradrive Algorithm Based Modulation
- Control of channel 1 (R), 2 (G), 3 (B) and 4 (W/A): 0 - 100% in 15-bit set point resolution
- Contrast ratio: up to 8,000:1

**Environmental ratings**
- T_a range: -20°C...50°C (-4°F...122°F)
- T_c max: 65°C (149°F)
- T_heatsink max: 60°C (140°F)
- Relative humidity: non-condensing

**User interface**
- Menu buttons: M, - and + (3)
- Display: segmented (4 x 16)
- Modes: colour/show/DMX
- Features: setup, lock, LEDcode, reset

**LEDcode-compatibility**
- Visit www.ledcode.com for wiring diagrams and code for automatic configuration, specifically generated for your LED application

**Spring cage connectors**
- VDC: + and - (2)
- DMX in: +, - and shield (3)
- LedSync thru: +, - and shield (3)
- EXT in: 0...10V: + and - (2), 10K pot: + and - (2) or show switch: + and - (2)
- LED groups: group 1 through 4 and LED ground (5)
- NTC: + and - (2; on ECOdrive 30 and ECOdrive 45)

**Certifications**
- CE: IEC 61347, EN 55015, IEC 61003, EN 61547
- Nine standard shows or up to 20 customer-defined shows set at factory
- User-defined shows (ShowMaster): up to 20 shows, via TOOLbox and PC software
- Show selection: via menu buttons

**Ordering information**

<table>
<thead>
<tr>
<th>Description</th>
<th>Product</th>
<th>Order nr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECOdrive 15W Display</td>
<td>Eco 15/D</td>
<td>ECO015D1</td>
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<tr>
<td>ECOdrive 30W Display</td>
<td>Eco 30/D</td>
<td>ECO030D1</td>
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<tr>
<td>ECOdrive 45W Display</td>
<td>Eco 45/D</td>
<td>ECO045D1</td>
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</tbody>
</table>

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