

# LED Driver

## EUCI BLS



# EUCI BLS

### Highlights & Features

- Constant current design
- EMEA AC input voltage from 220-240Vac
- Build-in active PFC and confirm to harmonic current
- Bluetooth low energy and DALI dimming available
- 3% -100% dimming range
- 2 channels 350mA output current design

### Safety Standards



### Dimensions (L x W x D)

|               |                  |
|---------------|------------------|
| EUCI-040035UA | 359 x 30 x 21 mm |
|---------------|------------------|

### General Description

Delta EUCI BLS series of output current LED drivers with Bluetooth low energy and DALI control comes with affordable and reliable features. Compatible with 21mm linear mechanical design and mid-power LEDs from any LED manufacturer. 2 channels output current design for two lamp application. Meet major Europe certifications and compliant with EN55015 Immunity/ Emissions/ Harmonic requirements. The products are designed and rigorously tested to work in various indoor LED lighting conditions.

### Model Information

#### EUCI BLE + DALI LED Driver

| Model Number  | Input Voltage Range                    | Rated Output Voltage (Two Channels)    | Output Current Range (Two Channels) |
|---------------|----------------------------------------|----------------------------------------|-------------------------------------|
| EUCI-040035UA | 220-240Vac Typical<br>198-264Vac Range | Ch1 : 17Vdc-57Vdc<br>Ch2 : 17Vdc-57Vdc | 350mA                               |

### Model Numbering

| EU                                   | C                | I      | - | □□□                       | □□□                               | U                                                | A                                   |
|--------------------------------------|------------------|--------|---|---------------------------|-----------------------------------|--------------------------------------------------|-------------------------------------|
| Safety Approval<br>CE<br>ENEC<br>CCC | Constant current | Indoor |   | Output Power<br>040 – 40W | Max Output Current<br>035 – 350mA | Dimming Type<br>U – Bluetooth USB dongle<br>DALI | Serial Number<br>A – Delta Standard |

### Specifications

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|              |               |
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| Model Number | EUCI-040035UA |
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### Input Ratings / Characteristics

|                                                      |                                         |
|------------------------------------------------------|-----------------------------------------|
| Normal Input Voltage                                 | 220-240Vac                              |
| Input Voltage Range                                  | 198-264Vac                              |
| Normal Input Frequency                               | 50-60Hz                                 |
| Input Frequency Range                                | 47-63Hz                                 |
| Max. Input Current                                   | 220Vac 0.24A                            |
| Efficiency <sup>1)</sup>                             | 230Vac 86%                              |
| Inrush Current<br>(Apk / 50% - $\mu$ S @ Cold Start) | 25A/50us @ 230Vac                       |
| Max. No. of LED Drivers<br>circuit breaker at 230Vac | B16 45 pcs                              |
| Power Factor                                         | Full Load: > 0.9 @ 230Vac,              |
| Total Harmonic Distortion                            | THD < 20% with full load @ 230Vac input |
| Leakage Current                                      | < 0.7mA                                 |

1) 100% Load (typical) and tested after 30 minutes warm up.

### Output Ratings / Characteristics

|                                            |                                                    |
|--------------------------------------------|----------------------------------------------------|
| Output Voltage Range                       | 17-57Vdc                                           |
| Max. No Load Output Voltage                | 60V                                                |
| Output Power Range                         | 20W /Channel, total 2 Channels                     |
| Dimming Output Current (DALI or Bluetooth) | 10-350mA                                           |
| Minimum Output Current                     | 10mA (Min dim level)                               |
| Current Accuracy                           | $\pm 5\%$                                          |
| Line Regulation                            | $\pm 1\%$                                          |
| Load Regulation                            | $\pm 5\%$                                          |
| Output Current LF Ripple                   | 20%, ripple = (peak-average) / average @ full load |
| Start-up Time                              | 1000ms max. @ 230Vac                               |

### Mechanical

|                        |                                                                      |
|------------------------|----------------------------------------------------------------------|
| Casing                 | Metal, Material: SGCC, Color: Natural, no potting                    |
| Dimensions (L x W x H) | [mm] 359 x 30 x 21                                                   |
| Unit Weight            | [kg] 0.31                                                            |
| Cooling System         | Convection                                                           |
| Input connector :      | WAGO:250, Gray, L / N / PE, wire preparation:0.5-1.5 mm <sup>2</sup> |
| Output connector :     | WAGO:250, Red/Black, Vo1+/- ; Vo2+/-                                 |
| Dimming connector      | WAGO:250, Orange/Orange, DALI+ / DALI-                               |

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### Environment

|                           |           |                               |
|---------------------------|-----------|-------------------------------|
| Ambient Temperature       | Operating | -25°C to +50°C                |
|                           | Storage   | -25°C to +85°C                |
| Maximum Case Temperature  |           | 80°C                          |
| Lifetime Case Temperature |           | 80°C                          |
| Relative Humidity         | Operating | 10 to 60% RH (Non-Condensing) |
|                           | Storage   | 5 to 95% RH (Non-Condensing)  |

### Protections

|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| Over Voltage                      | Max. 60V, Auto-Recovery when the fault is removed |
| Open Load                         | Auto-Recovery when the fault is removed           |
| Short Circuit                     | Auto-Recovery when the fault is removed           |
| Over Temperature                  | Auto-Recovery when the fault is removed           |
| Ingress Protection Classification | IP20                                              |
| Suitable for Luminaires Class     | Class I. Insulation Class according to IEC 60598  |

### Reliability Data

|          |                                                                 |
|----------|-----------------------------------------------------------------|
| Lifetime | 50,000 hrs. at lifetime case temperature                        |
| MTTF     | 500,000 hrs. @ 50°C ambient temperature as per Telcordia SR-332 |

### Safety Standards / Directives

|                    |                                                                                                                               |               |        |        |        |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------|--------|--------|--------|
| Electrical Safety  | CB scheme to IEC 61347-1, IEC 61347-2-13<br>ENEC to EN 61347-1, EN 61347-2-13, EN 62384<br>CCC, GB19510.1, GB19510.14<br>SELV |               |        |        |        |
| CE                 | In conformance with EMC Directive and Low Voltage Directive                                                                   |               |        |        |        |
| Material and Parts | RoHS Directive Compliant                                                                                                      |               |        |        |        |
| Galvanic Isolation |                                                                                                                               | Mains (Input) | Output | DALI   | Case   |
|                    | Mains (Input)                                                                                                                 | N/A           | 3,000V | 1,500V | 1,500V |
|                    | Output                                                                                                                        | 3,000V        | N/A    | 1,500V | 500V   |
|                    | DALI                                                                                                                          | 1,500V        | 1,500V | N/A    | 1,500V |

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### EMC

|                                   |                                |                                                                                                                                                                                                                 |
|-----------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emissions (CE & RE)               | Compliance to EN 55015 Class B |                                                                                                                                                                                                                 |
| Immunity                          | Compliance to EN 61547         |                                                                                                                                                                                                                 |
| Electrostatic Discharge           | IEC 61000-4-2                  | Air Discharge: 8kV ; Contact Discharge: 4kV<br>Criteria A <sup>1)</sup> or B <sup>2)</sup>                                                                                                                      |
| Radiated Disturbances             | IEC 61000-4-3                  | 80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% AM Modulation<br>Criteria A <sup>1)</sup>                                                                                                                            |
| Electrical Fast Transient / Burst | IEC 61000-4-4                  | 1kV; Criteria A <sup>1)</sup> or B <sup>2)</sup>                                                                                                                                                                |
| Surge                             | IEC 61000-4-5                  | 1.2/50μs, 8/20μs Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance Criteria A <sup>1)</sup> or B <sup>2)</sup><br>Common Mode <sup>3)</sup> : 2kV; Differential Mode <sup>4)</sup> : 1kV |
| Conducted Disturbances            | IEC 61000-4-6                  | 150kHz-80MHz, 3Vrms; Criteria A <sup>1)</sup>                                                                                                                                                                   |
| Power Frequency Magnetic Fields   | IEC 61000-4-8                  | 3A/Meter; Criteria A <sup>1)</sup>                                                                                                                                                                              |
| Voltage Dips                      | IEC 61000-4-11                 | 100% dip; 0.5 cycle; Self Recoverable<br>30% dip; 10 cycle; Self Recoverable<br>Criteria A <sup>1)</sup> or B <sup>2)</sup>                                                                                     |
| Harmonic Current Emission         | IEC 61000-3-2                  | Class C (230Vac @ 100% load)                                                                                                                                                                                    |
| Voltage Fluctuation and Flicker   | IEC 61000-3-3                  | $P_{st} \leq 1.0$ ; $d_{max} \leq 4\%$ ; $P_{It} \leq 0.65$ ; $d_c \leq 3.3\%$ ; $T_{max} \leq 500ms$                                                                                                           |

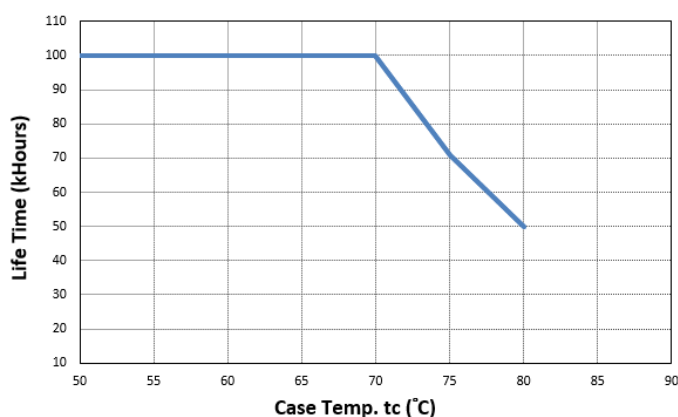
1) Criteria A: Normal performance within the specification limits

2) Criteria B: Temporary degradation or loss of function, which is self-recoverable

3) Asymmetrical: Common mode (Line to earth)

4) Symmetrical: Differential mode (Line to line)

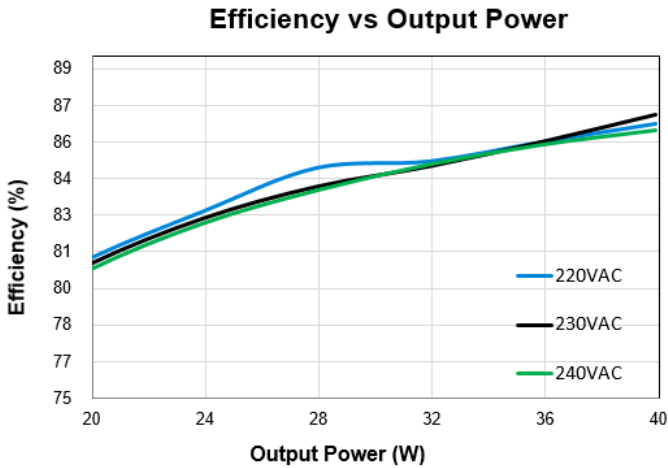
### Lifetime VS Case Temperature



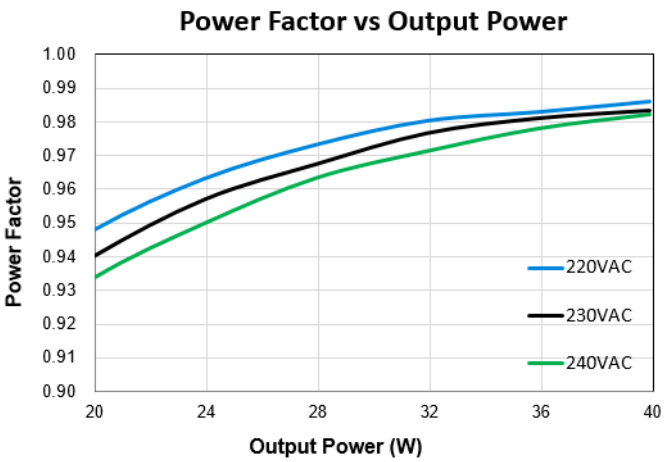
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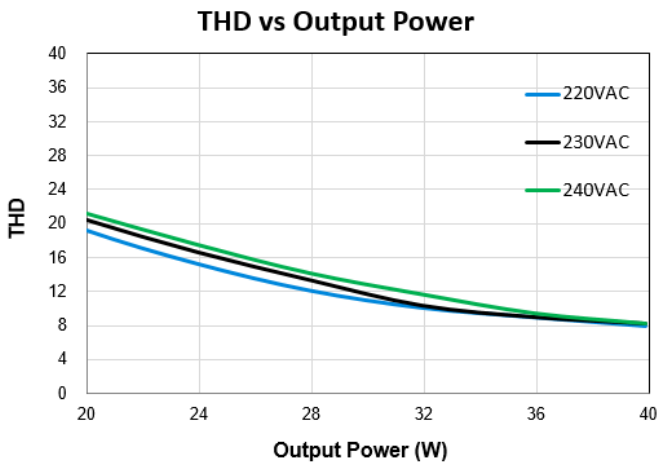
Efficiency VS Output Power



Power Factor VS Output Power



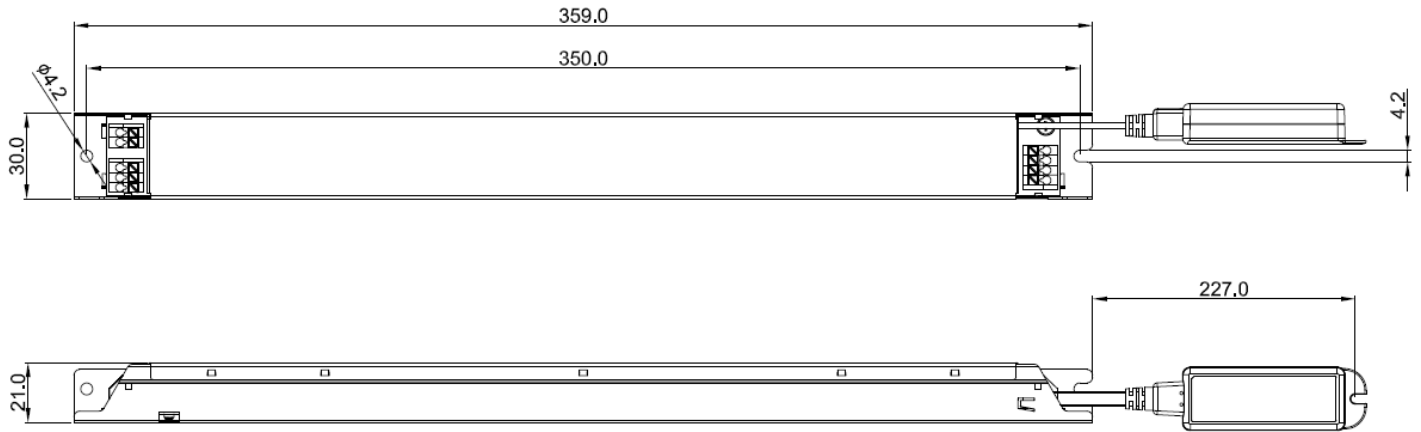
Total Harmonic Distortion VS Output Power



# LED Driver

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### Dimensions



### Others

#### Warranty Policy

Please reach out our [Warranty Policy](#) should you require any further clarification.