



EZI-Set Compact Square LED Driver

The EZI-Set DSP-END series of compact LED drivers offers a wide range of configurable current setting, flicker-free performance in compact packages for various lighting fixtures, where form factor, quality of light, and high reliability are critical factors.

Product Offering

Power: 17 / 30 W
 Input: 220-240 V (50/60 Hz)
 Output: 275-450 mA | 30-38V (17W)
 450-800 mA | 30-38V (30W)
 IP rating: IP20



17 / 30W
 (65.3 x 43.8 x 23 mm)

Features and Benefits

| | |
|-----------------|---|
| EZI-Set™ | Currents are easy to set with DIP switch settings |
| Compact Size | Compact packages sized for 2 power level |
| Flicker Free | World-class flicker free design ensures Percent Flicker less than 3% |
| 5 Year Warranty | Backed by the industry leading warranty of 5 years gives confidence in long term and maintenance free performance |



EZI-SET™



COMPACT
 SIZE



FLICKER
 FREE



IP RATING



5 YEAR
 WARRANTY





1 - Input Characteristics

| Specification item | Value | Condition |
|---------------------------------|-------------------------------|---|
| Nominal Input Voltage Range AC | 220 – 240 VAC | Performance range |
| Absolute Input Voltage Range AC | 198 – 264 VAC | Safety operational range |
| Maximum Input Current | 0.095 A (17W) 0.15 A (30W) | Full output power @ 230V Input Voltage |
| Input Frequency | 50 / 60 Hz | Performance range |
| Power Factor with Full Load | > 0.7 (17W) > 0.8 (30W) | Full output power @ 230V Input Voltage |
| Efficiency | 88 % (17W) 89% (30W) | Full load @ 230V Input Voltage |
| THD with Full Load | < 44 % (17W) < 10% (30W) | Full load @ 230V Input Voltage |
| Maximum Inrush Current | < 3.0A | At 230 input 25°C cold start at 100% conditions. For more details in the attached graph |
| No-load Power | < 0.5 W | |
| Start-up Time | < 0.5s | |

2 - Output Characteristics

| Specification item | Value | Condition |
|--|--|--|
| Rated LED Output Power | 8.3 – 17.1W (17W) 13.5 – 30.4W (30W) | |
| Nominal LED Output Current (3 dip-switch control) | 275 – 450 mA (17W) 450 – 800 mA (30W) | @ 275 / 300 / 325 / 350 / 375 / 400 / 425 / 450mA @ 450 / 500 / 550 / 600 / 650 / 700 / 750 / 800mA |
| LED Output Current Tolerance | ±5% | |
| LED Output Voltage Range DC | 30 – 38VDC | |
| Open Loop (no load) Voltage | < 52VDC | driver will limit the output voltage to <52V if LED load is opened |
| Output Current Ripple LF | ≤ 3% | < 2KHz |
| Output P _{st} LM | ≤ 1.0 | |
| Output SVM | ≤ 0.4 | |





3 - Environmental Conditions

| Specification item | Value | Condition |
|---------------------------------------|--------------|--|
| Ambient Temperature (Ta) Range | -20 to 40°C | Higher ambient temperature are possible as long as Tc conforms to the operating case temperature range |
| Operating Case Temperature (Tc) Range | -20 to 85°C | Case Temperature measured at Tc mark on product |
| Max. Case Temperature (Tc max) | 95°C | Max. temperature measured at Tc mark on product |
| Storage Temperature | -40 to 85°C | |
| Relative Humidity | 80% | Non-condensing |
| Lifetime @ Tc max | 50,000 hours | At Tc within Operating Case Temperature Range. |
| Ingress Protection | IP20 | |

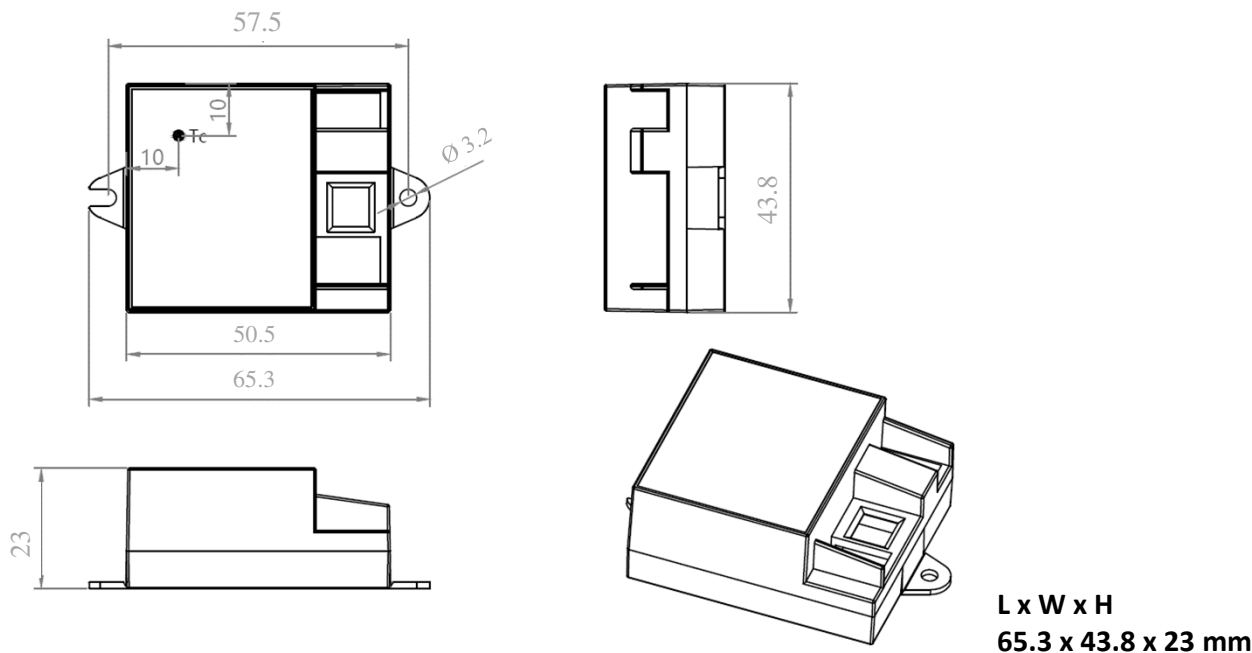
4 - Protection Features

| Specification item | Value | Condition |
|---------------------------------------|-------|--------------------|
| Over Current Protection (OCP) | YES | Automatic recovery |
| Over Voltage Protection (OVP) | YES | Automatic recovery |
| Output Short-Circuit Protection (SCP) | YES | Automatic recovery |



5 - Outline Drawing

5.1a - Outline Drawing DSP-END017/1-PC450-38, DSP-END030/1-PC800-38



5.1b - Mechanical Details

| Specification item | Value | Condition |
|--------------------|--------------------------|-----------|
| Length (L) | 65.3 mm | |
| Width (W) | 43.8 mm | |
| Height (H) | 23.0 mm | |
| Weight | 58 g (17W) 62 g (30W) | |

5.1c - Wiring and Conditions

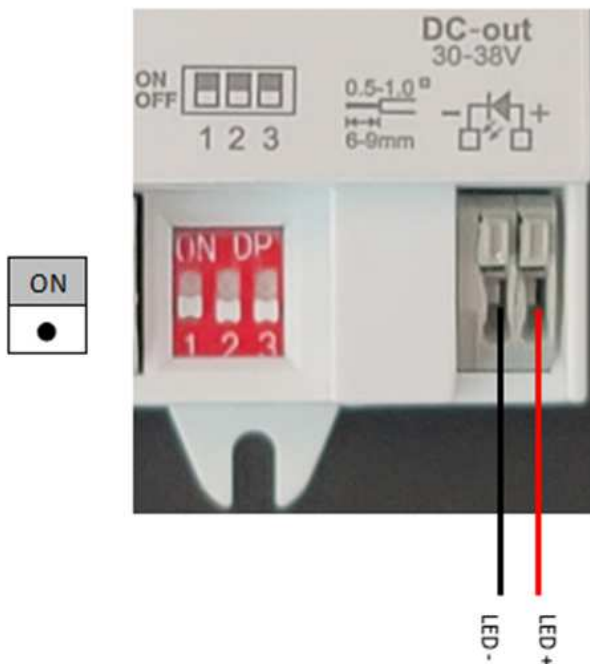
| Specification item | Value | Condition |
|--|----------------------------------|------------------------|
| Output Connections (Poke-in Connector) | Ø 0.5 – 0.75 mm (22 – 20 AWG) | Solid / strand wire |
| Output Wire Strip Length | 6 – 9 mm | |
| Max. Output Wire Length | 20 cm | Total length of wiring |





6 – DIP Switch Operation Instructions and LED Output Terminals Polarity

| DIP-Switch | | | Current Setting | |
|------------|----|----|-----------------|------|
| | | | 17W | 30W |
| 1 | 2 | 3 | [mA] | [mA] |
| ON | ON | ON | 450 | 800 |
| • | ON | ON | 425 | 750 |
| ON | • | ON | 400 | 700 |
| • | • | ON | 375 | 650 |
| ON | ON | • | 350 | 600 |
| • | ON | • | 325 | 550 |
| ON | • | • | 300 | 500 |
| • | • | • | 275 | 450 |



17 / 30W





7 - EMC Compliance Approvals

| Specification item | Value | Condition |
|----------------------------------|---|---|
| Conducted and Radiated EMI | EN 55015:2013 (CISPR 15:2013) | |
| Harmonic Current Emissions | IEC 61000-3-2:2014 | For Class C equipment |
| Voltage Fluctuations & Flicker | IEC 61000-3-3:2013 | |
| ESD (Electrostatic Discharge) | IEC 61547 Section 5.2 Test des.: IEC 61000-4-2 | 4 kV contact discharge, 8 kV air discharge, level 3 |
| Continuous Radiated Disturbance | IEC 61547 Section 5.3 Test des.: IEC 61000-4-3 | 3 V/m, 80 - 1000 MHz, 80% modulated at distance of 3 meters |
| Electrical Fast Transient | IEC 61547 Section 5.5 Test des.: IEC 61000-4-4 | ± 1 kV on AC power port for 1 minute, ±1 kV on signal/control lines |
| Surge | IEC 61547 Section 5.7 Test des.: IEC 61000-4-5 | ± 1 kV line to line (differential mode) |
| Continuous Conducted Disturbance | IEC 61547 Section 5.6 Test des.: IEC 61000-4-6 | 3V, 0.15-80 MHz, 80% modulated, Level 2 |
| Power Frequency Magnetic Field | IEC 61547 Section 5.4 Test des.: IEC 61000-4-8 | 3A/m, 50/60Hz, level 2 |
| Voltage Dips | IEC 61547 Section 5.8, 5.9 Test des.: IEC 61000-4-11 | 70% dip during 25 cycles @ 50Hz, 30 cycles @ 60Hz 0% dip during ½ cycles |

8 - Safety Agency Approvals

| Specification item | Value | Condition |
|--------------------|--|--|
| ENEC* / CE | EN 61347-1:2015, EN 61347-2-13:2014/A1:2017 | LED Modules & EN55015 (EMC compliance) |

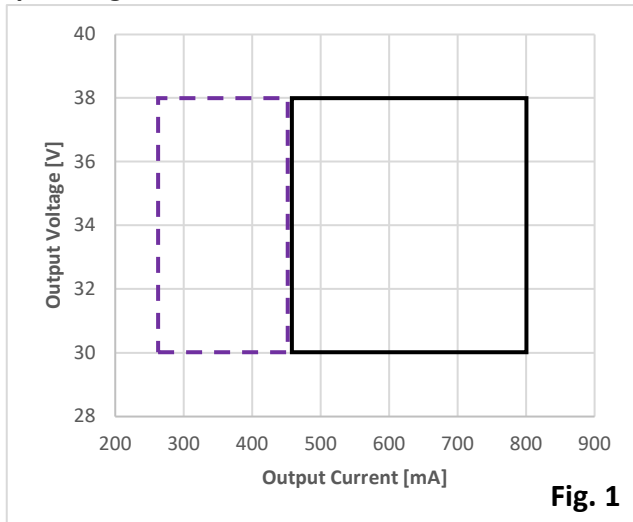


* ENEC certification is in-progress

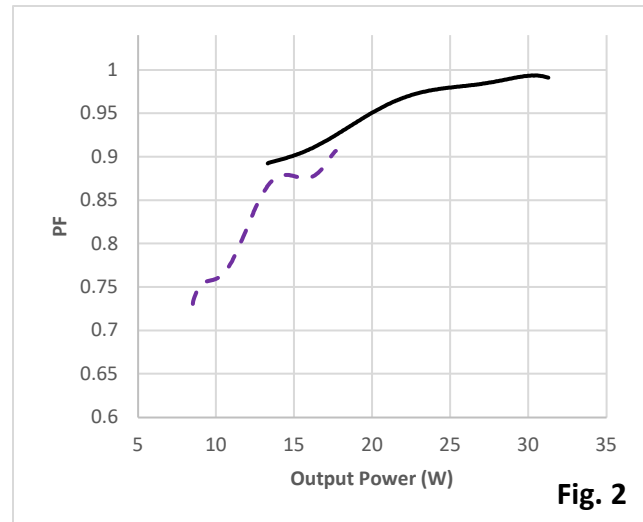


9 - Graphs

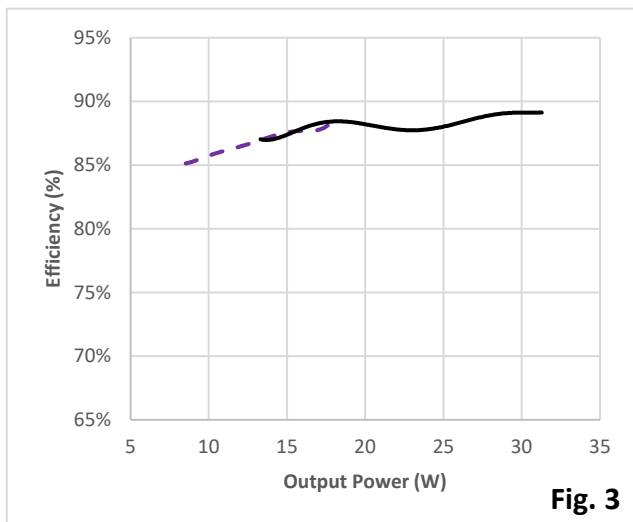
Operating Window



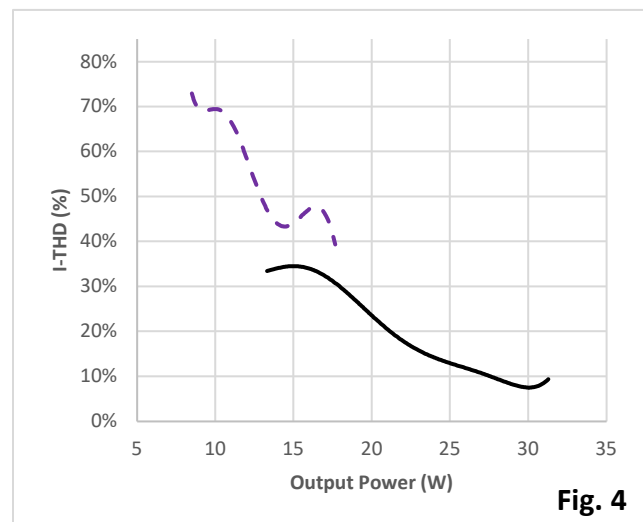
Power Factor vs Output Power



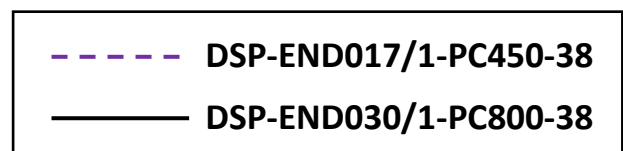
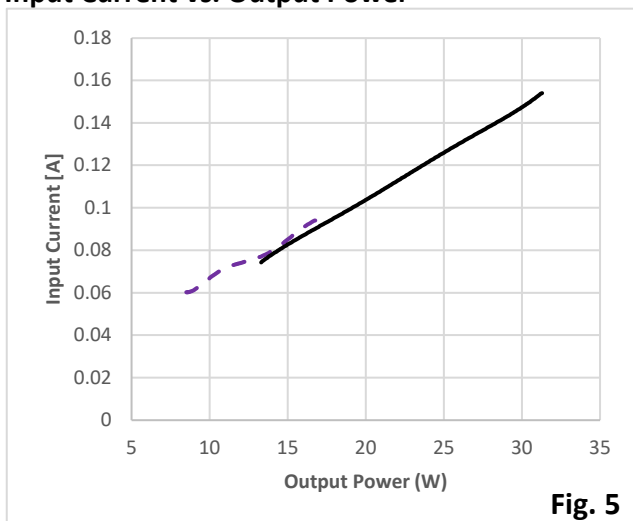
Efficiency vs. Output Power



I-THD vs. Output Power

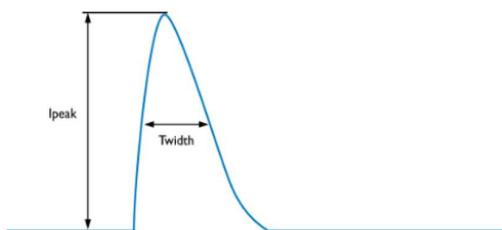


Input Current vs. Output Power





10 - Inrush Current



| P/N | I_{peak} (A) | T_{width} (Time @50% of I_{peak}) |
|-----------------------|----------------|---|
| DSP-END017/1-PC450-38 | 2.28 A | 146 μ s |
| DSP-END030/1-PC800-38 | 2.52 A | 134 μ s |

11 - Estimated Maximum Number of Drivers per Miniature Circuit Breaker (MCB)*

| P/N | B10 | B13 | B16 | B20 | C10 | C13 | C16 | C20 |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| DSP-END017/1-PC450-38 | 67 | 87 | 107 | 133 | 78 | 101 | 124 | 156 |
| DSP-END030/1-PC800-38 | 40 | 52 | 64 | 80 | 47 | 61 | 75 | 93 |

12 - Ordering Info

| Specification item | Value | Condition |
|--------------------|-----------------------|-----------|
| 17W Square Driver | DSP-END017/1-PC450-38 | |
| 30W Square Driver | DSP-END030/1-PC800-38 | |

* Estimation based on typical MCB characteristics; recommend users to calculate the actual number with MCB parameters intended to be used

