

LED Driver Emergency Control Device

110600100023



Highlights & Features

- DC25–36V, 220mA constant current output, compatible with emergency operation of various luminaires
- Suitable for locations using tri-proof luminaires
- Wide voltage input, adapts to harsh industrial environments
- Suitable for luminaires and industrial and mining sites with large voltage fluctuations
- Intelligent status indication, making operation and maintenance clear at a glance
- Direct-drive constant current, high efficiency and energy saving, long-life design, 5-year warranty
- Suitable for Class I luminaire types

Safety Standards



SELV RoHS

Description

This is a new-generation direct-drive emergency power supply specially designed for LED lamps. Adopting isolated topology circuit and digital control technology, it works with regular LED lighting driver and emergency battery to form luminaires for normal and emergency lighting. The output of the regular LED driver feeds the light source through the emergency control device. Under normal mains supply, the LED light source is powered by the regular lighting driver, while the independent emergency control device charges the battery. Once mains power fails, the emergency control device automatically switches to emergency mode within 0.3 seconds, boosts the battery voltage to the LED operating voltage and drives the LED light source. The product is equipped with an output port for status indicator LEDs to show various operating states of the luminaire. It is applicable to a wide range of LED luminaires requiring emergency backup function.

Model Information

Model No.	110600100023
Input voltage range	100–277Vac
Rated output voltage	25–36Vdc
Rated output current	220mA

Product Features

This is an independent emergency control device developed by our company specifically for LED luminaires. In recent years, with the continuous emergence of new materials, new technologies and new processes, a growing variety of LED drivers have been developed and manufactured. The lighting industry is at a critical stage of upgrading. The 1106001 series emergency control device adopts a new isolated topology circuit design with well-developed design techniques, comprehensive circuit configuration and digital control. The product features low noise, energy efficiency, environmental friendliness, high efficiency, isolated input and output, direct emergency driving of light sources, and rapid heat dissipation when combined with the luminaire housing.

Product Performance

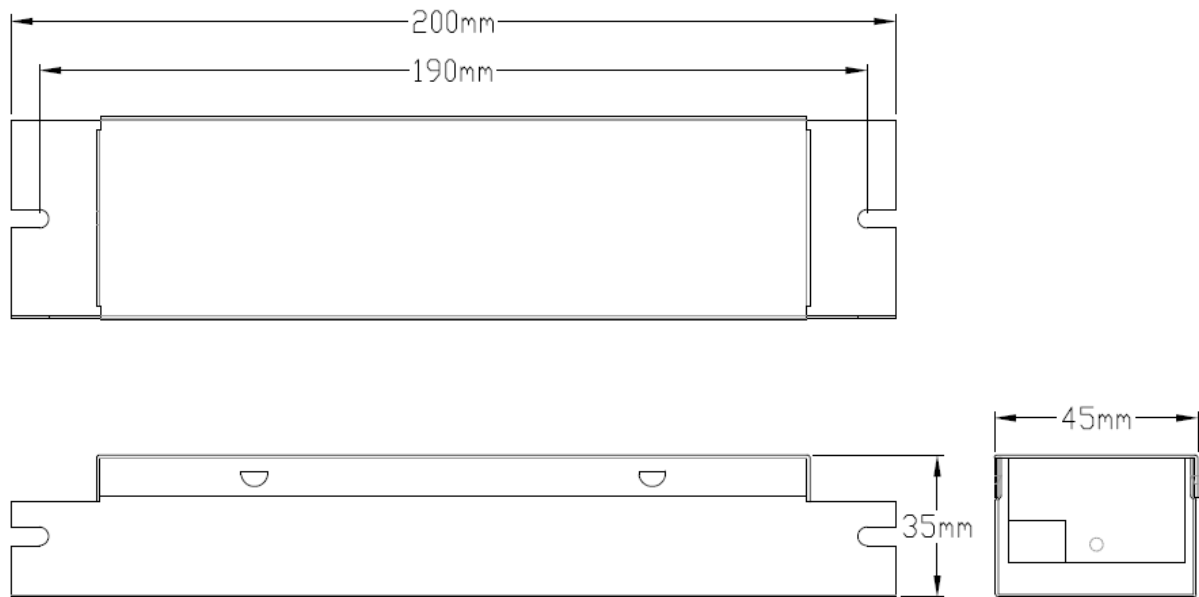
- **Open-circuit Protection:** When the output terminal is unloaded or open-circuited, the output immediately enters voltage regulation mode to prevent damage from excessive output voltage. It automatically resumes constant-current operation after the open circuit is removed.
- **Short-circuit Protection:** If the positive and negative output terminals are shorted due to abnormality, the product automatically cuts off output to avoid permanent damage. It returns to normal constant-current or voltage-regulation mode immediately after the short circuit is cleared.
- **Overload / Underload Protection:** This product adopts constant-current design. The output current remains stable when the load is within the design range. If the load falls outside the rated range, the device triggers overload/underload protection:
 - 1.If the output voltage is too low, the driver cycles between startup and shutdown, causing the LED to flicker;
 - 2.If the output voltage is too high, the product switches to constant-voltage protection. The LED brightness decreases and the current fails to reach the preset value.
- **Battery Overcharge Protection:** The controller uses voltage-limited constant-current charging. Trickle charging starts when the voltage of a single battery cell reaches 1.42V.
- **Battery overdischarge protection:** The controller automatically cuts off the output power when the single-cell voltage drops to a preset point in the 0.9V–1.1V range.
- **Dielectric Strength:** 1500V±10% / 5mA / 1min / 50Hz between main power input and housing
500V±10% / 5mA / 1min / 50Hz between external live terminals and housing
- **Insulation Resistance:** ≥50MΩ between main power input and housing ≥20MΩ for externally live terminals requiring insulation, relative to housing

- Indicator Function: An external red LED indicator (DC1.9–2.2V). Steady on under mains power; flashes at 1Hz evenly in emergency mode; flashes rapidly at 3Hz before emergency operation terminates.

Electrical Characteristics

Parameter	Symbol	Condition	Min	Rated	Max	Unit
Rated Supply Voltage	U _{in}	25℃	-	220	-	V _{rms}
Operating Voltage Range	U _{inr}	25℃	100	-	277	V _{rms}
Input Current	A _{in}	25℃	40	55	80	mA
Input Power	P _{in}	25℃	2	4	5	W
Mains Frequency	f _{in}	25℃	-	50/60	-	Hz
Compatible Light Source Power	-	25℃	-	28	-	W
Load Voltage	O _{cv}	25℃	25	-	36	V
No-load Voltage	O _{cv}	25℃	-	-	40	V _{rsm}
Emergency Output Current	-	25℃		220		mA
Backup Battery	-	Ni-MH, Ni-Cd	-	12/2(12/3)	-	V/Ah
Charging Current	-	25℃	-	-	240	mA
Trickle Charging Current	-	25℃	5	-	60	mA
Conversion Efficiency	-	-	80	-	-	%
Emergency Duration	-	25℃	120(180)	-	-	Minute
Charging Time	-	25℃	-	24	-	Hour
Mode Switching Time	-	25℃	-	-	0.5	S
Maximum Case Temperature	t _c	-	-	-	75	℃

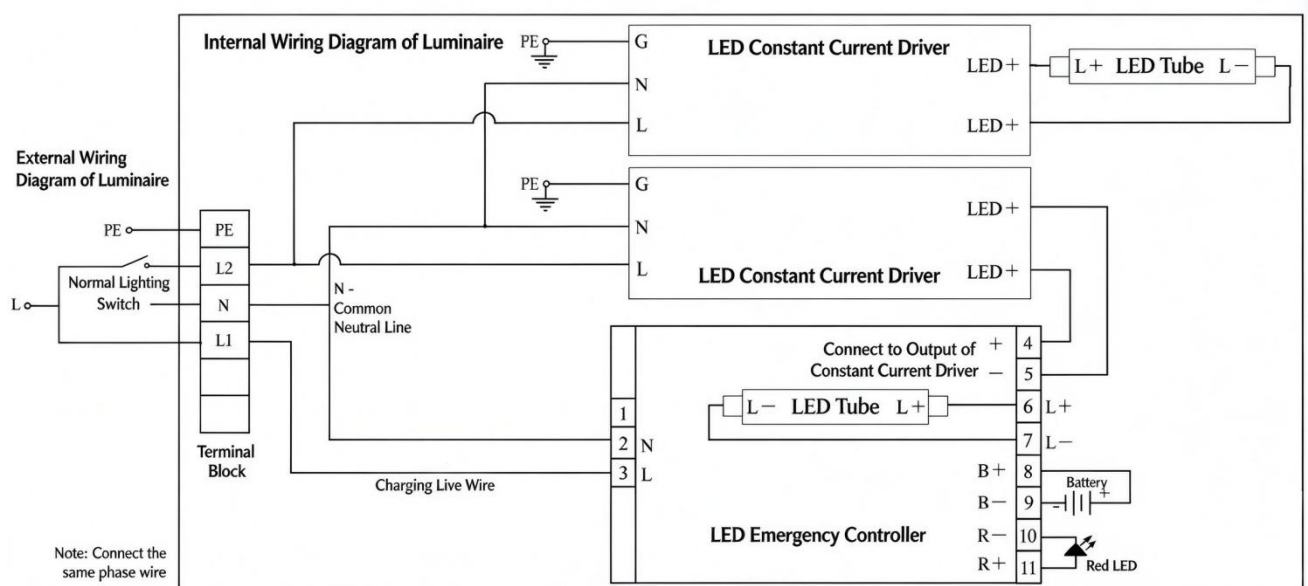
Dimension Drawing



Dimensions (L × W × H)

110600100023	200 x 45 x 35 mm
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Wiring Diagram



Precautions for Use and Installation Instructions

Precautions for Use:

- The input voltage shall be within the specified operating voltage range of AC100V-277V.
- The product shall be used under the rated ambient temperature, and the power supply shall be provided with proper heat dissipation space and environment.

Installation Instructions:

- Connect the power supply to the mains power source with protective earth connection to ensure operator safety.
- Wire strictly in accordance with the terminal markings on the housing surface. Make secure connections. Ensure input and output wires are not reversed, and battery positive/negative terminals are correctly connected without polarity reversal.
- Connect the power supply only after verifying that the load specifications fully match those of the power supply system.

Abnormal Phenomena and Corresponding Troubleshooting

- If the unit fails to light up or shows other abnormalities after the initial electrical connection, disconnect the AC input, check whether wiring is correct, and verify loose contacts at the output or AC input terminals.
- If the LED indicator lights up after electrical connection but the output is abnormal, disconnect the AC input and check for overloading or underloading at the DC output side.