

OT 50/220-240/1A4 P6**Constant Current LED Driver**

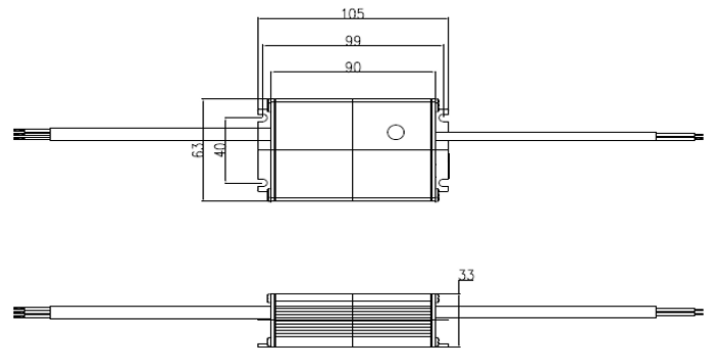
OPTOTRONIC® LED Power Supply is the reliable choice for outdoor lighting applications. This driver offers adjustable current (1.05A – 1.4A) for outdoor application with constant power at input voltage range 220V – 240V.

Benefits

- Easily current adjustment by potentiometer
- High surge protection up to 6 kV
- High efficiency and reliability
- Adjustable and wide output current range
- Constant power
- Double isolation between primary/secondary sides (SELV)
- Over temperature protection
- IP66 (Independent installation)
- Long life time
- Very low ripple <3%

Applications

- Spot light and down light
- Street and Urban lighting
- Industrial lighting
- Suitable for luminaries of protection class I



Housing material: Aluminum Color: Silver

Approval Marks

IP66 SELV

In preparation, if not already printed on product label

Product Features

- Adjustable output current 1.05A – 1.4A
- Output power up to 50 W
- U_{out}: 36 – 48Vdc (SELV)
- High surge up to 4kV/6kV
- Mains voltage 220 – 240 V
- IP66 (Independent installation)
- Wide t_a range -40°C...+55°C
- 100'000 h lifetime at t_c = 70 °C
- 5 years guarantee

Electrical Specifications

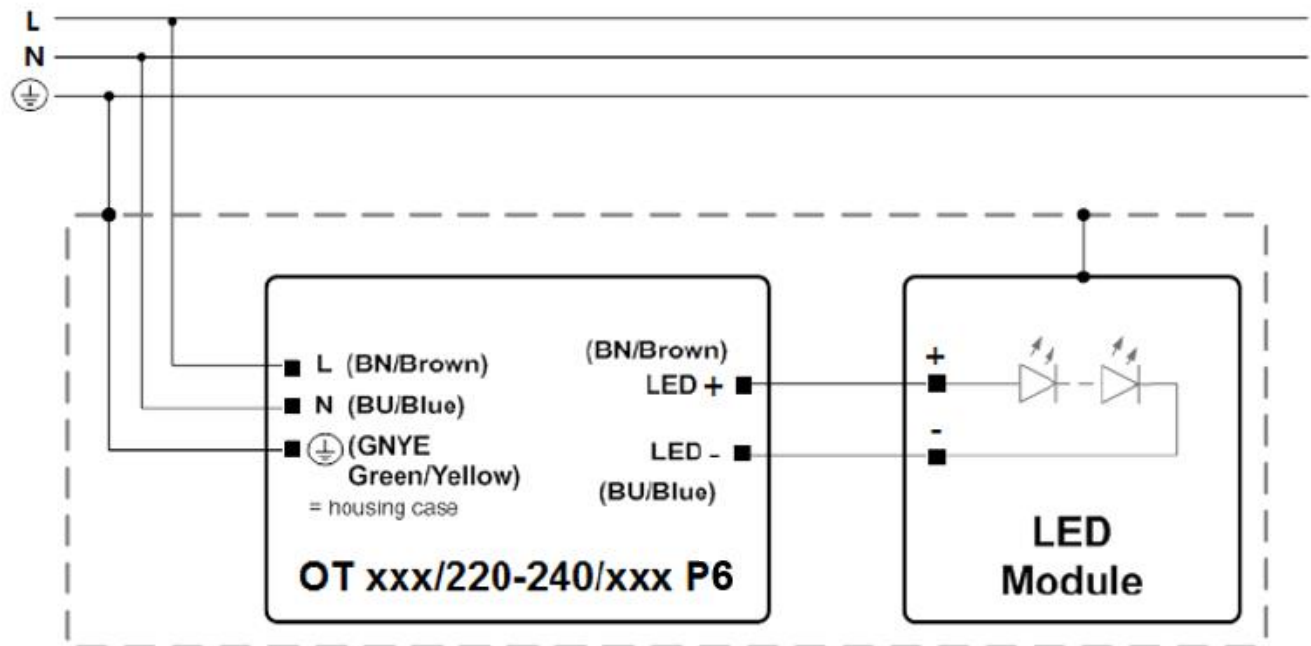
	Item	Value	Unit	Remarks
INPUT	Nominal voltage	220 – 240	Vac	
	Nominal frequency	50 / 60	Hz	
	AC voltage range	198 – 264	Vac	
	DC voltage range	NA	Vdc	
	Maximum voltage	320	Vac	For 2h maximum, see remark
	Nominal power	56.8	W	Vin 230v 50Hz
	Nominal current	0.28	A	Vin 230v 50Hz
	Total Harmonic Distortion (THD)	< 10	%	Full load
	Power factor	> 0.95		Full load
	Efficiency	88	%	Vin 230v 50Hz @ 0.5A
	Power losses	6.8	W	Vin 230v 50Hz
	No-load power	NA	W	Load switching on the LED output is safe but not permitted
	Stand-by power	NA	mW	
	Protection class	I		Housing must be connected to PE
	Touch current	< 3.5	mA(rms)	according to EN 60598-1 Annex G and EN 61347-1 Annex A
Inrush current	35	A pk	Max, th =350µs	
Max. units per circuit breaker	B25:		11	
	B16:		7	
	B10:		4	
OUTPUT	Nominal output voltage range	36 – 48	Vdc	27V - 54V workable, please refer to operation window
	Maximum output voltage	60	Vdc	Abnormal load protection, constant output voltage
	Nominal current range	1.05 - 1.4	A	0.7-1.4 Adjustable
	Current accuracy	± 5	%	
	Ripple current	< ± 3	%	Low frequency ≤100Hz, full load @ 230V
	Nominal power range	35 – 50	W	
	Maximum power	50	W	
	Galvanic isolation	Double		
DIMMING / INTERFACE	Dimming control	NA		
	0-10V	NA		
	AstroDIM	NA		
	Dimming range	NA		
	Dimming type	NA		
	Sourc/sink current	NA		
	Control method	NA		
	Galvanic isolation from output circuits	NA		
	Galvanic isolation from input circuits	NA		
	LEDset2	NA		
	NTC input	NA		
Constant Lumen Function	NA			
ENVIRONMENT / DIMENSIONS	Ambient temperature range t_a	-40 ... +55	°C	Nominal Input Voltage: 220-240Vac
	Max. case temperature at t_c point	90	°C	
	Max. case temp. in fault condition	110	°C	
	Storage temperature range	-40...+85	°C	
	Relative humidity	5 ... 95	%	Not condensing, Absolute humidity: 36g/m ³
	Surge transient protection	4 6	kV	L/N L/PE, N/PE acc to. EN 61547-5.7
	Environmental rating	Outdoor		
	IP rating	IP 66		Potted
	Mains switching cycles	> 100'000		
	Expected lifetime	50'000 100'000	h	$t_c = 80^\circ\text{C}$ with max. 10% failure rate @ 220...240V input $t_c = 70^\circ\text{C}$, with max. 10% failure rate
	Dimensions	105 x 63 x 33	mm	
Weight	370	g		

Protections

Over temperature, Overload, No load, Short-circuit, Input overvoltage, Output Overvoltage

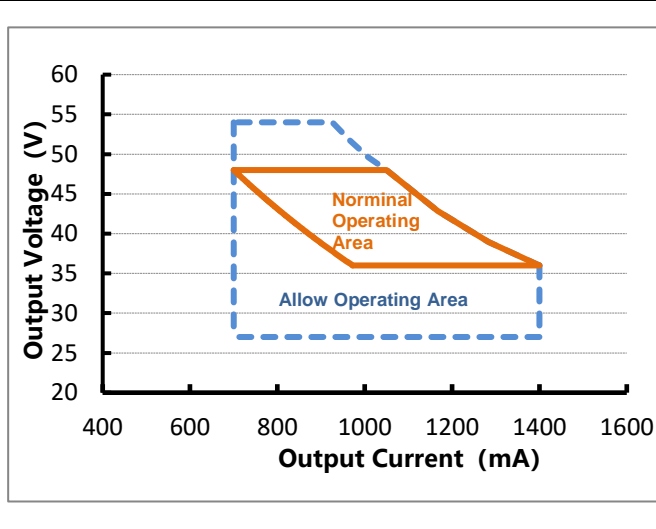
See remarks on page 5.

Wiring Diagram

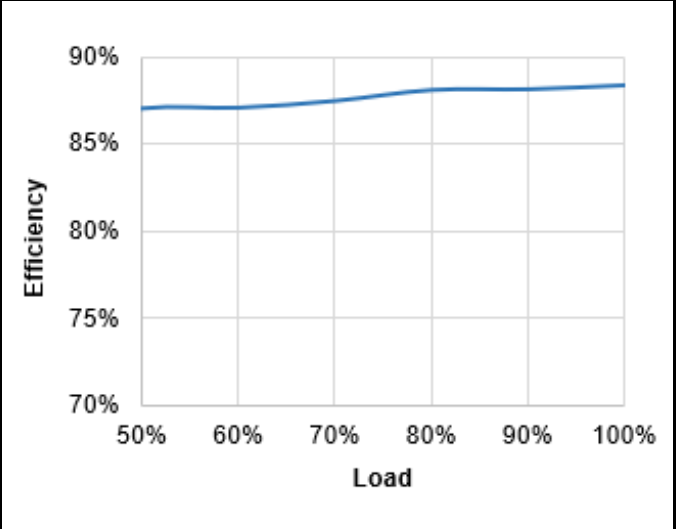


	Item	Value	Unit	Remarks
INPUT	Cable cross section	1.0	mm ²	L (Brown/BN), N (Blue/BU), PE(Green/Yellow, GNYE)
	Wire preparation length	10	mm	
	Type of wire	Flexible three core cable		
	Lead length	200 ± 20	mm	
OUTPUT	Cable cross section	1.0	mm ²	LED+ (Brown/BN), LED- (Blue/BU)
	Wire preparation length	10	mm	
	Type of wire	Flexible two core cable		
	Lead length	200 ± 20	mm	
CABLE/ LENGTH	LED+/LED-	< 2	m	

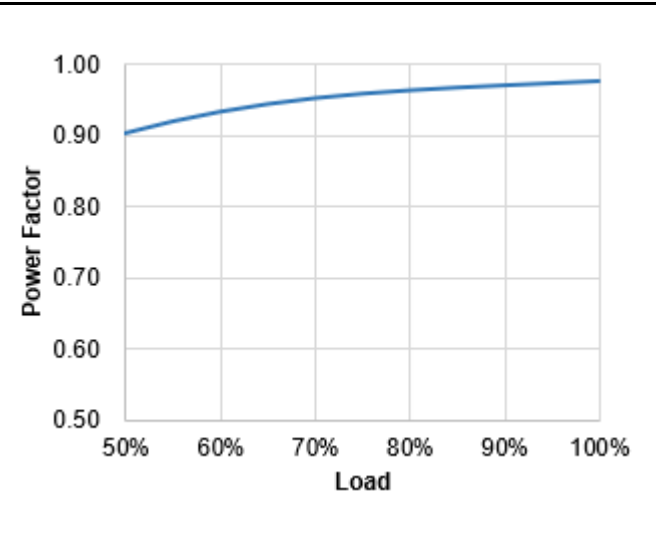
[1] Typical Operation Window



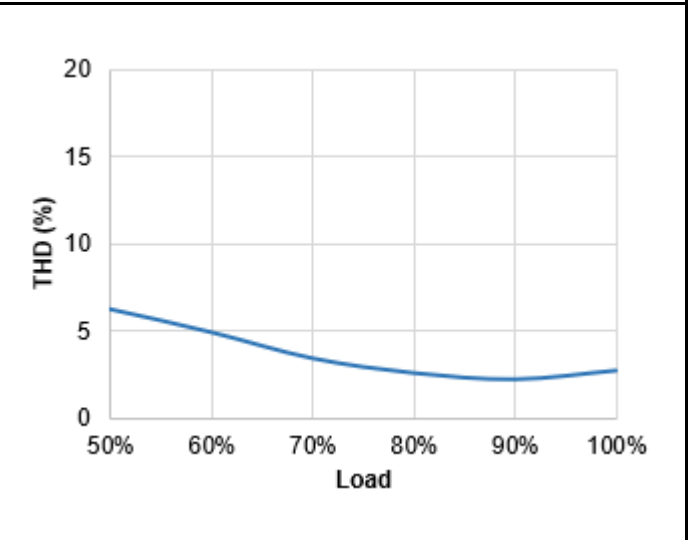
[2] Typical Efficiency vs. Load at 230Vac



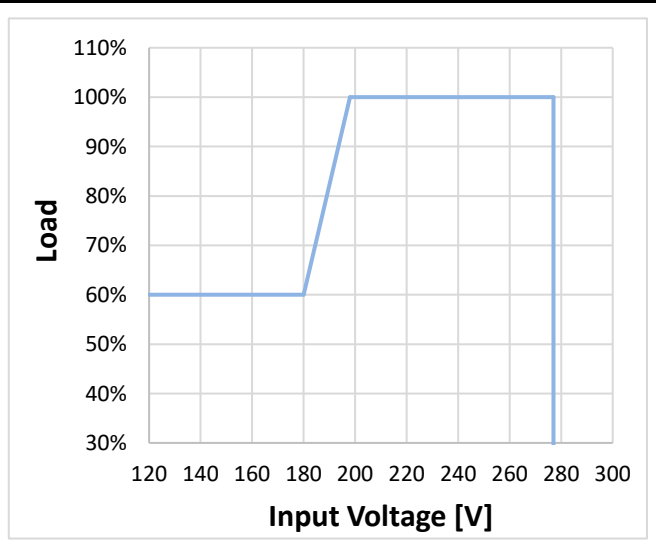
[3] Typical Power Factor vs. Load at 230Vac



[4] Typical THD vs. Load at 230Vac

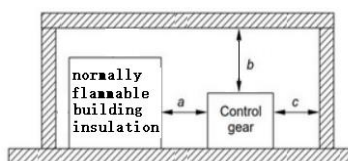


[5] Typical Input Voltage vs. Load



Remarks

- **Input overvoltage protection:** the driver withstands an input voltage up to 320 Vac for a maximum of two hours, shut down of the output load might occur in case the supply voltage exceeds the declared input voltage range;
- **Output short circuit protection:** short circuit current protection without damage to the unit. See typical operating window graph for details;
- **Input voltage range:** Nominal operation at 198 – 264Vac. Workable at 120 – 277Vac (refer to [5] Typical Input Voltage vs. Load), but normal performance such as THD, EMI, lifetime etc are not guaranteed;
- **Output over load/voltage protection:** In case the input voltage of the load exceeds the output voltage range which is auto defined by output current setting of the driver ($V_o = P_o / I_o$), flicking of output will be occurred. Auto-reversible without mains power on/off.
- **No load protection:** The driver automatically adjusts the output voltage to the maximum output voltage. Auto-reversible with the correct load connected but there is possibility of damage to the LED load. Hot-plug is not allowed.
- **Over temperature protection:** the driver is protected against temporary overheating by shutdown
- The protective earth (⊕ GNYE/PE) wire should be connected to the heat sink of the LED module to improve the surge withstand capability of the system and EMI in critical luminaries;
- Not suitable to be mounted in ceiling corner
- For outdoor application, the driver must be installed inside fixture with IP rating >54
- The LED control gear cannot be abutted against or covered by normally flammable materials or used in installations where building insulation or debris is, or may be, present in normal use.
- The external flexible cable or cord of this driver cannot be replaced; if the cord is damaged, the driver shall be destroyed.
- The startup time to reach the set output current is less than 2s;
- Disconnect the power before servicing. Terminal block is not included, installation must be performed by qualified person.
- For Australia and New Zealand



$a \geq 250\text{mm}$; $b \geq 250\text{mm}$; $c \geq 250\text{mm}$

Normally flammable building element

Non IC classification

The minimum clearance distance from the top and sides of the control gear to normally flammable building elements and normally flammable building insulation are 250mm.

Installation in a non-combustible enclosed space may include installation in a rebate in a concrete slab, ceiling or wall.

If the dimming cord connect to the FELV circuit



(marked on supply cord)



(marked on dimming cord)

FELV terminals marked "Risk of electric shock" are not safe to touch.

- For further details please consult the application note.

Standards

EN 61347-1
EN 61347-2-13
EN 55015
EN 61547
EN 61000-3-2
EN 61000-3-3
EN 60598-1(ED.8)
EN 62384

Product name	EAN10	EAN40	Pieces / box
OT 50/220-240/1A4 P6	4062172125628	4062172125635	20

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