

**OT 60/220-240/1A4 1DIMA P7****Constant Current LED Driver**

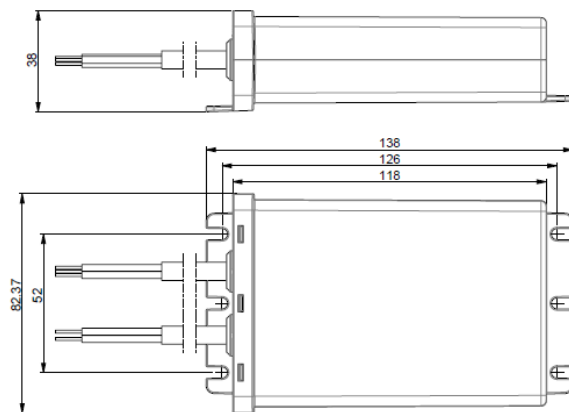
OPTOTRONIC® LED Power Supply is the reliable choice for outdoor lighting applications. This driver offers adjustable current (0.4A – 1.4A) for outdoor application with constant power at input voltage range 220V – 240V.

**Benefits**

Easily programmable by NFC; (AstroDIM / Constant lumen)  
 High surge protection up to 6 kV;  
 High efficiency and reliability;  
 Adjustable and wide output current range;  
 Constant power;  
 Over temperature protection;  
 Double isolation between primary/secondary sides  
 IP67 Independent installation  
 Long life time

**Applications**

Street and Urban lighting  
 Industrial lighting  
 Suitable for luminaires of protection class I/II

**Approval Marks**

In preparation, if not already printed on product label

Housing material: PC Color: Grey

**Product Features**

- Adjustable output current 0.4A - 1.4A
- Output power up to 60 W
- Uout: 36 – 86 Vdc
- High surge up to 6kV
- Over temperature protection
- Mains voltage 220 – 240 V
- IP67 (Independent installation)
- Wide  $t_a$  range -40°C...+55°C
- 100'000 h lifetime at  $t_c = 75^\circ\text{C}$
- 5 years guarantee

## Electrical Specifications

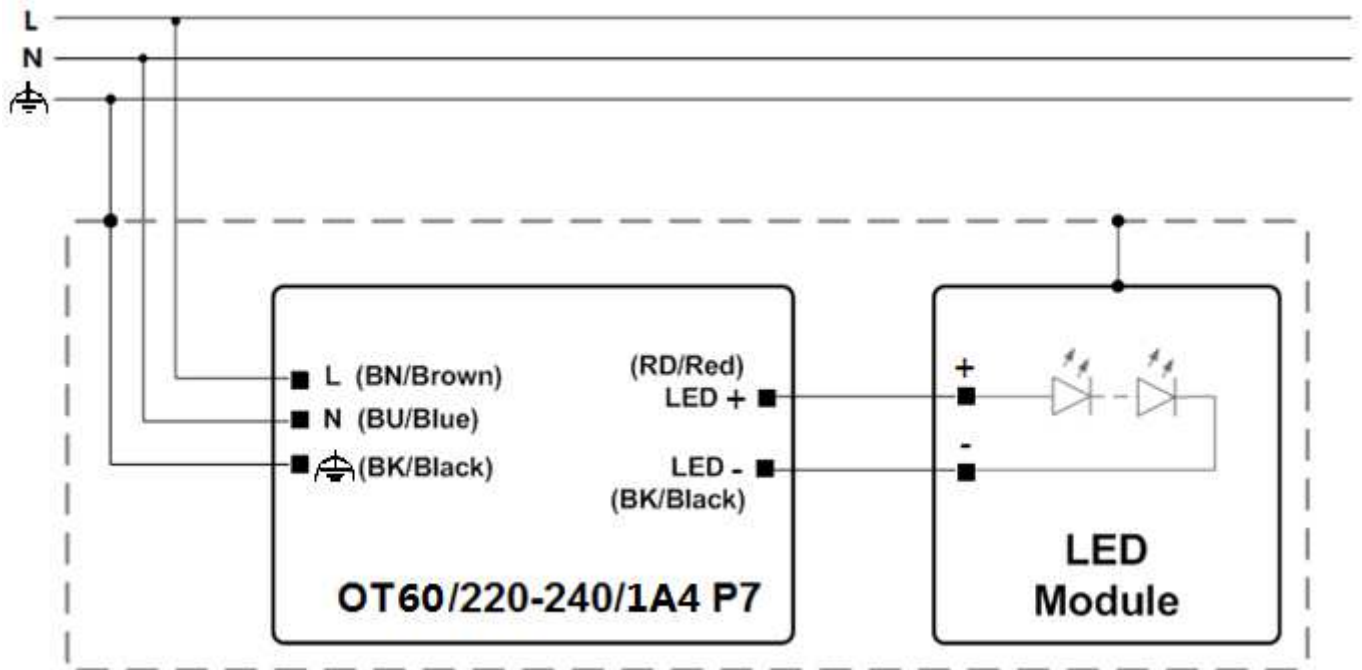
	Item	Value	Unit	Remarks
INPUT	Nominal voltage	220 – 240	Vac	
	Nominal frequency	50 / 60	Hz	
	AC voltage range	198 – 264	Vac	
	DC voltage range	NA	Vdc	
	Maximum voltage	350	Vac	For 2h maximum, see remark
	Nominal power	68	W	Vin 230v 50Hz, Io 0.7A
	Nominal current	0.3	A	Vin 230v 50Hz
	Total Harmonic Distortion (THD)	< 10	%	Full load
	Power factor	> 0.97		Full load
	Efficiency	88.0	%	Vin 230v 50Hz
	Power losses	8.0	W	Vin 230v 50Hz, Io 0.7A
	Stand-by power	NA	mW	
	Protection class	I/II		
	Touch current	< 0.35	mA pk	according to EN 60598-1 Annex G and EN 61347-1 Annex A
	Inrush current	26	A pk	Max, th = 220 µs
Max. units per circuit breaker	B25: 23 B16: 14 B10: 9			
OUTPUT	Nominal output voltage range	43 – 86	Vdc	Full power range
	Output voltage range	36 – 86	Vdc	
	Maximum output voltage	110	Vdc	Abnormal load protection, constant output voltage
	Nominal current range	0.7-1.4	A	0.4A – 1.4A Adjustable, by NFC
	Current accuracy	± 5	%	
	Ripple current	< ± 5	%	Low frequency ≤100Hz, full load @ 230V
	Nominal power range	30 – 60	W	
	Maximum power	60	W	
Galvanic isolation	Double			
DIMMING / INTERFACE	Dimming control	NA		
	0-10V	NA		
	AstroDIM	Yes		Astro base or Time base
	Dimming range	25-100%		Please refer to operation window
	Dimming technique	NA		
	Galvanic isolation Interface	NA		
	LEDset2	NA		
	NTC input	NA		
Constant Lumen Function	Yes			
ENVIRONMENT / DIMENSIONS	Ambient temperature range $t_a$	-40 ... +55	°C	Nominal Input Voltage: 220-240Vac
	Max. case temperature at $t_c$ point	85	°C	
	Max. case temp. in fault condition	120	°C	
	Storage temperature range	-25...+85	°C	
	Relative humidity	5 ... 95	%	Not condensing, Absolute humidity: 36g/m <sup>3</sup>
	Surge transient protection	6   6	kV	L/N   L/PE, N/PE acc to. EN 61547-5.7
	Environmental rating	Outdoor		
	IP rating	IP 67		Potted
	Mains switching cycles	> 100'000		
	Expected lifetime	50'000 100'000	h	$t_c = 85^\circ\text{C}$ with max. 10% failure rate $t_c = 75^\circ\text{C}$ , with max. 10% failure rate @ 220...240V input
Dimensions	138 x 82.37 x 38	mm		
Weight	540	g		

### Protections

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

See remarks on page 5.

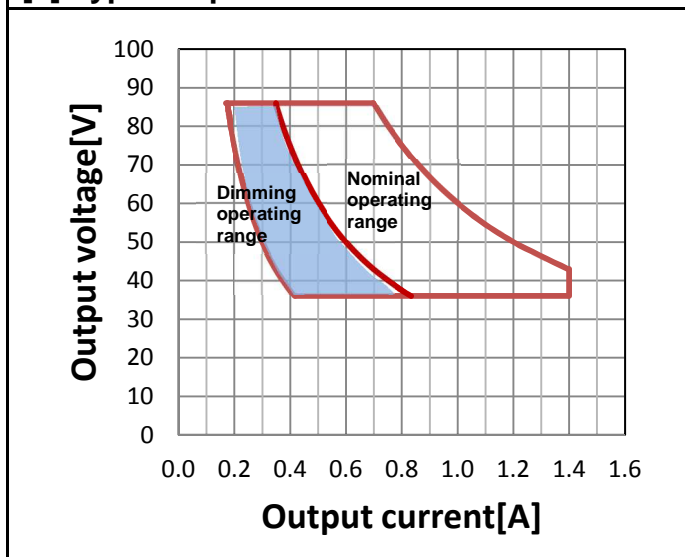
## Wiring Diagram



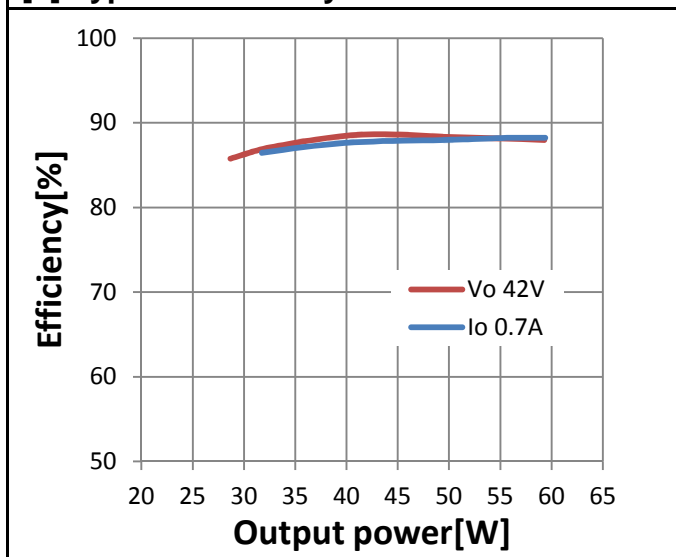
Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.

Item	Value	Unit	Remarks
INPUT	Cable cross section	1.0	mm <sup>2</sup> L (Brown/BN), N (Blue/BU), FE(Black/BK )
	Wire preparation length	10	mm
	Type of wire	Flexible three core cable	
	Lead length	300 ± 20	mm
OUTPUT	Cable cross section	1.0	mm <sup>2</sup> LED+ (Red/RD), LED- (Black/BK)
	Wire preparation length	10	mm
	Type of wire	Flexible two Core cable	
	Lead length	300 ± 20	mm
CABLE/LENGTH	LED+/LED-	< 2	m

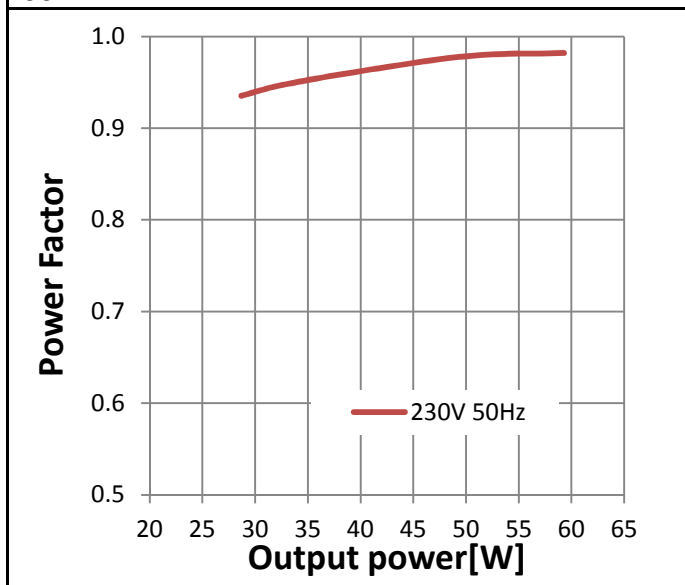
[1] Typical operation window at 230V 50Hz



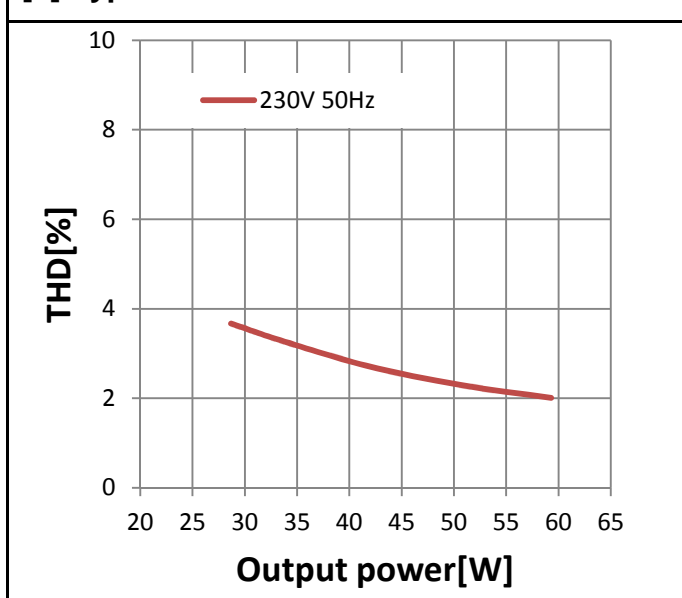
[2] Typical Efficiency vs Load at 230V 50Hz



[3] Typical Power Factor vs Load at 230V 50Hz



[4] Typical THD vs Load at 230V 50Hz



**Remarks**

- **Input overvoltage protection:** the driver withstands an input voltage up to 300 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 is limited to the actual output current setting without damage to the unit. See typical operating window graph for details.
- **Input voltage range:** Nominal operation at 198 – 264Vac. Workable at 120 – 277Vac without safety issue, but normal performance such as THD, EMI, lifetime etc are not guaranteed. Flickering of LED would be possible when input voltage lower than 140V.
- **Output under voltage operation:** The output current setting is still effective if the load voltage is below the minimum output voltage without any safety issue, but normal performance such as THD, EMI etc is not guaranteed. See typical operating window graph for details.
- **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 ( $V_o = P_o / I_o$ ), it automatically reduces the output current. Auto-reversible without mains power on/off.
- **No load protection:** the driver automatically adjusts the output voltage to the maximum output voltage which is auto defined by output current setting if no load is connected. Auto-reversible with the correct load connected;
- **Over temperature protection:** the driver is protected against temporary overheating by shutting down until the overheating eliminated; Auto-reversible when temperature back to normal
- The functional earth (⚡ BK/FE) 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.
- The startup time to reach the set output current is less than 1 s.
- Do not operate or storage under direct sunlight.
- 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  
 EN60598-1(ED.8)  
 EN62384

Product name	EAN10	EAN40	Pieces / box
OT 60/220-240/1A4 P7	4052899495012	4052899495029	20

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