

45W Constant Current Mode LED Driver

IDPC-45 series



SELV



EAC



CB



Features

- Constant Current mode output
- Flicker free design
- PCB type design
- Built-in active PFC function
- No load power consumption<0.5W(Blank-Type), Standby power consumption<0.5W(DA-Type)
- Function options: 2 in 1 dimming (dim-to-off); Auxiliary DC output; DALI
- 3 years warranty

Applications

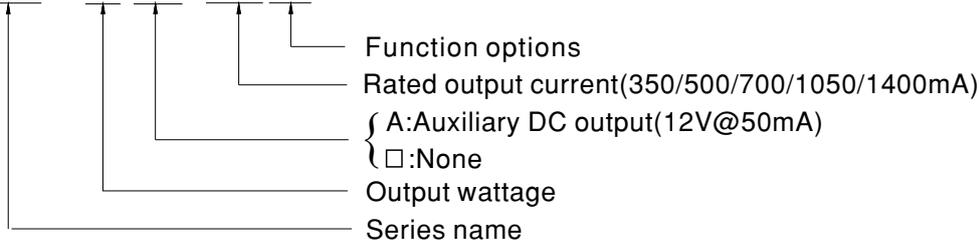
- LED panel lighting
- LED flood lighting
- Indoor LED lighting

Description

IDPC-45 series is a 45W PCB type LED AC/DC driver featuring the constant current mode output with flicker free design. IDPC-45 operates from 90~295VAC and offers models with different rated current ranging between 350mA and 1400mA. Thanks to the efficiency up to 86%, with the fanless design, the entire series is able to operate for -20°C~+40°C ambient temperature under free air convection. IDPC-45 is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for lighting system.

Model Encoding

IDPC - 45 **A** - 350



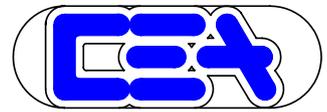
Type	Function	Note
Blank	2 in 1 dimming (0~10VDC and 10V PWM)	In Stock
DA	DALI control technology	In Stock

Note: The DALI control model(DA Type) only for IDPC-45 Non Auxiliary DC output models.

Note: all features are subject to change without notice.

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Costruzioni Elettroniche Elettromeccaniche & Affini s.r.l. - 10132 TORINO - C.so Casale, 413 - Tel. 0118987106 / 0115534597 - fax 0115534597 - e_mail cea@cea.to - URL http://www.cea.to



45W Constant Current Mode LED Driver

IDPC-45 series

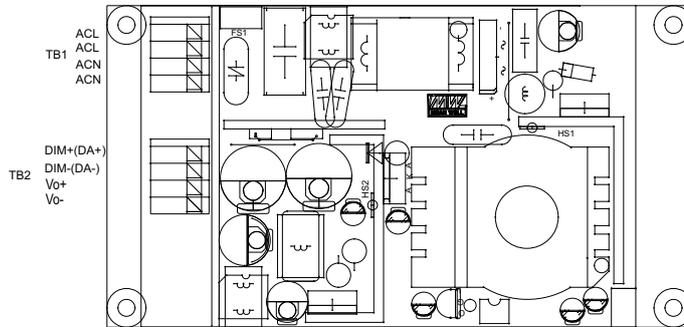
SPECIFICATION

MODEL		IDPC-45□-350□	IDPC-45□-500□	IDPC-45□-700□	IDPC-45□-1050□	IDPC-45□-1400□
OUTPUT	RATED CURRENT	350mA	500mA	700mA	1050mA	1400mA
	RATED POWER	33.25W	45W	44.8W	45.15W	44.8W
	CONSTANT CURRENT REGION <small>Note.2</small>	57 ~ 95V	54 ~ 90V	38 ~ 64V	26 ~ 43V	19 ~ 32V
	OPEN CIRCUIT VOLTAGE _(max.)	118V	115V	84V	63V	50V
	CURRENT RIPPLE	5% max. @rated current				
	CURRENT TOLERANCE	±7.0%				
	SETUP TIME <small>Note.4</small>	500ms / 230VAC 1200ms/115VAC				
	AUXILIARY DC OUTPUT <small>Note.5</small>	Nominal 12V(deviation 11.4~12.6)@50mA for IDPC-45A only				
INPUT	VOLTAGE RANGE <small>Note.3</small>	90 ~ 295VAC 127 ~ 417VDC (Please refer to "STATIC CHARACTERISTIC" section)				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	PF>0.95/115VAC, PF>0.92/230VAC, PF>0.9/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)				
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≥60%/115VAC,230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION" section)				
	EFFICIENCY (Typ.)	86%	85%	85%	84%	83%
	AC CURRENT	0.6A/115VAC 0.4A/230VAC 0.3A/277VAC				
	INRUSH CURRENT (Typ.)	COLD START 30A(twidth=100μs measured at 50% Ipeak) at 230VAC; Per NEMA 410				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	32 units (circuit breaker of type B) / 32 units (circuit breaker of type C) at 230VAC				
	LEAKAGE CURRENT	<0.75mA / 277VAC				
	NO LOAD/STANDBY POWER CONSUMPTION	No load power consumption<0.5W for Blank-Type,<1.2W for IDPC-45A Standby power consumption<0.5W for DA-Type				
PROTECTION	SHORT CIRCUIT	Hiccup mode,auto-recovery after fault condition is removed for DA type; Hiccup mode,re-power on to recovery for other type				
ENVIRONMENT	WORKING TEMP.	Ta=-20 ~ +40°C (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH				
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 40°C)				
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes				
SAFETY & EMC	SAFETY STANDARDS	UL8750, CSA C22.2 NO.250.13-12; ENEC EN61347-1, EN61347-2-13, EN62384, GB19510.1, GB19510.14, EAC TP TC 004 approved				
	DALI STANDARDS	Compliance to IEC62386-101, 102 for DA-Type only				
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC				
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH				
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (@load ≥ 60%) ; EN61000-3-3, GB17743, GB17625.1, EAC TP TC 020				
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level(surge immunity:Line-Line:1KV), EAC TP TC 020				
	MTBF	408.8Khrs min. MIL-HDBK-217F (25°C)				
	DIMENSION	120*66.5*25mm(L*W*H)				
NOTE	PACKING	0.14Kg; 81pcs/ 12.5Kg/ 1.32CUFT				
	NOTE	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. Please refer to "DRIVING METHODS OF LED MODULE". De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. Length of set up time is measured at cold first start. Turning ON/OFF the driver may lead to increase of the set up time. Aux. 12V will be damaged with short circuit; It will not be available when output voltage is not in constant current region or output no load condition. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. The DALI version driver does not support the bit 1: Lamp failure in the Command 144 Query status of the DALI standard. 				

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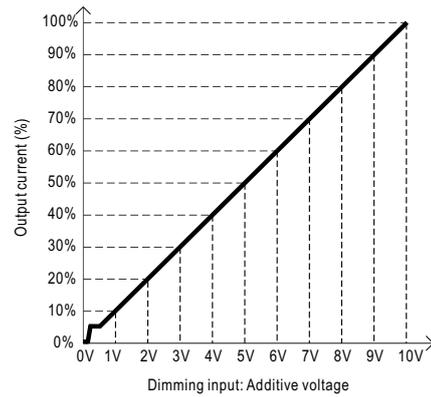
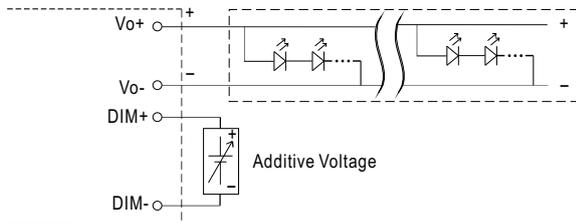
■ DIMMING OPERATION



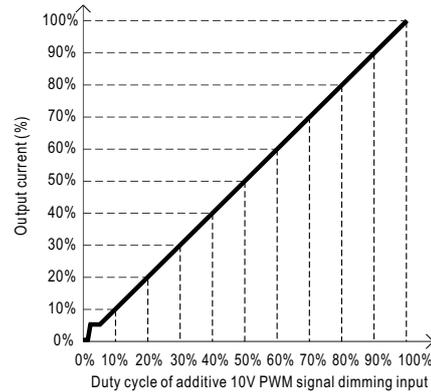
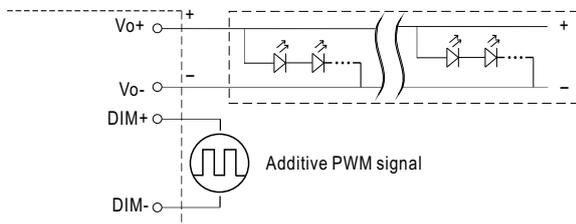
※ **2 in 1 dimming function**

- Output constant current level can be adjusted by applying one of the two methodologies between DIM+ and DIM-: 0 ~ 10VDC, or 10V PWM signal.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.

◎ Applying additive 0 ~ 10VDC



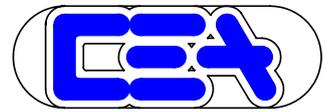
◎ Applying additive 10V PWM signal (frequency range 300Hz ~ 3KHz):



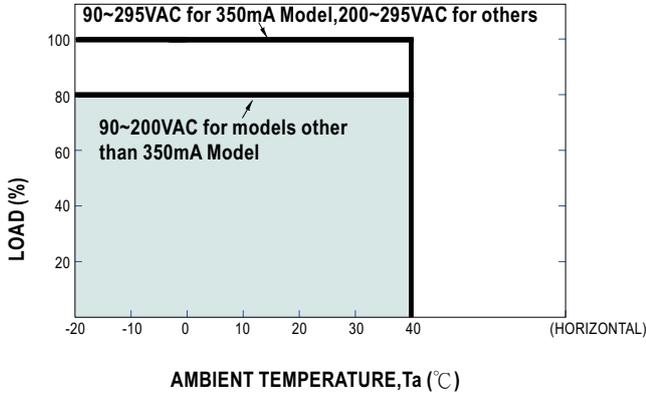
※ **DALI Interface (primary side; for DA-Type)**

- Apply DALI signal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 8% of output.

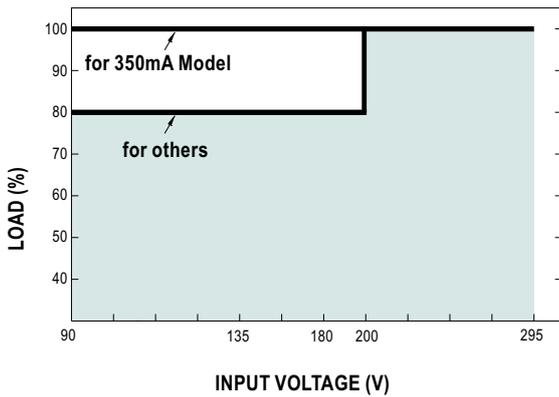
Note : 1. Min. dimming level is about 8% and the output current is not defined when $0% < I_{out} < 8%$.
 2. The output current could drop down to 0% when dimming input is about 0Vdc or 10V PWM signal with 0% duty cycle.



OUTPUT LOAD vs TEMPERATURE

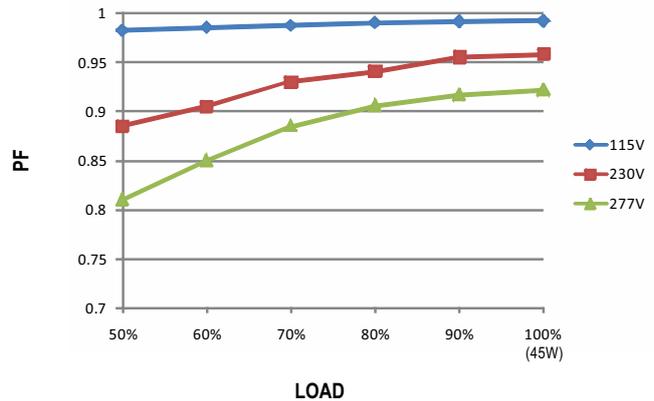


STATIC CHARACTERISTIC



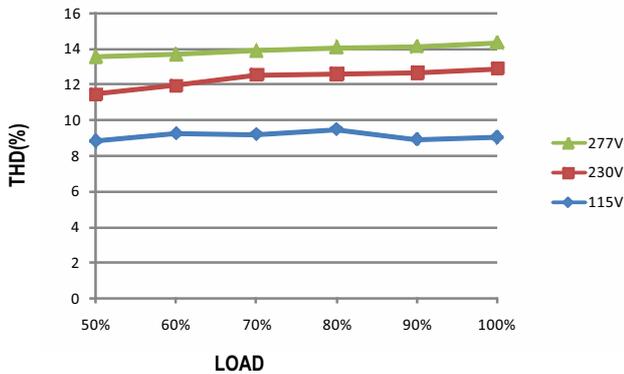
※ De-rating is needed under low input voltage.

POWER FACTOR (PF) CHARACTERISTIC



TOTAL HARMONIC DISTORTION (THD)

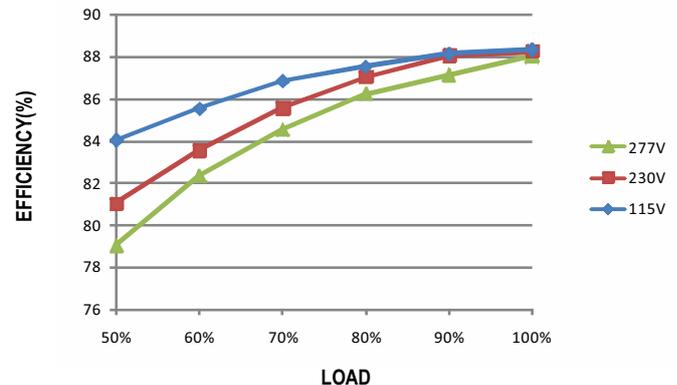
※ 350mA Model



EFFICIENCY vs LOAD

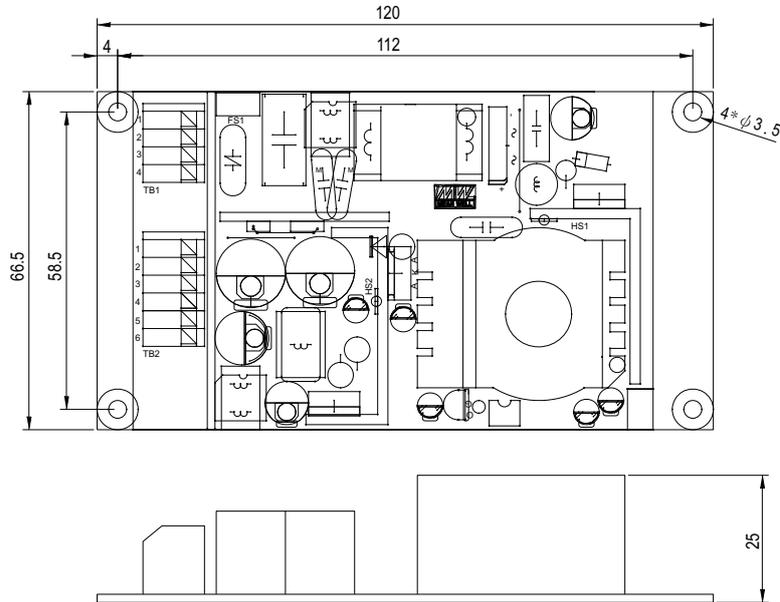
IDPC-45 series possess superior working efficiency that up to 86% can be reached in field applications.

※ 350mA Model



MECHANICAL SPECIFICATION

Unit:mm



※ Terminal Pin No. Assignment(TB1)

Pin No.	Assignment
1	ACL
2	ACL
3	ACN
4	ACN

IDPC-45

※ Terminal Pin No. Assignment(TB2)

Pin No.	Assignment	Pin No.	Assignment
1	DIM+(DA+)	3	Vo+
2	DIM-(DA-)	4	Vo-

IDPC-45A

※ Terminal Pin No. Assignment(TB2)

Pin No.	Assignment	Pin No.	Assignment
1	DIM+	4	Vo-
2	DIM-	5	AUX+
3	Vo+	6	AUX-

Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>