

ADP-32WFPD1

Dimmable Constant Current Source for LED drive



Features

- AC 100-240V wide input voltage range
- Constant current output
- 24~42V wide constant current operation range
- Low output ripple current (No Flickering)
- Active PFC correction, PF>0.90
- Low input current THD (Meet IEC61000-3-2 Class C)
- Flicker-less dimming control (Option)
PWM or Linear Dimming
- Water Resist, Compact size
- Long life time over 40,000 Hr
- Short output protection
- RoHS compatible
- Certified KC-Korea & PSE-Japan

Applications

- LED Lighting
- Advertising Light panel

Electrical characteristics

Parameter	Symbol	Conditions*	Specification*			Unit
			Min	Typ	Max	
Input supply voltage	V_{IN}		90	220	242	V_{AC}
Input current	I_{IN}	$V_{IN}=100V$	0.20	0.22	0.24	A
Power consumption	P_{IN}	$V_{IN}=100V$	20	22	24	W
Power factor	$\text{Cos}\theta$	$V_{IN}=100V$	0.92	0.97		
Output current	I_O	$V_{IN}=100/220V$	490	500	510	mA
Reference output voltage	V_{O-REF}	$V_{IN}=100/220V$	24		42	V
No load output voltage	V_{O-open}	$V_{IN}=100/220V$		45		V
Efficiency		$V_{IN}=100/220V$	81	83		%

* Output current is 500mA at 37V reference output voltage

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Absolute maximum ratings

Lower Input supply voltage (V_{IN})	-----	85V
Higher Input supply voltage (V_{IN})	-----	265V
Maximum output voltage with load	-----	42V
Minimum output voltage with load	-----	24V
Output current (I_o)	-----	600mA
Input power	-----	34W
Ambient operating temperature	-----	- 10 °C to 50 °C
Storage temperature range	-----	- 30 °C to 80 °C
Operating & storage humidity	-----	10 % to 85 %

Recommended operating conditions (R.C.)

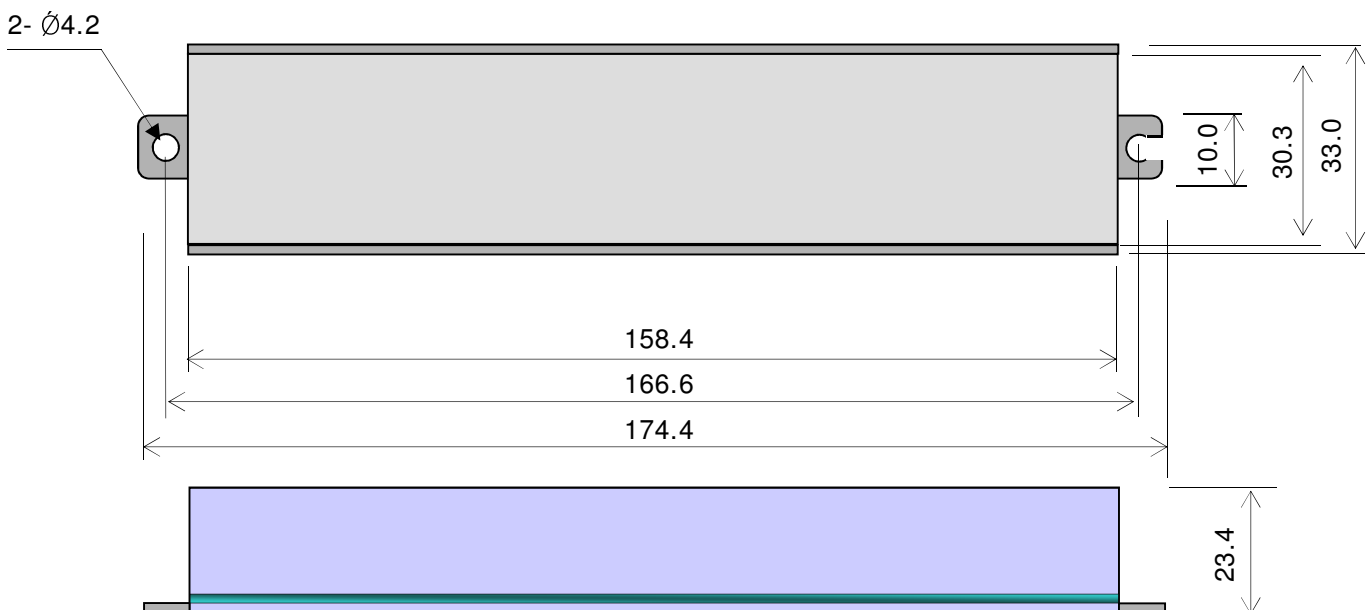
Parameter	Symbol	Recommendation			Units
		Min	R.C.	Max	
Input supply voltage	V_{IN}	90		240	V
Input current at 100V (at $I_o=500mA$, $V_o=37V$)	I_{IN}	0.20	0.22	0.24	A
Reference output voltage (for LED)	V_o	24		42	Vdc
Operating ambient temperature range	T_A	- 10		45	°C

Input & Output Wire or terminals

- AC Input : White & Black, AWG- 18 (KSC3304) 220mm Length
- DC Output : DC+ : Red, AWG- 18, 250mm Length
DC- : Black, AWG- 18, 250mm Length
- Dimming Control (Option) : Yellow/Yellow (Non- Polar), AWG- 24, 200mm Length

Mechanical dimensions

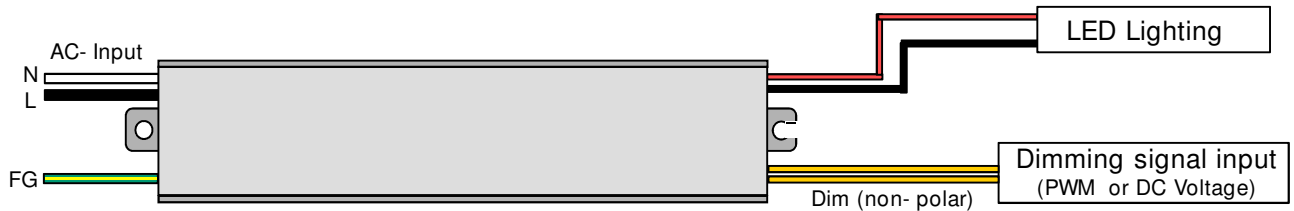
Tolerance : ± 0.5
Unit : mm



Notice : The specification is subject to change without notice

Dimming Control Option

► Dimming connection diagram



► Dimming characteristics

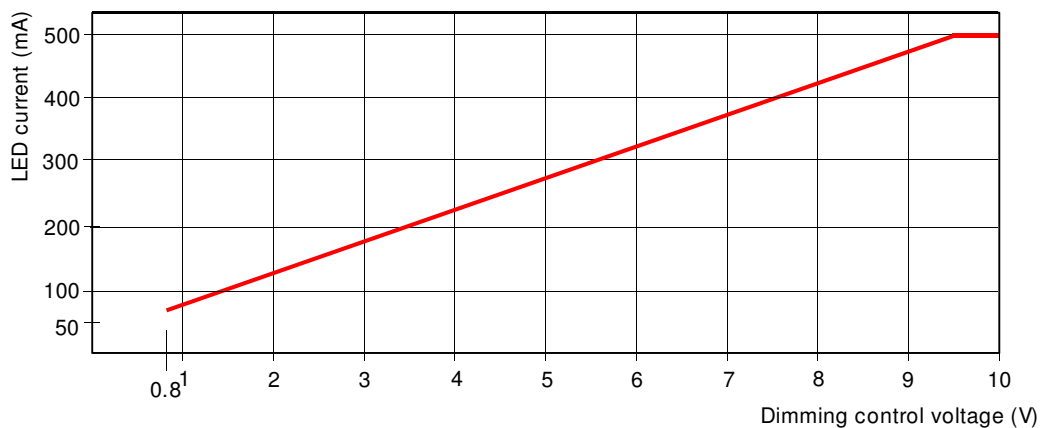
1. Linear dimming (Option 1)

- 1) LED lighting is maximum bright when dimming signal input is open (not use)
- 2) Input impedance : around 15kΩ
- 3) Available dimming control voltage range : 1~ 10V
- 4) Dimming Range : around 15%~ 100%

Dimming control voltage	LED lamp*
Dimming control input open (no use)	Maximum bright (500mA)
Under 0.8V	Unstable
Up 1.0V to around 9.5V	Smooth current change from 80mA to 500mA
9.5V over (max 12V)	Maximum bright (500mA)

* In case of 500mA maximum current

- Dimming curve characteristics



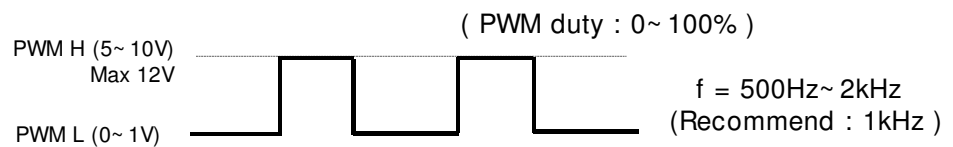
2. PWM dimming (Option 2)

- 1) No flickering due to the PWM control input
- 2) LED lighting is maximum bright when dimming signal input is open (no use)
- 3) Input impedance : around 15k Ω
- 4) Dimming range : around 15%~ 100%

Dimming control PWM duty	LED lamp*
Dimming control input open (no use)	Maximum bright (500mA)
Over 95%	Minimum bright (80mA)
95% to 5%	Smooth current change from 80mA to 500mA
Under 5%	Maximum bright (500mA)

* In case of 500mA maximum current

- PWM control input signal



- Dimming curve characteristics

