



*Your Reliable Power Partner*

# LED Power Supply LED Driver

2012  
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# AP series

## 12~35W Single Output Class 2 Power Unit

### ► Features

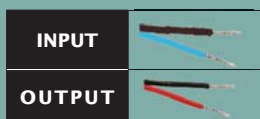
- Universal AC input / Full range
- Fully isolated plastic case
- Protections: Short circuit / Overload(APV only) / Over voltage
- Constant voltage design (C.V. mode) for APV series
- Constant current design (C.C. mode) for APC series
- IP30 design
- Withstand 300VAC surge input for 5 seconds (APV/C-25/35)
- Class 2 power unit / Pass LPS
- Isolation class II, no FG
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED lighting and moving sign applications
- 2 years warranty

### APV-12/16

### APC-12/16

### APV-25/35

### APC-25/35



AC input voltage range		90~264VAC ; 127~370VDC	
AC inrush current (max.)		Cold start, 70A at 230VAC	
Overload protection (APV only)	Range	>105% rated output current	
	Type	Hiccup up mode, auto-recovery	
Over voltage protection		110%~145% rated output voltage	
Withstand voltage		I/P-O/P: 3.75kVAC	I/P-O/P: 3kVAC
Working temperature		-30~+70°C (refer to output derating curve)	
Vibration		10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes	
Safety standards		UL8750 approved; Design refer to TUV EN60950-1	Design refer to TUV EN60950-1, UL8750
EMC standards		EN55015, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11
Connection	Input	UL rated, 18AWGx2C (15cm)	UL rated, 18AWGx2C (15cm)
	Output	UL rated, 20AWGx2C (15cm)	UL rated, 18AWGx2C (15cm)
Dimension (LxWxH)(mm)		77x 40x 29	84x 57x 29.5

### APV-12 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-12-5	5V, 0~2.0A	±5%	100mV	76%
APV-12-12	12V, 0~1.0A	±5%	120mV	82%
APV-12-15	15V, 0~0.8A	±5%	120mV	82%
APV-12-24	24V, 0~0.5A	±5%	150mV	84%

### APV-16 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-16-5	5V, 0~2.60A	±5%	100mV	76%
APV-16-12	12V, 0~1.25A	±5%	120mV	80%
APV-16-15	15V, 0~1.00A	±5%	120mV	81%
APV-16-24	24V, 0~0.67A	±5%	150mV	83%

### APV-25 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-25-5	5V, 0~3.5A	±5%	100mV	77%
APV-25-12	12V, 0~2.1A	±5%	120mV	82%
APV-25-15	15V, 0~1.68A	±5%	120mV	83%
APV-25-24	24V, 0~1.05A	±5%	150mV	83%
APV-25-36	36V, 0~0.7A	±5%	150mV	83%

### APV-35 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-35-5	5V, 0~5.0A	±5%	100mV	77%
APV-35-12	12V, 0~3.0A	±5%	150mV	84%
APV-35-15	15V, 0~2.4A	±5%	150mV	84%
APV-35-24	24V, 0~1.5A	±5%	180mV	84%
APV-35-36	36V, 0~1.0A	±5%	180mV	84%

### APC-12 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
APC-12-350	9~36V, 350mA	±8%	300mV	82%
APC-12-700	9~18V, 700mA	±8%	250mV	80%

### APC-16 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
APC-16-350	12~48V, 350mA	±8%	300mV	84%
APC-16-700	9~24V, 700mA	±8%	250mV	83%

### APC-25 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
APC-25-350	25~70V, 350mA	±5%	300mV	83%
APC-25-500	15~50V, 500mA	±5%	300mV	83%
APC-25-700	11~36V, 700mA	±5%	300mV	83%
APC-25-1050	9~24V, 1050mA	±5%	300mV	83%

### APC-35 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
APC-35-350	28~100V, 350mA	±5%	350mV	84%
APC-35-500	25~70V, 500mA	±5%	350mV	84%
APC-35-700	15~50V, 700mA	±5%	350mV	84%
APC-35-1050	11~33V, 1050mA	±5%	350mV	84%










# LP series

18~100W Single Output Class 2 Power Unit

## ► Features

- Universal AC input / Full range (LPV)
- 180~264VAC input only (LPH-18)
- 90~132VAC input only (LPL-18)
- Fully encapsulated with IP67 level
- Protections: Short circuit / Overload / Over voltage / Over temperature (LPH-18/LPL-18 only)
- **Constant voltage design (C.V. mode)**
- Class 2 power unit / Pass LPS (except for LPV-100)
- Isolation class II, no F.G.
- Withstand 300VAC surge input for 5 seconds (except for LPH/LPL-18)
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED-based decorative/architectural lighting, LED stage and theater lighting, and LED electronic displays
- 2 years warranty

		LPL-18	LPH-18	LPV-20	LPV-35	LPV-60	LPV-100
<div>INPUT</div> <div></div> <div>OUTPUT</div> <div></div>							
AC input voltage range		90~132VAC	180~264VAC	90~264VAC			
AC inrush current (max.)		Cold start, 40A at 115VAC	Cold start, 50A at 230VAC	Cold start, 70A at 230VAC	Cold start, 60A at 230VAC		Cold start, 75A at 230VAC
Overload Protection	Range	>105%		110%~150%			
	Type	Hiccup mode, auto-recovery					
Over voltage protection		115%~135% rated output voltage					
Withstand voltage		I/P-O/P: 3kVAC					
Working temperature		-30~+70°C			-30~+75°C	-30~+70°C	-25~+70°C
Vibration		10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes					
Safety standards		TUV EN60950-1 approved for LPH-18		UL1310 (except for LPV-60-5 & LPV-100), UL879 (except for LPV-35/100 & LPV-60-5) approved; Design refer to TUV EN60950-1			
EMC standards		FCC part 15 class B	EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11				
Connection	Input	UL rated, 18AWGx2C (30cm)		UL rated, 18AWGx2C (60cm)	UL rated, 18AWGx2C (60cm)		18AWGx2C (30cm)
	Output			UL rated, 16AWGx2C (60cm)		UL rated, 14AWGx2C (30cm)	
Dimension (LxWxH)(mm)		140x 30x 22		118x 35x 26	148x 40x 30	162.5x 42.5x 32	190x 52x 37

### LPL-18 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPL-18-12	12V, 0~1.5A	±3%	120mV	80%
LPL-18-24	24V, 0~0.75A	±3%	150mV	83%
LPL-18-36	36V, 0~0.5A	±3%	200mV	84%

### LPH-18 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPH-18-12	12V, 0~1.5A	±3%	120mV	78%
LPH-18-24	24V, 0~0.75A	±3%	150mV	82%
LPH-18-36	36V, 0~0.5A	±3%	200mV	83%

### LPV-20 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPV-20-5	5V, 0~3.0A	±5%	80mV	77%
LPV-20-12	12V, 0~1.67A	±5%	120mV	81%
LPV-20-15	15V, 0~1.33A	±5%	120mV	83%
LPV-20-24	24V, 0~0.84A	±5%	150mV	83%

### LPV-35 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPV-35-5	5V, 0~5.0A (peak 6A)	±6%	80mV	77%
LPV-35-12	12V, 0~3.0A	±5%	120mV	84%
LPV-35-15	15V, 0~2.4A	±5%	120mV	84%
LPV-35-24	24V, 0~1.5A	±5%	150mV	85%
LPV-35-36	36V, 0~1.0A	±5%	150mV	85%

### LPV-60 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPV-60-5	5V, 0~8.0A	±8%	80mV	76%
LPV-60-12	12V, 0~5.0A	±5%	120mV	83%
LPV-60-15	15V, 0~4.0A	±5%	120mV	83%
LPV-60-24	24V, 0~2.5A	±5%	150mV	86%
LPV-60-36	36V, 0~1.67A	±5%	150mV	86%
LPV-60-48	48V, 0~1.25A	±5%	150mV	86%

### LPV-100 Series (C.V. mode)










Model No.	Output	Tol.	R&N	Effi.
LPV-100-5	5V, 0~12.0A	±8%	80mV	80%
LPV-100-12	12V, 0~8.5A	±5%	120mV	85%
LPV-100-15	15V, 0~6.7A	±5%	120mV	87%
LPV-100-24	24V, 0~4.2A	±5%	150mV	88%
LPV-100-36	36V, 0~2.8A	±5%	150mV	88%
LPV-100-48	48V, 0~2.1A	±5%	150mV	89%

# LP series

18~60W Single Output Class 2 Power Unit

## Features

- Universal AC input / Full range (LPC)
- 180~264VAC input only (LPHC-18)
- 90~132VAC input only (LPLC-18)
- Fully encapsulated with IP67 level
- Protections: Short circuit / Over voltage / Over temperature ( LPLC/LPHC-18 only )
- **Constant current design (C.C. mode)**
- Withstand 300VAC surge input for 5 seconds (except for LPHC/LPLC-18)
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G.
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED-based decorative / architectural lighting, LED stage and theater lighting, and LED electronic displays
- 2 years warranty

	LPLC-18	LPHC-18	LPC-20	LPC-35	LPC-60
<b>INPUT</b>					
<b>OUTPUT</b>					
					

AC input voltage range		90~132VAC	180~264VAC	90~264VAC	
AC inrush current (max.)		Cold start, 40A at 115VAC	Cold start, 50A at 230VAC	Cold start, 70A at 230VAC	Cold start, 60A at 230VAC
Over voltage protection		105%~135% rated output voltage			
Withstand voltage		I/P-O/P: 3kVAC			
Working temperature		-30~+70℃			-30~+75℃ -30~+70℃
Vibration		10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes			
Safety standards		Design refer to UL1310, EN60950-1		UL1310, UL879 (LPC-20 only) approved; Design refer to TUV EN60950-1	
EMC standards		FCC part 15 class A(LPLC-18), EN55022 class A, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11		EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11	
Connection	Input	UL rated, 18AWGx2C (30cm)		UL rated, 18AWGx2C (60cm)	UL rated, 18AWGx2C (60cm)
	Output			UL rated, 16AWGx2C (60cm)	
Dimension (LxWxH)(mm)		140x 30x 22		118x 35x 26	148x 40x 30 162.5x 42.5x 32

## LPLC-18 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPLC-18-350	6~48V, 350mA	±8%	300mV	82%
LPLC-18-700	6~25V, 700mA	±8%	250mV	80%

## LPHC-18 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPHC-18-350	6~48V, 350mA	±8%	300mV	80%
LPHC-18-700	6~25V, 700mA	±8%	250mV	80%

## LPC-20 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPC-20-350	9~48V, 350mA	±5%	200mV	83%
LPC-20-700	9~30V, 700mA	±5%	200mV	83%

## LPC-35 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPC-35-700	9~48V, 700mA	±5%	200mV	85%
LPC-35-1050	9~30V, 1050mA	±5%	200mV	85%
LPC-35-1400	9~24V, 1400mA	±5%	200mV	85%

## LPC-60 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPC-60-1050	9~48V, 1050mA	±5%	200mV	87%
LPC-60-1400	9~42V, 1400mA	±5%	200mV	85%
LPC-60-1750	9~34V, 1750mA	±5%	200mV	87%

# ELN series

## 30~60W Single Output Class 2 Power Unit

### Features

- Universal AC input / Full range
- Fully isolated plastic case with IP64 level
- Built-in constant current limiting circuit with adjustable OCP level
- Protections: Short circuit / Over current / Over voltage
- **Optional dimming function: 1.1~10VDC(D type) or PWM (P type) controlled**
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G.
- Cooling by free air convection
- Suitable for economical LED indoor lighting and LED electronic displays
- 2 years warranty

ELN-30		ELN-60
<b>INPUT</b> <b>OUTPUT</b> (standard) <b>OUTPUT</b> (Dimming Function)		
AC input voltage range		90~264VAC ; 127~370VDC
AC inrush current (max.)		Cold start, 60A at 230VAC
DC adjustment range		±10% rated output voltage
Current adjustment range		75%~103% rated output current adjustable by internal potentiometer
Over current protection		95%~110% constant current limiting, auto-recovery
Over voltage protection	Range	110%~150% rated output voltage
	Type	Shut down o/p voltage, re-power on to recover
Withstand voltage		I/P-O/P: 3kVAC
Working temperature		-20~+60°C (refer to output derating curve)
Vibration		10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes
Safety standards		UL1310 approved; Design refer to TUV EN60950-1
EMC standards		EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11
Connection	Input	UL rated, SVT 18AWGx2C (32cm)
	Output	Without dimming: UL rated, SVT 18AWGx2C (32cm) With dimming(optional): UL2464 18AWGx4C (32cm)
Dimension (LxWxH)(mm)		145x 47x 30
Packing		0.26kg ; 60pcs / 16.6kg

### ELN-30 Series



Model No.	Output	Tol.	R&N	Effi.
ELN-30-5	5V, 0~5.0A	±5%	80mV	75%
ELN-30-9	9V, 0~3.4A	±5%	100mV	80%
ELN-30-12	12V, 0~2.5A	±5%	120mV	82%
ELN-30-15	15V, 0~2.0A	±5%	120mV	82%
ELN-30-24	24V, 0~1.25A	±5%	150mV	85%
ELN-30-27	27V, 0~1.12A	±5%	150mV	85%
ELN-30-48	48V, 0~0.63A	±5%	250mV	87%

### ELN-60 Series



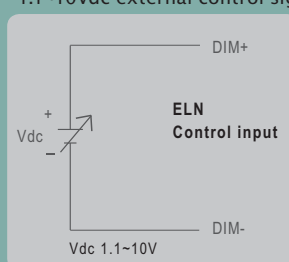
Model No.	Output	Tol.	R&N	Effi.
ELN-60-9	9V, 0~5.0A	±5%	120mV	82%
ELN-60-12	12V, 0~5.0A	±5%	120mV	85%
ELN-60-15	15V, 0~4.0A	±5%	150mV	86%
ELN-60-24	24V, 0~2.5A	±5%	150mV	87%
ELN-60-27	27V, 0~2.3A	±5%	200mV	87%
ELN-60-48	48V, 0~1.3A	±5%	250mV	88%

### Dimming Control (optional)

Through the dimming function, output current of ELN series can be adjusted to reduce the energy consumption or adjust the brightness of LEDs connecting to it. Two kinds of control signal are accepted: 1.1~10VDC (D-type option) or PWM signal (P-type option).

#### D Type :

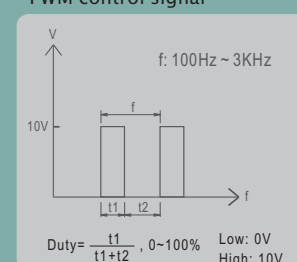
1.1~10Vdc external control signal



Order No.: ELN-**[30]**-**[5]**D

#### P Type :

PWM control signal



Order No.: ELN-**[30]**-**[5]**P



# PCD series

16~60W Single Output AC Dimmable Power Unit

## Features

- 115VAC or 230VAC input, **AC phase-cut dimming**, work with leading edge and trailing edge TRIAC dimmers
- Built-in active PFC function
- Fully isolated plastic case
- Constant current design
- IP30 design
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G.
- Protections: Short circuit / Over temperature
- Cooling by free air convection
- 3 years warranty

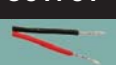
### INPUT (A type)



### INPUT (B type)



### OUTPUT



## PCD-16/25



## PCD-40/60



AC input voltage range	115VAC (90~135VAC) or 230VAC (180~295VAC)	
AC inrush current (max.)	Cold start, 40A at 230VAC	Cold start, 10A at 230VAC
Withstand voltage	I/P - O/P: 3.75kVAC	
Working temperature	-30~+60°C (refer to output derating curve)	
Safety standards	UL8750, ENEC EN61347-2-13(B-Type only) approved (PCD-40/60 pending)	
EMC standards	A-Type: FCC part 18 non-consumer equipment (PCD-16/25); FCC part 15 class B (PCD-40/60)	
	B-Type: EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	A-Type: UL1430 18AWGx2C (7.5cm); B-Type: NISPT-1 18AWGx2C (7.5cm)
	Output	UL1430 18AWGx2C (15cm)
Dimension (LxWxH)(mm)	84x 57x 29.5	128x 60x 31.5

## PCD-16 Series

Model No.	Output	Io Tol.	R&N	Effi.
PCD-16-350□	24~48V, 350mA	±5%	4.6V	82.0%
PCD-16-700□	16~24V, 700mA	±5%	2.7V	81.0%
PCD-16-1050□	12~16V, 1050mA	±5%	2.2V	80.5%
PCD-16-1400□	8~12V, 1400mA	±5%	2.0V	80.0%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

## PCD-25 Series

Model No.	Output	Io Tol.	R&N	Effi.
PCD-25-350□	40~58V, 350mA	±5%	4.6V	82.0%
PCD-25-700□	24~36V, 700mA	±5%	2.7V	81.0%
PCD-25-1050□	16~24V, 1050mA	±5%	2.2V	80.5%
PCD-25-1400□	12~18V, 1400mA	±5%	2.0V	80.0%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

## PCD-40 Series

Model No.	Output	Io Tol.	R&N	Effi.
PCD-40-350□	65~115V, 350mA	±5%	4.6V	87%
PCD-40-500□	45~80V, 500mA	±5%	2.7V	87%
PCD-40-700□	34~57V, 700mA	±5%	2.7V	86%
PCD-40-1050□	22~38V, 1050mA	±5%	2.2V	86%
PCD-40-1400□	17~29V, 1400mA	±5%	2.0V	85%
PCD-40-1750□	13~23V, 1750mA	±5%	2.0V	85%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

## PCD-60 Series

Model No.	Output	Io Tol.	R&N	Effi.
PCD-60-500□	65~115V, 500mA	±5%	4.6V	87%
PCD-60-700□	50~86V, 700mA	±5%	2.7V	86%
PCD-60-1050□	34~57V, 1050mA	±5%	2.2V	86%
PCD-60-1400□	25~43V, 1400mA	±5%	2.0V	85%
PCD-60-1750□	20~34V, 1750mA	±5%	1.5V	85%
PCD-60-2000□	18~30V, 2000mA	±5%	1.5V	85%
PCD-60-2400□	15~25V, 2400mA	±5%	1.0V	84%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

## Dimmer Compatibility Chart

Manufacturer	Dimmer Model	
LUTRON	SKYLARK SF-12P-277	(277VAC / 60Hz)
LUTRON	DVF-103P-277	(277VAC / 60Hz)
LUTRON	SKYLARK SF-10P	(120VAC / 60Hz)
LUTRON	SKYLARK S-600P	(120VAC / 60Hz)
LUTRON	SKYLARK DVF-103P	(120VAC / 60Hz)
LEVITON	ILLUMATECH TM Cat.No.IP106	(120VAC / 60Hz)
LEVITON	SURESLIDE TM Cat.No.6633-P	(120VAC / 60Hz)
LEVITON	SURESLIDE TM Cat. NO.6615-P	(120VAC / 60Hz)
JUNG	Licht-Management 225 T DE	(230VAC / 50Hz)
JUNG	Licht-Management 225 NV DE	(230VAC / 50Hz)
BERKER	Tronic-Drehdimmer 286710	(230-240VAC / 50Hz)
BE LICHTREGLER	T39.01	(230VAC / 50Hz)
BE LICHTREGLER	T46	(230VAC / 50Hz)
CLIPSAL	32E450UDM	(220-240VAC / 50Hz)
CLIPSAL	NO 32E450TM	(220-240VAC / 50Hz)




- ▶ Conduction angle: 30 degrees (min.) / 180 degrees (max.)
- ▶ For PCD-16/25/40/60 only

# PLD series

16~60W Single Output Class 2 with PFC

## ► Features

- Universal AC input (up to 295VAC) / Full range for PLD-25
- 115VAC or 230VAC input for PLD-16/40/60
- Built-in active PFC function
- Fully isolated plastic case
- Constant current design
- IP30 design
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G.
- Protections: Short circuit / Over temperature
- Suitable for indoor LED lighting applications
- Cooling by free air convection
- 3 years warranty

		PLD-16	PLD-25	PLD-40/60
INPUT (A type)	OUTPUT			
INPUT (B type)				
AC input voltage range		115VAC (90~135VAC) or 230VAC (180~295VAC)	90~295VAC	115VAC (90~135VAC) or 230VAC (180~295VAC)
AC inrush current (max.)		Cold start, 40A at 230VAC		Cold start, 10A at 230VAC
Withstand voltage		I/P - O/P: 3.75kVAC		
Short circuit protection		Hiccup mode, recovers automatically after fault condition is removed		
Over Temp. protection		95°C±10°C (RTH1) shut down o/p voltage re-power on to recover		
Working temperature		-30~+60°C (refer to output derating curve)		
Safety standards		UL8750, ENEC EN61347-2-13 (B-Type & PLD-25 only) approved (PLD-40/60 pending)		
EMC standards		A-Type: FCC part 18 non-consumer equipment (PLD-16/25); FCC part 15 class B (PLD-40/60) B-Type & PLD-25: EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4,2,3,4,5,6,8,11, EN61547		
Connection	Input	A-Type: UL1430 18AWGx2C (7.5cm) B-Type & PLD-25: NISPT-1 18AWGx2C (7.5cm)		
	Output	UL1430 18AWGx2C (15cm)		
Dimension (LxWxH)(mm)		84x 57x 29.5		128x 60x 31.5

## PLD-16 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-16-350 □	24~48V, 350mA	±5%	4.6V	86%
PLD-16-700 □	16~24V, 700mA	±5%	2.7V	86%
PLD-16-1050 □	12~16V, 1050mA	±5%	2.2V	84%
PLD-16-1400 □	8~12V, 1400mA	±5%	2.0V	83%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

## PLD-25 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-25-350	36~58V, 350mA	±5%	4.6V	85%
PLD-25-700	24~36V, 700mA	±5%	2.7V	86%
PLD-25-1050	16~24V, 1050mA	±5%	2.2V	85%
PLD-25-1400	12~18V, 1400mA	±5%	2.0V	84%

## PLD-40 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-40-350 □	65~115V, 350mA	±5%	4.6V	88%
PLD-40-500 □	45~80V, 500mA	±5%	2.7V	88%
PLD-40-700 □	34~57V, 700mA	±5%	2.7V	87%
PLD-40-1050 □	22~38V, 1050mA	±5%	2.2V	87%
PLD-40-1400 □	17~29V, 1400mA	±5%	2.0V	86%
PLD-40-1750 □	13~23V, 1750mA	±5%	2.0V	86%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

## PLD-60 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-60-500 □	65~115V, 500mA	±5%	4.6V	88%
PLD-60-700 □	50~86V, 700mA	±5%	2.7V	87%
PLD-60-1050 □	34~57V, 1050mA	±5%	2.2V	87%
PLD-60-1400 □	25~43V, 1400mA	±5%	2.0V	86%
PLD-60-1750 □	20~34V, 1750mA	±5%	1.5V	86%
PLD-60-2000 □	18~30V, 2000mA	±5%	1.5V	86%
PLD-60-2400 □	15~25V, 2400mA	±5%	1.0V	85%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC



# LPF series

16~90W Single Output Class 2 with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- Fully isolated plastic case
- Isolation class II, no F.G.
- Class 2 power unit / Pass LPS
- Built-in 3 in 1 dimming function (1~10VDC, PWM signal or resistance) for D type
- Fully encapsulated with IP67 level [optional for LPF-16(D)]  
Cooling by free air convection
- Suitable for LED lighting and moving sign applications
- Suitable for dry, damp, wet location
- 3 years warranty

### LPF-16(D)/25(D)

### LPF-40(D)/60(D)

### LPF-90(D)

<b>INPUT</b>	
<b>OUTPUT</b> (Non-Dimming Function)	
<b>OUTPUT</b> (Dimming Function)	



AC input voltage range	90~305VAC ; 127~431VDC		
AC inrush current (max.)	Cold start, 50A at 230VAC	Cold start, 75A at 230VAC	Cold start, 70A at 230VAC
Over current protection	95%~108% constant current, auto-recovery		
Over voltage protection	110%~145% rated output voltage		
Withstand voltage	I/P - O/P: 3.75kVAC		
Working temperature	-40~+70°C (refer to output derating curve)		
Safety standards	UL8750, ENEC EN61347-1, EN61347-2-13 approved for LPF-16(D)/25(D); UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved for LPF-40(D)/60(D)/90(D)		
EMC standards	EN55015, EN61547, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11		
Connection	Input	UL rated, SJTW 18AWGx2C (30cm)	
	Output	LPF-16/25: UL rated, SVT 18AWGx2C (30cm) LPF-16D/25D: UL rated, SVT 18AWGx4C (30cm)	LPF-40/60: UL rated, SVT 18AWGx2C (30cm) LPF-40D/60D: UL2464 18AWGx2C(30cm)+22AWGx2C (30cm) LPF-90: UL rated, SVT 18AWGx2C (30cm) LPF-90D: UL2464 18AWGx4C (30cm)
Dimension (LxWxH)(mm)	148x 40x 32	162.5x 43x 32	161x 61x 36

### LPF-16 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-16-12	12V, 0~1.34A	±4.0%	150mV	83.0%
LPF-16-15	15V, 0~1.07A	±4.0%	150mV	83.0%
LPF-16-20	20V, 0~0.80A	±4.0%	150mV	84.5%
LPF-16-24	24V, 0~0.67A	±4.0%	150mV	84.5%
LPF-16-30	30V, 0~0.54A	±4.0%	200mV	84.5%
LPF-16-36	36V, 0~0.45A	±4.0%	250mV	85.0%
LPF-16-42	42V, 0~0.39A	±4.0%	250mV	85.0%
LPF-16-48	48V, 0~0.34A	±4.0%	250mV	85.0%
LPF-16-54	54V, 0~0.30A	±4.0%	350mV	84.5%

### LPF-25 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-25-12	12V, 0~2.10A	±4.0%	150mV	84.0%
LPF-25-15	15V, 0~1.67A	±4.0%	150mV	84.0%
LPF-25-20	20V, 0~1.25A	±4.0%	150mV	85.0%
LPF-25-24	24V, 0~1.05A	±4.0%	150mV	85.5%
LPF-25-30	30V, 0~0.84A	±4.0%	200mV	85.5%
LPF-25-36	36V, 0~0.70A	±4.0%	250mV	85.5%
LPF-25-42	42V, 0~0.60A	±4.0%	250mV	85.5%
LPF-25-48	48V, 0~0.53A	±4.0%	250mV	86.0%
LPF-25-54	54V, 0~0.47A	±4.0%	350mV	86.0%

### LPF-40 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-40-12	12V, 0~3.34A	±4.0%	150mV	84.0%
LPF-40-15	15V, 0~2.67A	±4.0%	150mV	85.0%
LPF-40-20	20V, 0~2.00A	±4.0%	150mV	86.0%

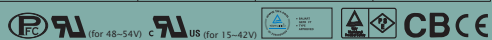
Model No.	Output	Tol.	R&N	Effi.
LPF-40-24	24V, 0~1.67A	±4.0%	150mV	87.0%
LPF-40-30	30V, 0~1.34A	±4.0%	200mV	88.0%
LPF-40-36	36V, 0~1.12A	±4.0%	250mV	88.0%
LPF-40-42	42V, 0~0.96A	±4.0%	250mV	88.5%
LPF-40-48	48V, 0~0.84A	±4.0%	250mV	89.0%
LPF-40-54	54V, 0~0.76A	±4.0%	350mV	89.0%

### LPF-60 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-60-12	12V, 0~5.00A	±4.0%	150mV	86%
LPF-60-15	15V, 0~4.00A	±4.0%	150mV	87%
LPF-60-20	20V, 0~3.00A	±4.0%	150mV	88%
LPF-60-24	24V, 0~2.50A	±4.0%	150mV	89%
LPF-60-30	30V, 0~2.00A	±4.0%	200mV	90%
LPF-60-36	36V, 0~1.67A	±4.0%	250mV	90%
LPF-60-42	42V, 0~1.43A	±4.0%	250mV	90%
LPF-60-48	48V, 0~1.25A	±4.0%	250mV	90%
LPF-60-54	54V, 0~1.12A	±4.0%	350mV	90%

### LPF-90 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-90-15	15V, 0~5.00A	±4.0%	150mV	89.0%
LPF-90-20	20V, 0~4.50A	±4.0%	150mV	89.5%
LPF-90-24	24V, 0~3.75A	±4.0%	150mV	90.0%
LPF-90-30	30V, 0~3.00A	±4.0%	200mV	90.5%
LPF-90-36	36V, 0~2.50A	±4.0%	200mV	90.5%
LPF-90-42	42V, 0~2.15A	±4.0%	200mV	90.5%
LPF-90-48	48V, 0~1.88A	±4.0%	200mV	90.5%
LPF-90-54	54V, 0~1.67A	±4.0%	200mV	90.5%

□ = Blank, D ; Blank: without dimming function , D: with dimming function

# PLC-series

30~96W Single Output Class 2 with PFC

## ► Features

- Universal AC input / Full range
- **Fully isolated plastic case with screw terminal style of I/O**
- Built-in constant current limiting circuit (C.V.+C.C. mode)
- Adjustable output voltage and current level
- Built-in active PFC function, PF>0.9 for 75% of load or higher
- High efficiency up to 90%
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G. for PLC-30
- Cooling by free air convection
- Protections: Short circuit / Over current / Over voltage / Over temperature
- 100% full load burn-in test
- Suitable for LED lighting and moving sign applications
- 2 years warranty



AC input voltage range	90~264VAC ; 127~370VDC		
AC inrush current (max.)	Cold start, 40A at 230VAC		
DC adjustment range	95%~108% rated output voltage adjustable by internal potentiometer		85%~100% rated output voltage
Current adjustment range	75%~103% rated output current adjustable by internal potentiometer		75%~100% rated output voltage
Over current protection	100%~110% constant current limiting, auto-recovery	95%~110% constant current limiting, auto-recovery	95%~102% constant current limiting, auto-recovery
Over voltage protection	110%~155% rated output voltage	115%~140% rated output voltage	107%~135% rated output voltage
Setup time	1500ms at full load and 230VAC		1200ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG:0.5kVAC	
Working temperature	-30~+50℃ (refer to output derating curve)		
Safety standards	UL1310, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; TUV EN60950-1 approved for PLC-100 only		
EMC standards	EN55015, EN55022 class B (PLC-45/60/100), EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection (Input / Output)	2+2P screw terminal block	3+2P screw terminal block	
Dimension (LxWxH)(mm)	160x 46x 30	181.5x 62x 35	200.5x 69.5x 35
Packing	0.2kg ; 70pcs / 15kg	0.41kg ; 30pcs / 13.3kg	0.52kg ; 25pcs / 14kg

## PLC-30 Series

Model No.	Output	Tol.	R&N	Effi.
PLC-30-9	9V, 0~3.3A	±10%	2.6V	80.0%
PLC-30-12	12V, 0~2.5A	±10%	2.0V	82.5%
PLC-30-15	15V, 0~2.0A	±10%	2.6V	83.5%
PLC-30-20	20V, 0~1.5A	±10%	2.6V	84.0%
PLC-30-24	24V, 0~1.25A	±10%	2.4V	84.0%
PLC-30-27	27V, 0~1.12A	±10%	2.3V	84.5%
PLC-30-36	36V, 0~0.84A	±10%	3.6V	85.0%
PLC-30-48	48V, 0~0.63A	±10%	3.7V	85.5%

## PLC-45 Series

Model No.	Output	Tol.	R&N	Effi.
PLC-45-12	12V, 0~3.8A	±10%	2.0V	83.5%
PLC-45-15	15V, 0~3.0A	±10%	2.4V	85.0%
PLC-45-20	20V, 0~2.3A	±10%	1.8V	86.5%
PLC-45-24	24V, 0~1.9A	±10%	2.7V	86.5%
PLC-45-27	27V, 0~1.7A	±10%	2.7V	86.5%
PLC-45-36	36V, 0~1.25A	±10%	3.6V	87.5%
PLC-45-48	48V, 0~0.95A	±10%	4.6V	87.5%

## PLC-60 Series

Model No.	Output	Tol.	R&N	Effi.
PLC-60-12	12V, 0~5.0A	±10%	2.0V	85.0%
PLC-60-15	15V, 0~4.0A	±10%	2.4V	86.0%
PLC-60-20	20V, 0~3.0A	±10%	1.8V	87.5%
PLC-60-24	24V, 0~2.5A	±10%	2.4V	87.0%
PLC-60-27	27V, 0~2.3A	±10%	2.7V	88.0%
PLC-60-36	36V, 0~1.7A	±10%	3.6V	89.0%
PLC-60-48	48V, 0~1.3A	±10%	4.6V	89.0%

## PLC-100 Series





Model No.	Output	Tol.	R&N	Effi.
PLC-100-12	12V, 0~5.0A	±3%	150mV	84.5%
PLC-100-15	15V, 0~5.0A	±3%	150mV	86.5%
PLC-100-20	20V, 0~4.8A	±3%	150mV	90.0%
PLC-100-24	24V, 0~4.0A	±3%	150mV	90.0%
PLC-100-27	27V, 0~3.55A	±3%	150mV	90.0%
PLC-100-36	36V, 0~2.65A	±2%	150mV	90.0%
PLC-100-48	48V, 0~2.0A	±2%	200mV	89.0%

# PLN series

20~96W Single Output Class 2 with PFC

## Features

- Universal AC input (up to 295VAC) / Full range
- Fully isolated plastic case with IP64 level
- Built-in active PFC function, PF>0.9 for 75% of load or higher
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Built-in constant current limiting circuit (C.V.+C.C. mode)
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G. for PLN-20/30
- User adjustable output voltage (except for PLN-20) and current protection level
- Cooling by free air convection
- Suitable for LED lighting and moving sign applications
- 2 years warranty

		PLN-20	PLN-30	PLN-45/60	PLN-100
<b>INPUT</b>					
PLN-20	PLN-30	PLN-45/60/100			
<b>OUTPUT</b>					
PLN-20	PLN-30/45/60/100				
					
AC input voltage range		90~277VAC; 127~392VDC		90~295VAC ; 127~417VDC	
AC inrush current (max.)		Cold start, 40A at 230VAC			
DC adjustment range		None	95%~108% rated output voltage adjustable by internal potentiometer		85%~100% rated output voltage
Current adjustment range		75%~100%	75%~103% rated output current adjustable by internal potentiometer		
Over current protection		95%~110% constant current limiting, auto-recovery	100%~110% constant current limiting, auto-recovery	95%~110% constant current limiting, auto-recovery	95%~102% constant current limiting, auto-recovery
Over voltage protection		105%~142% rated output voltage	110%~155% rated output voltage	115%~140% rated output voltage	107%~135% rated output voltage
Setup, rise, hold up time		2300ms(setup time) at full load and 230VAC, no hold up time	1500ms (setup time) at full load and 230VAC, no hold up time		1200ms, 80ms, 60ms at full load and 230VAC
Withstand voltage		I/P-O/P: 3.75kVAC			
Working temperature		-30~+60°C	-30~+50°C (refer to output derating curve)		
Safety standards		UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved for PLN-20 UL879, UL1310, UL8750(PLN-45/60), TUV EN61347-1, EN61347-2-13,PSE J61347-1, J61347-2-13 approved for PLN-30/45/60 UL879, UL1310, UL8750, TUV EN61347-1, EN61347-2-13, EN60950-1, PSE J61347-1, J61347-2-13 approved for PLN-100			
EMC standards		EN55015, EN55022 class B (PLN-60/100 only), EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547			
Connection	Input	UL rated, UL1015 18AWGx2C (32cm)		UL rated, SVT 18AWGx3C (30cm)	UL rated, SVT 18AWGx3C (31cm)
	Output	UL rated, SVT 18AWGx2C (32cm)		UL rated, SVT 18AWGx2C (30cm)	UL rated, SVT 18AWGx2C (31cm)
Dimension (LxWxH) (mm)		148.5x 38.5x 28	145x 47x 30	181x 61.5x 35	200x 70.5x 35

## PLN-20 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-20-12	12V, 0~1.6A	±10%	2.5V	80.0%
PLN-20-18	18V, 0~1.1A	±10%	3.0V	81.0%
PLN-20-24	24V, 0~0.8A	±10%	3.0V	82.0%
PLN-20-36	36V, 0~0.55A	±10%	3.0V	83.0%
PLN-20-48	48V, 0~0.42A	±10%	3.8V	83.5%

## PLN-30 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-30-9	9V, 0~3.3A	±10%	2.6V	80.0%
PLN-30-12	12V, 0~2.5A	±10%	2.0V	82.5%
PLN-30-15	15V, 0~2.0A	±10%	2.6V	83.5%
PLN-30-20	20V, 0~1.5A	±10%	2.6V	84.0%
PLN-30-24	24V, 0~1.25A	±10%	2.6V	84.0%
PLN-30-27	27V, 0~1.12A	±10%	2.3V	84.5%
PLN-30-36	36V, 0~0.84A	±10%	4.5V	85.0%
PLN-30-48	48V, 0~0.63A	±10%	3.7V	85.5%

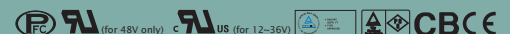
## PLN-45 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-45-12	12V, 0~3.8A	±10%	2.0V	83.5%
PLN-45-15	15V, 0~3.0A	±10%	2.4V	85.0%

Model No.	Output	Tol.	R&N	Effi.
PLN-45-20	20V, 0~2.3A	±10%	1.8V	86.5%
PLN-45-24	24V, 0~1.9A	±10%	2.7V	86.5%
PLN-45-27	27V, 0~1.7A	±10%	2.7V	86.5%
PLN-45-36	36V, 0~1.25A	±10%	3.6V	87.5%
PLN-45-48	48V, 0~0.95A	±10%	4.6V	87.5%

## PLN-60 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-60-12	12V, 0~5.0A	±10%	2.0V	85.0%
PLN-60-15	15V, 0~4.0A	±10%	2.4V	86.0%
PLN-60-20	20V, 0~3.0A	±10%	1.8V	87.5%
PLN-60-24	24V, 0~2.5A	±10%	2.7V	87.0%
PLN-60-27	27V, 0~2.3A	±10%	2.7V	88.0%
PLN-60-36	36V, 0~1.7A	±10%	3.6V	89.0%
PLN-60-48	48V, 0~1.3A	±10%	4.6V	89.0%

## PLN-100 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-100-12	12V, 0~5.0A	±3%	150mV	84.5%
PLN-100-15	15V, 0~5.0A	±3%	150mV	86.5%
PLN-100-20	20V, 0~4.8A	±3%	150mV	90.0%
PLN-100-24	24V, 0~4.0A	±3%	150mV	90.0%
PLN-100-27	27V, 0~3.55A	±3%	150mV	90.0%
PLN-100-36	36V, 0~2.65A	±2%	150mV	90.0%
PLN-100-48	48V, 0~2.0A	±2%	200mV	89.0%



# HLN series

40~80W Single Output Class 2 with PFC

## ► Features

- Universal AC input (up to 305VAC) / Full range
- Fully isolated plastic case with IP64 level
- Built-in active PFC function, PF> 0.9 for 60% of load or higher
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in constant current limiting circuit (C.V.+C.C. mode)
- Class 2 power unit / Pass LPS
- High efficiency up to 91%
- Cooling by free air convection
- Suitable for dry, damp location
- Suitable for LED lighting and moving sign applications
- Multiple models for choice:
  - A-Type: IP64 rated. Output and constant current level can be adjusted through internal potentiometer
  - B-Type: IP64 rated and built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)
- 3 years warranty



AC input voltage range	90~305VAC; 127~431VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	
DC adjustment range	±10% rated output voltage (Type A only)	
Current adjustment range	60%~100% rated output current adjustable by internal potentiometer or through output cable	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	109%~145% rated output voltage	
Setup, rise, hold up time	1000ms, 80ms, 16ms at full load and 230VAC	
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC	
Working temperature	-40~+50°C (refer to output derating curve)	
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; Design refer to UL/EN60950-1, EN60335-1 for HLN-40H/60H	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SVT 18AWGx3C (30cm)
	Output	A Type: UL rated, SVT 18AWGx2C (30cm) ; B Type: UL rated, SVT 18AWGx4C (30cm)
Dimension (LxWxH) (mm)	161x 61.5x 35	181x 61.5x 35

## HLN-40H Series

Model No.	Output	Tol.	R&N	Effi.
HLN-40H-12(A)	12V, 0~3.33A	±2.5%	150mV	86.5%
HLN-40H-15(A)	15V, 0~2.67A	±2.0%	150mV	86.5%
HLN-40H-20(A)	20V, 0~2.00A	±1.0%	150mV	87.5%
HLN-40H-24(A)	24V, 0~1.67A	±1.0%	150mV	88.0%
HLN-40H-30(A)	30V, 0~1.34A	±1.0%	200mV	88.5%
HLN-40H-36(A)	36V, 0~1.12A	±1.0%	200mV	88.5%
HLN-40H-42(A)	42V, 0~0.96A	±1.0%	300mV	88.5%
HLN-40H-48(A)	48V, 0~0.84A	±1.0%	300mV	89.0%
HLN-40H-54(A)	54V, 0~0.75A	±1.0%	300mV	89.0%

○ = A or B

## HLN-60H Series

Model No.	Output	Tol.	R&N	Effi.
HLN-60H-15(A)	15V, 0~4.0A	±2.0%	150mV	87.0%
HLN-60H-20(A)	20V, 0~3.0A	±1.0%	150mV	88.5%
HLN-60H-24(A)	24V, 0~2.5A	±1.0%	150mV	89.0%
HLN-60H-30(A)	30V, 0~2.0A	±1.0%	200mV	89.5%

Model No.	Output	Tol.	R&N	Effi.
HLN-60H-36(A)	36V, 0~1.70A	±1.0%	200mV	90.0%
HLN-60H-42(A)	42V, 0~1.45A	±1.0%	300mV	90.0%
HLN-60H-48(A)	48V, 0~1.30A	±1.0%	300mV	90.5%
HLN-60H-54(A)	54V, 0~1.15A	±1.0%	300mV	90.5%

○ = A or B

## HLN-80H Series

Model No.	Output	Tol.	R&N	Effi.
HLN-80H-12(A)	12V, 0~5.0A	±2.5%	150mV	88.0%
HLN-80H-15(A)	15V, 0~5.0A	±2.0%	150mV	89.0%
HLN-80H-20(A)	20V, 0~4.0A	±1.0%	150mV	90.0%
HLN-80H-24(A)	24V, 0~3.4A	±1.0%	150mV	90.5%
HLN-80H-30(A)	30V, 0~2.7A	±1.0%	200mV	91.0%
HLN-80H-36(A)	36V, 0~2.3A	±1.0%	200mV	91.0%
HLN-80H-42(A)	42V, 0~1.95A	±1.0%	200mV	91.0%
HLN-80H-48(A)	48V, 0~1.7A	±1.0%	200mV	91.0%
HLN-80H-54(A)	54V, 0~1.5A	±1.0%	200mV	91.0%

○ = A or B

# LCM series

40~60W Multiple-Stage Output Current Power Unit

## LCM-40(DA) / 60(DA)

Under Development



### Features

- Output current level selectable by DIP S.W.
- 180~295VAC input only
- Built-in active PFC function
- Protections: Short circuit / Over voltage / Over temperature
- Cooling by free air convection
- Fully isolated plastic case with strain relief design
- Class II power unit, no FG
- IP20 design
- Built-in 0~10Vdc and PWM signal dimming function (LCM-40/60)
- Built-in DALI interface and push dimming function (LCM-40DA/60DA)
- Built-in 12V/50mA auxiliary output
- Temperature compensation function by external NTC
- No load power consumption <1W
- Power supplies synchronization function up to 10 units
- Suitable for indoor LED lighting applications
- 3 years warranty

AC input voltage range		180~295VAC; 254~417VDC
AC inrush current (max.)		Cold start, 10A at 230VAC
Short circuit protection		Hiccup mode, recovers automatically after fault condition is removed
Over voltage protection	Range	130~140VDC
	Type	Shutdown o/p voltage, re-power on to recover
Over Temp. protection	Range	90°C ±10°C (RTH2)
	Type	Shut down o/p voltage, recovers automatically after temperature goes down
Setup, rise, hold up time		1000ms, 80ms, 16ms at full load and 230VAC
Withstand voltage		I/P-O/P: 3.75kVAC
Working temperature		-30~+60°C (refer to output derating curve)
Safety standards		Design refer to UL8750, ENEC EN61347-1, EN61347-2-13
EMC standards		Design refer to EN55015, EN61000-3-2 class C EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547
Dimension (LxWxH)(mm)		123.5x 79x 23

### LCM-40(DA) Series

UL/ENEC/CE pending

Output	Io Tol.	R&N	Effi.	DIP S.W.					
				1	2	3	4	5	6
350mA, 2~118V	±5%	200mV	90%	----	----	----	----	----	----
500mA, 2~80V				----	----	----	----	----	ON
600mA, 2~67V				----	----	----	----	ON	ON
700mA, 2~57V (Factory setting)				----	----	----	ON	ON	ON
900mA, 2~45V				----	----	ON	ON	ON	ON
1050mA, 2~40V				----	ON	ON	ON	ON	ON

### LCM-60(DA) Series

UL/ENEC/CE pending

Output	Io Tol.	R&N	Effi.	DIP S.W.					
				1	2	3	4	5	6
500mA, 2~118V	±5%	200mV	90%	----	----	----	----	----	----
600mA, 2~100V				----	----	----	----	----	ON
700mA, 2~86V (Factory setting)				----	----	----	----	ON	ON
900mA, 2~67V				----	----	----	ON	ON	ON
1050mA, 2~57V				----	----	ON	ON	ON	ON
1400mA, 2~42V				----	ON	ON	ON	ON	ON

▶ LCM-40/60 are primary models with 0~10Vdc and PWM signal dimming function.




▶ LCM-40DA/60DA have DALI interface and push dimming function.

# PLP series

20~60W Single Output Class 2 with PFC

## ► Features

- Universal AC input / Full range
- Protections: Short circuit / Over current / Over voltage / Over temperature (PLP-20 only)
- Built-in active PFC function, PF>0.9 for 75% of load or higher
- Cooling by free air convection
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G. for PLP-20
- Built-in constant current limiting circuit (C.V.+C.C. mode)
- Suitable for building in LED lighting systems
- 2 years warranty

		PLP-20	PLP-30	PLP-45/60		
						
AC input voltage range		90~277VAC; 127~392VDC		90~264VAC; 127~370VDC		
AC inrush current (max.)		Cold start, 40A at 230VAC			Cold start, 42A at 230VAC	
Current adjustable range		75%~100% rated output current				
Over current protection	Range	95%~110%		100%~110%		
	Type	Constant current limiting, auto-recovery				
Setup, rise, hold up time		2300ms, 200ms at full load and 230VAC, no hold up time		1200ms(setup time) at full load and 230VAC, no hold up time	1000ms(setup time) at full load and 230VAC, no hold up time	
Withstand voltage		I/P-O/P: 3.75kVAC		I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC		
Working temperature		-30~+60°C		-30~+70°C (refer to output derating curve)		
Safety standards		UL8750, TUV EN61347-1, EN61347-2-13 approved				
EMC standards		EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547				
Connection		UL1015 18AWGx2C (30cm)		3+2P / 3.96mm pitch, JST P/N: B3P / B2P-VH		
Dimension (LxWxH)(mm)		140x 32x 22		101.6x 50.8x 26.6		101.6x 50.8x 29.6

## PLP-20 Series



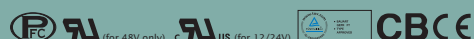
Model No.	Output	Tol.	R&N	Effi.
PLP-20-12	12V, 0~1.6A	±10%	2.5V	80.0%
PLP-20-18	18V, 0~1.1A	±10%	3.0V	81.0%
PLP-20-24	24V, 0~0.8A	±10%	3.0V	82.0%
PLP-20-36	36V, 0~0.55A	±10%	3.0V	83.0%
PLP-20-48	48V, 0~0.42A	±10%	3.8V	83.5%

## PLP-45 Series



Model No.	Output	Tol.	R&N	Effi.
PLP-45-12	12V, 0~3.8A	±10%	4.2V	86%
PLP-45-24	24V, 0~1.9A	±10%	3.8V	89%
PLP-45-48	48V, 0~0.95A	±10%	4.8V	89%

## PLP-30 Series






Model No.	Output	Tol.	R&N	Effi.
PLP-30-12	12V, 0~2.5A	±10%	2.0V	83.0%
PLP-30-24	24V, 0~1.3A	±10%	2.4V	85.5%
PLP-30-48	48V, 0~0.63A	±10%	4.8V	86.5%

## PLP-60 Series



Model No.	Output	Tol.	R&N	Effi.
PLP-60-12	12V, 0~5.0A	±10%	4.5V	84%
PLP-60-24	24V, 0~2.5A	±10%	4.5V	88%
PLP-60-48	48V, 0~1.3A	±10%	4.8V	89%

## ► Special Symbols for EN61347-2-13

	Protection against overheating to prevent the lamp controlgear case temperature under any conditions of use from exceeding the indicated value (110°C)
	Suitable for direct mounting on normally flammable surfaces, such as wood (>2mm)
	Based on VDE0710-14, can be installed inside a wooden material like wooden cabinet. The minimum distance between the product enclosure to wooden material in each side is defined.
<b>LPS</b>	Limited power source
t <sub>c</sub> : 80°C t <sub>a</sub> : 40°C	Full load operation up to 40°C with surface temperature of case < 80°C
<b>SELV</b>	Vo< 120VDC can have this mark on the unit



# HLP series

40~80W Single Output Class 2 with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC, PF>0.95
- Output constant current level adjustable
- Built-in constant current limiting circuit (C.V.+C.C. mode)
- Class 2 power unit / Pass LPS
- Cooling by free air convection
- Suitable for built-in LED lighting system
- Built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)
- 3 years warranty

### HLP-40H/HLP-60H

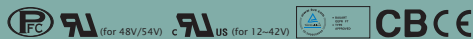


### HLP-80H



AC input voltage range	90~305VAC ; 127~431VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	
DC adjustment range	±10% rated output voltage	
Current adjustment range	60%~100% rated output current adjustable by potentiometer or through output connector	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	109%~145% rated output voltage, shut off, re-power on to recover	
Setup, rise, hold up time	1000ms, 80ms, 16ms at full load and 230VAC	1000ms, 200ms, 16ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG:0.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13 approved; Design refer to EN60335-1(HLP-40H/60H), UL60950-1, EN60950-1	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input Output	6+6P/3.96mm pitch, JST P/N: B6P-VH
Dimension (LxWxH) (mm)	147x 53x 27	167x 53x 29.5

## HLP-40H Series



Model No.	Output	Tol.	R&N	Effi.
HLP-40H-12	12V, 0~3.33A	±2.5%	150mV	87.0%
HLP-40H-15	15V, 0~2.67A	±2.0%	150mV	87.0%
HLP-40H-20	20V, 0~2.00A	±1.0%	150mV	88.0%
HLP-40H-24	24V, 0~1.67A	±1.0%	150mV	88.0%
HLP-40H-30	30V, 0~1.34A	±1.0%	200mV	88.5%
HLP-40H-36	36V, 0~1.12A	±1.0%	200mV	89.0%
HLP-40H-42	42V, 0~0.96A	±1.0%	300mV	89.0%
HLP-40H-48	48V, 0~0.84A	±1.0%	300mV	89.5%
HLP-40H-54	54V, 0~0.75A	±1.0%	300mV	89.5%

## HLP-60H Series



Model No.	Output	Tol.	R&N	Effi.
HLP-60H-15	15V, 0~4.0A	±2.0%	150mV	88.0%
HLP-60H-20	20V, 0~3.0A	±1.0%	150mV	89.0%
HLP-60H-24	24V, 0~2.5A	±1.0%	150mV	89.5%
HLP-60H-30	30V, 0~2.0A	±1.0%	200mV	90.0%

Model No.	Output	Tol.	R&N	Effi.
HLP-60H-36	36V, 0~1.70A	±1.0%	200mV	90.0%
HLP-60H-42	42V, 0~1.45A	±1.0%	300mV	90.0%
HLP-60H-48	48V, 0~1.30A	±1.0%	300mV	90.5%
HLP-60H-54	54V, 0~1.15A	±1.0%	300mV	90.5%

## HLP-80H Series



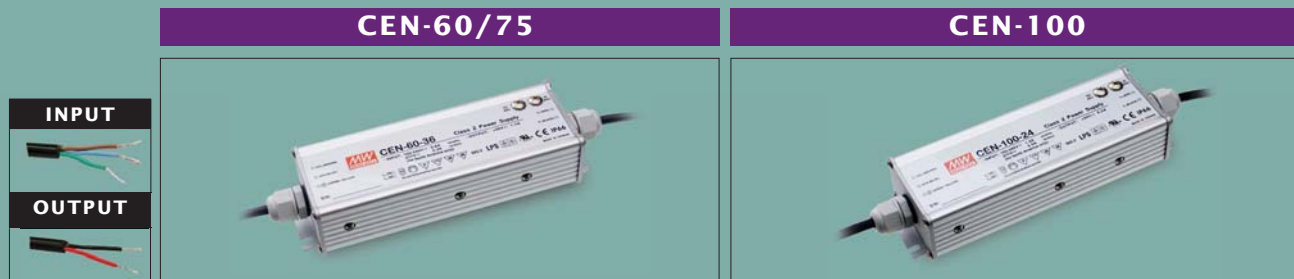
Model No.	Output	Tol.	R&N	Effi.
HLP-80H-12	12V, 0~5.0A	±2.5%	150mV	87.5%
HLP-80H-15	15V, 0~5.0A	±2.0%	150mV	88.5%
HLP-80H-20	20V, 0~4.0A	±1.0%	150mV	89.5%
HLP-80H-24	24V, 0~3.4A	±1.0%	150mV	90.0%
HLP-80H-30	30V, 0~2.7A	±1.0%	200mV	90.0%
HLP-80H-36	36V, 0~2.3A	±1.0%	200mV	90.0%
HLP-80H-42	42V, 0~1.95A	±1.0%	200mV	90.0%
HLP-80H-48	48V, 0~1.7A	±1.0%	200mV	90.0%
HLP-80H-54	54V, 0~1.5A	±1.0%	200mV	90.0%

# CEN series

60~96W Single Output Class 2 with PFC

## Features

- Universal AC input (up to 295VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function, PF>0.9 for 75% of load or higher
- IP66 design
- Meet 4kV surge immunity level (IEC61000-4-5)
- Class 2 power unit / Pass LPS
- Cooling by free air convection
- Suitable for dry, damp and wet location
- Suitable for LED lighting and moving sign applications
- 3 years warranty



AC input voltage range	90~295VAC ; 127~417VDC	
AC inrush current (max.)	Cold start, 45A at 230VAC	Cold start, 60A at 230VAC
DC adjustment range	±10% rated output voltage	
Current adjustment range	75%~100% rated output current	
Over current protection	95%~110% constant current limiting, auto-recovery	
Over voltage protection	110%~140% shut off, re-power on to recover	110%~135% shut off, re-power on to recover
Over temp. protection	85°C ±10°C (RTH1) shut down o/p voltage, recovers automatically after fault condition goes down	
Setup time	1400ms at full load and 230VAC, no hold up time	3000ms at full load and 230VAC, no hold up time
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC	
Working temperature	-30~+70°C (refer to output derating curve)	
Safety standards	UL8750, UL879 (except for CEN-100), TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved	
EMC standards	EN55015, EN61000-3-2 Class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)
	Output	UL rated, SVT 18AWGx2C (30cm)
Dimension (LxWxH) (mm)	185x 62.5x 40.5	195x 62.5x 40.5

## CEN-60 Series



Model No.	Output	Tol.	R&N	Effi.
CEN-60-12	12V, 0~5.0A	±10%	2.0V	86%
CEN-60-15	15V, 0~4.0A	±10%	2.4V	87%
CEN-60-20	20V, 0~3.0A	±10%	1.8V	88%
CEN-60-24	24V, 0~2.5A	±10%	2.4V	89%
CEN-60-30	30V, 0~2.0A	±10%	3.0V	90%
CEN-60-36	36V, 0~1.7A	±10%	3.6V	90%
CEN-60-42	42V, 0~1.45A	±10%	4.0V	90%
CEN-60-48	48V, 0~1.3A	±10%	4.6V	91%
CEN-60-54	54V, 0~1.15A	±10%	5.0V	91%

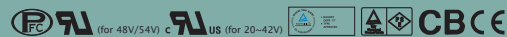
## CEN-75 Series



Model No.	Output	Tol.	R&N	Effi.
CEN-75-15	15V, 0~5.00A	±10%	2.7V	87%
CEN-75-20	20V, 0~3.75A	±10%	2.0V	88%
CEN-75-24	24V, 0~3.15A	±10%	2.7V	89%

Model No.	Output	Tol.	R&N	Effi.
CEN-75-30	30V, 0~2.50A	±10%	3.0V	90%
CEN-75-36	36V, 0~2.10A	±10%	3.6V	90%
CEN-75-42	42V, 0~1.80A	±10%	4.0V	90%
CEN-75-48	48V, 0~1.57A	±10%	4.6V	91%
CEN-75-54	54V, 0~1.40A	±10%	5.0V	91%

## CEN-100 Series



Model No.	Output	Tol.	R&N	Effi.
CEN-100-20	20V, 0~4.80A	±10%	2.0V	88%
CEN-100-24	24V, 0~4.00A	±10%	2.7V	89%
CEN-100-30	30V, 0~3.20A	±10%	3.0V	90%
CEN-100-36	36V, 0~2.65A	±10%	3.6V	90%
CEN-100-42	42V, 0~2.28A	±10%	4.0V	90%
CEN-100-48	48V, 0~2.00A	±10%	4.6V	91%
CEN-100-54	54V, 0~1.77A	±10%	5.0V	91%

# CLG series

60~150W Single Output with PFC

## Features

- Universal AC input (up to 295VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function, PF>0.9 for 75% of load or higher
- IP67/IP65 design for indoor or outdoor installations (except for C type)
- Output current adjustable through output cable or internal potentiometer (CLG-150)
- Class 2 power unit / Pass LPS (CLG-60&100)
- Cooling by free air convection
- Suitable for LED lighting, street lighting and moving sign applications
- Built-in constant current limiting circuit (C.V.+C.C. mode)
- Meet 4KV surge immunity level (IEC 61000-4-5)
- Multiple models for CLG-150 :
  - A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated. Constant current level adjustable through output cable
  - C-Type:** Non IP. Terminal block for I/O connection
  - Blank-Type:** IP67 rated. Cable for I/O connection
- 3 years warranty

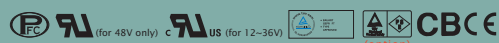
	CLG-60	CLG-100	CLG-150
<b>INPUT</b>			
<b>OUTPUT</b>			
AC input voltage range	90~295VAC; 127~417VDC		
AC inrush current (max.)	Cold start, 40A at 230VAC		Cold start, 65A at 230VAC
DC adjustment range	Fixed. Can be modified between 90%~110% (CLG-60) or 85%~100% (CLG-100) rated output voltage		A and C type can be adjusted by internal potentiometer
Current adjustment range	Fixed. Can be modified between 75%~103% rated output current		Can be adjusted by internal potentiometer (A and C type) or through output cable (B type)
Over current protection	95%~110% constant current, auto-recovery	95%~102% constant current, auto-recovery	95%~108% constant current limiting, auto-recovery
Over voltage protection	110%~140%	107%~135%	110%~142% rated output voltage
Setup, rise, hold up time	3000ms(setup time), no hold up time	1200ms, 80ms, 60ms at full load and 230VAC	3000ms, 80ms, 50ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC		
Working temperature	-30~+70°C (refer to output derating curve)		
Safety standards	UL1310, UL8750, UL879, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13(option, CLG-60-20~48 & CLG-100-36/48 only) approved; TUV EN60950-1 for CLG-100 only		UL60950-1, UL1012, UL8750, TUV EN60950-1, EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13(option, except for CLG-150 C-type) approved
EMC standards	EN55015, EN55022 class B, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)	UL rated, SJTW 18AWGx3C (30cm); Terminal block for C type
	Output	UL rated, SVT 18AWGx2C (30cm)	<input type="checkbox"/> = A & Blank type : SJTW 14AWGx2C (30cm) <input type="checkbox"/> = B type: SJTW 14AWGx2C (30cm)+18AWGx2C (30cm) <input type="checkbox"/> = C type: Terminal block
Dimension (LxWxH)(mm)	195.6x 61.5x 38.8	222.2x 68x 38.8	A/B/Blank-Type: 222.2x 68x 38.8; C-Type: 229x 68x 38.8
Packing	0.86kg; 16pcs / 14.8kg	1.0kg; 12pcs / 13kg	1.0kg; 12pcs / 13kg

## CLG-60 Series



Model No.	Output	Tol.	R&N	Effi.
★ CLG-60-12	12V, 0~5.0A	±10%	2.0V	85.0%
CLG-60-15	15V, 0~4.0A	±10%	2.4V	86.0%
CLG-60-20	20V, 0~3.0A	±10%	1.8V	87.5%
★ CLG-60-24	24V, 0~2.5A	±10%	2.7V	87.0%
CLG-60-27	27V, 0~2.3A	±10%	2.7V	88.0%
CLG-60-36	36V, 0~1.7A	±10%	3.6V	89.0%
★ CLG-60-48	48V, 0~1.3A	±10%	4.6V	89.0%

## CLG-100 Series



Model No.	Output	Tol.	R&N	Effi.
★ CLG-100-12	12V, 0~5.00A	±3%	150mV	83.0%
CLG-100-15	15V, 0~5.00A	±3%	150mV	85.5%
CLG-100-20	20V, 0~4.80A	±3%	150mV	88.5%
★ CLG-100-24	24V, 0~4.00A	±3%	150mV	88.5%

Model No.	Output	Tol.	R&N	Effi.
CLG-100-27	27V, 0~3.55A	±3%	150mV	88.0%
CLG-100-36	36V, 0~2.65A	±2%	150mV	88.0%
★ CLG-100-48	48V, 0~2.00A	±2%	200mV	88.5%

## CLG-150 Series



Model No.	Output	Tol.	R&N	Effi.
★ CLG-150-12 A	12V, 0~11.0A	±2%	150mV	88%
CLG-150-15 A	15V, 0~9.50A	±2%	150mV	88%
CLG-150-20 A	20V, 0~7.50A	±2%	150mV	90%
★ CLG-150-24 A	24V, 0~6.30A	±1%	150mV	90%
CLG-150-30 A	30V, 0~5.00A	±1%	150mV	91%
★ CLG-150-36 A	36V, 0~4.20A	±1%	150mV	91%
★ CLG-150-48 A	48V, 0~3.20A	±1%	200mV	91%

□ = A, B, C or blank

★ CLG-60-12/24/48, CLG-100-12/24/48 & CLG-150-12A/24A/36A/48A are our popular models. We will keep sufficient stock for prompt delivery of high quantity orders.



# HLG series

40~60W High Efficiency Class 2 with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections:  
Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC, PF>0.9 for 60% of load or higher
- High efficiency up to 90.5%
- IP67 / IP65 design for indoor or outdoor installations
- Output current adjustable through output cable or internal potentiometer
- Cooling by free air convection
- Suitable for dry, damp and wet location
- Suitable for LED lighting and street lighting applications

- Meet 4KV surge immunity level (IEC61000-4-5)

- Class 2 power unit

- Multiple models for choice:

**A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer

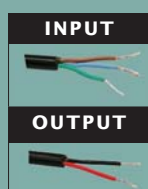
**B-Type:** IP67 rated and built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)

**Blank-Type:** IP67 rated. Cable for I/O connection

**D-Type(option):** IP67 rated. Timer dimming function, contact MEAN WELL for details.

- 5 years warranty

## HLG-40H/60H



NEW

AC input voltage range	90~305VAC ; 127~431VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	
DC adjustment range	±10% rated output voltage (A-Type only)	
Current adjustment range	60%~100% rated output current adjustable by internal potentiometer or through output cable	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	109%~145% rated output voltage, shut off, re-power on to recover	
Setup, rise, hold up time	1000ms, 80ms, 16ms at full load and 230VAC	
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG:0.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; Design refer to UL60950-1, EN60950-1, EN60335-1	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)
	Output	A/D/Blank-Type: SVT 18AWGx2C (30cm); B-Type: SVT 18AWGx2C (30cm)+UL2517 18AWGx2C (30cm)
Dimension (LxWxH) (mm)	171x 61.5x 36.8	

## HLG-40H Series

Model No.	Output	Tol.	R&N	Effi.
HLG-40H-12(A)	12V, 0~3.33A	±2.5%	150mV	86.5%
HLG-40H-15(A)	15V, 0~2.67A	±2.0%	150mV	86.5%
HLG-40H-20(A)	20V, 0~2.00A	±1.0%	150mV	88.0%
HLG-40H-24(A)	24V, 0~1.67A	±1.0%	200mV	88.0%
HLG-40H-30(A)	30V, 0~1.34A	±1.0%	200mV	88.5%
HLG-40H-36(A)	36V, 0~1.12A	±1.0%	200mV	88.5%
HLG-40H-42(A)	42V, 0~0.96A	±1.0%	200mV	88.5%
HLG-40H-48(A)	48V, 0~0.84A	±1.0%	300mV	89.5%
HLG-40H-54(A)	54V, 0~0.75A	±1.0%	300mV	89.5%

○ = A, B, D or Blank

## HLG-60H Series

Model No.	Output	Tol.	R&N	Effi.
HLG-60H-15(A)	15V, 0~4.0A	±2.0%	150mV	87.5%
HLG-60H-20(A)	20V, 0~3.0A	±1.0%	150mV	89.0%
HLG-60H-24(A)	24V, 0~2.5A	±1.0%	150mV	89.5%
HLG-60H-30(A)	30V, 0~2.0A	±1.0%	200mV	90.0%

Model No.	Output	Tol.	R&N	Effi.
HLG-60H-36(A)	36V, 0~1.70A	±1.0%	200mV	90.0%
HLG-60H-42(A)	42V, 0~1.45A	±1.0%	300mV	90.0%
HLG-60H-48(A)	48V, 0~1.30A	±1.0%	300mV	90.5%
HLG-60H-54(A)	54V, 0~1.15A	±1.0%	300mV	90.5%

○ = A, B, D or Blank

## ► Junction Box for HLG Series



- Optional junction box available for HLG-80H~320H series (A/Blank-Type only). Please contact MEAN WELL for details.
- "UL8750 listed" safety & IP66 approved for HLG-80H-□BL

# HLC series

80~120W High Efficiency with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC, PF>0.9 for 60% of load or higher
- High efficiency up to 93.5%
- IP67 / IP65 design for indoor or outdoor installations
- Output current adjustable through output cable or internal potentiometer
- Cooling by free air convection
- Suitable for dry, damp and wet location
- Suitable for LED lighting and street lighting applications
- Meet 4KV surge immunity level (IEC61000-4-5)
- Class 2 power unit / Pass LPS (except for HLG-120H)

- Multiple models for choice:

**A-Type:** IP65 rated. Output and constant current level can be adjusted through internal potentiometer

**B-Type:** IP67 rated and built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)

**Blank-Type:** IP67 rated. Cable for I/O connection

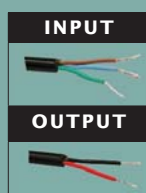
**BL-Type(option):** for HLG-80H only, "UL8750 listed" safety & IP66 approved, contact MEAN WELL for details

**D-Type(option):** IP67 rated. Timer dimming function, contact MEAN WELL for details

- Optional CQC models available (HLG-100H/120H-A/Blank type)
- 5 years warranty

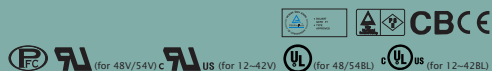
## HLG-80H

## HLG-100H/HLG-120H



AC input voltage range	90~305VAC, 127~431VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	Cold start, 75A at 230VAC
DC adjustment range	±10% rated output voltage (A Type only)	
Current adjustment range	60%~100% rated output current adjustable by internal potentiometer or through output cable	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	110%~140% rated output voltage	
Setup, rise, hold up time	1000ms, 80ms, 16ms at full load and 230VAC	2500ms, 50ms, 16ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; <b>UL8750 listed for HLG-80H-□BL only</b> ; Design refer to UL60950-1, EN60950-1	
EMC standards	EN55015, EN55022 class B (except for HLG-80H), EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)
	Output	A/D/Blank-Type: SVT 18AWGx2C (30cm) ; B-Type: SVT 18AWGx2C (30cm)+UL2517 18AWGx2C (30cm)
Dimension (LxWxH) (mm)		220x 68x 38.8

## HLG-80H Series



Model No.	Output	Tol.	R&N	Effi.
HLG-80H-12(A)	12V, 0~5.0A	±2.5%	150mV	88.0%
HLG-80H-15(A)	15V, 0~5.0A	±2.0%	150mV	89.0%
HLG-80H-20(A)	20V, 0~4.0A	±1.0%	150mV	90.0%
HLG-80H-24(A)	24V, 0~3.4A	±1.0%	150mV	90.5%
HLG-80H-30(A)	30V, 0~2.7A	±1.0%	200mV	91.0%
HLG-80H-36(A)	36V, 0~2.3A	±1.0%	200mV	91.0%
HLG-80H-42(A)	42V, 0~1.95A	±1.0%	200mV	91.0%
HLG-80H-48(A)	48V, 0~1.7A	±1.0%	200mV	91.0%
HLG-80H-54(A)	54V, 0~1.5A	±1.0%	200mV	91.0%

○ = A, B, BL, D or Blank

## HLG-100H Series



Model No.	Output	Tol.	R&N	Effi.
HLG-100H-20(A)	20V, 0~4.8A	±1.0%	150mV	93%
HLG-100H-24(A)	24V, 0~4.0A	±1.0%	150mV	93%
HLG-100H-30(A)	30V, 0~3.2A	±1.0%	200mV	93%
HLG-100H-36(A)	36V, 0~2.65A	±1.0%	200mV	93%

Model No.	Output	Tol.	R&N	Effi.
HLG-100H-42(A)	42V, 0~2.28A	±1.0%	200mV	93%
HLG-100H-48(A)	48V, 0~2.0A	±1.0%	200mV	93%
HLG-100H-54(A)	54V, 0~1.77A	±1.0%	200mV	93%

○ = A, B, D or Blank

## HLG-120H Series



Model No.	Output	Tol.	R&N	Effi.
★ HLG-120H-12(A)	12V, 0~10A	±2.5%	150mV	92.0%
HLG-120H-15(A)	15V, 0~8.0A	±2.0%	150mV	92.0%
HLG-120H-20(A)	20V, 0~6.0A	±1.0%	150mV	93.0%
★ HLG-120H-24(A)	24V, 0~5.0A	±1.0%	150mV	93.0%
HLG-120H-30(A)	30V, 0~4.0A	±1.0%	200mV	93.0%
HLG-120H-36(A)	36V, 0~3.4A	±1.0%	200mV	93.0%
HLG-120H-42(A)	42V, 0~2.9A	±1.0%	200mV	93.0%
★ HLG-120H-48(A)	48V, 0~2.5A	±1.0%	200mV	93.5%
HLG-120H-54(A)	54V, 0~2.3A	±1.0%	200mV	93.5%

○ = A, B, D or Blank

- ★ HLG-120H-12A/24A/48A are our popular models. We will keep sufficient stock for prompt delivery of high quantity orders.

# HLC series

150~320W High Efficiency with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections:  
Short circuit / Over current / Over voltage / Over temp.
- Built-in active PFC, PF>0.9 for 60% of load or higher
- High efficiency up to 95%
- IP67 / IP65 design for indoor or outdoor installations (except for C-Type)
- Output current adjustable
- Cooling by free air convection
- Suitable for LED lighting and street lighting applications
- Meet 4KV surge immunity level (IEC61000-4-5)

- Multiple models for choice:

**A-Type:** IP65 rated. Output and voltage constant current level can be adjusted through internal potentiometer

**B-Type:** IP67 rated and built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)

**C-Type:** Terminal block for I/O connection (HLG-240H/320H)

**Blank-Type:** IP67 rated. Cable for I/O connection

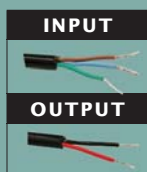
**D-Type(option):** IP67 rated. Timer dimming function, contact MEAN WELL for details

- Optional CQC models available (HLG-150H/185H/240H-A/Blank-Type)
- 5 years warranty

### HLG-150H/185H

### HLG-240H

### HLG-320H



AC input voltage range	90~305VAC, 127~431VDC	
AC inrush current (max.)	Cold start, 75A at 230VAC	
DC adjustment range	±10% rated output voltage   ±6% rated output voltage	
Current adjustment range	60%~100% rated output current adjustable by internal potentiometer or through output cable	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	110%~140% rated output voltage	
Setup, rise, hold up time	2500ms, 80ms, 16ms   2500ms, 80ms, 15ms at full load and 230VAC	
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 (except for C-Type) approved; UL1012, UL60950-1, TUV EN60950-1 approved for HLG-240H only	
EMC standards	EN55015, EN55022 class B, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm); Terminal block for C-Type (HLG-240H/320H only)
	Output	A & Blank-Type: SJTW 14AWGx2C (30cm) ; B-Type: SJTW 14AWGx2C (30cm)+SJTW 18AWGx2C (30cm); C-Type: Terminal block (HLG-240H/320H)
Dimension (LxWxH)(mm)	A/B/D/Blank-Type: 228x 68x 38.8	A/B/D/Blank-Type: 244.2x 68x 38.8
		C-Type: 251x 68x 38.8
		A/B/D/Blank-Type: 252x 90x 43.8
		C-Type: 256x 90x 43.8

### HLG-150H Series



Model No.	Output	Tol.	R&N	Effi.
HLG-150H-12(A)	12V, 0~12.5A	±2.5%	150mV	91.5%
HLG-150H-15(A)	15V, 0~10.0A	±2.0%	150mV	92.0%
HLG-150H-20(A)	20V, 0~7.50A	±1.0%	150mV	93.0%
HLG-150H-24(A)	24V, 0~6.30A	±1.0%	150mV	93.0%
HLG-150H-30(A)	30V, 0~5.00A	±1.0%	200mV	93.5%
HLG-150H-36(A)	36V, 0~4.20A	±1.0%	200mV	93.5%
HLG-150H-42(A)	42V, 0~3.60A	±1.0%	200mV	94.0%
HLG-150H-48(A)	48V, 0~3.20A	±1.0%	200mV	94.0%
HLG-150H-54(A)	54V, 0~2.80A	±1.0%	200mV	94.0%

○ = A, B, D or Blank

### HLG-185H Series



Model No.	Output	Tol.	R&N	Effi.
★ HLG-185H-12(A)	12V, 0~13.0A	±2.5%	150mV	91.5%
HLG-185H-15(A)	15V, 0~11.5A	±2.0%	150mV	92.0%
HLG-185H-20(A)	20V, 0~9.30A	±1.0%	150mV	93.0%
★ HLG-185H-24(A)	24V, 0~7.80A	±1.0%	150mV	93.5%
HLG-185H-30(A)	30V, 0~6.20A	±1.0%	200mV	93.5%
HLG-185H-36(A)	36V, 0~5.20A	±1.0%	200mV	93.5%
HLG-185H-42(A)	42V, 0~4.40A	±1.0%	200mV	94.0%
★ HLG-185H-48(A)	48V, 0~3.90A	±1.0%	200mV	94.0%
HLG-185H-54(A)	54V, 0~3.45A	±1.0%	200mV	94.0%

○ = A, B, D or Blank

### HLG-240H Series



Model No.	Output	Tol.	R&N	Effi.
★ HLG-240H-12(A)	12V, 0~16.0A	±2.5%	150mV	90.0%
HLG-240H-15(A)	15V, 0~15.0A	±2.0%	150mV	90.0%
HLG-240H-20(A)	20V, 0~12.0A	±1.0%	150mV	92.0%
★ HLG-240H-24(A)	24V, 0~10.0A	±1.0%	150mV	93.0%
HLG-240H-30(A)	30V, 0~8.00A	±1.0%	200mV	93.0%
HLG-240H-36(A)	36V, 0~6.70A	±1.0%	250mV	93.0%
HLG-240H-42(A)	42V, 0~5.72A	±1.0%	250mV	93.0%
★ HLG-240H-48(A)	48V, 0~5.00A	±1.0%	250mV	93.5%
HLG-240H-54(A)	54V, 0~4.45A	±1.0%	350mV	94.0%

○ = A, B, C, D or Blank

### HLG-320H Series



Model No.	Output	Tol.	R&N	Effi.
HLG-320H-12(A)	12V, 0~22.0A	±3.0%	150mV	91.0%
HLG-320H-15(A)	15V, 0~19.0A	±2.0%	150mV	92.5%
HLG-320H-20(A)	20V, 0~15.0A	±1.5%	150mV	93.5%
HLG-320H-24(A)	24V, 0~13.34A	±1.0%	150mV	94.0%
HLG-320H-30(A)	30V, 0~10.7A	±1.0%	200mV	94.0%
HLG-320H-36(A)	36V, 0~8.90A	±1.0%	250mV	94.5%
HLG-320H-42(A)	42V, 0~7.65A	±1.0%	250mV	95.0%
HLG-320H-48(A)	48V, 0~6.70A	±1.0%	250mV	95.0%
HLG-320H-54(A)	54V, 0~5.95A	±1.0%	350mV	95.0%

○ = A, B, C, D or Blank

★ HLG-185H-12A/24A/48A & HLG-240H-12A/24A/48A are our popular models. We will keep sufficient stock for prompt delivery of high quantity orders.



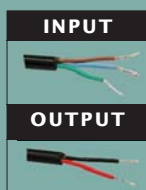
# HVG(C) series

96~150W Wide Input Range with PFC

## Features

- Wide input range: 180~480VAC for HVG(C)-100  
180~528VAC for HVG(C)-150
- Protections: Short circuit / Over voltage / Over temperature / Over current (HVG-100/150)
- Built-in active PFC
- High efficiency up to 91%
- IP67 / IP65 design
- Cooling by free air convection
- C.V. +C.C. mode design (HVG-100/150)
- Constant current design (HVG-100/150)
- Output current adjustable through output cable or internal potentiometer
- Class 2 power unit / Pass LPS for HVG-100
- Suitable for dry, damp and wet location
- Suitable for LED lighting and street lighting applications
- Multiple models for choice:
  - A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated and **built-in 3 in 1 dimming function** (0~10VDC, PWM signal, or resistance)
  - D-Type (option):** IP67 rated. Timer dimming function, contact MEAN WELL for details.
- 5 years warranty

### HVG/HVGC-100



### HVG/HVGC-150



AC input voltage range		180~480VAC(single phase); 254~679VDC	180~528VAC (single phase); 254~747VDC
AC inrush current (max.)		Cold start, 50A / 440VAC	Cold start, 55A / 480VAC
DC adjustment range		±10% rated output voltage	
Current adjustment range		HVG-100/150: 55%~100% ; HVGC-100/150: 60%~100%	
Over current protection	Range	95%~108%	
	Type	Constant current limiting, recovers automatically after fault is removed	
Over voltage protection		110%~140% rated output voltage, shut down o/p voltage with auto-recovery or re-power on to recovery	
Withstand voltage		I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC	
Working temperature		-40~+70°C (refer to output derating curve)	
Safety standards		HVG-100: UL8750 approved (HVG-150 pending) HVGC-100: UL8750, TUV EN61347-1, EN61347-2-13 approved (HVGC-150 pending)	
EMC standards		EN55015, FCC part 15 class B, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	Design refer to EN55015, FCC part 15 class B, EN61000-3-2 Class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547
Connection	Input	UL rated, STW 18AWGx3C (30cm)	
	Output	A&D-Type: SVT 18AWGx2C (30cm) B-Type: SVT 18AWGx2C (30cm)+ UL2517 18AWGx2C (30cm)	A&D-Type: STW 18AWGx2C (30cm) B-Type: STW 18AWGx2C (30cm)+ UL2517 18AWGx2C (30cm)
Dimension (LxWxH)(mm)		236x 68x 38.8	246x 68x 38.8

### HVG-100 Series (C.V. +C.C. mode)



Model No.	Output	Tol.	R&N	Effi.
HVG-100-15(A)	15V, 0~5.0A	±2.0%	150mV	89.0%
HVG-100-20(A)	20V, 0~4.8A	±1.0%	150mV	90.0%
HVG-100-24(A)	24V, 0~4.0A	±1.0%	150mV	91.0%
HVG-100-30(A)	30V, 0~3.2A	±1.0%	200mV	91.0%
HVG-100-36(A)	36V, 0~2.65A	±1.0%	200mV	90.5%
HVG-100-42(A)	42V, 0~2.28A	±1.0%	200mV	90.5%
HVG-100-48(A)	48V, 0~2.0A	±1.0%	200mV	91.0%
HVG-100-54(A)	54V, 0~1.77A	±1.0%	200mV	91.0%

○ = A, B or D

### HVGC-100 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
HVGC-100-350(A)	3~285V, 350mA	±5%	1V	91%
HVGC-100-700(A)	3~142V, 700mA	±5%	0.5V	91%

○ = A, B or D

### HVG-150 Series (C.V. +C.C. mode)



Model No.	Output	Tol.	R&N	Effi.
HVG-150-12(A)	12V, 0~10A	±2.5%	150mV	87%
HVG-150-15(A)	15V, 0~10A	±2.0%	150mV	88%
HVG-150-20(A)	20V, 0~7.5A	±1.0%	150mV	89%
HVG-150-24(A)	24V, 0~6.25A	±1.0%	150mV	90%
HVG-150-30(A)	30V, 0~5A	±1.0%	200mV	90%
HVG-150-36(A)	36V, 0~4.17A	±1.0%	200mV	90%
HVG-150-42(A)	42V, 0~3.58A	±1.0%	200mV	90%
HVG-150-48(A)	48V, 0~3.13A	±1.0%	200mV	90%
HVG-150-54(A)	54V, 0~2.78A	±1.0%	200mV	91%

○ = A, B or D

### HVGC-150 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
HVGC-150-350(A)	3~428V, 350mA	±5%	1.50V	91%
HVGC-150-500(A)	3~300V, 500mA	±5%	1.00V	90%
HVGC-150-700(A)	3~215V, 700mA	±5%	0.75V	90%
HVGC-150-1050(A)	3~143V, 1050mA	±5%	0.50V	89%
HVGC-150-1400(A)	3~107V, 1400mA	±5%	0.50V	89%

○ = A, B or D

# HSG/ULP series

70~150W Single Output with PFC

## 70W Rectangular Metal Case



127.2x 90x 38.8 mm

- Universal AC input (up to 305VAC)
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC
- OCP point adjustable through internal potentiometer
- IP65 design
- Cooling by free air convection
- Suitable for LED lighting and moving sign applications
- 3 years warranty

AC input voltage range	90~305VAC; 127~431VDC				
Current adjustment range	60%~100% rated output current adjustable by internal potentiometer				
Over current protection	95%~108% constant current limiting				
Over voltage protection	112%~140% rated output voltage				
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC				
Working temperature	-40~+70°C (refer to output derating curve)				
Safety standards	Design refer to EN61347-1, EN61347-2-13				
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61547, EN61000-4-2,3,4,5,6,8,11				
Connection	<table border="1"> <tr> <th>Input</th><td>H05RN-F 1.5mm<sup>2</sup>x2C (30cm)</td></tr> <tr> <th>Output</th><td>H05RN-F 1.0mm<sup>2</sup>x3C (30cm)</td></tr> </table>	Input	H05RN-F 1.5mm <sup>2</sup> x2C (30cm)	Output	H05RN-F 1.0mm <sup>2</sup> x3C (30cm)
Input	H05RN-F 1.5mm <sup>2</sup> x2C (30cm)				
Output	H05RN-F 1.0mm <sup>2</sup> x3C (30cm)				

Model No.	Output	Tol.	R&N	Effi.
HSG-70-12	12V, 0~5.0A	±2.5%	150mV	88%
HSG-70-18	18V, 0~4.0A	±2.0%	200mV	89%
HSG-70-24	24V, 0~3.0A	±1.0%	200mV	89%
HSG-70-36	36V, 0~2.0A	±1.0%	200mV	90%
HSG-70-48	48V, 0~1.5A	±1.0%	200mV	90%

## 150W U-Bracket Single Output with PFC



215x 67.4x 33 mm

- Universal AC input (up to 295VAC)
- Built-in active PFC function
- High efficiency up to 93%
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Constant voltage design
- Cooling by free air convection
- U-bracket low profile: 33mm
- 3 years warranty

AC input voltage range	90~295VAC; 127~417VDC
AC inrush current (max.)	Cold start, 65A at 230VAC
Overload protection	130%~185% hiccup mode, auto-recovery
Over voltage protection	110%~135% hiccup mode, auto-recovery
Setup, rise, hold up time	2000ms, 100ms, 16ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 1.88kVAC, O/P-FG: 0.5kVAC
Working temperature	-30~+70°C (refer to output derating curve)
Safety standards	Design refer to UL8750, EN61347-1, EN61347-2-13
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61547, EN61000-4-2,3,4,5,6,8,11

Model No.	Output	Tol.	R&N	Effi.
ULP-150-12	12V, 0~12.5A	±2%	100mV	91.5%
ULP-150-15	15V, 0~10.0A	±2%	150mV	91.5%
ULP-150-24	24V, 0~6.30A	±2%	150mV	93.0%
ULP-150-36	36V, 0~4.20A	±2%	250mV	93.0%
ULP-150-48	48V, 0~3.20A	±2%	250mV	93.0%

### Female Waterproof Output Connector (Power supply side)

Waterproof Connector	Pin Configuration (Female)							
	M12		M15		M20.5		M20.8	
		Order No. : M12-02		Order No. : M12-04		Order No. : M15-02		Order No. : M20.5-02
		Suitable Current : 5A max.		Suitable Current : 10A max.		Suitable Current : 12A max.		Suitable Current : 20A max.

- ▶ The output cable can be modified to include different waterproof connectors by MEAN WELL. Minimum order quantity may vary for different models.
- ▶ We would suggest you to order the configurations of "M15 connector with length of 20cm/ 30cm/ 45cm/ 60cm/ 80cm/ 100cm cables" due to its cost effectiveness and fast delivery. Ordering other connector type or cable lengths will have higher cost and longer lead-time.
- ▶ Suitable for CLG / HLG / HVG(C) / HSG / HLN / LPF series.

### Male Waterproof Output Connector with Cable (System side)

Figure	Drawing

- ▶ MEAN WELL offers male waterproof connectors with cable length of 30cm, 60cm, and 100cm as our standard mating accessories. These mating accessories need to be ordered together with PSU. For other length or cable style, the higher MOQ requirement and long lead-time will be expected. Please consult MEAN WELL for details.

### Order No.

<b>M12-02M-30-U1-UN</b>						Cable Type	
①	②	③	④	⑤	⑥	UI	EI
Connector Type: Male / Female	No. of PIN	Cable Length: Male with Cable	Cable Length: Female with Cable	⑤	⑥	SJTW (USA)	H05RN-F (EURO)
M12 M15 M20.5 M20.8	2P 4P M15, M20.5 and M20.8 only have 2-pin choice	30 60 100	20 30 45 60 80 100	UN	CH	UNICABLE	CHOGORI
UN & CH UN & CH UN only CH only	M F Male (System Side) Female (PSU Side)	30cm 60cm 100cm	20cm 30cm 45cm 60cm 80cm 100cm	(Made in Taiwan)	(Made in China)		

# LDV series

185W Multiple Channel Output with PFC

## LDV-185

NEW



## Features

- 180~295VAC input range
- 6CH/700mA or 12CH/350mA constant current output
- Built-in active PFC
- Protections: Short circuit / Over voltage / Over temp.
- Meet 4KV surge immunity level(EN61000-4-5)
- Cooling by free air convection
- IP67 design for indoor or outdoor installations
- Suitable for LED lighting and moving sign applications
- Multiple models for choice:
  - Blank-Type:** IP67 rated. No timer dimming function
  - D-Type(option):** IP67 rated. Timer dimming function, please contact MEAN WELL for details.
  - CA-Type(option):** IP67 rated. Including PSU mating accessory, please contact MEAN WELL for details.
- 3 years warranty

AC input voltage range	180~295VAC; 254~417VDC
AC inrush current	Cold start, 60A at 230VAC
Over voltage protection	A: 41~50V, B: 47~50V, C: 54~63V
Working temperature	-30~+70°C (refer to output derating curve)
Safety standards	Design refer to UL8750, EN61347-1, EN61347-2-13
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61547, EN61000-4-2,3,4,5,6,8,11
Connection	Input: H05BN4-F 1.0mm <sup>2</sup> x3C (30cm)
	Output: 6 CH: 22AWGx16C (15cm) with one connector 12CH: 22AWGx12C/16C (15cm) with two connectors
Dimension (LxWxH)(mm)	222.2x 90x 38.8



Model No.	Output	Channel	Io Tol.	Effi.	Max.
LDV-185-350A□	30~35V, 350mA	12CH	±5%	88%	147W
LDV-185-350B□	35~40V, 350mA		±5%	88%	168W
LDV-185-350C□	40~48V, 350mA		±5%	88%	185W

Model No.	Output	Channel	Io Tol.	Effi.	Max.
LDV-185-700A□	30~35V, 700mA	6CH	±5%	88%	147W
LDV-185-700B□	35~40V, 700mA		±5%	88%	168W
LDV-185-700C□	40~48V, 700mA		±5%	88%	185W

□ = Blank, D or CA

□ = Blank, D or CA

## ► To design a LED street lamp, what solution can MEAN WELL offer?

HLG-185 Direct Drive	LDV-185 Multiple Channel C.C. Output	HLG-185+LDD AC/DC PSU+DC/DC Driver
<ul style="list-style-type: none"> <li>▪ Lowest price</li> <li>▪ Simplest design</li> <li>▪ Failure in any string will affect other strings</li> <li>▪ Unbalanced current in each string</li> </ul>	<ul style="list-style-type: none"> <li>▪ Built-in DC/DC driver ICs in LDV-185</li> <li>▪ Each channel need to have the same LED quantity</li> <li>▪ Balanced current supply</li> <li>▪ Lower price</li> </ul>	<ul style="list-style-type: none"> <li>▪ Higher price</li> <li>▪ Independent C.C. output, balanced current in each string</li> <li>▪ Additional mounting space for LDD is required</li> </ul>

► Please refer to <http://www.meanwell.com/product/led/led.html> for more detail information.



# LDD series / SPD-20

DC/DC Constant Current LED Driver/ Surge Protection Device

## ► Features

- Constant current LED driver
- Wide input and output voltage range
- High efficiency up to 97%
- Comply with EN55015 and FCC part 15 without additional input filter and capacitors
- Built-in PWM dimming and remote ON/OFF control
- Protections: Short circuit / Over temperature
- Compact size
- Operating temperature range: -40~+85°C
- Cooling by free air convection
- Fully enclosed plastic case (UL 94V-0)
- Low cost, high reliability
- 3 years warranty

### LDD-H / LDD-HW



### LDD-L / LDD-LW



Output Current Accuracy		±3% at 24VDC input; ±4% at 48VDC input	±5% at 24VDC input
PWM Dimming & ON/OFF Control	Remote ON/OFF	Leave open if not used Power ON with dimming: DIM~Vin>2.5~6VDC or open circuit Power OFF: DIM~Vin <0.5VDC or short	Power ON with dimming: DIM~Vin>3.5~8VDC or open circuit Power OFF: DIM~Vin <0.5VDC or short
	PWM Frequency	100~1KHz	
Short circuit	Range	Regulated at rated output current	
	Type	Can be continued, recovers automatically after fault condition is removed	
Over temp. protection	Range	Tj 150°C typically detect on main control IC	
	Type	Shut down, recovers automatically after temperature goes down	
Working temperature		-40~+85°C (refer to output derating curve)	
EMC standards		Compliance to EN55015, FCC part 15 class B, EN61000-4-2,3,4,6,8, light industry level, criteria A	
Operating case temp. (max.)		100°C	
Dimension (LxWxH)(mm)		31.8x 20.3x 12.2	22.6x 9.9x 8.9



Model No.	Input (VDC)	Output		Io Tol.	Effi.
		Voltage (VDC)	Current (mA)		
LDD-300H □	9~56	2~52	300	±4%	97%
LDD-350H □	9~56	2~52	350	±4%	97%
LDD-500H □	9~56	2~52	500	±4%	97%
LDD-600H □	9~56	2~52	600	±4%	97%
LDD-700H □	9~56	2~52	700	±4%	97%
LDD-1000H □	9~56	2~52	1000	±4%	97%

Model No.	Input (VDC)	Output		Io Tol.	Effi.
		Voltage (VDC)	Current (mA)		
LDD-300L □	9~36	2~32	300	±5%	95%
LDD-350L □	9~36	2~32	350	±5%	95%
LDD-500L □	9~36	2~32	500	±5%	95%
LDD-600L □	9~36	2~32	600	±5%	95%
LDD-700L □	9~36	2~32	700	±5%	95%

□ = Blank, W ; Blank: pin style, W: wire style

□ = Blank, W ; Blank: pin style, W: wire style

## 20kA Surge Protection Device



## ► Features

- Type 2 component assemblies
- Line to Ground & Line to Line protected
- Design refer to UL1449 3rd Edition
- Parallel (3 wires) connection style
- LED status indicator
- IP67 design
- Suitable for surge protection of LED drivers

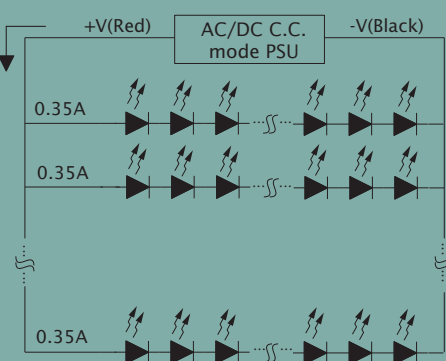
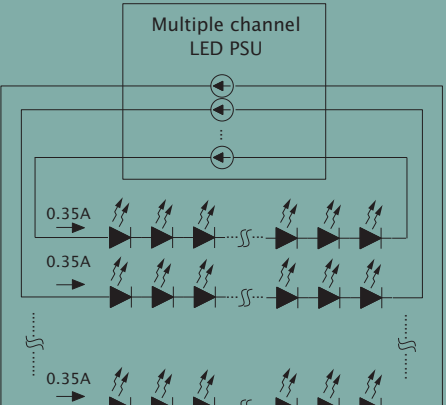
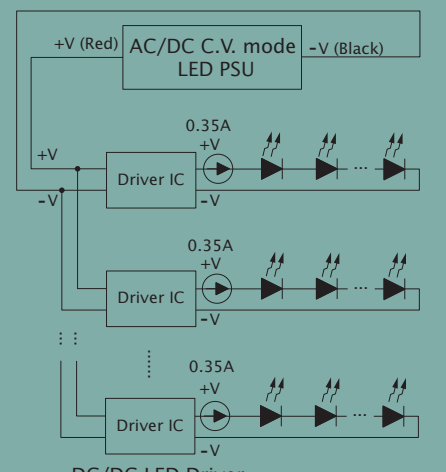
UL/TUV/CE pending

Model No.	SPD-20-240P	SPD-20-277P
Operating voltage	240VAC, 50/60Hz	277VAC, 50/60Hz
MCOV (Max. Continuous Operating Voltage)	300VAC	320VAC
VPR (Voltage protection rating)	≤1200 (L-FG, N-FG, L-N)	
IN (Nominal Discharge Current)	5kA	
Max. Surge Current (8/20us)	20kA	
SCCR (Short Circuit Current Rating)	5kA	
Response time	<25ns	
Operating temperature	-40~+70°C	
Safety standard	Design refer to UL1449 3rd edition (Type 2 component assemblies), TUV EN61643-11	
Dimension (LxWxH)(mm)	90x 70x 50	

# How to Choose A Suitable LED Power Supply?

- Decide a suitable wattage level, including safety margin.
- Verify your design of LED driving circuit: direct drive by PSU [choose a constant current (C.C.) mode LED power supply] or add additional driving IC to get a more precise constant current level [choose LDV-185 or LDD].
- Verify whether the application need PFC function.
- Verify location of assembly and the required level against dust and humidity for the LED power supply (enclosure style, IP level, dry/damp/wet location).
- Verify the required safety certificates.
- Need to adjust the output voltage and/or output current or need the dimming function ?

## ► Suggested System Design

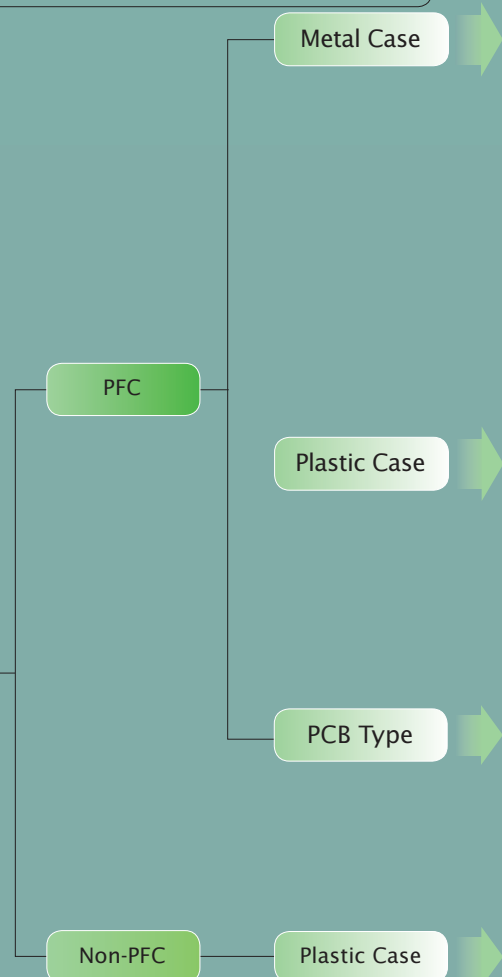
Setting	Circuit Diagram	Description	Advantage & Disadvantage
Use constant current (C.C.) mode power supply only		<p>Using MEAN WELL's C.C. mode LED power supply as constant current source and feed the LED arrays directly.</p> <p>MEAN WELL product: APC / LPC / ELN / PLN / PLC / LPF / HLN / PLD / CLG / CEN / HLG / HSG / HVG / HVGC / PLP / HLP / LCM families</p>	<p><b>Advantage</b></p> <ul style="list-style-type: none"> <li>• Simplest design, no need LED driver IC</li> <li>• Lowest price</li> <li>• Highest efficiency with the best lumen per watt(lm/w)</li> </ul> <p><b>Disadvantage</b></p> <ul style="list-style-type: none"> <li>• Unbalanced driving current and shorter LED life time</li> <li>• LED chips should be sorted for similar VF</li> </ul>
Use multiple channel C.C. mode power supply		<p>Using multiple channel LED PSU with DC/DC constant current LED driver ICs built-in. Each LED strip can get balanced driving current.</p> <p>MEAN WELL product: LDV-185 series</p>	<p><b>Advantage</b></p> <ul style="list-style-type: none"> <li>• Built-in driver ICs in the unit</li> <li>• Moderate price</li> </ul> <p><b>Disadvantage</b></p> <ul style="list-style-type: none"> <li>• Each channel need to have the same LED quantity</li> <li>• Lower system efficiency comparing to the direct drive method</li> </ul>
Use constant voltage (C.V.) mode power supply with DC-DC LED driver		<p>Using AC/DC C.V. mode LED power supply and separate DC/DC LED drivers.</p> <p>MEAN WELL product: LDD series</p>	<p><b>Advantage</b></p> <ul style="list-style-type: none"> <li>• Independent output channels, the most balanced current for paralleled LED strips</li> <li>• No need to sort the VF of LED</li> <li>• Longer LED lifetime</li> <li>• Failures in any string do not affect the other strings</li> </ul> <p><b>Disadvantage</b></p> <ul style="list-style-type: none"> <li>• Higher price</li> <li>• Complicated circuit design</li> <li>• Lowest system efficiency</li> <li>• Largest in power supply volume</li> </ul>

# Quick Selection Map

## Note

At the moment of power on, the LED power supply will work in C.V. mode and can provide a peak output current; after the LED turns on, the LED power supply will go into C.C. mode (patent pending).

## Constant Voltage + Constant Current (C.V.+C.C.) Note



Series	Dimension (Lx Wx H)	Page
CEN-60/75	185x 62.5x 40.5 mm	14
CEN-100	195x 62.5x 40.5 mm	

Series	Dimension (Lx Wx H)	Page
CLG-60	195.6x 61.5x 38.8 mm	15
CLG-100	222.2x 68x 38.8 mm	
CLG-150	229x 68x 38.8 mm	

Series	Dimension (Lx Wx H)	Page
HLG-40H/60H	171x 61.5x 36.8 mm	16
HLG-80H	195.6x 61.5x 38.8 mm	17
HLG-100H/120H	220x 68x 38.8 mm	17
HLG-150H/185H	228x 68x 38.8 mm	18
HLG-240H	251x 68x 38.8 mm	18
HLG-320H	256x 90x 43.8 mm	18

Series	Dimension (Lx Wx H)	Page
HVG(C)-100	236x 68x 38.8 mm	19
HVG(C)-150	246x 68x 38.8 mm	

Series	Dimension (Lx Wx H)	Page
HSG-70	127.2x 90x 38.8 mm	20

Series	Dimension (Lx Wx H)	Page
LPF-16(D)/25(D)	148x 40x 32 mm	7
LPF-40(D)/60(D)	162.5x 43x 32 mm	
LPF-90(D)	161x 61x 36 mm	

Series	Dimension (Lx Wx H)	Page
PLC-30	160x 46x 30 mm	8
PLC-45/60	181.5x 62x 35 mm	
PLC-100	200.5x 69.5x 35 mm	

Series	Dimension (Lx Wx H)	Page
PLN-20	148.5x 38.5x 28 mm	9
PLN-30	145x 47x 30 mm	
PLN-45/60	181x 61.5x 35 mm	
PLN-100	200x 70.5x 35 mm	

Series	Dimension (Lx Wx H)	Page
HLN-40H/60H	161x 61.5x 35 mm	10
HLN-80H	181x 61.5x 35 mm	

Series	Dimension (Lx Wx H)	Page
PLP-20	140x 32x 22 mm	12
PLP-30	101.6x 50.8x 26.6 mm	
PLP-45/60	101.6x 50.8x 29.6 mm	

Series	Dimension (Lx Wx H)	Page
HLP-40H/60H	147x 53x 27 mm	13
HLP-80H	167x 53x 29.5 mm	

Series	Dimension (Lx Wx H)	Page
APC-12/16	77x 40x 29 mm	1
APC-25/35	84x 57x 29.5 mm	

Series	Dimension (Lx Wx H)	Page
LPLC-18, LPHC-18	140x 30x 22 mm	3
LPC-20	118x 35x 26 mm	
LPC-35	148x 40x 30 mm	
LPC-60	162.5x 42.5x 32 mm	

Series	Dimension (Lx Wx H)	Page
ELN-30	145x 47x 30 mm	4
ELN-60	181x 61.5x 35 mm	

Series	Dimension (Lx Wx H)	Page
PCD-16/25	84x 57x 29.5 mm	5
PCD-40/60	128x 60x 31.5 mm	
PLD-16/25	84x 57x 29.5 mm	6
PLD-40/60	128x 60x 31.5 mm	

Series	Dimension (Lx Wx H)	Page
LCM-40/60	123.5x 79x 23 mm	11

Series	Dimension (Lx Wx H)	Page
LDV-185	222.2x 90x 38.8 mm	21

Series	Dimension (Lx Wx H)	Page
ULP-150	215x 67.4x 33 mm	20

Series	Dimension (Lx Wx H)	Page
APV-12/16	77x 40x 29 mm	1
APV-25/35	84x 57x 29.5 mm	

Series	Dimension (Lx Wx H)	Page
LPL-18, LPH-18	140x 30x 22 mm	2
LPV-20	118x 35x 26 mm	
LPV-35	148x 40x 30 mm	
LPV-60	162.5x 42.5x 32 mm	
LPV-100	190x 52x 37 mm	



# Comparison Chart

Family		PFC (Note 1)		AC Input Range (VAC)	Potted	C.C. or C.V.	IP	Dimming (Note 2)	Vo / Io Adj	Max. Eff.	Warranty (years)	Remark
Series Name	Type (Note 3)	Single Stage	Two Stage									
HLG-40H / 60H / 80H / 100H / 120H / 150H / 185H / 240H / 320H	A ★		✓	90~305	✓	C.V.+C.C.	65	3 in 1	✓	95%	5	
	B						67					
	C (240W/320W only)								✓			
	Blank						67					
	D (option)						67		Timer			
HVG(C)-100/150	A ★		✓	180~480 (528)	✓	C.V.+C.C.	65	3 in 1	✓	91%	5	
	B						67					
	D (option)						67		Timer			
HSG-70			✓	90~305	✓	C.V.+C.C.	65		Io	90%	3	
CLG-150	A ★		✓	90~295	✓	C.V.+C.C.	65		✓	91%	3	
	B						67					
	C								✓			
	Blank						67					
CLG-100			✓	90~295	✓	C.V.+C.C.	67			88.5%	3	
CLG-60		✓		90~295	✓	C.V.+C.C.	67			89%	3	
CEN-60 / 75 / 100		✓		90~295		C.V.+C.C.	66		✓	91%	3	
LDV-185			✓	180~295	✓	C.C.	67	Timer (D-Type)		88%	3	Multiple channel C.C. output
ULP-150			✓	90~295	✓ (half)	C.V.			Vo	93%	3	U-bracket
HLN-40H / 60H / 80H	A		✓	90~305		C.V.+C.C.	64	3 in 1	✓	91%	3	
	B											
LPF-16 □ / 25 □ / 40 □ / 60 □ / 90 □	D		✓	90~305	✓	C.V.+C.C.	67 (16W option)	3 in 1		90.5%	3	
	Blank											
PLN-100			✓	90~295		C.V.+C.C.	64		✓	90%	2	
PLN-30 / 45 / 60		✓		90~295		C.V.+C.C.	64		✓	89%	2	
PLN-20		✓		90~277		C.V.+C.C.	64		Io	83.5%	2	
PLC-100			✓	90~264		C.V.+C.C.			✓	90%	2	Terminal block I/O
PLC-30 / 45 / 60		✓		90~264		C.V.+C.C.			✓	89%	2	Terminal block I/O
PCD-16 / 25 / 40 / 60		✓		A: 90~135 B: 180~295	✓ (half)	C.C.	30	AC Phase-Cut		87%	3	
PLD-16 / 25 / 40 / 60		✓		16/40/60W: A-90~135 B-180~295 25W: 90~295	✓ (half)	C.C.	30			88%	3	
LCM-40 / 60			✓	180~295		C.C.	20	0~10Vdc & PWM DALI & push DIM		90%	3	Io level selectable in one power unit
LCM-40DA / 60DA												
PLP-20 / 30 / 45 / 60		✓		20W: 90~277 30~60W: 90~264		C.V.+C.C.			Io	89%	2	PCB type
HLP-40H / 60H / 80H			✓	90~305		C.V.+C.C.		3 in 1	✓	90.5%	3	PCB type
ELN-30 / 60				90~264		C.V.+C.C.	64	1~10Vdc or PWM	✓	88%	2	
LPH / LPL-18 LPV-20 / 35 / 60 / 100				LPH: 180~264 LPL: 90~132 LPV: 90~264	✓	C.V.	67			89%	2	
LPHC / LPLC-18 LPC-20 / 35 / 60				LPHC: 180~264 LPLC: 90~132 LPC: 90~264	✓	C.V.+C.C.	67			87%	2	
APC-12 / 16 / 25 / 35				90~264	✓ (16W/35W half)	C.V.+C.C.	30			84%	2	
APV-12 / 16 / 25 / 35				90~264	✓ (16W/35W half)	C.V.	30			84%	2	

**Note 1** ■ Single-Stage PFC : No hold-up time and higher Ripple & Noise. Not to use in regions with unstable utility status is highly recommended.  
(For C.V. mode operation, please refer to the application Q&A on MEANWELL LED website.)

■ Two-Stage PFC : Longer hold-up time and lower Ripple & Noise. Suitable for LED lighting and general industrial applications.

■ Non-PFC : PF<0.6 and target at regions where PF compliance does not required.

**Note 2** 3-in-1 dimming: 1~10Vdc, PWM signal, or resistance. Timer: Timmer dimming function, please contact MEANWELL for details.

**Note 3** ★ are popular models and will have sufficient stock for prompt delivery of high quantity orders.



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