



## ■ Features :

- Ultra slim design with 52.5mm(3SU) width
- Universal input 90~264VAC
- No load power consumption < 1W
- Isolation class II
- DC output voltage adjustable
- Protections: Short circuit/Overload/Over voltage
- Cooling by free air convection
- DIN rail TS-35/7.5 or 15 mountable
- LED indicator for power on
- 3 years warranty

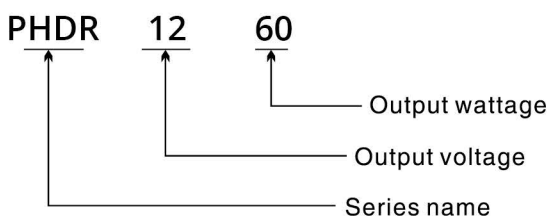
## ■ Applications :

- Household control system
- Building automation
- Industrial control system
- Factory automation
- Electro-mechanical apparatus

## ■ Description :

PHDR-60 is one economical ultra slim 60W DIN rail power supply series, adapt to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 52.5mm(3SU) in width, which allows space saving inside the cabinets. The entire series adopts the full range AC input from 85VAC to 264VAC(277VACoperational)and conforms to BSEN/EN61000-3-2, the norm the European Union regulates for harmonic current. PHDR-60 is designed with plastic housing that it can effectively prevent user from electric hazards. With working efficiency up to 89%, the entire series can operate at the ambient temperatura between -30°C and 70°C under air convection. The complete protection functions and relevant certificates for home automations and industrial control apparatus (IEC 62368-1, UL 508, UL 62368-1, BSEN/EN 61558-2-16) make PHDR-60 a very competitive power supply solution for household and industrial applications.

## ■ Model Encoding

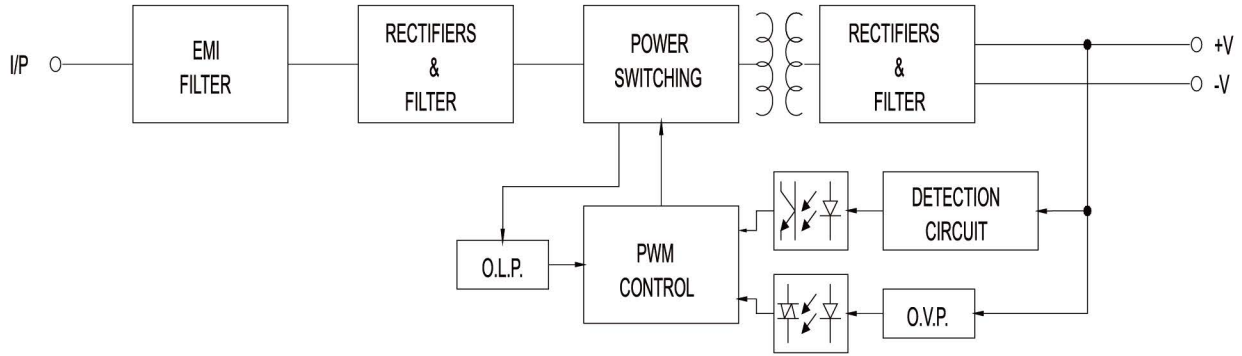


### SPECIFICATION

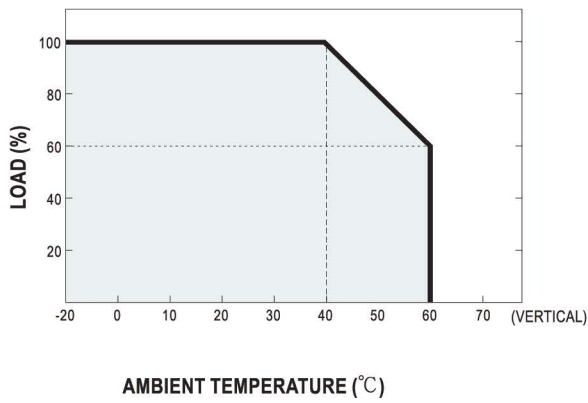
MODEL		PHDR-12-54	PHDR-15-60	PHDR-24-60	PHDR-48-60
Output	DC voltage	12V	15V	24V	48V
	Rated current	4.5A	4A	2.5A	1.25A
	Current range	0~4.5A	0~4A	0~2.5A	0~1.25A
	Rated power	54W	60W	60W	60W
	Ripple&noise	120mVp-p	240mVp-p	240mVp-p	500mVp-p
	DC voltage ADJ. range	10.8~13.8V	13.5~18V	21.6~29V	43.2~55.2V
	Voltage tolerance <small>Note.3</small>	±1.0%	±1.0%	±1.0%	±1.0%
	Line regulation <small>Note.4</small>	±1.0%	±1.0%	±1.0%	±1.0%
	Load regulation <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.05
	Setup, rise, hold up time	500ms, 50ms, 30ms/230VAC 500ms, 50ms, 12ms/115VAC (full load)			
Input	Voltage range	100~240VAC 47~63Hz, 141~339VDC			
	Efficiency	87%	87%	88%	89%
	AC current	1.8A/115VAC 0.9A/230VAC			
	Inrush current	Cold start 30A/115VAC 60A/230VAC			
Protection	Overload	Rated output power 115%~150% Start overload protection			
		Protection type: hiccup mode, auto-recovery after fault condition is removed			
	Over voltage	14.2~16.2V	18.8~22.5V	30~36V	56.5~64.8V
		Protection mode: Turn off output, clamped by Zener diode			
Environment	Working temp& humidity	-30°C~+60°C (Please refer to "derating curve") 20%~90%RH, Non-condensing			
	Storage temp& humidity	-40~+85°C, 10~95%RH, Non-condensing			
	Temperature coefficient	±0.03%/°C (0~50°C)			
	Withstand vibration	10~500Hz, 2G 10min./1Cycle, Period for 60min, Each axes			
Safety	Withstand voltage	I/P-O/P: 1.5KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC			
	Isolation resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC/25°C/70%RH			
Standards compliance	Safety standards	Compliance to UL 62368-1, IEC EN 62368-1			
	EMC emission	Compliance to EN55032 (CISPR32) Class A, EN 61000-3-2			
	EMC immunity	Compliance to EN55035			
Others	Dimension	52.5*90*54.5mm (W*H*D)			
	Weight	0.19kg/80pcs/16.2kg/1.24CUFT/0.035m <sup>3</sup>			

- Note: 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.  
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.  
3. Tolerance : includes set up tolerance, line regulation and load regulation.  
4. Line regulation is measured from low line to high line at rated load.  
5. Load regulation is measured from 0% to 100% rated load  
6. The ambient temperature derating of 5°C/1000 m is needed for operating altitude greater than 2000m(6500ft)  
7. The power supply is considered as a component which will be installed into a finalequipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests.

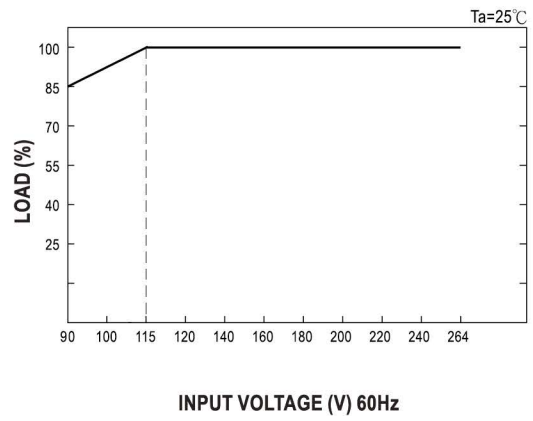
Block diagram



Derating curve

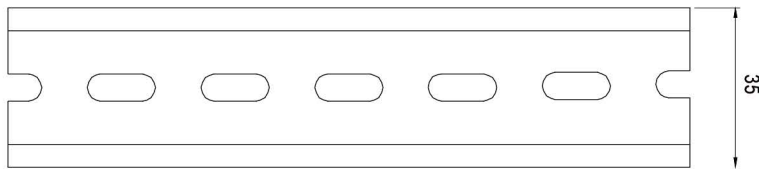
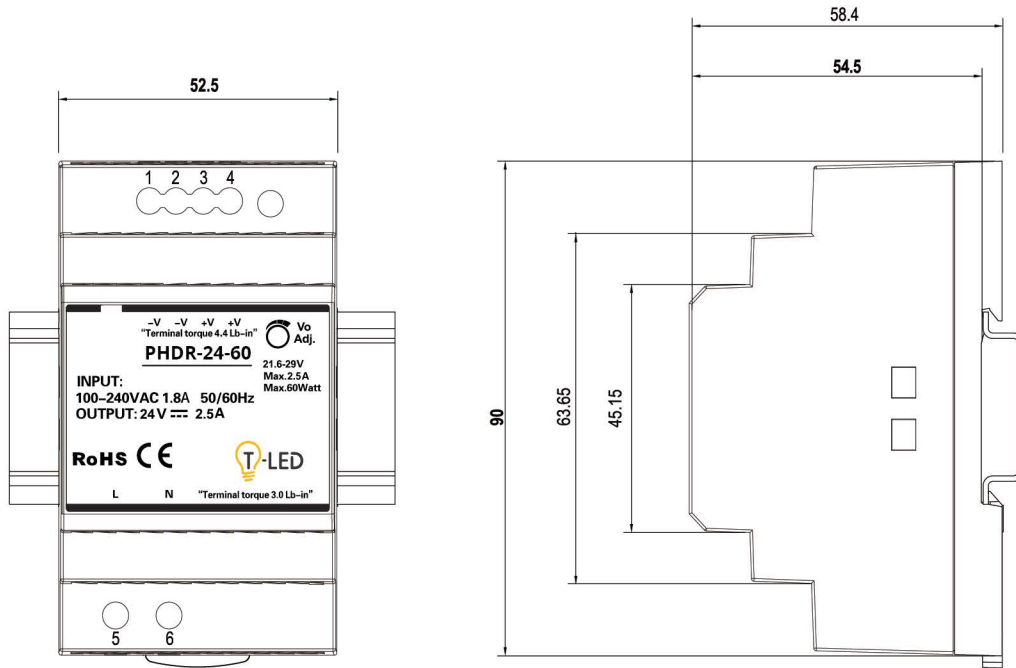


Static characteristic



## Mechanical specification

(Unit: mm , tolerance  $\pm 0.5\text{mm}$ )



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

### Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1,2	-V	5	AC/L
3,4	+V	6	AC/N