

SWITCHING POWER SUPPLY

PS-48-24 / PS-72-24 / PS-120-24 / PS-240-24 / PS-480-24



REV:A02 2019.1

FEATURES

- Wide-range Input: 100-240V~ / 140-340V==
- Protection type: Short-circuit, Overload, Overvoltage and Over-temperature.
- Natural Air Cooling, Full-load Operation.
- 100% Burn-in Test.
- Comply with CE and CB Certification.
- Comply with ROHS.
- 2 Year Warranty.



HAZARDOUS VOLTAGE. This equipment must be installed and serviced only by qualified electrical personnel. Turn off all power supplying this equipment before working on or inside equipment. Always use a properly rated voltage sensing device to confirm power is off.

Replace all devices, doors, and covers before turning on power to this equipment. Failure to follow these instructions will result in death or serious injury.

NEVARNOST ELEKTRIČNEGA UDARA. To opremo lahko namešča in vzdržuje le strokovno usposobljena oseba. Pred postopkom montaže in vzdrževanjem naprave je potrebno izklopiti električno napajanje in ga vključiti šele po zaključenem postopku. Z ustrežno napravo preverite odsotnost napajanja. Naprave, dele naprav in zaščitne pokrove menjajte in nameščajte le v brez napetostnem stanju. Neupoštevanje teh navodil lahko povzroči hude poškodbe ali smrt.

OPASAN NAPON. Ovu opremu smije instalirati i servisirati samo kvalifikovano električarsko osoblje. Isključite svako napajanje ove opreme prije rada na unutrašnjem/vanjskom dijelu opreme. Uvijek koristite adekvatno deklarisan uređaj za ispitivanje napona za provjeru isključenosti napajanja. Namjestite sve uređaje, vrata i poklopce prije ponovnog uključnja napajanja. Ne pridržavanje ovih mjera može rezultirati smrtnim ishodom ili ozbiljnim povredama.

ОПАСНОЕ НАПРЯЖЕНИЕ. Монтаж и обслуживание данного оборудования, осуществляется только классифицированным и обученным персоналом. Отключите цепи питания данного оборудования перед началом работы с устройством. Всегда используйте исправный индикатор для подтверждения отсутствия напряжения питания. Перед подачей напряжения питания на данное оборудование установите все необходимые аксессуары. Несоблюдение этих инструкций может привести к серьезным травмам или даже летальному исходу.

Intended Use:

This power supply is designed for installation in an enclosure and is intended for general use such as in industrial control, communication, office, and instrumentation equipment.

Do not use this power supply in aircraft, trains and nuclear equipment or where malfunction may cause severe personal injury or threaten human life.

WARNING

Risk of electrical shock, fire, personal injury or death.

- Do not use the power supply without proper grounding (Protective Earth).
- Turn power off before working on the device.
- Make sure that the wiring is correct.
- Do not open or repair the unit as high voltage are present inside.
- Use caution to prevent any foreign objects from entering the housing.
- Do not use in wet locations or in areas where moisture or condensation can be expected.
- Do not touch during power-on, power-off before touching. Hot surfaces may cause burns.
- A Temperature of 90°C is permitted for metal enclosure when equipment intended for installation in a restricted access location.

CAUTION

Reduction of output current may be necessary when:

- Minimum installation clearance can not be met.
- Altitude is higher than 2000m.
- Device is used above 50°C ambient.
- Mounting orientation is other than output terminal located at the top and input at the bottom.
- Airflow for convection cooling is obstructed.

INSTALLATION

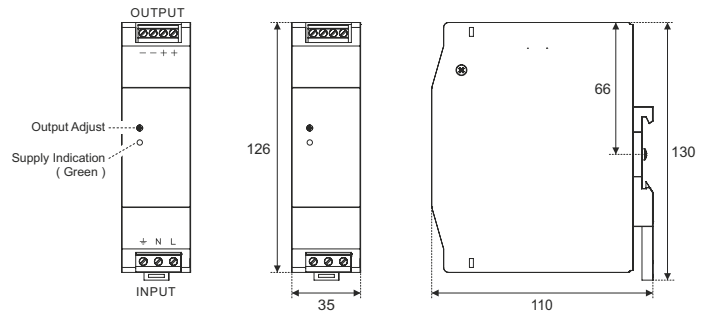
Use only DIN-rails according to EN 60715 or EN 55032 with a height of 7.5 or 15mm. Mounting orientation must be output terminals on the top and input terminals on the bottom. For other grid must be kept free of any obstructions. The installation clearances must be kept orientations, see datasheet. Do not obstruct air flow as the unit is convection cooled.

Ventilation when power supplies are permanently fully loaded:

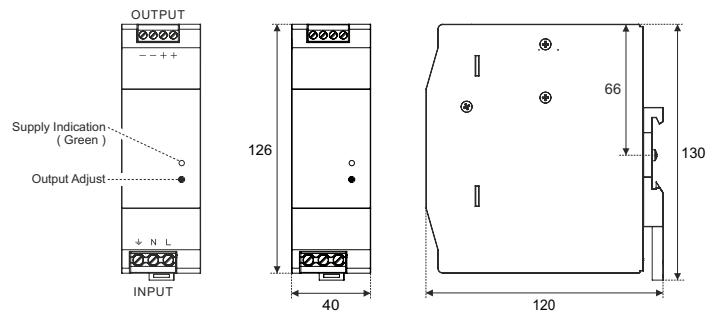
- Left/right: 5mm, 15mm in case the adjacent device is a heat source.
- 40mm on top, 20mm on the bottom of the unit.

PRODUCT ASSEMBLY (mm)

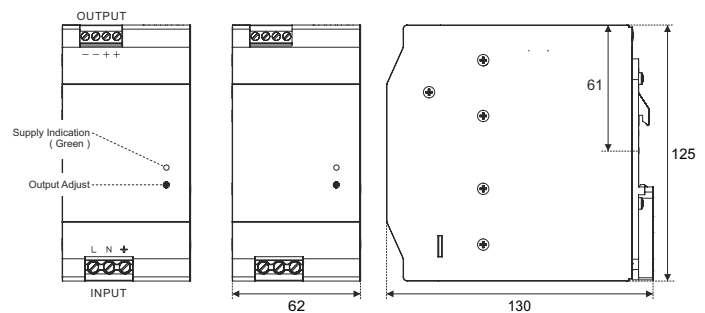
PS-48-24 / PS-72-24



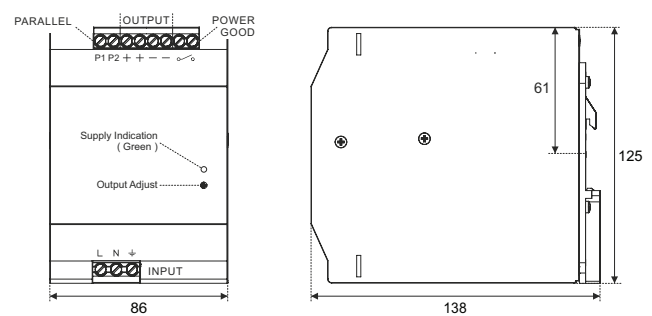
PS-120-24



PS-240-24



PS-480-24



Install rail: TS35/7.5 or TS35/15



TECHNICAL DATA

TYPE		PS-48-24	PS-72-24	PS-120-24	PS-240-24	PS-480-24
Input circuit - Supply circuit		L, N, PE				
Input Voltage range ($\pm 10\%$)		100 - 240V \sim / 140 - 340V \equiv				
Input Frequency range ($\pm 3\text{Hz}$)		50 - 60Hz \equiv				
AC Input Current	at 115V \sim	1.2A	1.4A	2.8A	3A	5.5A
	at 230V \sim	0.6A	0.9A	1.4A	1.5A	2.4A
Power factor	at 115V \sim	0.5			0.99	
	at 230V \sim				0.96	
Input Inrush Current	at 230V \sim	cold start, 35A				
Hold-up Time	at 115V \sim	$\geq 10\text{ms}$			$\geq 20\text{ms}$	
	at 230V \sim	$\geq 20\text{ms}$				
Input Fuse	(internal)	2A	3.15A	4A	5A	6.3A
Output circuit - Power output		+ , -				
Rated output power		45W	75W	120W	240W	480W
Rated output voltage		24V \equiv				
Adjustment range of the output voltage		24 - 28V \equiv				
Rated output current		2A	3.15A	5A	10A	20A
Output Ripple & noise ¹		$\leq 100\text{mV}$			$\leq 150\text{mV}$	$\leq 120\text{mV}$
Efficiency ²	at 230V \sim	88%		86%	91%	94%
Protecion						
Over-temp Protection		NO			YES	
Over-current Protection ³		110 - 150% I _o				
Over-load Protection ³		YES				
Over-voltage Protection ⁴		120 - 150% V _o				
Environmental data						
Ambient temperature range ⁵	operation	-20 / +70°C				
	rated load	-20 / +60°C		-20 / +50°C		
	storage	-40 / +85°C				
Humidity range	operation	5 - 90% RH				
	storage	5 - 95% RH				
Altitude		$\leq 2000\text{m}$				
Standard						
Approvals		CE				
Safety		EN60950-1				
EMC		EN55032 Class B, EN55024, EN61000-3-2, EN61000-3-3				EN60950 EN55032 Class B EN61000-4-2,3,4,5
Withstand voltage		I/P-O/P:3kV \sim 60s		I/P-FG:1.5kV \sim 60s	O/P-FG:0.5kV \sim 60s	
Degree of pollution		2				
Degree of protection		IP20				
Dimensions L x W x H (mm)		130 x 35 x 110	130 x 35 x 110	130 x 40 x 120	130 x 62 x 125	138 x 86 x 125
Weight		310g	360g	540g	810g	1320g

Note: Unless otherwise noted, all parameters are at 230V \sim input voltage, rated output current, 25°C ambient.

1 - Oscilloscope should be limited at 20MHz bandwidth, at output terminals

with parallel 0.1 μF ceramic and 47 μF electrolytic capacitors.

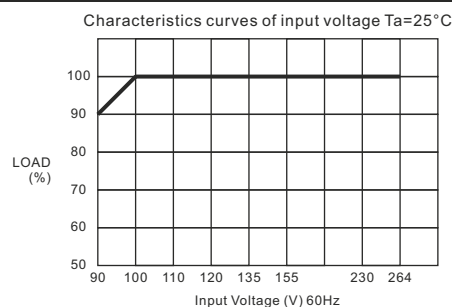
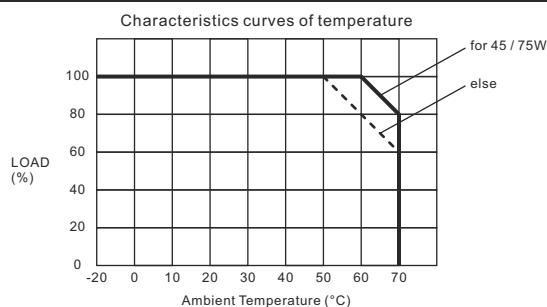
2 - Efficiency is measured 30min later.

3 - Hiccup mode, recovers automatically after fault condition is removed.

4 - Latch off mode, re-power on to recover.

5 - Output derate curve refer to Fig.1

Fig.1



TERMINALS AND WIRING

INPUT	45W	75W	120W	240W	480W
Solid wire	0.5 - 4mm ²		0.5 - 6mm ²		
Stranded wire	0.5 - 2.5mm ²		0.5 - 4mm ²		
American wire	12 - 26AWG		10 - 26AWG		
Wire stripping length	7mm / 0.28inch				

OUTPUT	45W	75W	120W	240W	480W
Solid wire	0.5 - 4mm ²				
Stranded wire	0.5 - 2.5mm ²				
American wire	12 - 20AWG		12 - 26AWG		
Wire stripping length	7mm / 0.28inch				

Do not use the unit without PE (Ground) connection!

Use appropriate copper cables that are designed for a minimum operating temperatures of 60°C (for ambient up to 45°C) and 75°C (for ambient up to 60°C).

Follow national installation codes and regulations! Ensure that all strands of a stranded wire enter the terminal connection!

Up to two stranded wires with the same cross section are permitted in one connection point (except PE wire). Ferrules are allowed, but not required.