Installation Instructions for PSA-12-240, PSA-24-240 & PSA-48-240 Power Supply

READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.

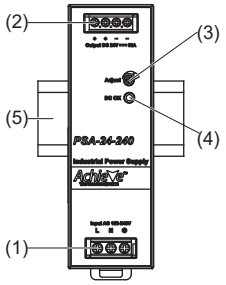

Figure 1

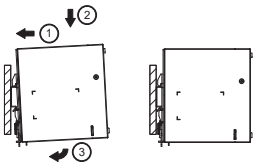
Figure 2

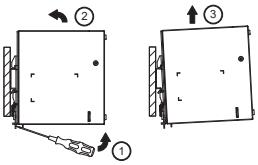
Figure 3

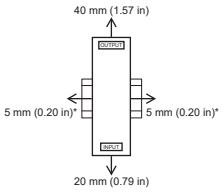

Figure 4

*If load is less than 50%, lateral distance can be 0 mm (0 in).
In case the adjacent device is a heat source, the lateral distance will be 15 mm (0.59 in).

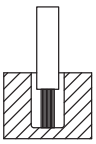
Figure 5

AWG	ADC Ferrule p/n
18	V30AE000041
16	V30AE000048
14	V30AE000052
12	V30AE000055

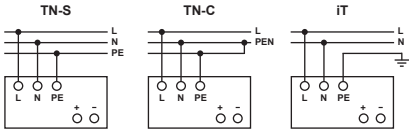

Figure 6

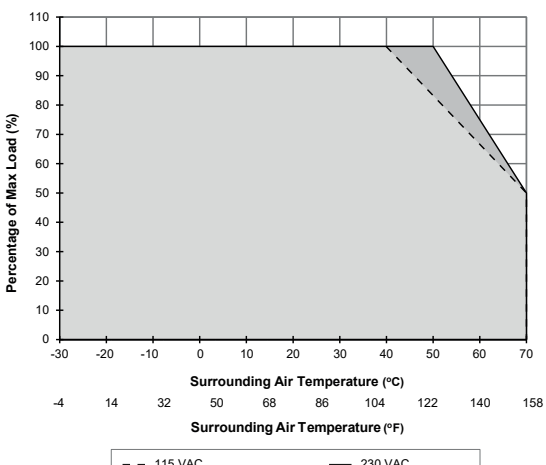

Figure 7

1. Safety instructions

- Switch main power off before connecting or disconnecting the device. Risk of explosion!
- If the unit is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- To guarantee sufficient convection cooling, please keep a distance of 40 mm [1.57 in] above and 20 mm [0.79 in] below the device as well as a lateral distance of 5 mm [0.20 in] to other units. If load is less than 50%, lateral distance can be 0 mm [0 in]. In case the adjacent device is a heat source, the lateral distance will be 15 mm [0.59 in]. See Fig 4.
- The external enclosure where the unit will be installed shall meet the requirements for mechanical, electrical and fire enclosure.
- Note that the enclosure of the device can become very hot depending on the ambient temperature and load of the power supply. Risk of burns!

  CAUTION: Hot surface
- The main power must be turned off before connecting or disconnecting wires to the terminals!
- Do not introduce any objects into the unit!
- Dangerous voltage present for at least 5 minutes after disconnecting all sources of power.
- The power supplies are built in units and must be installed in a cabinet or room (condensation free environment and indoor location) that is relatively free of conductive contaminants.
- **CAUTION:** "For use in a controlled environment".

2. Device description (Fig. 1)

(1) Input terminal block connector
(2) Output terminal block connector
(3) DC voltage adjustment potentiometer
(4) DC OK LED (green)
(5) 35mm DIN rail mounting (DIN rail sold separately)

3. Mounting (Fig. 2)

The power supply unit can be mounted on 35 mm DIN rails in accordance with EN 60715. For Vertical Mounting, the device should be installed with input terminal block on the bottom.
Each device is delivered ready to install.
1. Tilt the unit slightly upwards and put it onto the DIN rail. Snap on the DIN rail as shown in Fig. 2.
2. Push downwards until stopped.
3. Press against the bottom front side for locking.
4. Shake the unit slightly to ensure that it is secured.

4. Dismounting (Fig. 3)

To uninstall, pull or slide down the latch as shown in Fig. 3. Then, slide the PSU in the opposite direction, release the latch and pull out the PSU from the rail.

5. Connection

The terminal block connectors allow easy and fast wiring.
You can use flexible (stranded wire) or solid cables with the following cross sections:

Table 1 Refer to Fig. 1:	Standard / Solid		Torque		Stripping Length	
	(mm^2)	(AWG)	(Nm)	(lb in)	(mm)	(in)
(1)	1.0-4.0	18-12	0.62-0.79	5.5-7.0	7	0.28
(2)	1.0-4.0	18-12	0.45	4.0	7	0.28

Please ensure that the wires are fully inserted into the connecting terminals as shown in Fig. 5. All wire strands must be fully inserted into the terminals with the screws securely fastened in order to ensure safety and maximum contact.
In accordance to IEC/EN/UL 62368-1 and IEC/EN 61010-2-201, flexible cables require ferrules. Use Copper Conductors Only. Wire are designed to sustain operating temperature of at least 105°C.

5.1. Input connection (Fig. 1, Fig. 6)

Use L, N and PE connections of input terminal connector (see Fig. 1 (1)) to establish the 100-240 VAC connection. The device has an internal fuse. The unit is tested and approved with branch circuit protective device up to 20 A.

The internal fuse must not be replaced by the user.

5.2. Output Connection (Fig. 1 (2))

Use the "+" and "-" screw connections to establish the 12 VDC, 24 VDC and 48 VDC connection. The green LED DC OK displays correct function of the output (Fig. 1 (4)). The device has a short circuit and overload protection.

	PSA-12-240	PSA-24-240	PSA-48-240
Over voltage protection	< 17.4 VDC	< 33.6 VDC	< 64.8 VDC
Overload protection	Yes		
Short circuit protection	Yes		

5.3. Output characteristic curve

The device functions normal under operating line and load conditions. In the event of an over load (I_O = 105-150%) the output voltage will start to droop and bounce until over load has been removed.

5.4. Thermal behavior (Fig. 7)

If the output capacity is beyond what is recommended in Fig. 7, the device will run into thermal protection by switching off i.e. the output voltage will go into latch-off mode until the component temperature cools down and the AC power is recycled.

FOR TECHNICAL ASSISTANCE CALL 770-844-4200

Technical Data For PSA-12-240, PSA-24-240 & PSA-48-240

Specifications	PSA-12-240	PSA-24-240	PSA-48-240
Input (AC)			
Nominal input voltage / frequency	100-240 VAC / 50-60 Hz		
Voltage range	90-264 VAC		
Frequency	47-63 Hz		
Nominal current	2.5 A typ. @ 115 VAC, 1.3 A typ. @ 230 VAC		
Inrush current limitation (+25°C, cold start)	40 A typ. @ 230 VAC		
Mains buffering at nominal load (typ.)	20 ms typ. @ 115 VAC & 230 VAC (100% load)		
Turn-on time	500 ms typ. @ 115 VAC & 230 VAC		
Internal fuse	T 4 A / 250 V		
Leakage current	< 0.75 mA @ 240 VAC		
Output (DC)			
Nominal output voltage U_N	12 VDC ± 1%	24 VDC ± 1%	48 VDC ± 1%
Adjustment range of the voltage	10.8-13.2 VDC	21.6-26.4 VDC	43.2-52.8 VDC
Nominal current	20.0 A	10.0 A	5.0 A
Derating: Input voltage Temperature	< 100 VAC de-rate power by 1% / VAC Vertical mounting: > 40°C [104°F] derate power by 1.67% / °C @ 115 VAC > 50°C [122°F] derate power by 2.5% / °C @ 230 VAC		
Startup with capacitive loads	8,000 µF typ.	8,000 µF typ.	3,000 µF typ.
No load power consumption	0.15 W max @ 115 VAC & 230 VAC	0.21 W max @ 115 VAC & 230 VAC	0.3 W max @ 115 VAC & 230 VAC
Efficiency at 100% load	86.5% typ. @ 230 VAC	90% typ. @ 230 VAC	90.5% typ. @ 230 VAC
PARD (20MHz) at 100% load	< 120 mVpp @ 0°C to +70°C [+32°F to +158°F] < 360 mVpp @ -30°C to 0°C [-22°F to +32°F]	< 150 mVpp @ 0°C to +70°C [+32°F to +158°F] < 450 mVpp @ -30°C to 0°C [-22°F to +32°F]	< 200 mVpp @ 0°C to +70°C [+32°F to +158°F] < 600 mVpp @ -30°C to 0°C [-22°F to +32°F]
General Data			
Type of housing	Metal		
Signals	Green LED DC OK		
MTBF	> 700,000 hrs. as per Telcordia SR-332 (I/P: 115 VAC & 230 VAC; O/P: 100% load; Ta: 25°C)		
Dimensions (L x W x H)	123.6 x 40 x 116.8 mm [4.87 x 1.57 x 4.60 in]		
Weight	0.62 kg [1.37 lb]		
Connection method	Screw connection		
Wire size / torque / stripping length	See Table 1		
Operating temperature (surrounding air temperature)	Refer to Fig. 7 Vertical mounting: -30°C to +70°C [-22°F to +158°F] (-40°C [-40°F] Cold Start)		
Storage temperature	-40°C to +85°C [-40°F to 185°F]		
Humidity at +25°C, no condensation	20 to 90% RH (Non-Condensing)		
Vibration (operating)	IEC 60068-2-6, Sine Wave: 10 Hz to 500 Hz @ 19.6 m/s² (2 G peak); 10 min per cycle, 60 min for X direction		
Shock (non-operating)	IEC 60068-2-27, Half Sine Wave: 50 G for duration of 11 ms; 3 times per direction, 9 times in total		
Pollution degree	2		
Altitude (operating)	0 to 5,000 Meters (0 to 16,400 ft.)		
Certification and Standards			
Electrical safety (of information technology equipment)	UL/C-UL recognized to UL62368-1 and CSA C22.2 No. 62368-1 (File no. E508040) CB scheme to IEC 62368-1, IEC 61010-1, IEC 61010-2-201		
Electrical Equipment for Measurement, Control and Laboratory Use	UL/C-UL listed to UL 61010-1, UL 61010-2-201 (File no. E197592)		
Component power supply for general use	EN/BS EN 61204-3		
Immunity	EN/BS EN 55035, EN/BS EN 61000-6-2 (EN 61000-4-2, 3, 4, 5, 6, 8, 11) Compliance to EN/BS EN 61000-6-1		
Emission	EN/BS EN 55032, EN/BS EN 61000-6-4, EN/BS EN 61204-3, EN/BS EN 61000-3-2 Class A, EN/BS EN 61000-3-3 Compliance to EN/BS EN 61000-6-3 Class B		
CE c US E508040 UK CA c UL E197592 US LISTED Ind. Cont. Eq.			
RoHS Compliant	Yes		
Safety and Protection			
Transient surge voltage protection	VARISTOR		
Surge voltage protection against internal surge voltages	Yes		
Isolation voltage: Input / Output Input / PE Output / PE	 3.0 kVAC 2.0 kVAC 1.0 kVAC		
Safety class	Class I with PE connection		