

## AP14G01K2282-XX Power Supply & Battery Charger

### Overview

AC-DC Power Supply and Battery Charger, Water Resistant  
Single Phase AC 50 - 60Hz (85 to 264Vac), +28 Output, 1200W

### Market(s)

Defense, Industrial

### Typical Application(s)

Outdoor, vehicles, naval and others.

### Product Highlights

- 100% convection cooling, no external or internal fans
- Lightweight, less than 9 Kg / 20 lbs.
- Regulations (MIL-STD-810, MIL-STD-461, EN61000, IEC/EN 62368-1:Ed.3)
- Applications: outdoor, vehicles, land, naval & others
- Remote On / Off (each channel)
- AC 85-264 VAC wide-input range
- 1,200w, 28 VDC Dual (2) Isolated / Non Isolated channels power supply
- Rugged & waterproof (IP68)
- Extreme temperature: operating range from -40°C to 80°C
- High efficiency & reliability
- Load share 2 units



AP14G01K2282 is an AC/DC power supply & battery charger with nominal output of 28 VDC / 43 Amp, reliable construction and electronics, and is best suited for harsh environments. Waterproof housing, high performance and superb reliability make the AP14G01K2282 the ideal DC power source for use in vehicles, naval, open-air applications and many others. In comparison to other power supplies using conventional technology, this package provides users with high efficiency, low weight, and high-power output.

### About Us

Aegis Power Systems, Inc. specializes in the design, development, and manufacture of AC-DC and DC-DC power supplies for high-performance, rugged, critical, and specialty applications. Markets served include defense, industrial, communications, aircraft, shipboard, rack mount, embedded computing, and electric vehicle applications. Contact us to find out if this item can be configured or redesigned to meet your specific technology need.

SPECIFICATIONS	(Typical at 25°C, nominal line and 100% load, unless otherwise specified.)
<b>Input Voltage</b>	85Vac - 264Vac, 50Hz, 60Hz
<b>Input Current</b>	13A / 6.5A (115 / 230Vac at 43Amps output power)
<b>Power Factor</b>	0.86 / 0.89 at 115 / 230Vac
<b>Inrush Current</b>	37A / 63A at 115 / 230Vac
<b>Output Power</b>	1200W (See more details Table 3)
<b>Output Configuration</b>	See table 3 for details
<b>Efficiency</b>	86%@ 115Vac, 89%@ 230Vac, Typ. at 28V at 43A (See Table 5)
<b>Line Regulation</b>	20mV
<b>Output Ripple</b>	< 150mVpp
<b>Current Limit</b>	20A for each output (by Circuit breaker)
<b>Start-up Delay</b>	447ms / 493ms at 115 / 230Vac
<b>Rise Time</b>	15.5ms / 16ms at 115 / 230Vac
<b>Hold-up Time</b>	25 / 45 mS at 115 / 230 Vac at 100%
<b>Protections</b>	Short circuit and continuous, auto recovery Overvoltage 35-39V, no auto recovery Overtemperature protection, no auto recovery
<b>Temperature</b>	-40°C to +80°C Operating / -40°C to +80°C Storage
<b>Derating</b>	21W/°C at 115Vac: +55°C to +60C 34W/°C at 230Vac: +55°C to +80°C (See more on Table 4)
<b>Cooling</b>	Convection Cooling
<b>Package</b>	Enclosed case IP65/67 rated.
<b>Dimensions</b>	160 x 200 x 340mm (160 x 207 x 432mm with handle + legs)
<b>Weight</b>	20lbs. maximum
<b>Shock and Vibration</b>	MIL-STD-810G
<b>Ingress Protection</b>	IP65/67
<b>EMI</b>	MIL-STD-461F (See more Table 6)
<b>Country of Origin</b>	Israel

*Specifications subject to change without notice.*

**Table 2: Output Specs**

AP14G01K2282-01	V1	V2
Voltage	+28Vdc**	+28Vdc**
Current	21.4A Continuous	21.4A Continuous
Power	600W	600W
Ripple	150mVpk-pk*	150mVpk-pk*
AP14G01K2282-03	V1	V2
Voltage	+28Vdc**	
Current	42.8A Continuous	
Power	1200W	
Ripple	150mVpk-pk*	

\* 20MHz Bandwidth Limited.

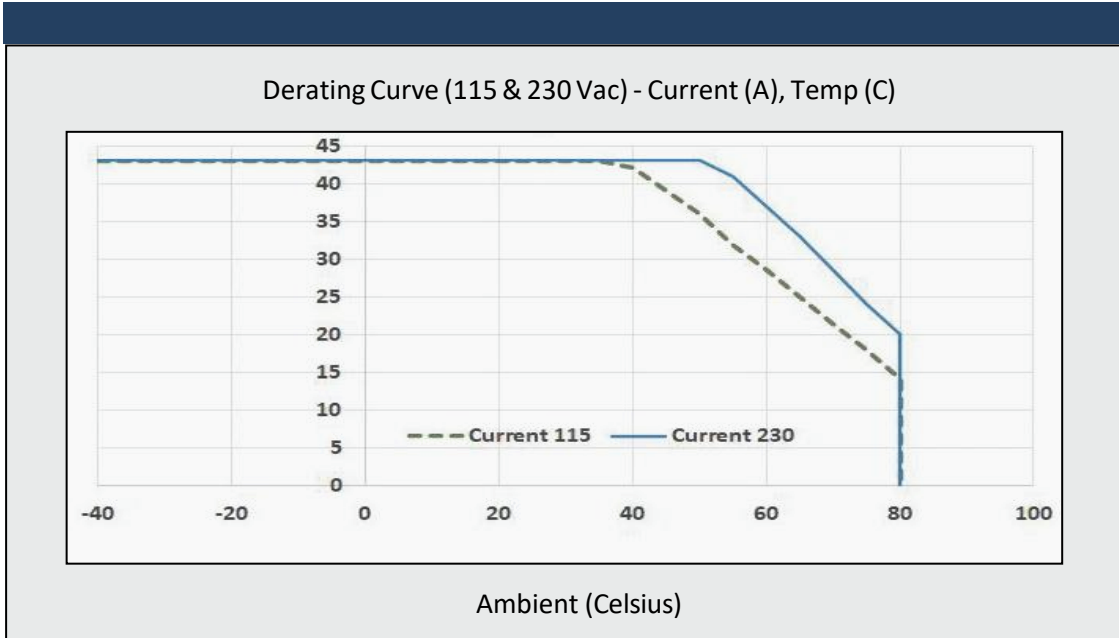
\*\* Output Configuration: For the output configuration, the unit can be ordered in 2 options:

- 1. Dual Isolated** - Two isolated outputs will provide max 600W each. Configuration is factory set.
- 2. Single Output** - Two output connectors are shorted for a single 1200W output. In this case it is possible to use only one connector (either of them) for the full power or use both (limited to a combined 1200W max). There is no isolation between the two outputs.

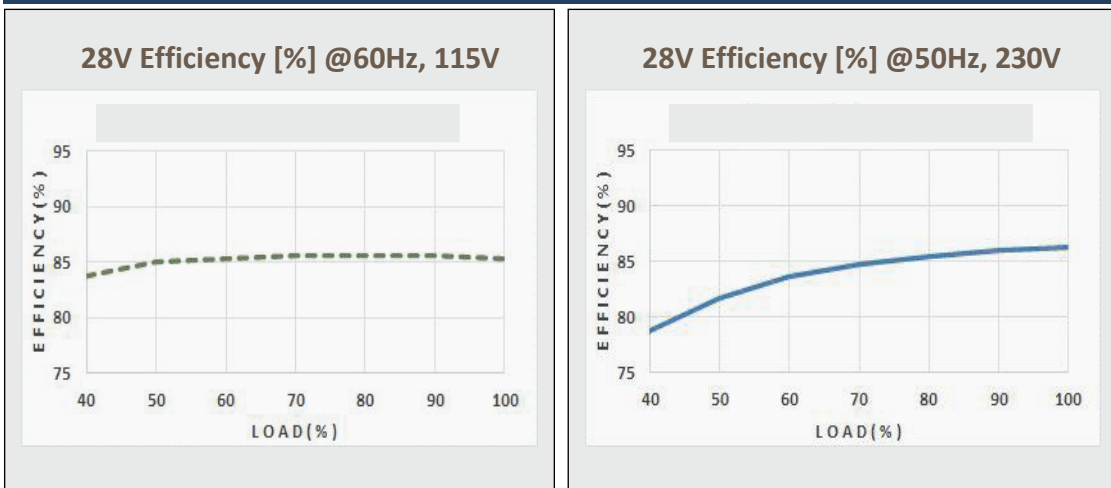
**Table 3: Ordering Information**

AP14G01K2282-XX	Description
AP14G01K2282-01	Isolated outputs (2x 600W ea)
AP14G01K2282-03	Non-isolated outputs (1200W max)
AP14G01K2282 Accessories (only available with AP14G01K2282-XX unit)	Description
01K228CB-IN	Input Cable
01K228CB-OT	Output Cable
01K228CN-IN	Input Mating Connector
01K228CN-OT	Output Mating Connector

**Table 4: Derating Curve**



**Table 5: Efficiency**



**Table 6: Markings**

MARKINGS		
MIL-STD-810G	EN61000-4-2 level 4	EN61000-4-5 level 3
MIL-STD-461F	EN61000-4-3 level 3	EN61000-4-6
IEC 60529:1989+A1:99+A2:13 IEC/EN 623681:Ed.3	EN61000-4-4 level 3	EN61000-4-11

**Table 7: EMC Immunity and Emissions**

CE102 - power leads 10 kHz to 10 MHz	EN61000-4-3 level 3 - Radiated Electromagnetic Radio Frequency
CS101 - power leads 30 Hz to 150 kHz	EN61000-4-4 level 3 - Electrical Fast Transient / Burst
CS114 - bulk cable injection 10 kHz to 200 MHz	EN61000-4-5 level 3 - Lightning Surge
CS115 - bulk cable injection Impulse excitation	EN61000-4-6 - Radiated Electromagnetic Radio Frequency
CS116 - damped sinusoidal transients, cables and power leads 10 kHz to 100 MHz	EN61000-4-11 - Voltage Dips and Short Interruptions
RE102 - electric shield 10 kHz to 18 GHz	EN61000-3-2 - Harmonics on AC
RE103 - electric shield 2 MHz to 18 GHz	EN61000-3-3 - Flicker on AC
EN61000-4-2 level 4 - Electrostatic Discharge	EN55011 Class B - Conducted Emissions on AC power & signal port

**Table 8: Environmental**

Note: parameters are specified at 28V, 230Vac, 25°C ambient and after 5 minutes run time unless otherwise noted.

MIL-STD-810G, Method 501.5 - High Temperature (storage)	MIL-STD-810G, Method 510.5 - Blowing sand (Procedure 2)
MIL-STD-810G, Method 502.5 - Low Temperature (storage)	MIL STD 810G, Method 512.5 - Immersion
MIL-STD-810G, Method 501.5 - High Temperature (operation)	MIL STD 810G, Method 514.6 - Vibration
MIL-STD-810G, Method 502.5 - Low Temperature (operation)	MIL STD 810G, Method 514.6 - Loose cargo
MIL-STD-810G, Method 506.5 - Blowing rain (Procedure 1)	MIL-STD-810G, Method 516.6 - Mechanical Shock
MIL-STD-810G, Method 507.5 - Humidity	IEC 60529:1989+A1:99+A2:13 - IP6X
MIL-STD-810G, Method 509.5 - Salt fog	IEC 60529:1989+A1:99+A2:13 - IPX8
MIL-STD-810G, Method 510.5 - Blowing dust (Procedure 1)	

## INSTALLATION

This device may only be installed and put into operation by qualified personnel. This device does not contain serviceable parts. If damage or malfunction should occur during installation or operation, immediately turn power off and send unit to the factory for inspection.

This device is designed for convection cooling and does not require an external fan. Do not obstruct airflow and do not cover heatsink. Keep the following installation clearances: 30mm on top, 30mm on the bottom, 250mm on the left and right sides are recommended when the device is loaded permanently. Increase this clearance to 350mm in case the adjacent device is a heat source (e.g. another power supply).

*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.
- Protect against inadvertent re-powering.
- Make sure that the wiring is correct.
- Do not modify or repair the unit.
- Do not open the unit as high voltages are present inside.
- Hot surfaces may cause burns.

**Figure 1: Heat Warning**



**Table 9: Legend for Figure 2 (next page)**

		<b>FUNCTIONALITY</b>
1	<b>Ground Screw</b>	Ground Screws - 1/4"-20 Thread. There are three (3) ground connections. One in the front panel and two in the back panel. At least one ground is needed to be connected.
2	<b>Output Connector:</b> DC Out 1 (J2)	DC Output 1 Connector - 28 Vdc Output 1 & 2 are Isolated/Non-Isolated depending on your specific configuration.
3	<b>Input Connector:</b> AC In (J2)	AC Input Connector - for wide input range 115 / 220 Vac Input.
4	<b>LED 1:</b> Line Indication	Line LED - <b>GREEN</b> LED will turn on when 115 / 220 Vac line (3) is powered and the Switch (9) is turned On.
5	<b>Remote Connector:</b> (J4)	Remote Connector - Remote Control for DC Out 1 & DC Out 2.
6	<b>Output Connector:</b> DC Out (J2)	Dc Output 1 Connector - 28 Vdc Output 1 & 2 are Isolated/Non-Isolated of each other depending on your specific configuration.
8	<b>On / Off Switch</b>	On / Off Power Switch & Switch Guard. Switch Guard will keep Switch Position (also in On state).
9	<b>LEDs 1 / 2</b> DC out ok	DC Out LED - <b>GREEN</b> LEDs when output DC is enabled & Power Switch is On.
10	<b>Fuse Holder</b>	Fuse Holder - IP Sealed fuse Holder (20A, 250VAC, Manufacturer: Little fuse, part number: 0326020.MXDP)
11	<b>Pressure Valve</b>	Ingress Protection (IP) Inlet. <b>For Factory Use Only.</b>



Figure 2: Functions

