



Smart Power Protector

SPP-F330A

Up to 960W output power

28Vdc Nominal Input Voltage

Input Voltage range 9Vdc- 34Vdc

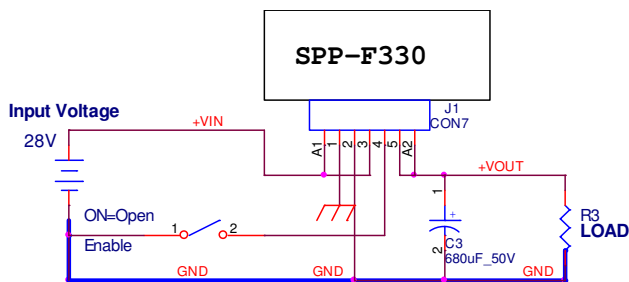


Features:

- Output Voltage 36Vdc blocked voltage.
- Remote control.
- Up to 30Amp. Output Current.
- Wide operating temperature -40°C to +71°C.
- Surge, spikes & ripple protection. Breaking output voltage at the surge. Per MIL-STD-1275A÷D, MIL-STD-704A÷E.
- Protection against conducted emission, conducted susceptibility and radiated susceptibility per MIL-STD-461.
- Decreases input line conducted emission per MIL-STD-461.
- Vibration withstand according to MIL-STD-810.
- High Efficiency – up to 99.5%. Only 30mOhm resistance (Input-Output).
- Reverse input Voltage Protection.
- Very low current at OFF position.

Applications

- Military
- Automotive
- Communication
- Industrial



Connector Diagram

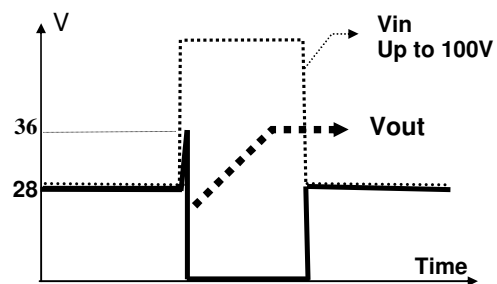


Fig1. Output Voltage at Input Surge per Mil -1275, Mil-704.



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Description:

The SPP-F330A is a Power Protector that replaces electromagnetic circuit breaker protection and Diodes (paralleling or series) for protection against reverse input voltage and protection against Surge, Spikes & Ripples per MIL-std-1275A ÷ D and MIL-std-704A ÷ E.

The unit blocked the input surge and restart after the surge.

The unit decreases the input Conducted Emission at the input line, per MIL-STD-461, CS-101.

All of this done at high efficiency - up to 99.5% at 30Amp. Output current.

Specification (at 25°C, 75% load, 28V nominal voltage, unless otherwise specified-Note-1)

PARAMETER	MIN	TYP.	MAX	UNITS	NOTES
INPUT CHARACTERISTICS					
Steady State Input	9 34	28		Vdc	
Input Surge Limit	100			Vdc	50msec, 0.5Ω, per MIL-STD-1275A ÷ D, See fig 1, See fig 1
Input Spike Limit	600 -250 250			Vdc	10μS, 50Ω, per MIL-STD-704A, 50μ, 15mJ, per MIL-STD-1275A
Reverse Polarity		no damage			Automatic Recovery (No Fuse Needed)
V start		9		Vdc	
V drop		8		Vdc	
OUTPUT					
Block Voltage	34	36	40	Vdc	at Surge per MIL -1275, See fig 1
Output Power	960			Watt	
Output Current	30			Amp.	
Transient response		50		+/- mV	At 20Amp.
Efficiency	99.5	90.1		%	See fig. 2
Output Voltage at ± 250v spikes	2			Vac peak	Over the nominal input voltage
GENERAL					
No Load Dissipation		0.28		Watt	
Enable Output Current		11		mA	
Insertion Loss		0.36		Vdc	At 30Amp.
ENVIRONMENTAL LEVELS,					
Altitude	40,000			Feet	MIL-STD-810G ; Procedure III
Humidity	90			%	MIL-STD-810G ; Procedure I
Acceleration	9			g'' s	MIL-STD-810G ; Procedure II
Vibration	20			g'' s	MIL-STD-810G ; Procedure I; Cat 6
Shock	40			g'' s	MIL-STD-810G ; Procedure I
THERMAL CHARACTERISTICS					
Operation Temperature	-40		71	°C	Mounting base temperature
Storage Temperature	-55		90	°C	Ambient
MECHANICAL SPECIFICATIONS					
Volume		86x67x22.5		mm	
Weight		175		Grm	

NOTE-1

1. The unit does not filtering radiation noise
2. Test with Resistor load & 330uF Output Capacitor, Low ESR.



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EMI/RFI CHARACTERISTICS, INPUT POWER LEADS

Conducted Emissions (note 1)	CE101	MIL-STD-461C&D, Fig 2-1
	CE103	MIL-STD-461C&D, Fig 2-2 & 2-3 #1
	CE107	
Conducted Susceptibility	S106	MIL-STD-461C&D, Fig 2-6
Radiated Emissions (note 1)	RE101	MIL-STD-461C&D Fig 2-10
	RE102	MIL-STD-461C&D Fig 2-11 & 2-12
Radiated Susceptibility	RS101	MIL-STD-461C&D Fig 2-13
	RS102	MIL-STD-461C&D Fig 2- 6
	RS103	
Surges (100V, 50mSec)		MIL-STD-1275A&B
Spikes (250V, 50uSec)		MIL-STD-1275A&B
Surges (80V, 100mSec)		MIL-STD-704A
Spikes (600V, 10uSec)		MIL-STD-704A

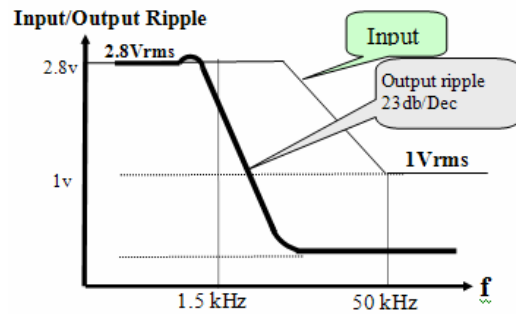
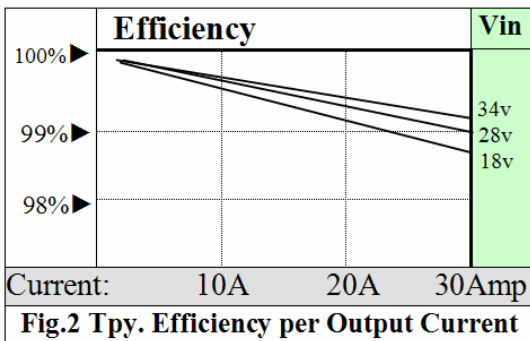


Fig.3 Attenuated ripple conducted per Mil-461, CS-101

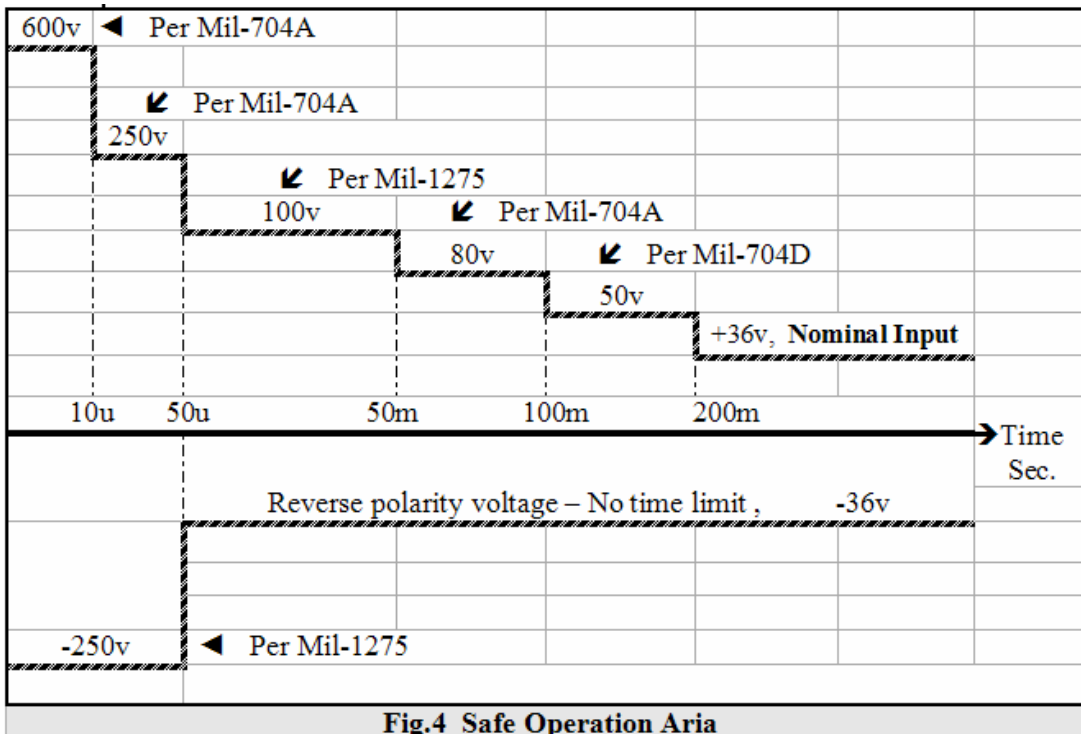


Fig.4 Safe Operation Area

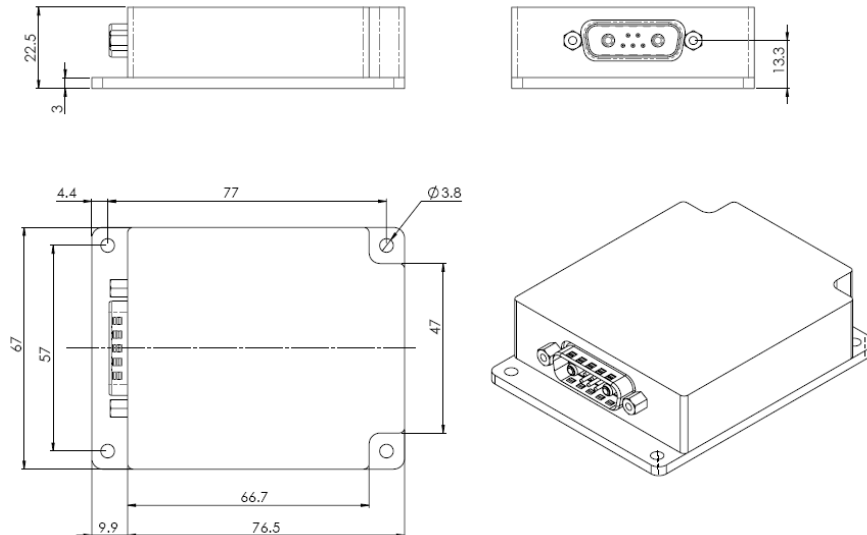


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Mechanical outline

Tolerances: +/- 0.14 mm

Connector at the unit: FCT, P/N: FM7W2P21-3731



How to Order:

SPP-F330A Enable logic "On" = Leave open. "Off" = Short to EN1 to GND

SPP-F330AN Enable logic "Off" = Leave open. "On" = Short to EN1 to GND

Possibility using other connectors with suitable cable.

Pin	Function	Description
A1	+V input	Power Input voltage
1	Chassis	Connected to base plate
2	GND	GND in
3	+V input	Input voltage
4	Enable	Enable the unit.(See enable option)
5	+Vout	Output voltage
A2	+Vout	Power Output voltage

Table 1: Pin Connection and function

For other options and additional information please contact Gilgal.

General comments:

1. Warranty: 2 year.
2. Specification subject to change without notice.

Information furnished by Gilgal power systems believed to be accurate and reliable.

However, no responsibility is assumed for its use. Gilgal power systems make no representation that the interconnection of its circuits as described herein will not infringe on existing patent rights.

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