



Features

- Wide input voltage range (90-264 VAC) with PFC
- Active current share
- Incorporates remote sense
- I²C interface status monitoring
- Standby voltage of 3.3 VDC @ 4 A
- Overtemperature, overcurrent, overvoltage, and undervoltage protection
- 1U or 2U height configurations
- Status LED provides indicators for input, output, and temperature plus fan status.

Applications

- Data communications
- Telecommunications
- Distributed power systems

Description

The SGP1200-12G is an 1133-watt, power-factor-corrected (PFC) AC-DC front-end which provides a 12 VDC output for datacom, telecom, and other distributed power applications. The SGP1200-12G meets international safety requirements and is CE marked to the Low Voltage Directive (LVD).

The supply's compact dimensions of 11" x 3.2" x 1.57" (1U) [279 x 81 x 40 mm] make it ideal for 1U rack mounting. Its internal fan cooling assists providing a normal operating temperature range of -10 °C to +50 °C.

Model Selection

Model	Nominal Output Voltage (VDC)	Maximum Output Current (Amps)	Regulation %	Ripple & Noise @ 20 MHz BW (mV)
SGP1200-12G	12	93.3	±1	100
	3.3 (Standby)	4	±2	50
SGP1200-12S204G	12	93.3	±1	100
	5.0 (Standby)	2.6	±2	50

Input Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
AC Input Voltage	Single-phase continuous input range.	90		264	VAC
Input Frequency	AC input.	47		63	Hz
Hold-up Time	After last AC line peak at full power. At 120 VAC.	12			ms
Input Current	At full-rated load. At 120 VAC.			<12	A rms
Inrush Surge Current	Excluding Xcap. Under all conditions.			<30	A pk
Power Factor	Per EN61000-3-2; at 30% or higher load	> 0.95			W/VA

Output Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Efficiency ¹	110 VAC 70%FL	86.5	87.5		%
	110 VAC 100% FL	84.5	85.5		%
	230 VAC 70%FL	89	90		%
	230 VAC 100% FL	87.5	89		%
Minimum Load	Main Output 12V minimum loading required to maintain regulation.	0.5			A
Output Power				1133	W
Overshoot				<5	%
Transient Response	Load Step of 50% Full load Note: Minimum starting load: 12V -> 9A, 3V3 -> 0.2A			<5	%
Turn-On Delay with PS_ON signal	Time required for initial output voltage stabilization after application of AC input or ON/OFF signal.			<3000	ms
Output Regulation	See Model Selection data on page 1.				

¹ The fan is considered to be part of the load.

Interface Signals and Internal Protection¹

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
TEMP_OK	Signal indicates temperature status. High signal indicates temperature is within range. Changes to a Low signal when PS is overtemperature and V1 output has been turned off.	55	60	65	°C
PS A0, PS A1	I ² C Addresses.				
SDA	I ² C Data line (3.3V).				
SCL	I ² C Clock line (3.3V).				
AC_OK/L	Low signal indicates AC input is within PSU limits.				
PS_PRESENT/L	Pin on the PS connector that is tied internally to logic ground. When unit is inserted, line is driven low to indicate a power supply is present.				
FAN_FAIL/L	Low signal indicates any PSU fan is running below 90% of required speed.				
PW_OK	High signal indicates both outputs are within regulation limits.				
Overvoltage Protection	Main Output <15V; Standby Output < 4.3V				
Overcurrent Protection	Main Output – Latch off type 105 – 130% of max load; Standby Output Auto-recovery <6A				
Short-circuit Protection	Main Output - T _{off} <20ms; Standby Output – Current Limitation <6A				

¹ Refer to product specification for internal pull up impedances and timing of these signals.

I²C Bus Management Interface¹

Related Documents:	
I²C Interface	BCA.00009
EEPROM Data	SGP1200-12MM

¹ Reference "I²C Management Interface" and "EEPROM Table of Contents" documents for SGP1200-12G (consult factory).

Safety, Regulatory, and EMC Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Agency Approvals	UL 60950-1, CS-C22.2 No. 60950-1-07, EN 60950-1, IEC 60950-1, and the CE Mark.				
Electromagnetic Interference	FCC CFR title 47 Part 15 Sub-Part B, EN 55022	Conducted:		CLASS A +3dB margin	
		Radiated:		CLASS A +6dB margin	
Harmonics	Per IEC 61000-3-2.				
Voltage Fluctuation and Flicker	Per IEC 61000-3-3.				
ESD Susceptibility	Per EN 61000-4-2, Part 4., Performance criteria B	Contact Discharge:		+/- 8	kV
		Air Discharge:		+/- 15	kV
Radiated Susceptibility	Per EN 61000-4-3, Part 3., Performance criteria A			10	V/m
EFT/Burst	Per EN 61000-4-4, Part 4., Performance criteria B			+/- 4	kV
Input Transient Protection	Per EN 61000-4-5, Performance criteria B	Line-to-Line:		+/- 1.6	kV
		Line-to-Ground:		+/- 3	kV
RF Conducted Disturbances	Per EN 61000-4-6, Level 2., Performance criteria A	150kHz–80MHz:		3	V
Voltage Interruptions	Per EN 61000-4-11., Performance criteria A Performance criteria B			12 1	ms Sec
Leakage Current	Per EN 60950, 264 VAC @ 60Hz:			<1.6	mA

Environmental Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Altitude	Operating. Non-Operating.			10000 42000	ASL ft ASL ft
Operating Temperature	Internal DC fan for cooling. At 100% load:	0		50	°C
Storage Temperature		-40		85	°C
Temperature Coefficient					
Relative Humidity	Non-condensing. @ 40 °C	7		93	%RH
Shock	Operating: half-sine, 11 ms, 10 shock per face, 6 faces			7	G
	Non-Operating: half-sine, 11 ms, 10 shock per face, 6 faces			30	G
Vibration	Operating: Swept Sine, 5-500-5Hz, 1 octave/min, 5 sweep cycles per axis, 3 axes			2	G (peak)
	Non-Operating: - Swept Sine, 5-500-5Hz, 1 octave/min, 5 sweep cycles per axis, 3 axes			4	G (peak)
	- Random 0.025G ² /Hz, 10-500Hz, 1hr dwell per axis, 3 axes			3.5	G rms

Reliability

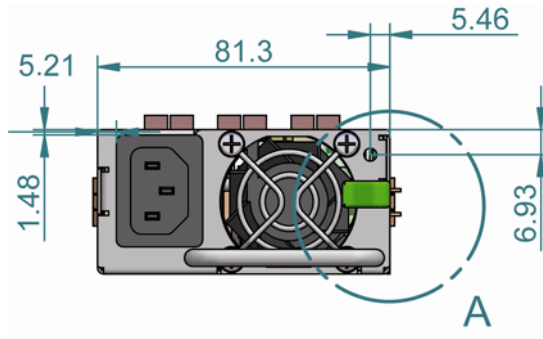
Parameter	Conditions/Description	Min.	Nom.	Max.	Units
MTBF	Per Telcordia (Bellcore) SR-332 at 45°C	200 000			hrs

LED Indicators

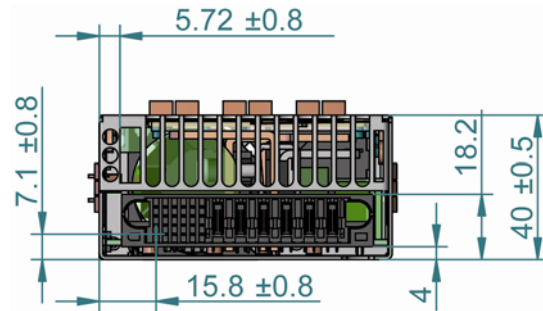
Indicator	LED Color
Standby, 12V OFF	Green Blinking
Operation, 12V ON	Green
Low AC / no AC	LED OFF
Over current on 12V	Amber Blinking
Over voltage (12V OFF)	Amber
Under voltage (12V OFF)	Amber blinking
Over temperature (12V OFF)	Amber
Fan Fault	Amber

Mechanical Drawings:

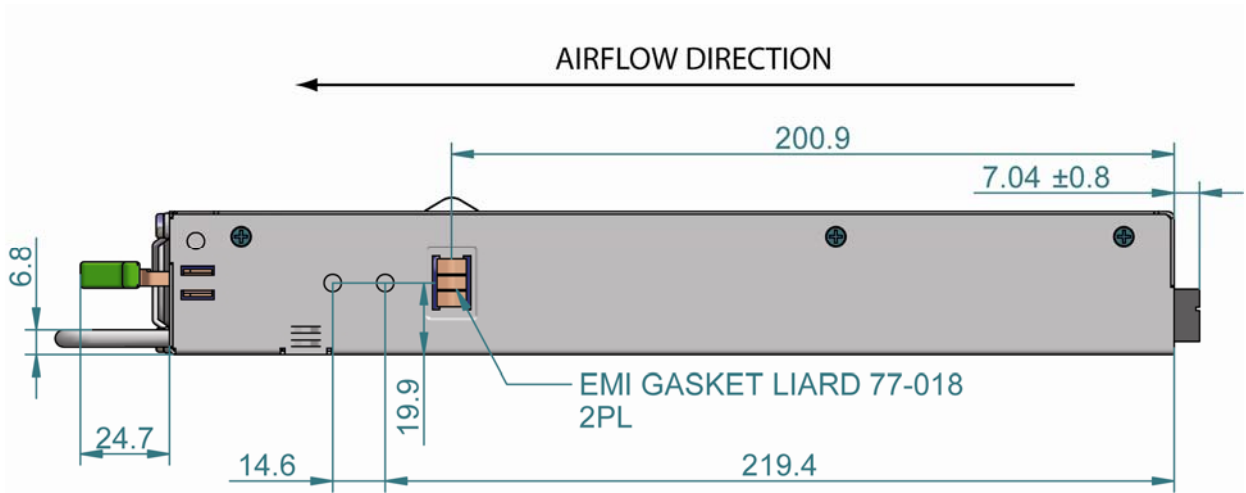
Weight: 1.60 kg (3.53 lb)



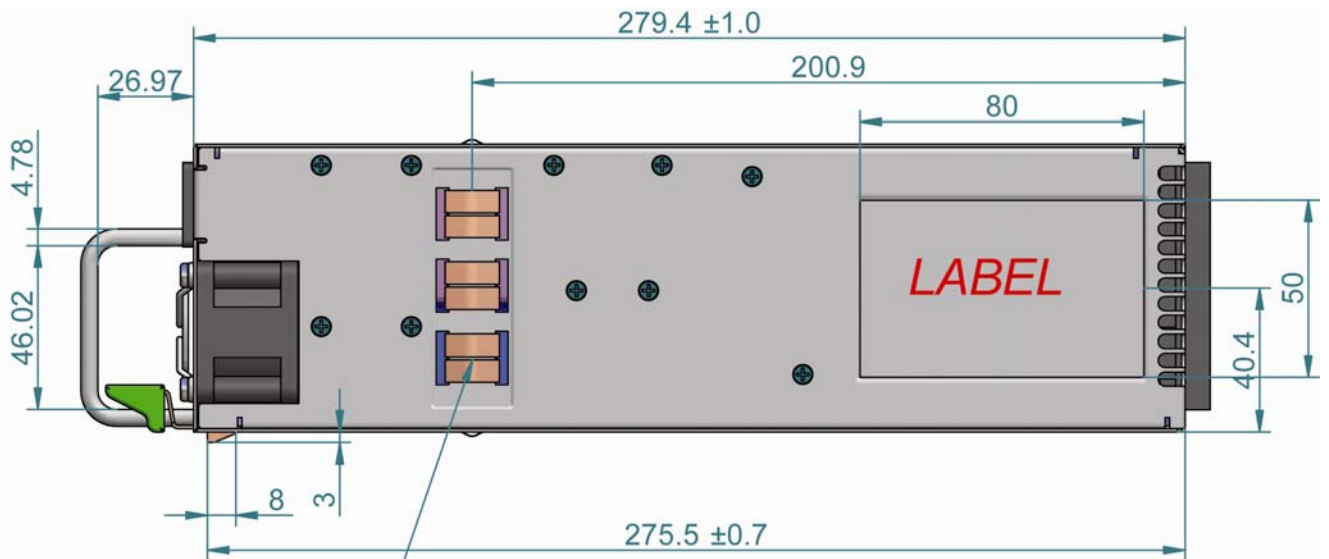
FRONT VIEW



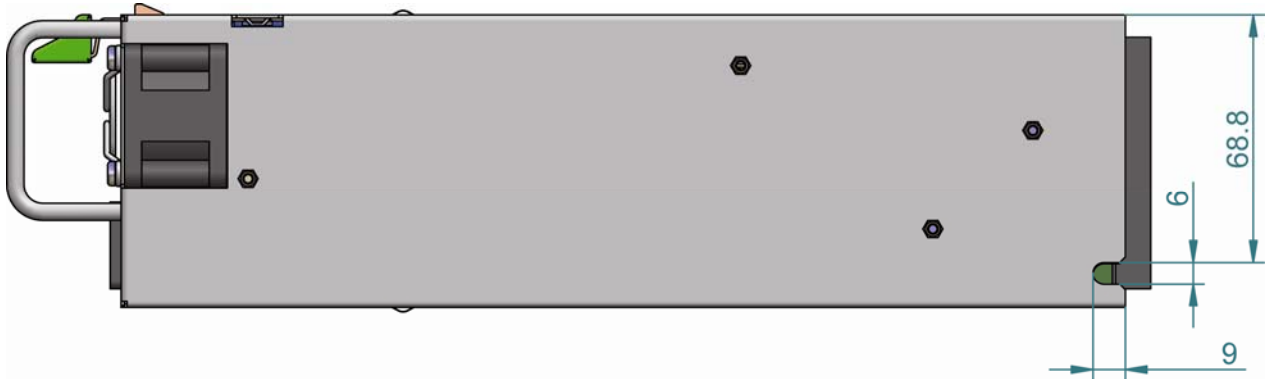
REAR CONNECTOR VIEW



SIDE VIEW



TOP VIEW



BOTTOM VIEW

Connector Information

Power Supply:

Input - IEC Connector EN60320 C14 (plug)
Output – FCI Power Blade 51721-10002406AA

Mating Connections:

Input - IEC Connector EN60320 C13 (socket)
Output – FCI Power Blade 51741-10002406CC

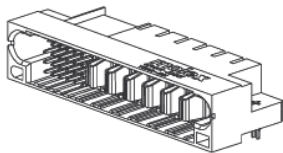
Input Connector (AC Power)

Input	Location
Input AC plug	Front panel

Output Connector (Pin & Signal Names)

Power Supply connector viewed from rear of supply:

Signal Pins						Power Blades					
D1	D2	D3	D4	D5	D6	PB1	PB2	PB3	PB4	PB5	PB6
C1	C2	C3	C4	C5	C6						
B1	B2	B3	B4	B5	B6						
A1	A2	A3	A4	A5	A6						



Note: For Illustration only.



Pin	Signal Name
PB1	+12V Return
PB2	+12V Return
PB3	+12V Return
PB4	+12V
PB5	+12V
PB6	+12V
A1	PS_ON/L
A2	+12V Sense -
A3	TEMP_OK
A4	PS_PRESENT/L
A5	+3V3 Standby
A6	+3V3 Standby GND
B1	AC_OK/L
B2	+12V Sense +
B3	+12V I_SHARE
B4	PS_KILL
B5	+3V3 Standby
B6	+3V3 Standby GND
C1	SDA
C2	SCL
C3	DC_OK
C4	FAN_FAIL/L
C5	+3V3 Standby
C6	+3V3 Standby GND
D1	PS_A0
D2	PS_A1
D3	S_INT
D4	+3V3 Sense +
D5	+3V3 Standby
D6	+3V3 Standby GND

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