



### PRODUCT OVERVIEW

The C1U-W-1200 is a 1200 Watt universal AC input, power-factor-corrected (PFC) front-end power supply for general applications. The main output is 48V and standby output of either 5V, 3.3V, or 12V. Packaged in U low profile, it is designed to deliver reliable bulk power to servers, workstations, storage systems or any 48V distributed power architecture systems requiring high power density. The highly efficient electrical and thermal design with internal cooling fans supports reliable operation conditions. The C1U-W-1200 is designed to auto-recover from over-temperature faults.

### FEATURES

- RoHS compliant
- 1200W (110/220Vac) Output power
- 48V Main output, 3.3V, 5V or 12V standby output
- Dimensions: 1.67" x 5.5" x 14.2"
- 9.2 Watts per cubic inch density
- N+1 redundancy capable
- Active current sharing on main output
- Over-voltage, over-current, over-temperature protection
- Internal cooling fans

### SELECTION GUIDE

Part Number	Power Output Universal Line	Main Output	Standby Output	Airflow
C1U-W-1200-48-TA1C	1200W	48V	5V	Front to back
C1U-W-1200-48-TC1C	1200W	48V	3.3V	Front to back
C1U-W-1200-48-TA2C	1200W	48V	5V	Back to front
C1U-W-1200-48-TC2C	1200W	48V	3.3V	Back to front
C1U-W-1200-48-TB1C	1200W	48V	12V	Front to back
C1U-W-1200-48-TB2C	1200W	48V	12V	Back to front

### INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Operating Range		90		264	Vac
Input Frequency		47	55	63	Hz
Turn-on Input Voltage	Ramp up	78.5		86.5	Vac
Turn-off Input Voltage	Ramp down	70.5		78	
Maximum Input Current				15	Arms
Inrush Current				90	Apk
Power Factor	Output load >90%	95%			
	Output load >50%	75%			

### OUTPUT VOLTAGE CHARACTERISTICS

Output Voltage	Parameter	Conditions	Min.	Typ.	Max.	Units
48V	Voltage Set Point Accuracy			48		Vdc
	Line and Load Regulation		46.54		49.44	
	Ripple Voltage & Noise <sup>1</sup>	20MHz Bandwidth			480	mV p-p
	Output Current		2		24.6	A
	Load Capacitance				10000	µF
3.3Vsb	Voltage Set Point Accuracy			3.3		Vdc
	Line and Load Regulation		3.2		3.4	
	Ripple Voltage & Noise <sup>1</sup>				50	mV p-p
	Operating Range		0		4.5	A
	Load Capacitance				1530	µF
5Vsb	Voltage Set Point Accuracy			5		Vdc
	Line and Load Regulation		4.85		5.15	
	Ripple Voltage & Noise <sup>1</sup>				50	mV p-p
	Operating Range		0		4	A
	Load Capacitance				1530	µF
12Vsb	Voltage Set Point Accuracy			12		Vdc
	Line and Load Regulation		11.2		12.4	
	Ripple Voltage & Noise <sup>1</sup>				120	mV p-p
	Operating Range		0		1.7	A
	Load Capacitance				1530	µF

<sup>1</sup> Ripple and noise are measured with 0.1 µF of ceramic capacitance and 10 µF of tantalum capacitance on each of the power supply outputs. The output noise requirements apply over a 0 Hz to 20 MHz bandwidth. A short coaxial cable with 50ohm scope termination is used.



For full details go to [www.murata-ps.com/rohs](http://www.murata-ps.com/rohs)

OUTPUT CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Remote Sense			120		mV
Efficiency	220Vac		90.6		%
Output Rise Monotonicity	Overshoot less than 10% for all outputs, no voltage negative between 10% to 95% during ramp up				
Start-up Time	AC ramp up		1.5		s
	PS_On activated		150		ms
Transient Response	48V Ramp 1A/μs			±600	mV
	3.3Vsb Ramp 1A/μs			±165	
	5Vsb Ramp 1A/μs			±250	
	12Vsb Ramp 1A/μs				
Current sharing accuracy (up to 3 in parallel)	At 100% load			±10	%
Hold-up Time		20			ms

GENERAL CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Storage Temperature Range	Non-condensing	-40		70	°C
Operating Temperature Range		0		50	
Operating Humidity	Non-condensing	10		90	%
Storage Humidity		5		90	
Shock	30G non operating				
Sinusoidal Vibration	0.5G, 5 – 500 Hz				
MTBF	Calculated per Bellcore at Ta=30°C	200			Khrs
	Demonstrated	200			Khrs
Acoustic	ISO 7779-1999			60	dB LpAm
Safety Approvals	c-CSA-us (CSA 60950-1-03/UL 60950-1, First Edition) TUV approval (Bauart) EN 60950-1:2001				
Input Fuse	Power Supply has internal 20A/250V fast blow fuse on the AC line input				
Material Flammability	UL 94V-0				
Switching Frequency	90KHz for Boost PFC Converter 165KHz for Main Output Converter 200KHz for Standby Output Converter				
Weight	2.6kg				

PROTECTION CHARACTERISTICS						
Output Voltage	Parameter	Conditions	Min.	Typ.	Max.	Units
48V	Over-temperature	Auto-restart	55		65	°C
	Over Voltage	Latching	54		59	V
	Over Current	Latching	26		35	A
3.3Vsb	Over Voltage	Latching	3.57		4.02	V
	Over Current	Latching	6.5		8	A
5Vsb	Over Voltage	Latching	5.6		6	V
	Over Current	Latching	5		7	A
12Vsb	Over Voltage	Latching	13		14	V
	Over Current	Latching	2.5		3	A

### ISOLATION CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Insulation Safety Rating / Test Voltage	Input to Output - Reinforced	3000			Vrms
	Input to Chassis - Basic	1500			Vrms
Isolation	Output to Chassis				
	Output to Output				
Material Flammability	UL 94V-0				
Grounding	Main Output Return and Standby Output Return are connected internally. 100kΩ resistor parallel with 100nF capacitor is connected between Return and power supply chassis. Main Output Return should be connected to the System Chassis.				

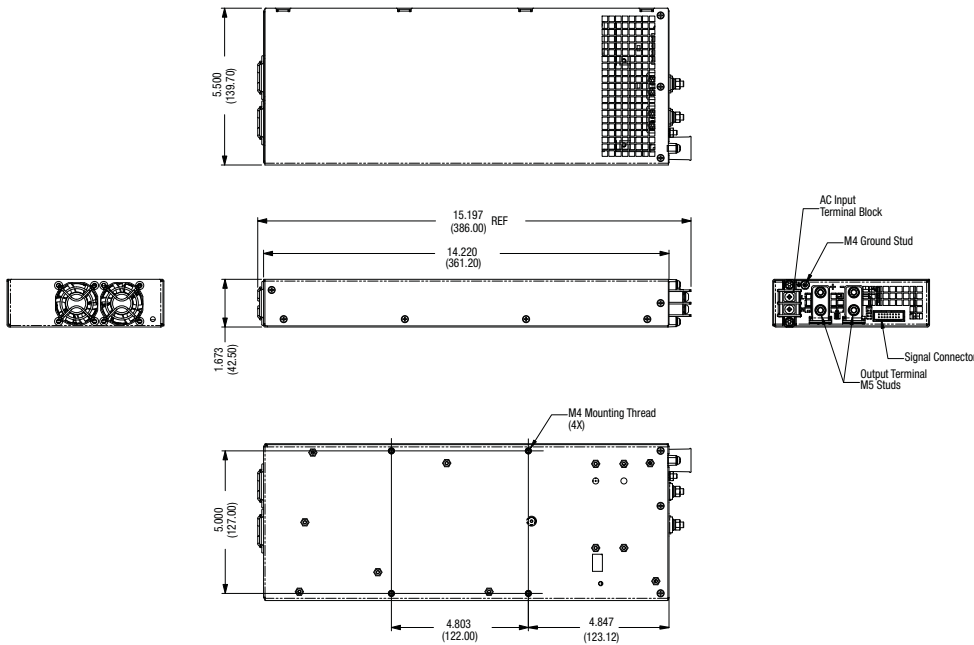
### CONTROL SIGNALS

Status	Conditions	Description
LED	Off	No AC input to all PS
	Flashing Yellow	Power Supply Failure
	Flashing Green	Main Output Absent
	Green	Power Supply Good

### EMISSIONS AND IMMUNITY

Characteristic	Description	Criteria
Harmonics	IEC/EN 61000-3-2	
Voltage Fluctuation and Flicker	IEC/EN 61000-3-3	
Emission Conducted	FCC 47 CFR Parts 15/CISPR 22/EN55022	Class A, 6dB margin
Emission Radiated	FCC 47 CFR Parts 15/CISPR 22/EN55022	Class A, 6dB margin
ESD	IEC/EN 61000-4-2	4kV contact discharge
		8kV operational air discharge
		15kV non-operational air discharge
Electromagnetic Field	IEC/EN 61000-4-3	
Electrical Fast Transients/Burst	IEC/EN 61000-4-4	
Surge	IEC/EN 61000-4-5	1kV/2kV, Performance Criteria B
RF Conducted Immunity	IEC/EN 61000-4-6	3 Vac, 80% AM, 1kHz, Performance Criteria A
Magnetic Immunity	IEC/EN 61000-4-8	3 A/m
Voltage dips, interruptions	IEC/EN 61000-4-11	

### MECHANICAL DIMENSIONS



### CONNECTORS

Signal 16 pin connector details, Type: Molex:  
39-28-5164 Mating part Molex: 39-51-2164

Pin	Signal
1	AC_OK
2	P_GOOD
3	PS_ON
4	BLANK
5	I_SHARE
6	BLANK
7	SENSE+
8	SENSE-
9	V_SB
10	V_SB
11	V_SB
12	V_SB
13	GND
14	GND
15	GND
16	GND

2-Pole terminal Block for AC Line and Neutral  
Stud on Chassis for earth

+	48V Main
-	Output GND

Dimensions: 1.67" x 5.5" x 14.2"