

# AC-DC POWER SUPPLY

## UP TO 1500 WATT

INDUSTRIAL AND MEDICAL APPLICATIONS  
UICG1500 SERIES



### FEATURES

- 1,500W Max Continuous Output
- 90V-264Vac Universal Input Range
- Enclosed, Compact Package: 5.00" x 8.00" x 1.58"
- -20 to 70°C Operating Temperature Range
- Output Voltage and Constant Current Programmable
- Built-In Active PFC
- Intelligent Fan Speed Control
- DC-OK Analog Indication Signal
- Remote Sense, Remote ON/OFF Control
- Active Current Sharing Support
- 5,000m Operation Altitude
- Medical Grade 2xMOPP Isolation
- 5V/2A Standby Optional
- IEC/UL 60601-1, 62368-1, 60950-1

### SELECTION GUIDE

Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

Input Voltage Vac	Output Voltage V	Rated Current A	Model Number
90-264	12	0-125	UICG1500-12ST-A
90-264	24	0-62.5	UICG1500-24ST-A
90-264	28	0-53.6	UICG1500-28ST-A
90-264	30	0-50	UICG1500-30ST-A
90-264	36	0-41.7	UICG1500-36ST-A
90-264	48	0-31.3	UICG1500-48ST-A
90-264	60	0-25	UICG1500-60ST-A
90-264	72	0-20.9	UICG1500-72ST-A
90-264	100	0-15	UICG1500-100ST-A

## UICG1500 SERIES

Input Specifications			Output Specifications		
Rated input voltage, Vac	100 Min., 240 Max.		Output voltage trim range, V	12 Min., 12 Typ. 14 Max.	12V Model
Input voltage range, Vac	90 Min., 264 Max.			24 Min., 24 Typ., 28 Max.	24V Model
				25 Min., 28 Typ., 30 Max.	28V Model
Input frequency, Hz	47 Min., 50/60 Typ., 63 Max.			30 Min., 30 Typ., 35 Max.	30V Model
				36 Min., 36 Typ., 42 Max.	36V Model
Input current, A	18 Max	With rated input voltage		42 Min., 48 Typ., 53.5 Max.	48V Model
				54 Min., 60 Typ., 66 Max.	60V Model
Power Factor	0.95 Min.	With max. rated output power	65 Min., 72 Typ., 79 Max.	72V Model	
			90 Min., 100 Typ., 110 Max.	100V Model	
Efficiency, %	95 Typ.	230Vac, exclude fan power	Output voltage, standby, V	4.75 Min., 5 Typ., 5.25 Max.	
			Output power, W	1,500 Max.	
Inrush current, A	30 Max.	240Vac	Initial tolerance, %	±0.5 Max.	Trim in factory
			Total regulation, %	3 Max.	Include line and load regulation
Input surge voltage, Vac	300 Max.	1 second	Output ripple, %	1 Max.	Peak-Peak value, measure at board end with 0.1uF Ceramic and 47uF electrolytic capacitor, 20MHz BW
			Dynamic response, %	5 Max.	With 50% load step
Input under voltage protection, Vac	80 Typ.	Auto-restart after fault is removed	Constant current trim range, A	15 Min., 31.35 Max.	For 48V Charger model only. Contact for custom design.
			Capacitive load	No special requirement	
			Power-up time, s	2 Max.	
			Rise time, ms	50 Max.	Without cap load
			Hold-up time, ms	10 Min.	115Vac/60Hz input at 1,200W load
			Over current protection, standby	Auto-restart after fault is removed	
			Short circuit protection, standby	Auto-restart after fault is removed	

### General Specifications

Over current protection, %	Auto-restart after fault is removed	110 Min.	130 Max.
Short circuit protection,	Auto-restart after fault is removed		
Over voltage protection, %	Latch off		130 Max.
Over temperature protection	Latch off		

### Environmental Specifications

Operating temperature, °C	-20 Min.	70 Max.
---------------------------	----------	---------

## UICG1500 SERIES

Physical Specifications		EMC Specifications			
		Specifications	Conditions	Level	
Medical safety	IEC 60601-1 2nd and 3rd+A1 edition UL 60601-1+CAN/CSA 60601-1: (Ed.3.2005)	Conducted emissions	EN 55011 / EN 55032	Class B	
ITE safety	IEC 60950-1, IEC 62368-1 UL 60950-1+CAN/CSA 60950-1 UL 62368-1+CAN/CSA 62368-1	Radiated emissions	EN 55011 / EN 55032	Class B	
CE	EMC Directive 2014/30/EU and Low Voltage Directive 2014/35/EU EN 60601-1: 2006 + A11: 2011 + A1: 2013 + A12: 2014 & EN 60601-1-2: 2015	Harmonic current emissions	IEC 61000-3-2	Class A	
Dielectric voltage	Input to/Output, 4000Vac (2XMOPP)	Voltage flicker	IEC 61000-3-3		
	Input to/Ground, 1500Vac (1XMOPP)	Electrostatic discharge	IEC 61000-4-2 Level 4 (Air Discharge: 15 kV, Contact Discharge: 8 kV)	Criteria A	
Touch current	264Vac/60Hz, <100uA at Normal Condition <300uA at Single Fault Condition	Radiated field	IEC 61000-4-3	Criteria A	
	500Khrs, According to Telecordia SR-332. 115Vac 25°C ambient with rated load	Electrical fast transient / burst	IEC 61000-4-4 Level 3 (2 kV)	Criteria A	
MTBF		Surge	IEC 61000-4-5 Level 3 (Common Mode 2kV, Differential Mode 1kV)	Criteria A	
		CS	IEC 61000-4-6 Level 2 (150 kHz-80 MHz, 3 Vrms, 6 Vrms at ISM bands and Amateur radio bands)	Criteria A	
		Power frequency magnetic fields	IEC 61000-4-8, Magnetic field strength 30 A/m	Criteria A	
		Voltage dips	IEC 61000-4-11	30% 10 ms	Criteria A
				60% 100 ms	Criteria B
				100% 5000 ms	Criteria B
				1,000 W or lower	Criteria A
				0% UT, 0.5 cycle (10 ms) (0°,45°,90°,135°,180°, 225°,270°,315°,360°)	
				Can meet Criteria A with 800 W or lower load	Criteria B
		IEC 60601-1-2		0% UT,1 cycle (20 ms), 0°	
				70% UT,25 cycle (500 ms) , 0°	Criteria B
				0% UT,250 cycle (5,000 ms) , 0°	Criteria B

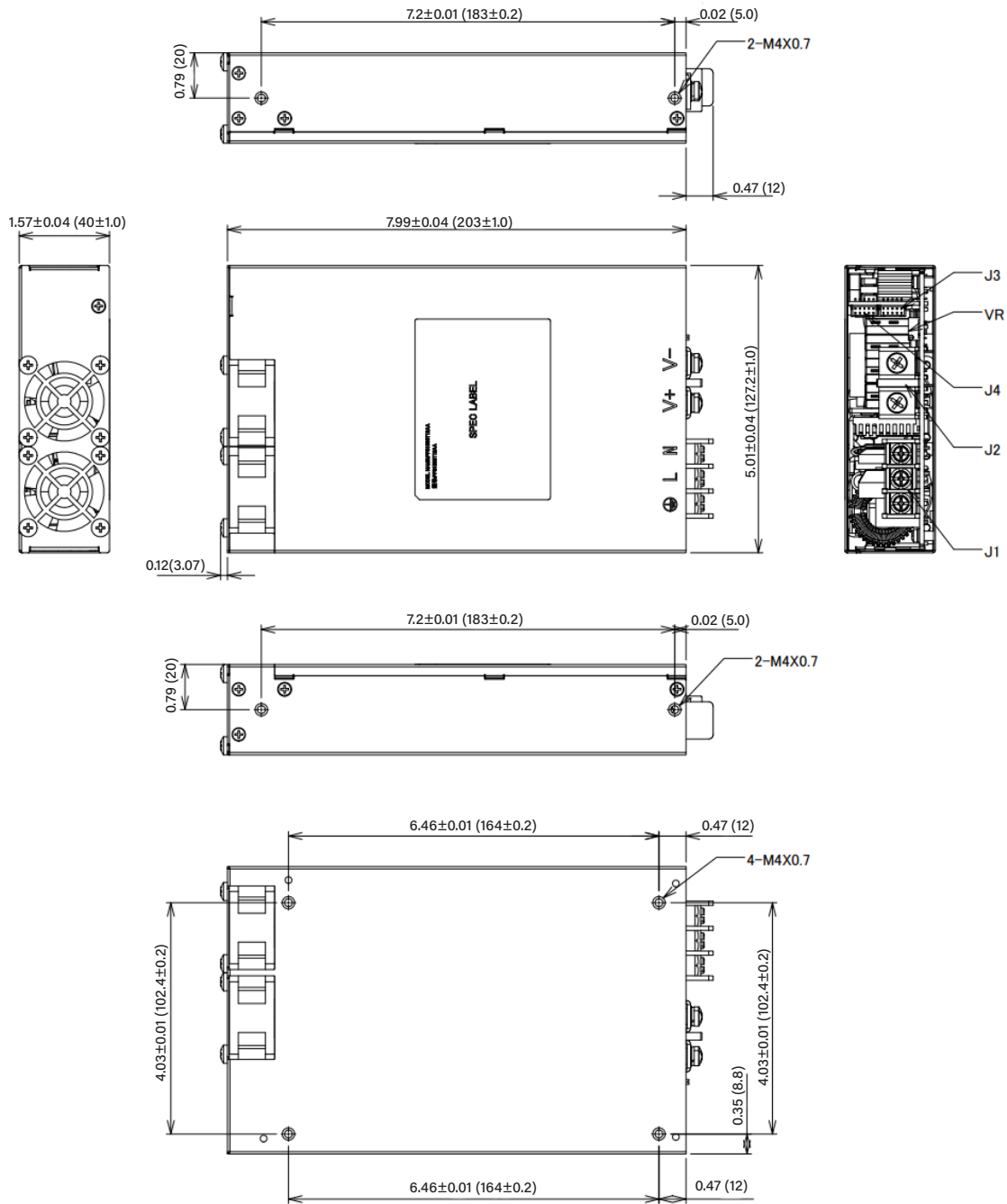
**Note:**

1. For further information, please contact Polytron Devices.

**CAUTION:** This power module is not internally fused. An input line fuse must always be used.

**UICG1500 SERIES**

**Mechanical Drawing**




**Note:**

1. All dimensions in inches (mm)
2. Base plate mounting, M4 thread holes, maximum penetration 3.0 mm (0.12 inch) from outside face of chassis, 10 kgf.cm (8.8 inch.lbs) Max torque.
3. Side mounting, M4 thread holes, maximum penetration 4.0 mm (0.16 inch) from outside face of chassis, 10kgf.cm (8.8 inch.lbs) Max torque.
4. J1 is AC input terminal block and with M4 screw in three positions, wire gage is 10~18 AWG, 10 kgf.cm (8.8 inch.lbs) Max torque.
5. J2 is DC output terminal block and with M4 screw in two positions, 10kgf.cm(8.8inch.lbs) Max torque.
6. J3/J4 is control or signal connection.
7. VR: clockwise is to increase the output voltage, counter-clockwise is to reduce the output voltage.

## UICG1500 SERIES

### Connector and Pin Assignment

Position	Connector/Connection	
	Enclosure Mark	Designation
Input Connector J1 SCED TB1100-01V-3P or equivalent	L	Line
	N	Neutral
		Earth Ground
Main Output Connector J2 Output terminal blocks, with M4x8 screw and plastic spacer	Vo+	Output positive
	Vo-	Output return
Position	Pin #	Description
Control Connector J3 JST connector S10B-PHDSS or equivalent	1	Reserve No Connection
	2	Reserve No Connection
	3	Standby_5V
	4	Standby_5V
	5	Output return
	6	Output return
	7	Remote sense+
	8	Remote sense-
	9	Current share
	10	Output return
Control Connector J4 JST connector S10B-PHDSS or equivalent	1	Isolated 5V+
	2	Isolated 5V-
	3	SDA
	4	SCL
	5	Reserve No Connection
	6	Reserve No Connection
	7	Remote ON/OFF+
	8	Remote ON/OFF-
	9	DC_OK+
	10	DC_OK-