

**PCm Series Medical-Grade Power Conditioners:** In medical applications, the need to protect critical electronic equipment and crucial data is second only to protecting patients. ONEAC medical-grade power conditioners provide clean power to the equipment in these demanding applications.

### Medical electronics need clean power

Patient monitoring equipment, lab instrumentation and medical information systems have become significantly more sophisticated as electronic technology has evolved. They also must adhere to strict safety standards. Semiconductor chips are smaller, less expensive, and process information faster than ever before. At the same time, making them more susceptible to disruption, degradation and destruction caused by poor power quality.

### ONEAC's unique solution

ONEAC medical-grade power conditioners ensure more reliable medical equipment performance by isolating medical equipment from the outside electrical worlds they connect to. Different from surge suppression devices, ONEAC limits peak voltage (amplitude) and edge-speed (frequency) of electrical transients.

Ensuring the integrity of critical information and allowing connected medical equipment to meet the strict earth leakage requirements of IEC60601-1 and its regional derivatives: UL60601-1 (formerly UL2601-1), EN60601-1, and CAN/CSA-22.2 No. 601.1-M90. All resulting in better patient care.

ONEAC's low-impedance isolation transformer and Virtual Kelvin Ground® remove the full spectrum of power line noise in all modes. What's more, they convert a noisy safety ground to a noise-free signal ground. It's an approach that has proven uniquely effective against all conducted electrical disturbances.

### One solution to two problems

By any technical measure, ONEAC power conditioners meet a far higher performance standard than conventional protection products. This translates into more reliable performance from the medical systems they protect. Incorporating a low-impedance isolation transformer provides the electrical isolation which allows connected equipment to meet the strict earth leakage current requirements of IEC60601-1.

### Robust design, proven durability

Designed and manufactured under ISO 9001 quality procedures, ONEAC power conditioners have no parts that wear out. They last far longer than surge suppressors and are highly reliable, even in the harshest electrical environments. Their exceptionally high mean time between failures (MTBF) backs that up. So do we, with a 5-year warranty.



- **Tight surge let-through:** highest possible assurance that conducted transient voltages won't damage or degrade hardware components.
- **Virtual Kelvin Ground:** maximizes system reliability by preventing "soft errors" and other symptoms of logic disruption caused by high frequency noise.
- **Separately derived power source:** leakage current of the equipment, measured at the conditioners line cord, is in compliance with UL60601-1.
- **Hospital-grade plugs and receptacles:** minimize accidental disconnects.
- **Full-time, on-line isolation transformer:** eliminates power contaminants and controls earth leakage current.
- **Small footprint, quiet operation:** unobtrusively fits into any environment.
- **Front panel indicator light:** informs the user of output power.
- **Multiple input voltage options (on select models):** provide the flexibility to install with medical equipment on a global basis.
- **Designed & manufactured under ISO 9001:** assures consistent quality and performance.
- **Global approvals:** UL, cUL, CE Mark
- **5-year warranty:** the best assurance of product quality and performance in the industry.
- **Free 24-hour technical support**

# PCm Series Medical-Grade Power Conditioners: Specifications

## PCm Series Power Conditioner for IEC60601-1 Compliance

The PCm Series Power Conditioners are listed for UL60601-1 and CSA-C22.2 M601.1 compliance and carry the CE Mark for testing to the EN60601-1 standard for Medical Electrical Equipment. Designs are compliant with all specification parameters for Class I, Type B equipment (such as earth leakage and enclosure leakage currents). Units are available in 120 V and 230 V, 50/60 Hz with IEC connectors to facilitate country-specific connector compatibility.

Typical applications include use in the "patient vicinity," providing power conditioning to support attached loads (i.e. systems running under WindowsNT and Unix operating systems), while fully conforming to appropriate IEC60601-1 specifications. Additional applications may include manufacturer integration with new or existing medical systems as part of an IEC60601-1 test and compliance program, or use with installed equipment to improve compliance with certain safety parameters. Use of ONEAC listed product in itself does not create full IEC60601-1 standard compliance for the attached equipment, but may be an important element in a manufacturer's overall system solution.

## Power Conditioning

ONEAC's unique power conditioning architecture provides unmatched protection against the full range of power line disturbances. Components include:

**Full output isolation:** ONEAC's proprietary low impedance transformer design. Completely safeguards against lightning and other high energy surges without creating detrimental side effects. Allows connected equipment to meet medical leakage current requirements.

**Virtual Kelvin Ground:** Eliminates the full spectrum of conducted power line noise (from 50 kHz to 10 MHz) in all modes, reduces the effects of electrostatic discharge (ESD), and provides an exceptionally clean signal reference ground for electronic systems.

## Approvals

All PCm models are UL and cUL listed under UL1012/UL60601-1, CAN/CSA22.2 NO.601.1-M90 and IEC60601-1 and international models carry the CE mark.

PART #	LOAD	NOMINAL INPUT*/OUTPUT RATING	OUTPUT CURRENT	FREQUENCY	INPUT/OUTPUT CONNECTORS	PHYSICAL DIMENSIONS	SHIPPING WEIGHT
	(VA)	(V)	(Amps)	(Hz)		HxWxD (inches) HxWxD (cm)	lbs (kg)
PCm120A-H2HB	120	120	1.0	60	5-15P HG / (2) 5-15R HG	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	7 (3.2)
PCm180I-C4CB	180	200 - 240	0.8	50/60	IEC320 / (4) IEC320	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	12 (5.4)
PCm180A-H2HB	180	120	1.5	60	5-15P HG / (2) 5-15R HG	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	8 (3.6)
PCm240I-C4CB	240	200 - 240	1.0	50/60	IEC320 / (4) IEC320	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	12 (5.4)
PCm240A-H4HB	240	120	2.0	60	5-15P HG / (4) 5-15R HG	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	11 (5)
PCm360I-C4CB	360	200 - 240	1.5	50/60	IEC320 / (4) IEC320	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	13 (5.9)
PCm360A-H4HB	360	120	3.0	60	5-15P HG / (4) 5-15R HG	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	12 (5.4)
PCm360J-C4CB	360	100 - 120	3.0	50/60	IEC320 / (4) IEC320	4.79 x 4.11 x 8.97 (12.2 x 10.4 x 22.8)	13 (5.9)
PCm550I-C4CB	550	200 - 240	2.3	50/60	IEC320 / (4) IEC320	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	19 (8.6)
PCm550A-H4HB	550	120	4.6	60	5-15P HG / (4) 5-15R HG	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	21 (9.5)
PCm750I-C4CB	750	200 - 240	3.1	50/60	IEC320 / (4) IEC320	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	25 (11.3)
PCm750A-H4HB	750	120	6.2	60	5-15P HG / (4) 5-15R HG	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	24 (10.9)
PCm750J-C4CB	750	100 - 120	6.2	50/60	IEC320 / (4) IEC320	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	30 (13.6)
PCm1000I-C4CB	1000	200 - 240	4.2	50/60	IEC320 / (4) IEC320	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	30 (13.6)
PCm1000A-H4HB	1000	120	8.4	60	5-15P HG / (4) 5-15R HG	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	30 (13.6)
PCm1000J-C4CB	1000	100 - 120	8.4	50/60	IEC320 / (4) IEC320	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	30 (13.6)
PCm1000Y-C4CB	1000	200 - 240 in/ 100 - 120 out	8.4	50/60	IEC320 / (4) IEC320	5.4 x 6.4 x 10.9 (13.7 x 16.4 x 27.7)	30 (13.6)

\* Six foot line cord is standard on all 60 Hz models. Additional configurations available (call factory).  
HG plugs and receptacles = hospital-grade

## Performance Characteristics

**Surge Voltage Withstand Capability:** ANSI/IEEE C62.41 Category A&B, 6 kV/200 & 500 Amp, 100 kHz ringwave

**Surge and Noise Rejection-Isolation:** with unit under power, and ANSI/IEEE C62.41 Category A pulse applied either normal mode (L-N) or common mode (N-G) at the input, the noise output voltage will be less than 10 V normal mode and less than 0.5 V common mode in all four quadrants.

**Load Power Factor:** 0:3 leading to 0.3 lagging

**Load Regulation Response Time:** <2 msec for a 50% change in load

**Interruption Response Time:** output voltage will track input voltage in less than 2 msec at power-off and power-on for a single-cycle asynchronous notch

**Distortion:** <1% THD added into a resistive load

**Overload Protection:** twin pole circuit protection

**Cooling:** convection

**Leakage Current ( $\mu$ A):** <100

PART #	LOAD (VA)	NOMINAL INPUT VOLTAGE (V)	OUTPUT RATING (V)	OUTPUT CURRENT (Amps)	FREQUENCY (Hz)	INPUT*/ OUTPUT CONNECTORS	PHYSICAL DIMENSIONS	SHIPPING WEIGHT
							HxWxD (inches) HxWxD (cm)	
PCm1500A-H6HB	1500	120	120	12.5	60	5-15P HG / (6) 5-15R HG	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm1500I-C6CB	1500	200 - 240	200 - 240	6.3	50/60	IEC cord set / (6) IEC320	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm1500U-XXB	1500	** 100 - 120 or 200 - 240	100 - 120	12.5	50/60	hardwired / hardwired	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm1500W-XXB	1500	** 100 - 120 or 200 - 240	200 - 240	6.3	50/60	hardwired / hardwired	8 x 7 x 17 (20 x 18 x 41.4)	53 (23)
PCm2000A-KNB	1920	120	120	16	60	5-20P HG / (4) 5-15R HG & (2) 5-20R HG	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm2000I-C6CB	2000	200 - 240	200 - 240	8.4	50/60	IEC cord set / (6) IEC320	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm2000Y-CPB	2000	200 - 240	100 - 120	16.7	50/60	IEC cord set / (1) IEC320 (16A) & (6) IEC30 (10A)	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm2000U-XXB	2000	** 100 - 120 or 200 - 240	100 - 120	16.7	50/60	hardwired / hardwired	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm2000W-XXB	2000	** 100 - 120 or 200 - 240	200 - 240	8.4	50/60	hardwired / hardwired	8 x 7 x 16.3 (20 x 18 x 41.4)	53 (23)
PCm3000A-FMB	3000	120	120	25	60	L5-30P / (1) L5-30R & (2) 5-20R & (2) 5-15R	8 x 7 x 16.3 (20 x 18 x 41.4)	65 (29)
PCm3000I-EPB	3000	200 - 240	200 - 240	12.5	50/60	IEC cord set / (1) IEC320 (16 A) & (6) IEC320 (10 A)	8 x 7 x 16.3 (20 x 18 x 41.4)	65 (29)
PCm3000U-XXB	3000	** 100 - 120 or 200 - 240	100 - 120	25	50/60	hardwired / hardwired	8 x 7 x 16.3 (20 x 18 x 41.4)	65 (29)
PCm3000W-XXB	3000	** 100 - 120 or 200 - 240	200 - 240	12.5	50/60	hardwired / hardwired	8 x 7 x 16.3 (20 x 18 x 41.4)	65 (29)

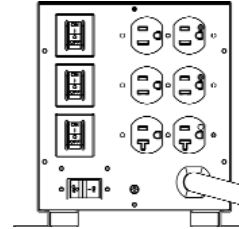
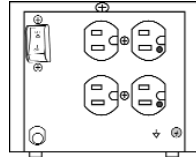
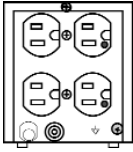
\* Six foot line cord is standard on all 60 Hz models. Additional configurations available (call factory).

\*\* Input voltage range is selectable.

NOTE: HG = hospital-grade

# PCm Series Medical-Grade Power Conditioners: Specifications

## Back Panels



**PCm Series 120 - 360 VA (60 Hz models)**  
Model# Plug/Receptacle

PCm120A	5-15P HG / (2) or (4) 5-15R HG
PCm180A	5-15P HG / (2) or (4) 5-15R HG
PCm240A	5-15P HG / (4) 5-15R HG
PCm360A	5-15 HG / (4) 5-15R HG

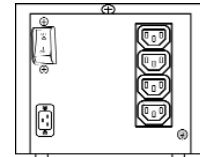
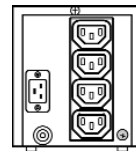
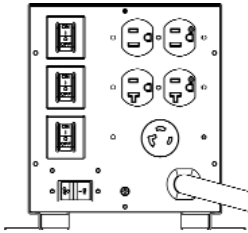
**PCm Series 500 - 1000 VA (60 Hz models)**  
Model# Plug/Receptacle

PCm500A	5-15P HG / (4) 5-15R HG
PCm750A	5-15P HG / (4) 5-15R HG
PCm1000A	5-15P HG / (4) 5-15R HG

**PCm Series 1500 - 2000 VA (60 Hz models)**  
Model# Plug/Receptacle

PCm1500A	5-15P HG / (6) 5-15R HG
PCm2000A	5-20P HG / (4) 5-15R & (2) 5-20R HG*

\* Model shown.



**PCm Series 3000 VA (60 Hz models)**  
Model# Plug/Receptacle

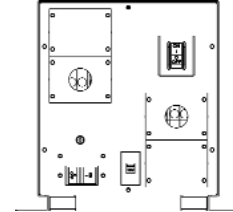
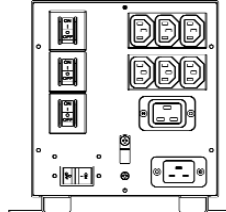
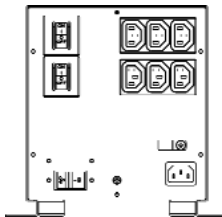
PCm3000A	5-30P / (1) L5-30R & (2) 5-20R & (2) 5-15R
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**PCm Series 120 - 360 VA (50/60 Hz models)**  
Model# Plug/Receptacle

PCm180I	IEC320 / (4) IEC320
PCm240I	IEC320 / (4) IEC320
PCm360I or PCm360J	IEC320 / (4) IEC320

**PCm Series 500 - 1000 VA (50/60 Hz models)**  
Model# Plug/Receptacle

PCm550I	IEC320 / (4) IEC320
PCm750I or PCm750J	IEC320 / (4) IEC320
PCm1000I or PCm1000J or PCm1000Y	IEC320 / (4) IEC320



**PCm Series 1500 - 2000 VA (50/60 Hz models)**  
Model# Plug/Receptacle

PCm1500I	IEC cord set / (6) IEC320
PCm2000I	IEC cord set / (6) IEC320
PCm2000Y	IEC cord set / (1) IEC320 (16 A) & (6) IEC320 (10 A)

**PCm Series 3000 VA (50/60 Hz models)**  
Model# Plug/Receptacle

PCm3000I	IEC cord set / (1) IEC320 (16 A) & (6) IEC320 (10 A)
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**PCm Series 1500 - 3000 VA (50/60 Hz models)**  
Model# Plug/Receptacle

PCm1500U or PCm1500W	HW / HW
PCm2000U or PCm2000W	HW / HW
PCm3000U or PCm3000W	HW / HW

USE OF ONEAC PRODUCTS IN LIFE-CRITICAL APPLICATIONS: While ONEAC believes it designs and manufactures very reliable products, many of the vendors that ONEAC sources components from do not recommend or endorse the use of their products in life-critical applications. By extension, ONEAC must adhere to the same business policy and does not recommend the use of its products in life-critical applications.

\* DISCLAIMER: ONEAC PRODUCTS ARE NOT DESIGNED, INTENDED OR AUTHORIZED FOR USE IN SYSTEMS INTENDED TO SUPPORT OR SUSTAIN LIFE, OR FOR ANY OTHER APPLICATION IN WHICH THE FAILURE OF THE ONEAC PRODUCTS COULD CREATE A SITUATION WHERE PERSONAL INJURY OR DEATH MAY OCCUR. SHOULD BUYER PURCHASE OR USE ONEAC PRODUCT FOR ANY SUCH UNINTENDED OR UNAUTHORIZED APPLICATION, BUYER SHALL INDEMNIFY AND HOLD ONEAC, ITS OFFICERS, EMPLOYEES, SUBSIDIARIES, AFFILIATES AND DISTRIBUTORS HARMLESS AGAINST ALL CLAIMS, COSTS, DAMAGES AND EXPENSES, AND REASONABLE ATTORNEY FEES ARISING OUT OF, DIRECTLY OR INDIRECTLY, ANY CLAIM OR PERSONAL INJURY OR DEATH ASSOCIATED WITH SUCH UNINTENDED OR UNAUTHORIZED USE, EVEN IF SUCH CLAIM ALLEGES THAT ONEAC WAS NEGLIGENT REGARDING THE DESIGN OR MANUFACTURE OF THE PART.

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