

patient.

numbers and words.

market?

career of understanding and harnessing power."

power reliability," he says. In his role as Director of Engineering at NXT Power, Jose applies his talent for new product innovation and understanding the mechanics to 'make it happen' in designing each power conditioner and UPS system produced by the company.

applies innovation in his role at this forward-thinking company. New Equipment Digest (NED): What is the design process you lead at NXT Power?

Cherian Jose (CJ): We collaborate as a Team to determine what needs exist in the marketplace and how to best design a product to fill in the gaps. The Integrity Pro series, for example, is a culmination of almost 30 years of my power conditioner and battery backup experience coupled with market conditions. By that I mean, for instance, the new Medical Safety

Standards 60601-1 that requires only equipment with very low leakage current (<300micro amps) to be placed near a

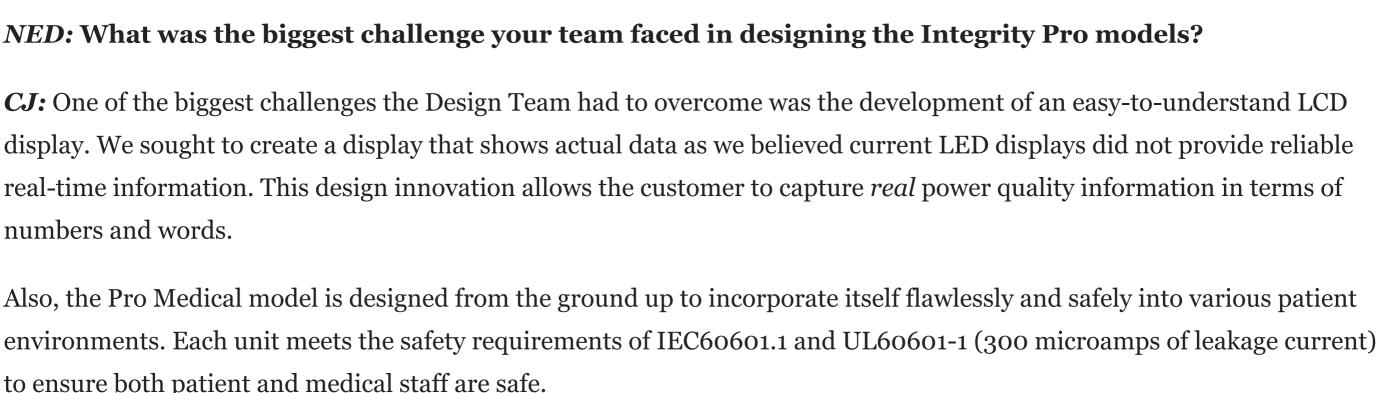
The Integrity Pro Medical UPS meets these standards while using a low impedance isolation transformer that delivers

uninterrupted, clean power with virtually zero volts between Neutral and ground. This product is also ideal for medical

device manufacturers as the UL-certified Integrity Pro helps them meet compliance requirements.

NED: What was the problem to be solved in the development of the Integrity Pro series?

CJ: So much of the way the world works today is microprocessor-based which means there is lots of equipment that needs to have quality power. With the Integrity Pro UPS line, they also receive backup power protection in the event of power loss. This backup protection provides the extra time needed to save work or ride through a momentary power outage.



With regards to the Pro Retail UPS, the sleek design is for advanced POS terminals as it can easily incorporate itself into

environments such as restaurants and C-stores. The Pro Retail also provides a 24V DC connection and eliminates the

need for a power brick, also known as a "wall wart." Every unit meets the safety requirements of UL1778 to ensure product safety and reliability while providing best-in-class power quality.

NED: How did you come up with the idea for the NXT Power product line?

NED: What makes Pro Retail remarkable?

seeking to improve what's been to create what can be."

diverter, and noise filtering to optimize performance.

information, please visit www.nxtpower.com.

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production cycle diminishes yield and causes the process to stop, delaying completion and missing deadlines. With the Max UPS system, manufacturers and designers of 3D products now have quality power protection plus low impedance isolation transformer that delivers that all-important uninterrupted, clean power.

The Pro Retail, which meets Safety Standards UL1778, is designed to incorporate itself seamlessly into POS environments. It is the solution we designed to provide clean, conditioned, and uninterrupted power for any POS terminal. We see this as 'peace of mind protection for operators to avoid problems due to common-mode voltage, power outages, spikes, and transients.

CJ: I have found that trustworthy power is a vital element for advance POS [Point of Sale] systems. POS equipment has very

minimal power requirements these days. As a result, NXT Power has a 250VA and 400VA UPS to meet this need.

NED: What is the difference between the Integrity Pro series products and others currently on the

CJ: A couple of differences: First, the easy-to-understand LED display and low impedance isolation transformer already

discussed. Secondly, a 24V DC output with battery backup helps eliminate power adapters which simplify installation and

As our time together draws to a close, Jose takes a moment to reflect on how his earliest childhood memories set the course

importance of pure, sustainable, reliable power for customers in all areas of commerce and industry. As a result, I'm always

saves the user money. And finally, the power quality performance of the Integrity Pro UPS puts it in a league of its own.

INTEGRITY MAX UPS

for his future engineering career as a power protection design specialist. "I've developed an understanding of the

problems for both the production house and their customer."

"Placement of materials for 3D production value requires tight accuracy and exactness, and any power disturbances like

spikes, noise, transients or power failure of any kind can result in diminished yield or, even worse, scraping of materials and

parts," he explains. "Costly production delays, labor, and material losses, as well as missed deadlines, then create even big

Integrity Max UPS

constant voltage and frequency to the load, no matter how poor the incoming power quality is. "The DSP controlled double-

conversion inverter takes the incoming poor-quality AC power, converts it to DC and then regenerates it into a high-quality

low distortion AC sinewave," describes Jose. "And, if we stopped our design process at this point, this product would match

most existing UPS systems. However, we went steps further to engineer this true online double conversion UPS system."

The NXT Power Integrity Max UPS was designed to pass the regenerated AC output through an isolation transformer and

Max utilizes an output filter and low impedance isolation transformer to limit the let-through voltage to less than 10 volts

operation. Integrity Max is a UL-approved system that utilizes, along with the low impedance isolation transformer, a surge

then through a secondary filter. Currently, no other product in the marketplace offers this transformation. The Integrity

normal mode and less than 0.5 volts Neutral-to-ground when tested to ANSI/IEEE C62.41 in all modes of

The NXT Power Design Team came up with a solution. With its DSP-controlled inverter, the Integrity Max provides

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Oct. 4, 2021 Product News **Industrial-Grade SSD Series**

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Aug. 11, 2021 We sat down with NXT Power's Director of Engineering to get an inside look at how they develop their UPS systems and why they stand out from the crowd. Laura Davis As a young boy, Cherian Jose was always "curious about how stuff works". With his older brother at his side, Jose could —for hours—be found tinkering with small appliances and the like, learning how things worked by taking them apart and re-assembling them. "What began as fun playtime with my brother Martin opened up for me a challenging lifelong In his teens, Jose became passionate about cars, modifying them to maximize power and efficiency. There was a period, not so long ago, when he enjoyed racing cars to test their limits. As Jose's career took hold and his family grew, time to race was supplanted by his passion to 'move power forward,' the tagline to his LinkedIn profile. "I put aside speed for efficiency and "At NXT Power, we believe that you have to control both normal and common-mode voltage to achieve good electronic performance." We recently sat down with Cherian Jose to learn more about the work he is leading at NXT Power and discover how he

NED: What was the biggest challenge your team faced in designing the Integrity Pro models? CJ: One of the biggest challenges the Design Team had to overcome was the development of an easy-to-understand LCD

CJ: As a Team we discussed the market needs and conducted a gap assessment, considering what options may work and how best to approach the design with the customer in mind. For example, another of our products is the Integrity Max. We foresaw that any power disturbance during the 3D

It also provides a 24V DC connection and eliminates the need for a power brick.

In 3D printing, you make three-dimensional solid objects from a digital file. It's time-intensive and requires precision, according to NXT Power Director of Engineering Cherian Jose.

Additional benefits of the Integrity Max design include the use of a 2-pole mechanical relay to fully isolate the input terminals from potentially hazardous back feed voltage from the inverter while operating in backup mode. This ultimately protects equipment and personnel from any electrical shock. Also, all units have fully customizable power distribution panels to accommodate most application requirements. All NXT Power UPS products carry an industry-leading warranty of three years on electronics and batteries. For further

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