

TOSHIBA

TOSHIBA INTERNATIONAL CORPORATION

POWER ELECTRONICS

ALL PRODUCTS



TIC END-TO-END SOLUTIONS FOR CRITICAL POWER SYSTEMS

Toshiba International Corporation (TIC) provides a full range of Uninterruptible Power Systems (UPS) designed to meet the challenging demands of Data Center/ IT, Healthcare/Emergency Equipment, and complex configurations of Industrial Plant Industries.

Available Toshiba UPS include:

- Single-Phase: 1 to 22 KVA • Three-Phase: 15 to 2,000 KVA • Three-Phase Input, Single-Phase Output: 15 to 50 KVA
- Parallel Up to 12,000 KVA

Toshiba UPS units are designed for maximum power quality, efficiency, and reliability and include the convenience of a small footprint, maintenance support, and ease of operation.

Each Toshiba UPS is equipped with a serial communication port and dry contacts. The serial port can be driven by Toshiba's RemotEye® network interface card allowing remote monitoring over Ethernet TCP/IP and RS-485 networks. Dry contacts provide input and output signals for external interfaces. Additional dry contacts are available in separate wall mounted relay enclosures.

Power distribution options include maintenance bypass panels, power distribution units, and remote power panels (RPP). Three-Phase models are available with OSHPD Special Seismic Certification pre-approval (OSP). Toshiba UPS units are compatible with VRLA or flooded batteries to offer application specific runtimes. Toshiba's new SCiB® lithium ion energy storage solutions are available for specific UPS models.

All UPS models come with a full three-year warranty backed by Toshiba's 24/7 technical support. Preventative maintenance and maintenance agreements are available on all UPS products. All Toshiba UPS systems are voltage/frequency independent (VFI), true on-line double-conversion units, providing conditioned power during inverter and battery operation. For more information call sales and service at 877-867-8773.

END-TO-END SOLUTIONS AND DICE360

The TIC Power Electronics Division (PED) is committed to the creation of End to End solutions across all markets demanding UPS critical power support. TIC's manufacturing capabilities, vendor partnerships, and industry expertise enables PED to provide equipment through all phases of the power stream from utility down to the load itself.

INDUSTRIES SERVED

- Data Center
- Industrial
- Commercial
- Emergency/Healthcare

APPLICATIONS

- Computer Systems
- Server Rooms
- Voice/Data Network
- Edge Data Center
- Point-of-Sale
- Banking Systems
- Retail Environments
- Schools
- IV
- Light Industrial



ALL MARKETS

Toshiba designs, manufactures, and supplies exceptional energy storage, monitoring, and electrical distribution solutions that are tailored to the needs of any critical power application.



COMMERCIAL

Toshiba offers a wide range of UPS products to help protect mission critical equipment for commercial markets such as retail, medical, and media/communication companies. Units range in sizes from 1 kVA to 100 kVA and offer a reliable and robust true online double conversion UPS that deliver continuous and high quality power with no transfer time to battery.



INDUSTRIAL



DATACENTER

Toshiba's G9000 & SCiB systems deliver pinnacle performance and power using one of the smallest footprints in the market today.



EMERGENCY

Toshiba offers single and three-phase UPS solutions for computer backup systems, controls and critical data systems that are essential in the Healthcare Industry.



Toshiba's 5000 Series 3P1 unit pushes the boundaries of UPS performance standards in petrochemical and oil & gas industries. Our 5000 Series N3R unit is suitable for indoor and outdoor applications, protecting the UPS from environmental contaminants and temperature ranges from -10oC to 50oC without the need of cooling or heating equipment.

SCiB™ SOLUTIONS

SCiB ENERGY STORAGE SYSTEM

SCiB Energy Storage System (ESS) is designed to include Toshiba's SCiB Lithium Ion Battery providing unparalleled durability, longevity, and return on investment.

The SCiB ESS surpasses traditional VRLA solutions in a variety of ways:

- Significantly Improved Power Density Translating to Reduced Enclosure Footprint
- Wider Allowable Operating and Storage Temperatures Provide Versatility and Climate Control Savings
- Near Zero Self Discharge Allows Over a Year of Storage Time Without Recharge or Damage
- 20 Year Maintenance-Free Battery Module Service Life Eliminates the Risk and Cost of Repetitive Battery PMs and Replacement
- No Loss of Runtime Over the Course of Service Life
- Integrated Cell-Level Battery Monitoring Ready for Connection to All Industry Standard Building Monitoring Systems



E1000 ENERGY MANAGEMENT SYSTEM

The E1000 Series Energy Management System is the Toshiba solution to go beyond simply providing uninterrupted power to a critical load and give control of power flow to the customer. Featuring a bi-directional inverter, grid-tied circuit, and capability to integrate with photovoltaics and SCiB battery cabinet, the E1000 delivers the power conditioning of a UPS along with money saving technologies like peak-shedding and generating power back onto the grid.



DC2500 RACKMOUNT SOLUTION

The DC2500 Series Energy Storage System brings the reliability of the SCiB Modules into the rack space. With space at a premium cost, the high density lithium cells provide excellent ROI for a rack mounted battery device. Each 3U battery module contains 2.54kWh capacity which can be expanded up to a total of 45kWh controlled by a single 3U host controller module. For a rackmount carbon-less battery solution with integrated battery monitoring, the DC2500 is ideal.



SINGLE-PHASE POWER SOLUTIONS

Toshiba Uninterruptible Power Systems (UPS) features a specialized suite of single-phase UPS products renowned for reliable and efficient power supply protection and monitoring. Conveniently available in both tower and rack mount designs, Toshiba single-phase UPS products supply clean and uninterrupted power to critical systems powering data centers, telecommunications, retail, healthcare, broadcasting, and industrial applications.

T1000 SERIES UPS

- 1–3 kVA, 5.2 kVA, and 6 kVA Capacity
- Tower and Rackmount Form Factors; Built for Both Under-Desk or Server Rack Applications
- Internal, Hot-Swappable Batteries
- Three-Year Warranty



1600XPI SERIES UPS

- 3.6–22 kVA Capacity
- Designed for Commercial and Small Data Center Applications
- Internal, Hot-Swappable Batteries
- Integrated Output Isolation Transformer for Common Mode Noise Attenuation
- Optional Output Receptacle Panels for a Wide Variety of Single-Phase Equipment
- Three-Year Warranty



HIGH CAPACITY THREE-PHASE POWER SOLUTIONS

The Toshiba G9000 Series Uninterruptible Power System (UPS) utilizes state-of-the-art design and construction to deliver industry-leading efficiency, reliability, performance, and flexibility to meet today's critical power demands. With its next generation Silicon Carbide topology, the G2020 is one of the most efficient double-conversion UPS on the market with less space per kilowatt than any similar capacity UPS. It delivers the utmost in design flexibility and can provide the ideal solution, regardless of the user's backup power needs.

G9000 SERIES - HIGH EFFICIENCY UPS

- 80–2000 kVA Capacity
- Designed for Data Center Applications
- Industry-Leading Efficiency and Power Density
- Parallel Configurations for Redundancy or Additional Capacity
- Three-Year Warranty



G2020 SERIES ULTRA-HIGH EFFICIENCY UPS

- 500–750 kVA Capacity
- Designed for Data Center Applications
- Next-Generation Silicon Carbide Technology Provides Unmatched Efficiency and Component Longevity
- Parallel Configurations for Redundancy or Additional Capacity
- Three-Year Warranty



MEDIUM CAPACITY THREE-PHASE POWER SOLUTIONS

The Toshiba 4400 Series uninterruptible power system (UPS) is the next-generation three-phase UPS. The double-conversion, all insulated-gate bipolar transistor (IGBT) 4400 Series UPS features a digitally controlled IGBT input rectifier, an intelligent low harmonic pulse-width modulation (PWM) output, state-of-the-art electronic battery isolation circuitry, and an easy to navigate local touchscreen interface. The small footprint and total front access mechanical design requires zero rear clearance and includes features such as top, bottom, and/or side cable entry, standard sized air filter provisions, and lockable keyed doors. The 4400 Series UPS Systems may be ordered in a pre-designed and certified configuration to meet the rigorous UL924 Standard for emergency lighting applications.

4400 SERIES UPS

- 15–100 kVA Capacity
- Designed for Commercial and Small Data Center Applications
- Configurable with Internal Input/Output Transformers or Internal Batteries
- Small Footprint Enclosure for Both UPS and Matching Ancillary Gear, Allowing Low Profile Three-Phase Systems.
- Three-Year Warranty



UL924 - EMERGENCY LIGHTING UPS

- 25 kVA Capacity
- Designed for Emergency Lighting Applications Requiring UL924 Certification
- Full UPS, MBS, and 90 Minute Battery Backup in Each System as Defined by UL924 Requirements
- Superior Power Quality Versus Traditional Distributed Lighting Backup Systems
- Three-Year Warranty



INDUSTRIAL POWER SOLUTIONS

In 1967, Toshiba introduced the world's first large-capacity uninterruptible power system (UPS). Today, Toshiba International Corporation continues this tradition with the launch of its industrial-duty 5000 Series UPS. The 5000 Series doubleconversion UPS is available in a three-phase input, single-phase output 3P1 solution. The Toshiba 3P1 solution is designed to push the boundaries of UPS performance standards in petrochemical and oil & gas refineries. The Toshiba 5000 Series Industrial three-phase uninterruptible power system (UPS) is built for the rigors of industrial applications. The sturdy UPS enclosure is weatherproofed to NEMA 3R, resistant to falling dirt, rain, sleet, and snow, making it suitable for installation in both indoor and outdoor industrial settings.

5000 SERIES 3P1 3-PHASE INPUT, 1-PHASE OUTPUT UPS

- 15-50 kVA Capacity
- Designed for Unique Industrial Applications Requiring Conversion from Three-Phase Utility Power to Single-Phase Power for the Load
- Integrated Maintenance Bypass
- Detailed Mimic Panel and Alarm LEDs on Enclosure Door
- Three-Year Warranty



5000 SERIES NEMA 3R OUTDOOR/WATERPROOF UPS

- 20-30 kVA Capacity
- Designed for Industrial and Outdoor Applications
- NEMA 3R Rated Enclosure Permits Operation in High Temperature and Harsh Environment
- Configurable with Internal Input/Output Transformers or Internal Batteries
- Three-Year Warranty



ELECTRICAL DISTRIBUTION SOLUTIONS

With Toshiba's large and medium capacity UPS systems, there is usually still a long journey for power to take from the UPS output before meeting the critical load. This requires equipment to distribute, regulate, and monitor the power as it nears its destination. Toshiba provides top of the line distribution solutions that push the boundaries on critical power protection and guarantee that every component of the system is engineered to achieve the highest level of reliability possible.

TOSHIBA DISTRIBUTION CABINET (TDC)

- 80–1000 kVA Capacity
- Designed for Use with 480 V UPS Systems
Step Down Output Voltage to 208 V
- Optional ISO Compartment Technology Allows
Safe Addition of New Downstream Equipment After Initial Startup
- Revenue-Grade Monitoring
- Three-Year Warranty



TOSHIBA REMOTE POWER PANEL (RPP)

- Supports up to Four (4) 42-Circuit Panelboards
- Branch Circuit Monitoring for Panelboards and Main Feeds
- Two (2) Square Foot Footprint with Optional Depths
- Isobar and Wall Mount Form Factor Options
- Three-Year Warranty



ELECTRICAL SOLUTIONS

Toshiba's lower capacity UPS systems are also outfitted with distribution solutions designed to meet quality assurance and reliability within the server rack space. Rack enclosures with highly customizable accessories, rack mount MBS/PDU, and rack mount battery modules all serve to create the possibility for self-sufficient and high reliability server racks.

DISTRIBUTION

TOSHIBA SERVER RACK ENCLOSURE

- Perforated Doors and Removable Top and Side Panels Provide Ample Ventilation and Ease of Installation and Configuration
- Supports Static Loads of up to 3307 lbs.
- Vast Options for Ship Loose Accessories: Cable Management, Shelving, Extra Hardware, Airflow, and Blanking Panels
- 42U Rack Certified to UL2416; 48U Option Available.
- Three-Year Warranty



TOSHIBA RACK MOUNT MBS PDU

- 1440 W, 1920 W, or 2880 W Capacity Models
- Enables Easy Replacement and Maintenance of Compatible UPS
- Designed for Use with T1000 UPS and Other Similar Rackmount UPS

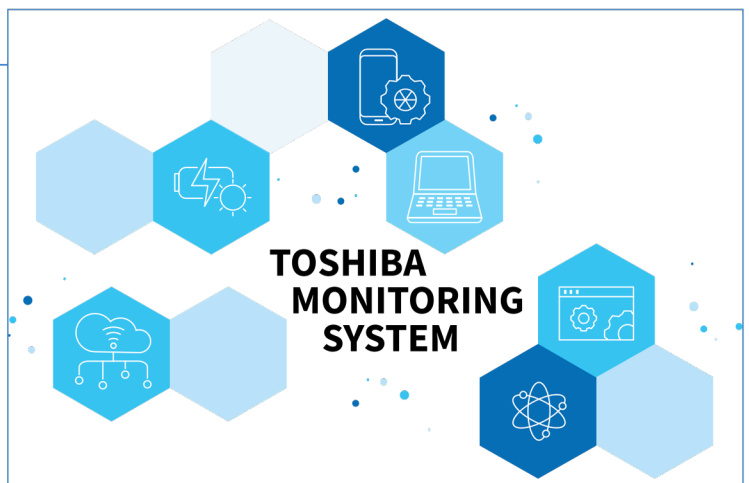


SERVICE AND MONITORING SOLUTIONS

The final element of Toshiba's "DICE 360" promise is the 360 degrees of coverage for critical power equipment during its service life. This is assured by Toshiba's robust network monitoring technologies, including a commitment to being at the edge of IoT integrated power devices, and widespread service networks, ensuring consistent maintenance and prompt repairs.

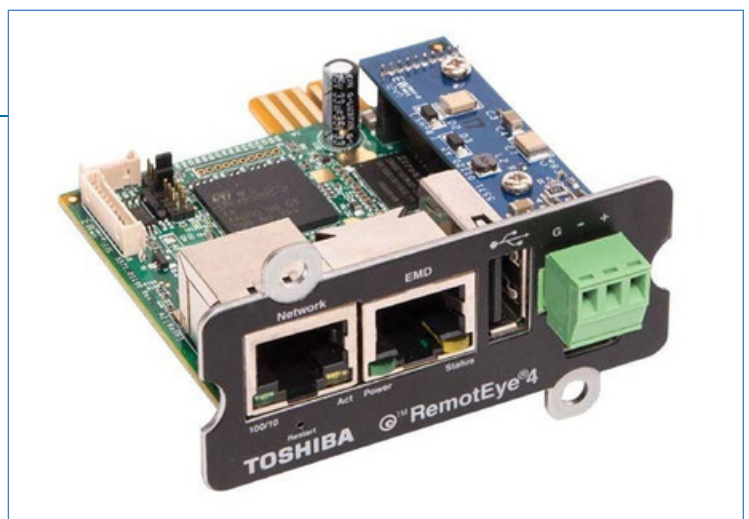
TOSHIBA MONITORING SYSTEM

- Uses RemotEye 4 & RemotRadar Cloud Platform (RCP) to add a powerful IoT layer to your monitoring solution
- Communicates via MQTT, a lightweight and secure data transfer protocol
- Allows real-time tracking of UPS health by Toshiba Experts
- Instant Fault Detection
- UPS Data Analytics



NETWORK MONITORING REMOTEYE® 4

- Allows Integration of UPS into Building Network for Monitoring and Control
- Compatible with All Common Industrial & IT Network Protocols: Modbus® TCP/RTU, BACnet®, IP/MSTP, and HTTP/S
- EMD Option Allows RemotEye to Monitor Temperature and Humidity
- RemotRadar® Software Enables Real Time Monitoring of up to 5,000 RemotEye Devices
- Three-Year Warranty



TOSHIBA

POWER ELECTRONICS

Top Ten Reasons to Buy a UPS



TOP TEN REASONS TO BUY A TOSHIBA UNINTERRUPTIBLE POWER SYSTEM

1 - LOW COST OF OWNERSHIP

Since releasing the first high capacity UPS in 1967, Toshiba continues to improve its ability to supply critical power solutions. Our end-to-end solutions are designed with industry leading efficiencies and built for a 15 to 20 year lifespan. They offer minimum maintenance requirements and lower cost of ownership for customers.

2 - WORRY-FREE DESIGN

Toshiba offers reliable, performance-driven, double-conversion UPS products. The double conversion topology is the only UPS architecture that helps ensure the safety of the critical load regardless of utility interruption, power surges, power spikes, and other risks. Most of Toshiba's products are manufactured in Houston, Texas.

3 - UNPARALLELED SUPPORT WITH IOT

Based in Houston, TIC's expertise in applications engineering, service support, and monitoring solutions provides customers factory support for every need. Our customers have the benefit of using the Toshiba Monitoring System (TMS), an Internet of Things (IoT) platform giving them unparalleled connectivity to the status of their critical power equipment. TMS uses secure, lightweight, and flexible communication to track UPS health, maximize uptime, and instantly identify faults. Toshiba's large, responsive service network includes 24/7 monitoring service, a wide offering of preventive maintenance options, and

maintenance contracts.

4 - LONGER LASTING BATTERIES

Toshiba UPS systems utilize a DC/DC converter with low ripple current to manage the charging current delivered to energy storage systems. Coupled with a wide input voltage window to minimize discharge events, customers will get the maximum service life for their energy storage devices no matter the technology; VRLA, lithium ion, wet cells, and flywheels are utilized in an efficient and safe manner when connected to a Toshiba UPS.

5 - MAXIMIZE BUILDING SPACE

Toshiba UPS systems have industry leading capacity to footprint ratios and are built to operate at up to 109% rated load continuously. Customers can get the most out of critical power space with a Toshiba UPS while maximizing space for additional equipment.

6 - NEXT GENERATION ELECTRONICS

Toshiba UPS systems utilize electronics that push the performance boundary of power devices while maintaining reliability. This includes up to 7th generation IGBTs for AC power conversion and Class 3 printed circuit boards. The combination of time-tested architecture with superior components maximizes performance, longevity, and efficiency.

7 - EFFICIENT DESIGN

Toshiba systems are designed to bring value to customers with high-efficiency components without compromising robust protection of the double-conversion topology. The G2020 Series UPS achieves >98% efficiency, a value only achieved on other systems by utilizing "ECO Mode" where the load is not actively protected by the UPS inverter, introducing vulnerability to the system. Toshiba UPS systems maintain their efficiency while adapting well to faults and poor power quality.

8 - SIMPLE & COMPATIBLE UPS MONITORING

The Toshiba RemotEye 4 is the most powerful and versatile real-time

UPS monitoring module solution in the Toshiba RemotEye family. The card allows the Toshiba UPS to be easily integrated into management systems via HTTPS, SNMP, Modbus® TCP/RTU, and BACnet® IP/MSTP protocols. It also provides a mobile-friendly web interface complete with notifications. Pair the RemotEye 4 with the RemotRadar® software for powerful real-time monitoring of up to 5,000 network-connected UPSs.

9 - TOSHIBA SCiB® LITHIUM ION BATTERY

Manufactured by Toshiba, the SCiB battery utilizes a unique Lithium Titanate chemistry for industry-leading service life of over 80% capacity after 15,000+ full cycles, fast charge & discharge rate capability, operating temperature range of -30o to 55oC, and meets fire protection standard NFPA855. The SCiB Energy Storage System has a 12 year warranty and can be integrated into building or management systems, making it an optimal choice.

10 - THREE YEAR WARRANTY

Through rigorous product testing and quality control, Toshiba has continuously set the standard in reliability and performance. Toshiba's three-year warranty is one of the longest in the industry and covers UPS electronics as well as maintenance bypass and battery cabinets in three-phase systems.



TOSHIBA POWER ELECTRONICS

Uninterruptible Power Systems • SCiB™ Lithium Ion Batteries
Energy Management Systems • Remote Monitoring
High Power Chargers • Containerized Solutions
PDU • RPP • Server Rack Enclosures

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