

# > 7011A UPS

UNINTERRUPTIBLE  
**POWER** SUPPLIES



7011A

# Power Failures Strike at the Heart of Critical Operations

## 7011A Series Product Line • True On-Line, Double Conversion UPS

Mitsubishi Electric is the world's leading manufacturer of power transistors and is at the leading edge of technology in designing UPS systems. Coupled with its experience in bringing you the latest technological advances and innovative products, Mitsubishi Electric breeds confidence with its renowned quality and reliability.

The 7011A Series UPS system is a true on-line, double conversion UPS system that will protect your equipment against any power problem. An unparalleled single-phase UPS system that was developed to protect the most critical of applications.

Rely on Mitsubishi Electric to give you the confidence you need to protect all of your critical data equipment. Mitsubishi Electric understands the importance of protecting your equipment and data from undesired power problems and failures.

Mitsubishi Electric – your power protection solution provider.



### IGBT Technology in the 7011A Series

Mitsubishi Electric is the world's leading manufacturer of advanced, high performance Insulated Gate Bipolar Transistors (IGBT). Mitsubishi utilized their IGBT market expertise by incorporating IGBT technology in the converter and inverter sections of the 7011A Series. These advanced, high performance transistors provide a variety of intelligent features, including:

- Large power capabilities
- High speed switching
- Low input current THD
- Low control power consumption
- Generator compatible
- Low audible noise



### Low Heat Loss/High Efficiency

Use of IGBTs permits efficient high speed switching, thus reducing heat dissipation in the UPS system. (Higher efficiency means lower cost per kilowatt and lower total cost of ownership.)

### On-Line Double Conversion UPS System

Mitsubishi Electric's 7011A systems are true on-line double conversion UPS systems that protect your equipment from any power problem. Whether power failures, power sags, power surges, undervoltage, electrical line noise, overvoltage, frequency variation, switching transients, or harmonic distortion attack your equipment, a 7011A UPS system will provide the most complete level of power protection and reliability available. The 7011A Series UPS system does more than just provide battery backup, it enhances the existing power. This dual conversion topology delivers many advantages for critical load applications:

- Wide input voltage window
- Wide input frequency window
- Input power factor correction
- 99.9% power protection
- Low input THD
- Low output THD
- Continuous regulated Output: frequency & voltage

### Hot-Swappable Batteries

Replacement of batteries is made safe and easy with the hot-swap feature. There is no need to turn the UPS system off; battery change-out is performed while the system is running connected to AC power.



# Rely on Mitsubishi's 7011A Series to Protect Your Critical Equipment

The 7011A Series ranges from 6kVA to 12kVA systems covering a wide spectrum of applications. From individual computers, to network server farms, to LAN gateways, bridges, routers, telecommunications systems, security systems, process control units, banking systems, or point of sales, the 7011A Series provides the most complete protection for voltage-sensitive equipment.

## 2-Year Warranty

Mitsubishi Electric continues to provide unprecedented product warranty with the 7011A Series. Every 7011A Series UPS comes standard with a two-year product warranty. This warranty includes the batteries, making a bold statement regarding the technology and reliability of our UPS system.

## 7011A Series has UL924 Listed Products

UL924 listing is the standard for emergency lighting and critical equipment to operate continuously for at least 90 minutes in the event of a power outage.



## Hardwire Input / Output & Receptacle Panels

To meet diverse electrical requirements, input line cords and output load receptacle panels are offered for Plug & Play applications. Output load receptacle boxes are offered for quick and easy on-site connections. Standard receptacle panels are in stock, or contact Mitsubishi Electric for custom configurations.

## Smart Battery Charger

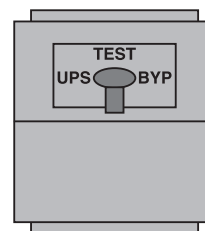
Every 7011A UPS system has a large, Smart 3-Step battery charger inside. The 7011A battery chargers are designed to prolong the life of the batteries and recharge the UPS system quicker than standard one-step chargers. A quicker recharge time means that the 7011A system will be ready for the next power outage.

## Extended Runtimes Available

Where longer runtimes are in demand, the 7011A Series accommodates a variety of applications and needs. By simply adding external battery cabinets, your runtime will be considerably increased to meet those specific needs.

## Maintenance Bypass Switch

Each 7011A Series UPS system includes a static Maintenance Bypass Switch (MBS). For applications where you need to isolate the input and output power from the UPS system, to allow service personnel to perform routine maintenance and testing without interrupting power to the connected critical loads, Mitsubishi Electric offers an external MBS system. This 3-position make-before-break MBS is available for all 7011A Series (6kVA to 12kVA) UPS systems in a wall mounted NEMA 1 enclosure.



## System Dimensions: (6kVA – 12.0kVA)\*

	7011A-60	7011A-80	7011A-100	7011A-12.0
Width (in.)	13.8	13.8	13.8	13.8
Depth (in.)	29.9	29.9	29.9	29.9
Height (in.)	27.8	40.6	40.6	40.6
Weight (lbs)	307	507	507	507

\*Matching battery cabinets are available for extend runtime applications.



# UPS Monitoring Equipment & Software



**The Netcom2 works with all major NMS systems on Ethernet –**

*Netcom2 works with the most widely used Network Management Systems: HP OpenView, Novell ManageWise, Sun NetManager, IBM NetView, and many more.*

The **Netcom2** hardware SNMP/Web adapter runs an embedded Simple Network Management Protocol (SNMP) software agent. This powerful and intelligent unit is designed for the rigorous task of managing the UPS systems that protect equipment and the critical data residing throughout the network.

## Netcom2 Features:

**Remote UPS status monitoring –** Monitor a remote UPS system using an RS-232 Cable to the Netcom2 for one UPS system to a remote workstation (NMS) through an Ethernet connection

**Web Card –** Assign an IP address to your UPS system to monitor the UPS system from anywhere around the world

**SNMP Adapter –** Turn the UPS system's protocol into an SNMP software agent and enable SNMP traps

**SNMP Viewer –** Unique Mitsubishi design that color coordinates SNMP messages that inform the NMS about all current UPS alarms

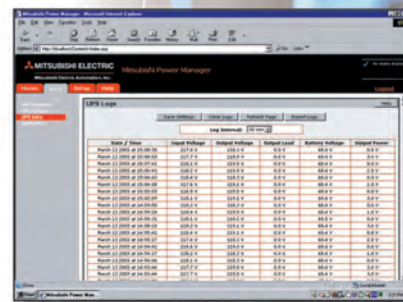
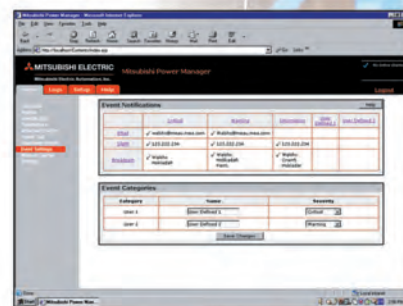
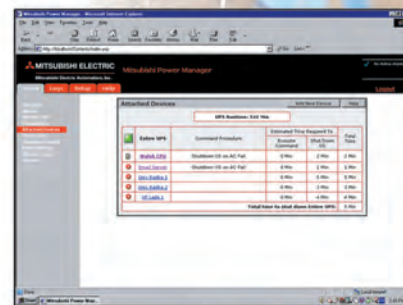
**Send Shutdown Signal to Networked Servers –** Send a shutdown signal to servers connected via the Ethernet network

**Battery and Service Monitoring –** Monitor the battery life and servicing details of the UPS

**E-mail –** Send the Administrator an e-mail when an event occurs

## ModBus Communications for Building Management Systems

The MUCM card allows the customer to integrate Mitsubishi Electric UPS systems into their current Building Management Solution. The MUCM is a user-programmable protocol converter, or data concentrator, that is DIN-rail mountable, with 2 serial ports: One RS-232, one RS-485, and over 2,048 internal mailbox registers. Through the ModBus protocol converter, the UPS system's variables can be monitored through various Building Management System vendors' software.



## 7011A Series (6kVA to 12.0kVA) Advantages

- Advanced IGBT technology in both the rectifier and inverter
- True double conversion UPS system
- Extra wide input and frequency range for complete generator compatibility
- 2-year warranty
- Front LCD display for diagnostics of the UPS system
- UL924 listed
- Custom output receptacle panels available
- Internal Maintenance Bypass Switch
- Auto-restart standard

### Specifications: 7011A Series 6kVA – 12.0kVA

Model Type		7011A-60	7011A-80	7011A-100	7011A-12.0
Topology		Single Phase, True On-Line, Double Conversion			
Certifications		UL924, UL1778, cUL, FCC Class B, ISO9001, IEEEC62-41-1991, NEC (NFPA-70)			
Input	Voltage	240/120V (1 Phase), 208/120V (2 Phase)			
	Frequency	50/60 Hz $\pm 5\%$			
	Capacity (Max)	6.0kVA 4.2kW	8.0kVA 5.6kW	10.0kVA 7.0kW	12.0kVA 8.4kW
	Input	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Reflected Current THD	< 4% at 100% load			
	Circuit Protection	35A	45A	60A	70A
Output	Voltage	240/120V or 208/120V or 120/120V			
	Frequency	50/60Hz $\pm 0.01\%$			
	Output Waveform	Sine wave			
	Transfer Time	Zero transfer time			
	Capacity	6.0kVA 4.2kW 50A	8.0kVA 5.6kW 66.7A	10.0kVA 7.0kW 83.3A	12.0kVA 8.4kW 100A
	Rated Load Power Factor	0.7			
	Crest Factor Capabilities	300% of rated current effective value (crest factor is 3:1)			
	Transient Response	$\pm 3\%$ typical load $\pm 1\%$ at loss/return of AC power			
	Harmonic Distortion	2% or less (linear load) 1% (typical)			
	System Overload	150% for 1 minute, 1000% for 1 cycle (with bypass available)			
	Bypass Overload	150% for 1 minute, 1000% for 1 cycle			
	Receptacles	Terminal Block (optional receptacle panels available)			
Battery	Size of Battery Charger	5A (max.)	5A (max.)	5A (max.)	5A (max.)
	Type (Life)	Sealed lead-acid battery (5 years)			
	Quantity	12V 7Ah x 18	12V 7Ah x 36	12V 7Ah x 36	12V 7Ah x 36
	Backup Time @ 100% Load	10 minutes	15 minutes	12 minutes	10 minutes
	Recharge Time	90% after 8 hours, 100% after 24 hours			
	Nominal Voltage	216Vdc			
Design Environment	Operating Temperature	0 to 40°C (32 to 104°F) optimal at 25°C			
	Operating Humidity	5 to 95% (no condensation)			
	Audible Noise	45db at 1m (3.3 ft) from front panel			
	Altitude	Less than 4000m (12000 ft)			
Design	Enclosure	Enclosure of unit is metal meeting NEMA 1 and UL Type 1			
	Emergency Power Off	Standard (Terminal Contacts)			



The quality management system of Mitsubishi Electric Corporation Kobe Works has been approved to ISO9001:2000.

The quality management system is applicable to design, development and manufacturing of the UPS.

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