

> 2033A UPS

UNINTERRUPTIBLE
POWER SUPPLIES



2033A

Superior Performance, Reliability and Safety Come from Experience. Our Uninterruptible Power Supply Systems Ensure All Three.

Mitsubishi Electric has been developing and manufacturing Uninterruptible Power Supply (UPS) components and systems for more than three decades. That experience, and the continuous application of new power-device technologies to further improve products in the industry clearly explain why Mitsubishi Electric has dominated a large portion of the world UPS market for years.

When purchasing a UPS system, the key word is "dependability." And there's one company that many rely on. Uninterruptible Power Supply systems by Mitsubishi Electric.



Intelligent Power Module (IPM) Transistors with Excellent Performance Characteristics

Mitsubishi Electric is the leading manufacturer of Intelligent Power Modules (IPMs), and now utilizes Intelligent Power Module transistors in the converters and inverters of its 2033A Series UPS systems. These advanced, high-performance transistors provide a variety of intelligent features.

- Drive Circuitry
- Overcurrent Protection
- Over Temperature Protection
- Control Voltage Drop Protection
- Short-Circuit Protection

Low Input Current Harmonics (THD)

- 3% typical (100% load)
 - 4% typical (75% load)
 - 6% typical (50% load)
- (No additional filtering required)

Generator Sizing Ratio (UPS)

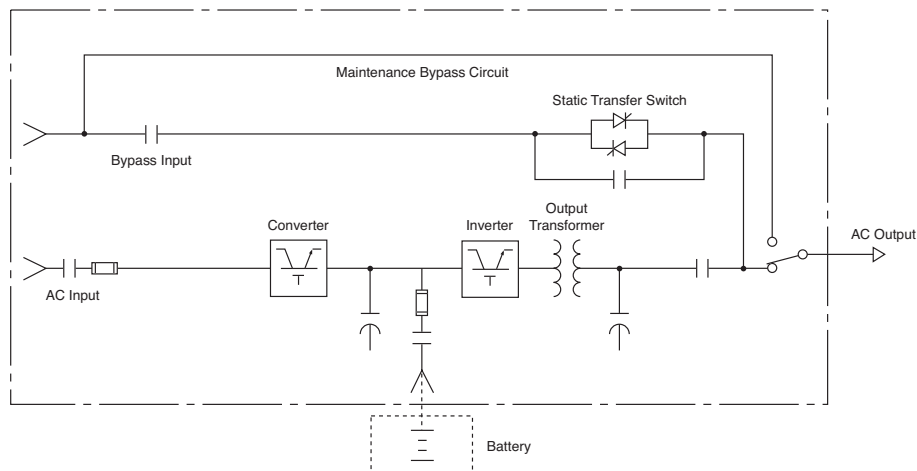
- 1:1 ratio (UPS kVA/
Generator kW)

Low Heat Loss/High Efficiency

Use of Intelligent Power Module transistors enables efficient high-speed switching, thus reducing heat dissipation in the UPS. (Higher efficiency means lower cost per kilowatt to the customer.)

ONE-LINE DIAGRAM

2033A SERIES UPS



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

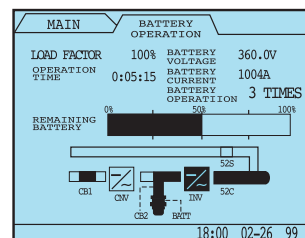
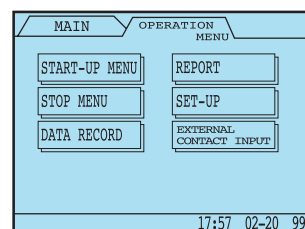
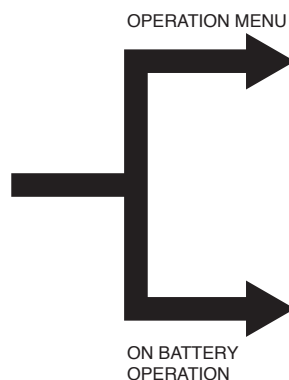
Send Shutdown Signal to Networked Servers – Send a shutdown signal to servers connected via the Ethernet network

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.



Extended Battery Life

- Current source from batteries for step loads is no longer required with the installation of Intelligent Power Module transistors in both the converter and the inverter. Previous UPS systems required assistance from batteries when the converter was unable to supply the required current. This cycling of batteries caused shorter life.
- Mitsubishi Electric Intelligent Power Modules incorporate the latest technologies and provide step load applications (0-100%) without the use of batteries, thus ensuring maximum battery service life (i.e., lower cost of ownership).

Internal Maintenance Bypass

All 2033A Series UPS systems are equipped with an internal wrap around maintenance bypass system for greater maintenance flexibility.

- UL 1778 approved

Superior Control

All 2033A Series UPS systems use pulse width modulation (PWM) for superior control and performance. A digital signal processor (DSP) ensures precise control of all input/output parameters.

Operator-Friendly Control Panel

Features:

- Mimic bus diagram
- Operator control station
- Touch panel input

LCD Monitor Displays

- System metering
- Menu-driven start-up procedures
- Menu-driven operating procedures
- History of events
- Trend graph
- Load true power factor

Additional Features

- Password lock out for start / stop operation
- EPO button

Real-Time Battery Monitoring

- Remaining battery time displayed for operator
- Integrated "DiamondSense" system automatically detects weak cells

Superior Functions

- Automatic restart
- Automatic retransfer
- Converter walk-in function
- Battery monitoring
- Ripple-free DC output (converter)
- 1 set "Form A" dry contacts of selectable items
- Large overload / overcurrent capacity

- Battery temperature compensation
- Adjustable DC cut-off

Quiet Operation

- 30, 50kVA→60dB (A scale, 1m)
- 75kVA→65dB (A scale, 1m)

Software

- Netcom2 SNMP
- 95% of all operating systems are compatible with Netcom2
- RS232C serial interface
- Multilingual
- Paging, E-mail capability during power events
- Multiple server shutdown capabilities

Warranty

Standard warranty is two years, including parts and labor.

(NOTE: All information subject to change without prior notice.)

SPECIFICATIONS

UPS Cabinets

kVA	208 V/ 208 V Dimensions (W x D x H) (inch)	Weight (lbs)
30	35.4 x 29.5 x 70.9	1,050
50	43.3 x 29.5 x 70.9	1,500
75	43.3 x 29.5 x 70.9	1,700

Notes:

1. All 2033A Series UPS Systems include a "zero energy" maintenance bypass.
2. Batteries not included.

Specifications: 2033A Series 30kVA – 75kVA

Rated Output kVA	30	50	75
Rated Output kW	24	40	60
AC INPUT CHARACTERISTICS			
Configuration	3 phase, 3 wire		
Voltage	208V, 480V, 600V +10% ~ -15%		
Input Power Factor	0.98 typical		
Frequency	60 Hz ± 5%		
Reflected Current THD	3% max. at 100% load; 5% max. at 50% load		
STATIC BYPASS INPUT			
Configuration	3 phase, 3 or 4 wire		
Voltage	120V/208V, 277V/480V, 346V / 600V ±10%		
Frequency	60 Hz (±3% tracking window)		
BATTERY			
Type	VRLA, Flooded Lead Acid, Nickel Cadmium		
Ride Through	Application specific		
Nominal Voltage	360 VDC		
Minimum Voltage	300 VDC		
Number of Cells	176 ~ 185		
AC OUTPUT			
Configuration	3 phase, 3 or 4 wire		
Voltage	120V / 208V, 277V / 480V, 346V / 600V		
Voltage Stability	±1%		
Frequency	60 Hz		
Frequency Stability	±0.01% in free running mode		
Power Factor	0.8 nominal		
Power Factor Range	0.8 ~ 1.0 lagging (within output kW rating)		
Voltage THD	2% maximum THD at 100% linear load 4% maximum THD at 100% non-linear load		
Transient Response	±3% maximum at 100% load step; ±1% maximum at loss or return of AC power; ±3% maximum at load transfer to / from static bypass		
Transient Recovery	Less than 1 line cycle		
Voltage Unbalance	2% maximum at 100% unbalanced load		
Phase Displacement	1% maximum at 100% unbalanced load		
Inverter Overload	125% for 10 minutes; 150% for 10 seconds		
System Overload	1000% for 1 cycle (with bypass available)		
Bypass Overload	125% for 10 minutes		
Withstand Rating	65kA; with optional fuses (only 208V model)		
ENVIRONMENTAL			
Cooling	Forced air		
Operating Temperature	32°F ~ 104° F (0°C ~ 40°C). Recommended 68°F ~ 86°F (20°C ~ 30°C)		
Relative Humidity	5% ~ 95% non-condensing		
Altitude	3,300 Feet (1000 meters); 9,000 feet @ 0.99 derating		

Consult Mitsubishi for Battery Cabinet Configurations.



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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