

2033D Series

UNINTERRUPTIBLE POWER
SUPPLY SYSTEMS

(30/50/80kVA)



**Where Reliability
Breeds Confidence**

ISO 9001
CERTIFIED

 MITSUBISHI ELECTRIC

Technically, Anything is Possible

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.



IGBT – Transistors with Excellent Performance Characteristics

Mitsubishi Electric is the leading manufacturer of Insulated Gate Bipolar Transistors (IGBTs), and now utilizes IGBT in the converters and inverters of its 2033D Series UPS systems. These advanced, high-performance transistors provide a variety of intelligent features.

- High Ampacity Transistors (600A)
- High Speed Switching
- Low Control Power

Low Input Current Harmonics (THD)

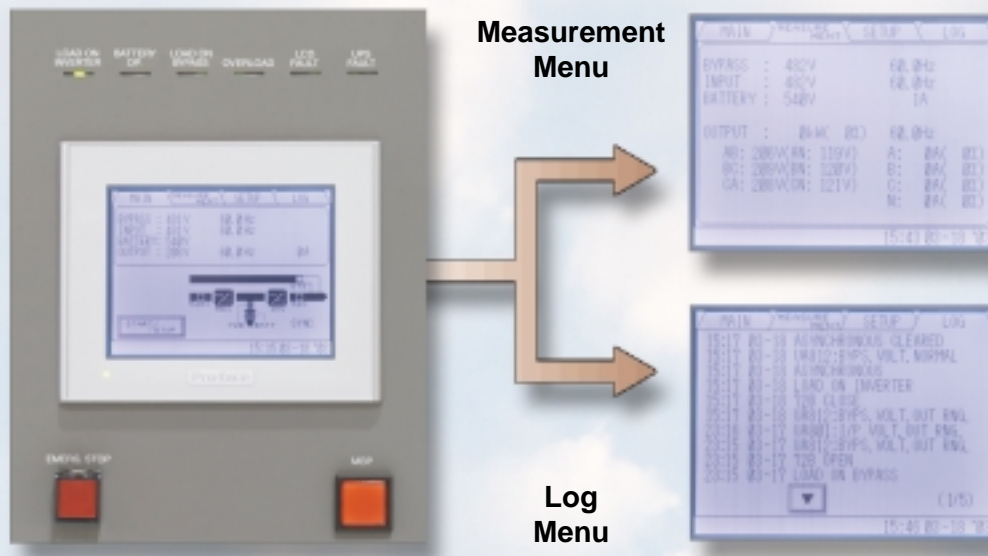
- 4% maximum (100% load)
 - 5% maximum (75% load)
 - 7% maximum (50% load)
- (No additional filtering required)

Generator Sizing Ratio (UPS)

- 1:1 (UPS kVA/Generator kW)

Low Heat Loss/High Efficiency

Use of Intelligent Power Module transistors enables efficient high-speed switching (8kHz), thus reducing heat dissipation in the UPS. (Higher efficiency means lower cost per kilowatt to the customer.)



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 lifetime cost of UPS system).

Internal Maintenance Bypass

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

- UL 1778 approved

Superior Control

All 2033D 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
- 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)
- 2 sets "Form C" dry contacts of selectable items
- Large overload/overcurrent capacity
- Battery temperature compensation
- Adjustable DC cut-off
- Line drop compensation

Quiet Operation

- 30-80kVA→65dB (A scale, 1m)

Software

- RS232C serial interface
- DiamondLink application software
- 90% of all operating systems are compatible with DiamondLink
- Multilingual
- Paging, E-mail capability during power events
- Auto-dial
- Multiple server shutdown capabilities

Warranty

Standard warranty is two years, including parts and labor. (NOTE: All information subject to change without prior notice.)

GSA Contract Number

GS-07F-9526G

UPS Monitoring Equipment & Software



DiamondLink is an advanced, user-customizable power monitoring, management, and shutdown software designed to provide information about the power conditions of the UPS system. DiamondLink will monitor the health and status of your UPS system and, when critical events occur, will notify you and perform a graceful, unattended shutdown. DiamondLink can be configured to perform appropriate actions when an event is detected. The user configurable actions include:

- Broadcasting – Send event messaging to managers on your system
- E-mail – Send e-mails or pages as events occur with your UPS system
- SNMP Messaging – Send SNMP messaging to NMS managers
- Operating System Shutdown – Shutdown your servers when power is running low

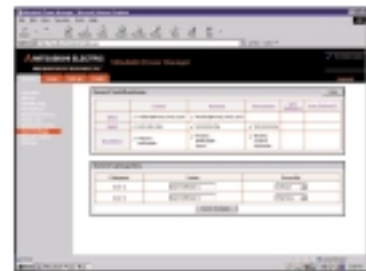


The NetCom works with all major NMS systems on Ethernet –

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

The **NetCom** 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. **The NetCom features:**

- **Remote UPS status monitoring** – Monitor a remote UPS system using an RS-232 Cable to the NetCom 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 and control 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

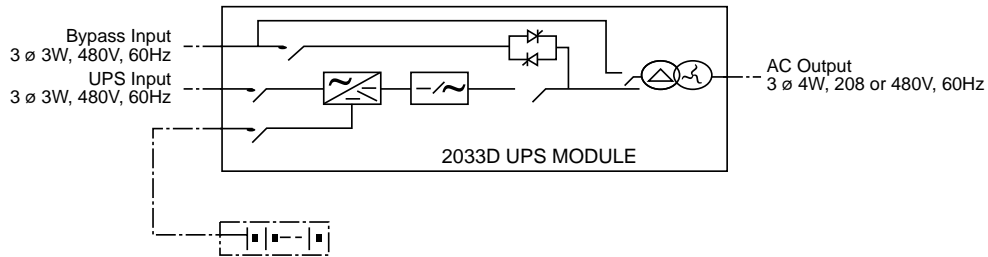


ModBus Communications for Building Management Systems

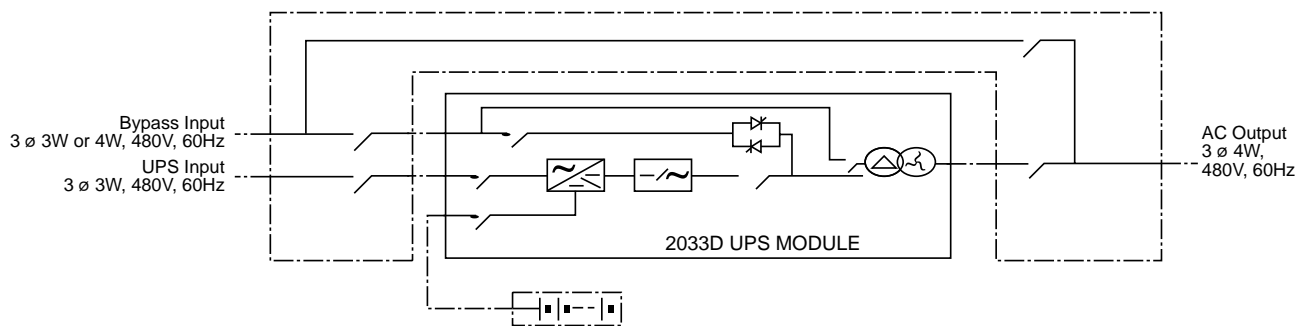
The MUCM card allows the customer to integrate Mitsubishi Electric UPS systems into their current Building Management Solution. The MUCM is a user-programmable protocol converter, or data concentrator, that is DIN-rail mountable, with 2 serial ports: One RS-232, one RS-485, and over 2,048 internal mailbox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

2033D One Line Diagrams/Single Module Systems

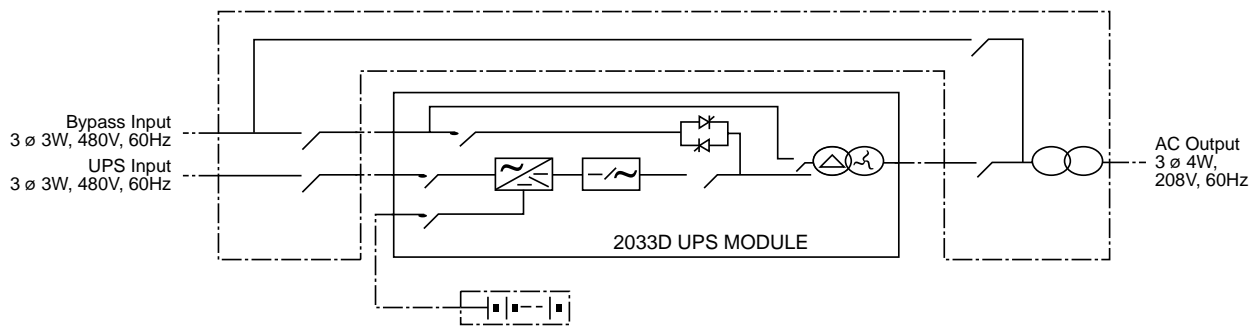
SMS1 • Single Module System



SMS2 • Single Module System with External MBS (480V in/480V out)



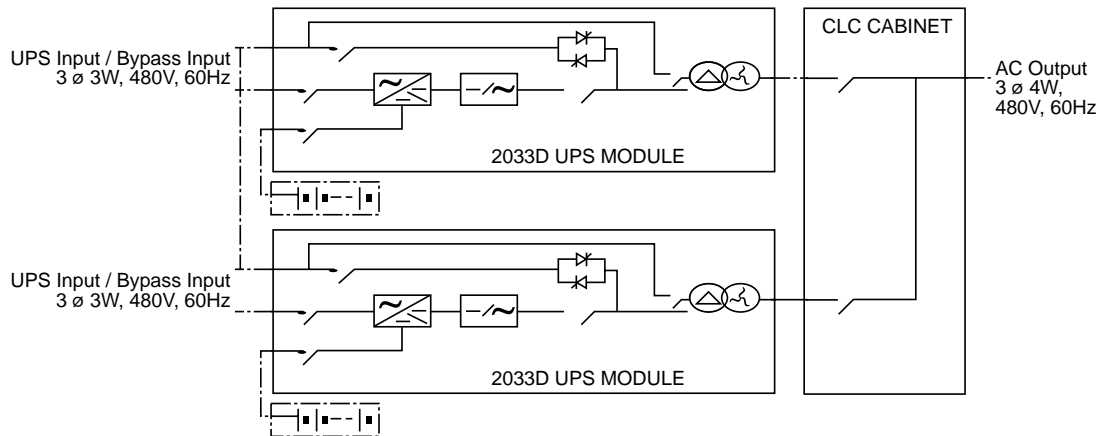
SMS3 • Single Module System with External MBS (480V in/208V out)



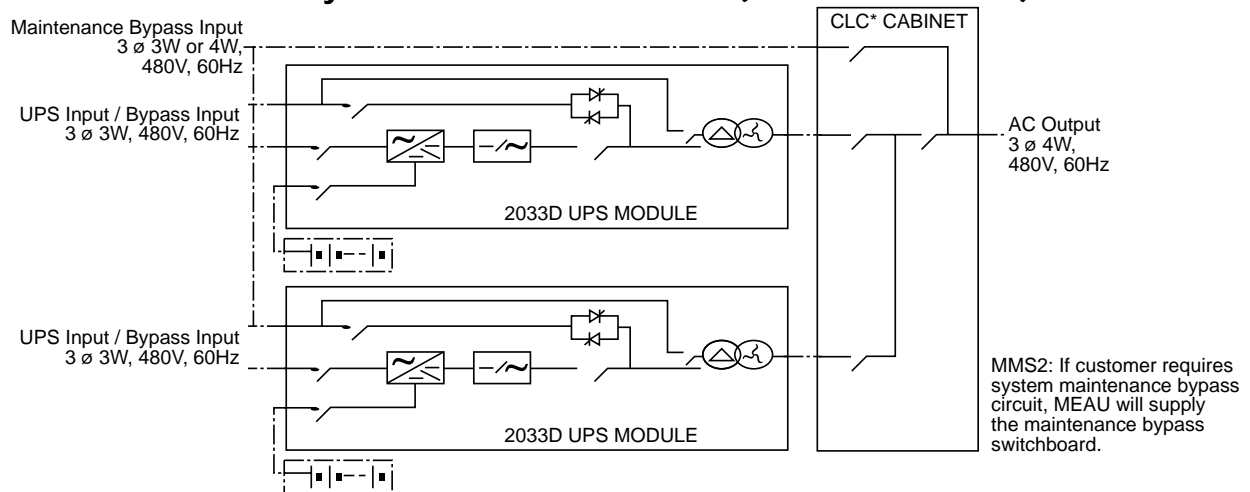
- Notes:
1. Maintenance Bypass System (MBS) is optional.
 2. Transformer included in MBS cabinet.
 3. Batteries included in 30kVA only.
 4. ○○K-13 isolation stepdown transformer.

2033D One Line Diagrams/Multi-Module Systems

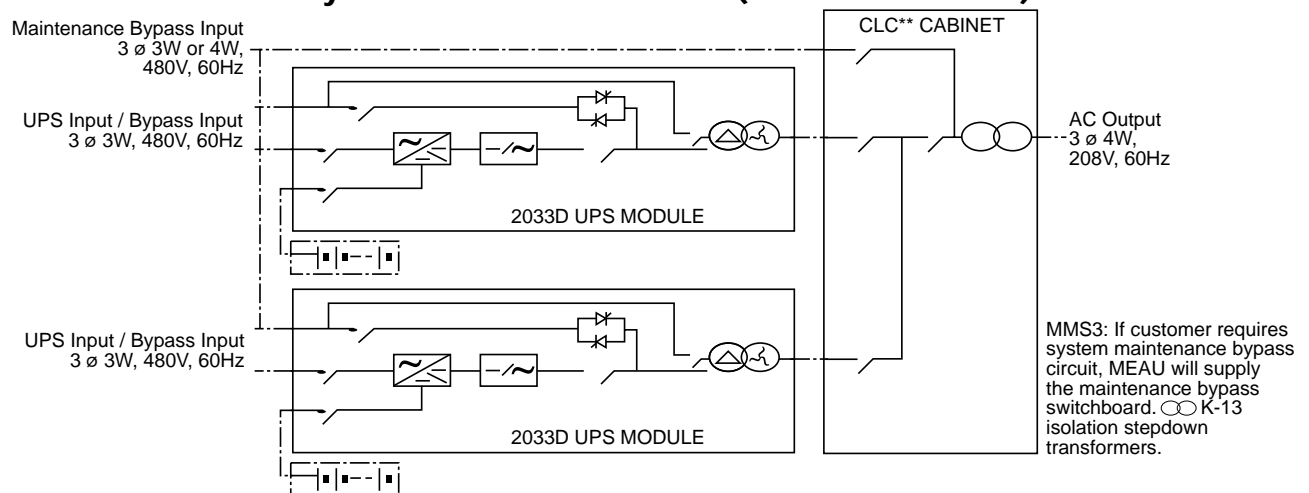
MMS1 • Multi-Module System



MMS2 • Multi-Module System with External MBS (480V in/480V out)



MMS3 • Multi-Module System with External MBS (480V in/208V out)



- Notes:
1. Maximum 2x System for redundancy only
 2. CLC (Critical Load Cabinet)
 3. CLC* (Critical Load Cabinet includes Maintenance Bypass)
 4. CLC** (Critical Load Cabinet includes Maintenance Bypass and Transformer)
 5. All CLC Cabinets supplied by Mitsubishi UPS Systems Group

Dimensions/Weights/Specifications

UPS Units

kVA/kW	480V / 208V Dimensions (WxDxH) (in)	Weight (lbs)	480V / 480V Dimensions (WxDxH) (in)	Weight (lbs)
30/24	34 × 31.5 × 70.9	2570	34 × 31.5 × 70.9	2570
50/40	34 × 31.5 × 70.9	2250	34 × 31.5 × 70.9	2250
80/64	34 × 31.5 × 70.9	2430	34 × 31.5 × 70.9	2430

Notes: 1. 30kVA weight includes batteries (580 lbs.).
2. 30kVA battery back-up, 6 minutes.

CLC Cabinets (Estimated)

kVA	Part Number	System Voltage	Dimensions (WxDxH) (in)	Weight (lbs)
30	CLC-MMS1-030-480	480V/480V	36 × 29.5 × 71	540
30	CLC-MMS2-030-480	480V/480V	36 × 29.5 × 71	560
30	CLC-MMS3-030-208	480V/208V	36 × 29.5 × 71	760
30	CLC-MMS4-030-208	480V/208V	36 × 29.5 × 71	755
50	CLC-MMS1-050-480	480V/480V	36 × 29.5 × 71	540
50	CLC-MMS2-050-480	480V/480V	36 × 29.5 × 71	560
50	CLC-MMS3-050-208	480V/208V	36 × 29.5 × 71	910
50	CLC-MMS4-050-208	480V/208V	36 × 29.5 × 71	900
80	CLC-MMS1-080-480	480V/480V	36 × 29.5 × 71	540
80	CLC-MMS2-080-480	480V/480V	36 × 29.5 × 71	560
80	CLC-MMS3-080-208	480V/208V	42 × 29.5 × 71	1,270
80	CLC-MMS4-080-208	480V/208V	42 × 29.5 × 71	1,260

Notes: 1. "MMS4" is "MMS3" minus system bypass breaker.
2. CLC Cabinet can be ordered with LED display (see options).
3. Consult MEAU UPS Engineering Department for "special" CLC cabinet configurations.

Battery Cabinets

Qty.	Part Number	Dimensions (WxDxH) (in)	Weight (lbs) (Each Cabinet)	Back-Up Time in Minutes		
				30kVA	50kVA	80kVA
1	BC39-NPX80-0X0D	63 x 29.5 x 71	1050	8.5	–	–
1	BC39-NPX150-0X0D	63 x 29.5 x 71	1838	22	11	–
2	BC39-NPX100-0X0D	63 x 29.5 x 71 (each)	1302 (each)	29	15	8
2	BC39-NPX150-0X0D	63 x 29.5 x 71 (each)	1838 (each)	56	28	15

Note: Additional battery configurations available upon request.

Standard Features

- IGBT transistors (converter/inverter)
- UL/cUL approved (1778)
- Zero energy MBS
- Conformal coated boards (industrial environment)
- Front access (serviceability)

Battery DC Link

- 480 VDC

Cable Entry

- Bottom (Standard)
- Top (Optional)

Operating Environment

- Low acoustic noise
- Temperature: 32~104°F
- Relative humidity: 5~95% (non-condensing)
- Altitude: 9,000 ft

AC Input Rating

- +15% ~ -35% at derating load
- Power: Rated kVA at 1:1 ratio
- Power Factor: 0-98 (100% load)
0-97 (50% load)
- 208/480/600 VAC
- THD: 4% typ. (100% load)
7% typ. (50% load)
- 3-phase, 3-wire, plus ground
- Frequency: 45Hz to 65Hz
- Surge withstand: Meets IEEE 587/ANSI C62.41

AC Output Rating

- 3-phase, 4-wire
- 208/480 VAC
- Frequency: 60Hz
- Voltage accuracy: ±1%
- Transient recovery time: 16.6 ms
- Load unbalance: 100% ±2% or less
- 100% Step load change: 0~100% ±3%
- Loss/Return of AC power: ±1%
- UPS load transfer, bypass: ±3%
- THD: 2% max. (100% linear load); 4% max. (100% nonlinear load)
- Slew rate: Adjustable
- Crest Factor 3:1

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Corporate Headquarters:

Mitsubishi Electric Automation, Inc.
500 Corporate Woods Parkway
Vernon Hills, IL 60061
Phn: (847) 478-2100
Fax: (847) 478-2253
www.meau.com



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