WAUBONSEE COMMUNITY COLLEGE

BIDDER: _____

BID NAME: **Replacement of Data Systems UPS**

BID NUMBER: **11-25-001**

BIDS DUE: **Friday, December 12, 2025 at 2:00 p.m. Central**

A mandatory attendance pre-bid meeting will be held on Tuesday, December 2, 2025 at 2:00 P.M. at the Aurora Downtown Campus, Room 214.

RETURN BIDS TO:

Purchasing
Waubonsee Community College
4S783 State Route 47
Dickson Center, Room 259
Sugar Grove, IL 60554-9903

Responses to this IFB shall be submitted in a sealed envelope to the address above. **Envelopes must be clearly identified with the name of the BID and Due Date/Time.** Proposals received after the date and time specified in this BID will not be considered.

All correspondence or questions concerning this BID should be addressed to purchasing@waubonsee.edu.

To Be Returned with Bid

- ☐ BID FORM
- ☐ CERTIFICATIONS
- ☐ AUTHORIZATION PAGE
- ☐ CONFLICT OF INTEREST DISCLOSURE AND NON-COLLUSION FORM
- ☐ STATE OF ILLINOIS BUSINESS ENTERPRISE INFORMATION FORM
- ☐ REFERENCES

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COLLEGE OVERVIEW

Waubonsee Community College (WCC), located forty-five miles west of Chicago, Illinois, has served more than 300,000 students since its inception. As one of 48 public community colleges in the Illinois Community College System, WCC is governed by a board of trustees composed of seven community members elected from the district at large and a student trustee selected by the student body. WCC serves 22 municipalities, 12 public high school districts and nine private high schools in a five-county, 600-square-mile district. In order to proactively address student and community needs, WCC has cultivated a learning-centered culture that values, and an infrastructure that advances, continuous quality improvement.

Campus Locations

Main Campus

Waubonsee Community College Sugar Grove, Rte. 47 at Waubonsee Drive, Sugar Grove, Illinois 60554

Extension Campuses

Waubonsee Community College Plano Campus, 100 Waubonsee Drive, Plano, Illinois 60545
Waubonsee Community College Aurora Downtown Campus, 18 South River St. Aurora, Illinois, 60506
Waubonsee Community College Fox Valley Campus, 2060 Ogden Ave, Aurora, Illinois 60504

GENERAL REQUIREMENTS

Schedule

- Bid Publication Date — Monday, November 24, 2025
- Mandatory Pre-Bid Meeting — Tuesday, December 2, 2025 at 2:00 p.m. in Room 214
- Last Day for Submittal of Questions — Wednesday, December 10, 2025
- Bids Due to the college — Friday, December 12, 2025 at or before 2:00 p.m.
- Recommendation of Award — Wednesday, January 21, 2025
- Substantial Completion — TBD

Information

1. Bid documents are available for download from the college's purchasing webpage at **https://www.waubonsee.edu/local-businesses-employers-and-vendors/bidrfprfi-opportunities**.
2. Bids may be withdrawn by written request from Bidder or his agent prior to the date and time established for opening of Bids.
3. All late, faxed or emailed Bids will be rejected.

4. All Bid prices must be good for a period of ninety (90) days from the date of opening.
5. The award of the contract will be made within ninety (90) days after the opening of BIDS to the lowest responsive and responsible bidder whose bid complies with all requirements prescribed herein.
6. Bid summary will be posted to the college's purchasing webpage after award of orders.
7. If the Bid is not awarded within ninety (90) days after the opening of bids, a Bidder may file a written request with the Purchasing Manager on the withdrawal of their bid, and the Purchasing Manager will permit such withdrawal.
8. The price bid for each item is the full purchase price, including delivery to destination, rigging expenses, balancing provisions no matter what the cause for imbalance, and includes all transportation and handling charges, premiums on bonds, material or service costs, patent royalties and all other overhead charges of every kind and nature. Unless otherwise specified, prices shall remain firm for the contract period. List all costs individually on a separate sheet.
9. The college reserves the right to award this project to one vendor or split the award based on the best interests of the college.
10. Vendors involved in providing servicing under this project require a minimum of five years' experience.
11. The college reserves the right to reject or accept any or all Bid responses, to extend the bidding period, to waive technicalities in the documents or rebid prior to award of the Contract.
12. The college will issue a purchase order after award of orders.
13. Invoices will be paid monthly for work completed. The college's payment terms are net 30 days.
14. Waubonsee Community College's Standard Terms and Conditions are included and made part of this bid package by reference. Contact purchasing@waubonsee.edu to obtain a copy of the standard terms and conditions.
15. Any **Change Work Orders** must be submitted to the college in writing and approved by the college in writing.
16. The **Prevailing Wage Act** requires contractors and subcontractors to pay laborers, workers and mechanics employed on PUBLIC WORKS construction projects no less than the general prevailing rate of wages (consisting of hourly cash wages plus fringe benefits) for work of a similar character in the county where the work is performed.
17. Waubonsee Community College encourages the participation of qualified businesses owned by minorities, females and persons with disabilities in contracts the college awards. This policy shall be furthered by complying with the **Business Enterprise for Minorities, Females and Persons with Disabilities Act**, 30 ILCS 575/0.01 et seq. and by cooperating with the Illinois Business Enterprise Council.
18. WCC belongs to the following consortiums and Group Purchasing Organizations: E&I (Educational and Institutional Cooperative Purchasing); Sourcewell, US Communities; TCPN/National IPA; Midwest Higher Education Compact Consortium, and the Illinois Public Higher Education Cooperative. If you have pricing agreements with any of these organizations, pricing should minimally reflect these discounts. The college expects to be provided with the best available pricing.

19. All bid responses will become the property of Waubonsee Community College. All materials received or created by the college are considered ***public records*** and subject to disclosure to third parties in accordance with the **Freedom of Information Act (FOIA)**. These records include but are not limited to bid or proposal submittals, agreement documents, contract work product, or other information submitted by a vendor to the college.
    a. If the Respondent requests that the college withhold their trade secrets, commercial information or financial information from disclosure to a third party in response to a FOIA request, the Respondent must include in its submittal:
        i. A written notification specifically identifying such information
        ii. A statement that disclosure of such information will cause competitive harm to the Respondent
    b. Any content not so marked by the Respondent at the time of submittal will be presumed to be open to public inspection

Instructions

1. Provide one (1) original and one (1) copy of your Bid in a sealed envelope.
2. Bid submittals must include all pages noted on the cover page of this bid document.
3. Erasures or changes in bids must be initialed. White-out is NOT permitted.
4. Bidders may not contact any college employee to discuss this IFB. **All correspondence or questions concerning the IFB should be addressed to purchasing@waubonsee.edu.** All questions must be submitted in writing and will be responded to by addendum. Do not expect an immediate answer. Include your email address and/or fax number for any necessary communication.
5. Bidders are responsible for checking the college's purchasing webpage for updates to the IFB and will be required to acknowledge receipt of the addenda in the IFB response.
6. **Bid Bond** - None required
7. **Performance and Payment Bond**
    a. The awarded Contractor shall furnish a Performance and Payment Bond in the full amount of the Contract. The Surety issuing the Performance and Payment Bond must have a general rating of "A" and shall be a Class V or higher in the financial size category as defined by Best's Key Rating Guide – Property and Casualty.

    In the event the Bidder fails to furnish the Performance and Payment Bond within fourteen (14) calendar days after award, the college may elect to retain the Bidder's bid deposit as liquidated damages and not as a penalty and the Contract may be terminated.

8. **Subcontracting -** Provide the names and full contact information of any subcontractors to be used on this project. Subcontractors are subject to college approval.

BID FORM

All Bidders are required to complete and sign this form. Please print clearly. Attach a detailed proposal with a breakdown of costs for all equipment, delivery, installation and training.

Total Base Bid

Having examined the bid documents, as prepared by Waubonsee Community College, and having inspected the site and the conditions affecting and governing the construction of said Project, the Bidder hereby proposes to furnish all labor and materials, supervision, coordination, transportation, services and equipment for the sum of:

Base Bid **$** _____ Total

Cost for Performance and Labor Bond **$**_____ Total

TOTAL BID **$** _____ **Total**

In Figures

_____

In Words

Acknowledgement of Addenda

I acknowledge having received addenda # _____.

Bid Authorization

I HEREBY AUTHORIZE THIS BID, ACKNOWLEDGING THAT I UNDERSTAND AND AGREE TO THE PROVISIONS OF THIS BID. I WARRANT THAT ALL INFORMATION PROVIDED IN THE SUBMITTED BID IS TRUE AND ACCURATE. I FURTHER WARRANT THAT FAILURE TO HAVE READ ALL THE PROVISIONS OF THIS SOLICITATION SHALL NOT BE CAUSE TO ALTER ANY RESULTING CONTRACT OR REQUEST ADDITIONAL COMPENSATION. BY SIGNING THIS DOCUMENT.

_____
Name of Company

_____
Address

_____
City State Zip Code

_____
Telephone Number Email Address

_____
Authorized Signature Date

_____
Print Name Title

CERTIFICATIONS

All Bidders are required to complete and sign this form.
Completed form must be returned with Bid no later than the advertised Bid deadline. Failure to return this completed form may result in disqualification.

Bidders are cautioned to carefully read these certifications prior to signing below. Signing this page shall constitute a warranty by the undersigned that all of the statements, certifications and information set forth within these certifications are true, complete and correct as of the date signed. The undersigned is notified that if the college learns that any of the following certifications were falsely made, any contract entered into with the undersigned shall be subject to termination.

1. Prevailing Wage Act. To the extent required by law, Contractor shall not pay less than the prevailing wage as established pursuant to an Act Regulating the Wages of Laborers, Mechanics, and Other Workman employed under Contract for Public Workers 820 ILCS 130/1 et seq. Our company certifies that it is eligible for bidding on public contracts and has complied with section 11a of the Prevailing Wage Act, 820 ILCS 130.01-12.
2. Human Rights Act. To the extent required by law, Contractor shall abide by the Illinois Human Rights Act, 775 ILCS 10/0.01 et seq.
3. Drug Free Workplace. To the extent required by law, Contractor shall abide with the requirements of the Drug Free Workplace Act 30 ILCS 580.1 et seq.
4. Sexual Harassment Policy. Contractor represents by the signing of this agreement that it has a written sexual harassment policy that is in accordance with 775 ILCS 5/2-105 (A) (4).
5. Non-debarment. By executing this agreement Contractor certifies that it has not been debarred from public contracts in the State of Illinois for violating either 33E-3 or 33E-4 of the Public Contracts Act, 720 ILCS 5/33E-1 et seq.
6. Fair Employment Practice: Company is in compliance with all State and Federal laws regarding Fair Employment Practice as well as all rules and regulations.
7. Our company has an Equal Employment Opportunity and Affirmative Action Program which complies with Executive Order 11246, the Vietnam Era Veterans' Readjustment Assistance Act of 1974, and the Rehabilitation Act of 1973.
8. Our company certifies that it is eligible for bidding on public contracts and is not in violation of either paragraph 33E-3 or 33-E-4 of Public Act 86-150, 720ICLS 5 with regards to bid rigging/bid rotating.
9. When required by law, the bidder and all bidder's subcontractors must participate in applicable apprenticeship and training programs approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training as required by Illinois Public Act 093-0642.

Authorized Signatory: _____ ***Date:*** _____

CONFLICT OF INTEREST DISCLOSURE AND NON-COLLUSION FORM

All Bidders are required to complete and sign this form. Completed form must be returned with Bid no later than the advertised Bid deadline Failure to return this completed form may result in disqualification of Bid.

Conflict of Interest Disclosure

Waubonsee Community College is requiring that any and all relationships with the college, its administrators, trustees, committee member, or any other employee of the college be disclosed in writing as a part of any bid submitted. Contact in regards to this Bid with any employee of Waubonsee Community College during the pre-award period, except as noted in the solicitation, is strictly forbidden and is considered sufficient grounds for dismissal from the IFB/RFP process.

Define the relationship with any Waubonsee Community College administrator, trustee, committee members, or their immediate family member, with which your company or any of its owners, officers, trustees, employees does business with, or for which there is an opportunity to influence a related college decision.

_____

_____

_____

_____

☐ Bidder certifies that there is no known conflict of interest with any WCC administrator, trustee, committee member or employee of the college.

Non-Collusion Statement

The undersigned affirms that he/she is duly authorized to execute this contract and that this company, corporation, firm, partnership or individual has not prepared this Bid in collusion with any other Bidder, and that the contents of this Bid as to prices, terms or conditions of said Bid have not been communicated by the undersigned, nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this Bid.

The undersigned further affirms that this Bid was prepared independently for this project and that it contains no fees or amounts other than for legitimate execution of this work as specified and that it includes no understandings or agreements in restraint of trade.

Firm Name: _____

By:_____
(Authorized Signatory)

_____ Title

STATE OF ILLINOIS BUSINESS ENTERPRISE FOR MINORITIES, FEMALES, AND PERSONS WITH DISABILITIES ACT INFORMATION

Vendor shall provide the following information on the MBE status of its business so that the College can comply with the Business Enterprise for Minorities (MBE), Females (WBE), Persons with Disabilities Act (DBE), or Veteran Owned Business (VOB), 30 ILCS 575/1, et seq.

Identify Business Status (____MBE ____WBE ____DBE ____VOB)

- ☐ African American
- ☐ Alaskan Native/Native American
- ☐ Asian American
- ☐ Disabled
- ☐ Female
- ☐ Hispanic American
- ☐ Veteran
- ☐ Not Applicable

Small Business

- ☐ HUBZone small business
- ☐ Service-disabled veteran-owned small business
- ☐ Small Business
- ☐ Small disadvantaged business
- ☐ Veteran-owned small business
- ☐ Women-owned small business
- ☐ Not Applicable

Certifying Organization

- ☐ DCMS (Department of Central Management Services) Business Enterprise Program
- ☐ CMBDC (Chicago Minority Business Development Council)
- ☐ IDOT (Illinois Department of Transportation)
- ☐ WBDC (Women's Business Development Center)
- ☐ Other (Please Specify)
- ☐ Not Applicable

For more information please visit:

http://www.illinois.gov/cms/business/sell2/bep/Pages/Default.aspx

REFERENCES OF SIMILAR WORK PERFORMED

_____

Name

_____

Company Name

_____

Address

_____

City State ZIP Code

_____

Name

_____

Company Name

_____

Address

_____

City State ZIP Code

_____

Name

_____

Company Name

_____

Address

_____

City State ZIP Code

INSURANCE AND INDEMNITY REQUIREMENTS

1. SAFETY**:** The Contractor, its agents, employees, material men and its Subcontractors will perform all work on the project in a safe and responsible manner, and in compliance with all Federal, State and local safety requirements and standards.
2. INDEMNIFICATION**:** The work performed by the Contractor shall be at the risk of the Contractor exclusively. To the extent permitted by law, Contractor shall indemnify, defend, and hold harmless Owner, affiliated companies of Owner, their partners, joint venturers, representatives, members, designees, officers, directors, shareholders, employees, agents, successors, and assigns ("Indemnified Parties"), from and against any and all claims for bodily injury, death or damage to property, demands, damages, actions, causes of action, suits, losses, judgments, obligations and any liabilities, costs and expenses (including but not limited to investigative and repair costs, attorney's fees and costs, and consultants' fees and costs) which arise in whole or in part or are in any way connected with the Work performed, Materials furnished, or Services provided under this Agreement by Sub-Contractor or its agents.
3. INSURANCE: The insurance required shall be written for the duration of the Contract in amounts not less than the following minimum limits or as required by law whichever is greater. The Insurer must give the college at least 30 days prior written notice of cancellation and termination of the firm's coverage thereunder. All subcontractors the firm hires must comply with the same requirements.
    a. Comprehensive General Liability including Contractor's protective liability, Contractual liability, Completed Operations and Products liability. The latter shall be written for a period of one year from the date of acceptance by the Owner, to be renewed annually as long as the contract is in force. Minimum limits shall be as follows:
        i. Not less than $1 million dollars Each Occurrence, $2 million Products/Completed Operations aggregate, $1 million Personal and Advertising Injury limits, and $2 million General Aggregate subject to a per project aggregate.
        ii. Firm shall provide Waubonsee Community College with a Certificate of Insurance and endorsement naming Waubonsee Community College District No. 516, its officers, agents, employees and assigns as Additional Insured thereunder on a primary and noncontributory basis.

    b. Workman's Compensation as required by all applicable laws including employer's liability in the amount of $500,000.00 or as otherwise limited by law.
    c. Comprehensive Business Automobile Liability including non-ownership and hired car coverage as well as owned vehicles. Minimum limits shall be as follows:
        i. Written in the amount of not less than $1 million each accident and covering any auto.

    d. Umbrella Liability Insurance: Written in the amount of no less than $5 million each accident.

4. PROPERTY INSURANCE: It is agreed that the Contractor shall purchase and maintain property insurance for its material left at the job site. Contractor waives all rights of subrogation against Owner for loss of, or damage to, Contractor's work, tools, machinery, equipment, materials or supplies.

SCOPE OF WORK

Scope

1. There is currently a Liebert NPower 50kVA located in the 2nd floor data center at the Aurora Downtown campus (18 S. River Street, Aurora, IL) that is coming to end of life and needs to be replaced.
2. Removal and replacement will be on second floor room 245, all flooring must be protected moving new unit in and old unit out.
3. Delivery, receiving and unpacking will be the responsibility of the chosen contractor along with any damage during shipping or after receipt.
4. **Friday evening, Saturday or Sunday labor will be required since this will be an afterhours weekend install.**
5. Contractor will return dismantled system back to campus operations for recycling as requested.
6. Chosen contractor will need to coordinate startup with the manufacturer since there is limited time on weekends.
7. Chosen contractor will need to pull alarm wiring, temperature sensor and status wiring back to Building Automation cabinet.
8. All staging should be done in 2nd floor Data Center space.
9. Temp power should be priced as an option.

Equipment

1. Eaton equipment only as specified.
2. 74”H x 51.2”W x 42”D as specified

Approach, Plan of Work and Timeline

1. Waubonsee Community College estimates a start date in February 2026 and completion in May 2026. Contractors should identify if this timeline is reasonable or if more time would be required.

General Conditions

1. Safety of Persons and Property
    a. The Owner is NOT in charge of the Work or in control of the Work. The obligation of the Contractor shall be construed to include, but not be limited to injury or damage upon failure to use or misuse by the Contractor, his agents and em-ployees of any scaffold, hoist, crane, stay, ladder, support of other mechanical contrivance erected or constructed by any person or any or all other kinds of equipment, whether or not owned or fur-nished by the Contractor. The Contractor expressly agrees that he is exclusively responsible for compliance with OSHA and local regulations for construction and that he is the "employer" with-in the meaning of those regulations. Any provision in the Contract Documents in conflict with this paragraph shall be null and void.

2. Storage of Materials:
    a. Contractors to store all materials and equipment in a place that it will not serve as a barrier to entrances or become a nuisance as determined by the Owner.
    b. Materials are to be stored per manufacturer requirements/recommendations.

3. Work Restrictions, General:
    a. On-Site Work Hours: Work shall be generally performed outside the existing building during normal business working hours of 8:00 a.m. to 4:00 p.m., Monday through Friday, except otherwise indicated.
        i. Weekend Hours: Consult with Owner
        ii. Early Morning Hours: Consult with Owner
        iii. Hours for Utility Shutdowns: Consult with Owner
    b. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
        i. Notify Owner not less than 2 (two) days in advance of proposed utility interruptions
        ii. Do not proceed with utility interruptions without Owner's written permission

    c. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
        i. Notify Owner not less than 2 days in advance of proposed disruptive operations

    d. Nonsmoking Campus: Smoking is NOT permitted on the Waubonsee Community College Campus. Smoke breaks may be taken inside vehicles.
    e. Controlled Substances: Use of tobacco products and other controlled substances is not permitted within the building or on Project Site.
    f. On premises restrooms may be used by workers for the duration of the project.

Closeout Procedures

1. Project Close-out Meeting:
    a. Schedule and conduct a post construction meeting with owner to review and ensure project has been satisfactorily completed and all close-out requirements are understood.

2. Substantial Completion
    a. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
        i. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete

ii. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents
iii. Prepare and submit Project Record Documents, operation and maintenance manuals, and similar final record information
iv. Complete startup testing of systems
v. Submit changeover information related to Owner's occupancy, use, operation, and maintenance

Waste and Disposal

1. Contractor is responsible for disposal of all demolition and waste from installation.
2. Dumpster location to be coordinated with owner.
    a. Plywood or other protection is required to be placed under dumpster to protect pavement from damage.
3. Contractor shall be responsible for all cleaning required for work under the Contractor's jurisdiction as well as for keeping all work areas, passageways, ramps, stairs and all other areas of the premises free of accumulation of surplus materials, rubbish, debris and scrap which may be caused by the Contractor's operations.
4. Remove rubbish, debris and scrap promptly upon its accumulation and in no event later than the end of each workday. Contractor is responsible for the management and removal of waste materials, including hazardous materials, to be disposed of in accordance with all applicable laws, regulations, codes, rules, and standards.
5. Burning of rubbish or debris is not allowed at the site. Rubbish, debris and scrap is not to be thrown through any window or other opening, or dropped from any great height; it shall be conducted to the ground, to waiting truck(s) or removable container(s) by means of approved chutes or other means of controlled conveyance.
6. Spillages of oil, grease or other liquids that could cause a slippery or otherwise hazardous situation or stain a finished surface shall be cleaned up immediately.
7. If rubbish and debris is not removed, or if surfaces are not cleaned as specified above, the college reserves the right to have said work done by others and the related cost(s) will be deducted from monies due the Contractor.

Protection

1. All landscaping and hardscape/pavement are to be protected.
2. Plywood or other means should be used to protect pavement from damage by dumpsters or any other equipment as needed.
    a. Owner is to be consulted in advance, if existing landscaping must be altered to allow for work to progress.
    b. Owner is to be notified immediately if landscaping is damaged in the course of performing work.

3. Extreme care shall be taken by Contractor to safeguard all existing facilities, site amenities, utilities, irrigation systems, windows, and vehicles on or around the job site. Damage done to public and/or private property by the Contractor, shall be the responsibility of the Contractor and shall be repaired and/or replaced by Contractor at no additional cost to the college.
4. The Contractor shall use all means to protect existing objects, structures and vegetation. In the event of damage, the Contractor shall immediately make all repairs, replacements and dressings to damaged materials, to the approval of the college, at no additional cost to the college.

Additional scope of work and specifications appear on the following pages.

Waubonsee Community College 18 S River St. Aurora IL: 50kVA UPS System Replacement

SECTION 26 33 53 STATIC UNINTERRUPTIBLE POWER SUPPLY

Specification for a 40kW N+1 Rated In a 60kW Frame 208Y/120V Input-Output UPS System

PART 1 - GENERAL

1.01 SUMMARY

A. This specification describes a three-phase continuous duty, on-line, double conversion, solid-state uninterruptible power system, hereafter referred to as the UPS. The UPS shall operate in conjunction with the existing building electrical system to provide power conditioning, back-up and distribution for critical electrical loads. The UPS shall consist of, as required by the project, the UPS module, batteries, or other DC storage systems, and accessory cabinet(s) for transformers, maintenance bypass, and distribution applications, and other features as described in this specification.

1.02 UPS SYSTEM DESCRIPTION

A. UPS System Components: The UPS system shall consist of the following main system components:

1. UPS electronics module containing Rectifier(s), Inverter(s), Battery Charger(s), Static Bypass, and associated Controls and Touch Screen User Monitor Panel.
2. Battery string in a Line-Up and Matching External Battery Cabinet provided by the UPS system manufacturer.
3. Line-Up and Matching external maintenance bypass sidecar accessory cabinet for the external 3-Circuit Breaker Interlocked Maintenance Bypass that bolts to the side of the UPS electronics module.

B. UPS Module Modes of Operation: The UPS Module shall operate as an on-line, fully automatic system in the following modes:

1. Normal: Utilizing commercial AC power, the critical load shall be continuously supplied by the Inverter. The Inverter shall power the load while regulating both voltage and frequency. The Rectifier shall derive power from the commercial AC source and shall supply DC power to the Inverter. Simultaneously, the Battery Charger shall charge the battery.
2. Battery: Upon failure of the commercial AC power, the critical load shall continue to be supplied by the Inverter, which shall obtain power from the batteries without any operator intervention. There shall be no interruption to the critical load upon failure or restoration of the commercial AC source. The 93PM UPS shall be capable of operating with 480VDC battery systems.
3. Recharge: Upon restoration of the AC source, the Charger shall recharge the batteries and simultaneously the Rectifier shall provide power to the Inverter. This shall be an automatic function and shall cause no interruption to the critical load.
4. Bypass: If the UPS module must be taken out of the Normal mode for overload, load fault, or internal failures, the static bypass switch shall automatically transfer the critical load to the commercial AC power. Return from Bypass mode to

Normal mode of operation shall be automatic. No-break transfer to and from Bypass mode shall be capable of being initiated manually from the front panel.

5. Energy Saver Mode: The UPS module shall continuously monitor the voltage and frequency of the bypass source. When the input source parameters are within acceptable limits, the UPS will utilize a minimal/optimal combination of its internal subsystems to ensure acceptable power is always delivered to the critical load, at a system efficiency of 99%. The Energy Saver System shall be enabled by and programmable by the user. It shall incorporate a “High Alert Mode” to automatically (without user intervention) provide maximum power conditioning any time bypass source variation levels exceed preset, adjustable limits. When Energy Saver System is utilized, the UPS shall attenuate ANSI C62.41-type line transients to within IEC and ITIC limits. The Energy Saver System shall be able to distinguish between upstream (utility) faults and downstream (load) faults and react appropriately to protect and support the critical load, without interruption.

1.03 REFERENCES

A. UL 1778 (Underwriters Laboratories) – Standard for Uninterruptible Power Supply Equipment. Product safety requirements for the United States, 5th Edition.

B. C-UL-US CSA C22.2 No 107.3-14(Canadian Standards Association) – Commercial and Industrial Power Supplies. Product safety requirements for Canada.

C. NEMA PE-1 – (National Electrical Manufacturers Association) – Uninterruptible Power Systems standard.

D. IEC 62040-2 C2

E. IEC 62040-3 (International Electrotechnical Commission) – Uninterruptible power systems (UPS) – Part 3: Method of specifying the performance and test requirements.

F. IEEE 587 (ANSI C62.41) Category A & B (International Electrical and Electronics Engineers) – Recommended practices on surge voltages in low voltage power circuits.

G. FCC Rules and Regulations 47, Part 15, Class A (Federal Communications Commission) – Radio Frequency Devices.

1.04 SUBMITTALS

A. The UPS shall be supplied with sufficient documentation, including the following manuals:

1. Installation and Operation Manual: One copy of the installation and operation manual shall be furnished. It shall possess sufficient detail and clarity to enable the owner’s technicians or representatives to install and operate the UPS equipment and accessories. The manual shall include the following major items:

a) UPS description

b) UPS site planning and unpacking

c) UPS installation

d) Optional accessory installation

e) UPS theory of operation

f) Operating procedures

g) System events

h) UPS maintenance

i) Performance and technical specifications

j) Wiring requirements and recommendations

k) Physical features and requirements

l) Cabinet dimensions

1.05 QUALIFICATIONS

A. The UPS manufacturer shall have a minimum of fifty years of experience in the design, manufacture, and testing of solid-state UPS systems. A list of installed UPS systems of the same type as the manufacturer proposes to furnish for this application shall be supplied upon request.

B. The UPS manufacturer shall have ISO 9001 and ISO 14001 certification for engineering/R&D, manufacturing facilities and service organization.

C. The UPS manufacturer shall maintain a staffed 7x24x365 call center for technical and emergency support. Factory (not 3rd party) system coverage and PM service is required.

D. Field Engineering Support: The UPS manufacturer shall directly employ a nationwide field service department staffed by factory-trained field service engineers dedicated to startup, maintenance, and repair of UPS equipment. The organization shall consist of local offices managed from a central location. Field engineers shall be deployed in key population areas to provide on-site emergency response within 24 hours. A map of the United States showing the location of all field service offices shall be submitted with the proposal. Third-party service or coverage or maintenance will not be accepted.

E. Spare Parts Support: Parts supplies shall be located in the field to provide 80% of all emergency needs. Parts are stocked in regional logistics centers, ensuring a 95% First Time Fix rate and maximizing system availability.

F. Product Enhancement Program: The UPS manufacturer shall make available feature upgrade service offerings to all users as they are developed. These upgrades shall be available as optional field-installable kits.

G. Maintenance Contracts: A complete range of preventative and corrective maintenance contracts shall be provided and offered with the proposal. Under these contracts, the manufacturer shall maintain the user's equipment to the latest factory revisions. Third party service is not acceptable.

1.06 ENVIRONMENTAL REQUIREMENTS

A. The UPS shall withstand any combination of the following external environmental conditions without operational degradation.

1. Operating Temperature: 5°C to 40°C (41°F to 104°F) without de-rating (excluding batteries).

2. Storage Temperature: -25°C to + 50°C (-13°F to 122°F). Prolonged storage over 40°C (104°F) will cause rapid self-discharge and permanent damage to the battery. Ideal battery storage temperature is 15°C to + 25°C (59°F to 77°F)

3. Relative Humidity (operating and storage): 5-95% non-condensing.

4. There shall be at least a 1.8°F (1.0°C) difference between the dry bulb temperature and the wet bulb temperature, at all times, to maintain a non-condensing environment

5. The maximum rate of temperature change shall be limited to 3°F over 5 minutes (36°F/hour), based on the ASHRAE Standard 90.1-2013

6. Elevation:

   a) Operational: 5000 ft. (1500 m) maximum without de-rating. Above this rating, altitude percent load de-rating as per IEC 62040-3

   b) Transportation: Capable of air transport, up to 15,000m.

1.07 SAFETY

A. The UPS system including all system matching cabinets shall be certified and listed by Underwriters Laboratories in accordance with UL 1778, 5th Edition.

B. The UPS shall be certified by the Canadian Standards Association in accordance with c-UL-US CSA C22.2 NO.107.3-14.

C. All System Cabinets shall be NEMA 1 and IP20 rated.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Approved Manufacturer: Eaton.

2.02 UPS MODULE STANDARD FEATURES

The 40kW N+1 Rated UPS electronics module shall consist of the following standard components, housed in a single 60kW frame:

A. Quantity Three (3) identical 20kW UPM Uninterruptible Power Modules, factory installed in a 60kW frame for a 40kW N+1 capacity rating, and each 20kW UPM containing the following:

1. Rectifier/Charger: The rectifier/charger shall convert incoming AC power to regulated DC output for supplying the inverter and for charging the battery. The rectifier/charger shall be a high-frequency PWM design, using Insulated Gate Bi-polar Transistors (IGBTs). The modular design of the UPS shall permit safe and fast removal and replacement of the rectifier/charger module. Mean time to repair (MTTR) for the module shall be no more than 30 minutes in order to return UPS to normal mode. The rectifier/charger module shall also provide the following:

2. The rectifier shall be capable of drawing power from the utility with a power factor of 0.99 under nominal conditions.

3. The rectifier shall feature protection circuitry that prevents the IGBTs from sourcing current in excess of their published ratings.

4. Inverter: The inverter shall feature an IGBT pulse-width-modulation (PWM) design with high-speed switching. The inverter shall also have the following features:

5. The inverter shall be capable of providing the specified quality output power while operating from any DC source voltage (rectifier or battery) within the specified DC operating range.

6. The modular design of the UPS shall permit safe and fast removal and replacement of the power module. Mean time to repair (MTTR) for the module shall not exceed 30 minutes in order to return UPS to normal operating mode.

7. The inverter shall feature protection circuitry that prevents the IGBT (Insulated Gate Bipolar Transistors) from sourcing current in excess of their published ratings.

B. Static Bypass: The bypass shall serve as an alternative source of power for the critical load when an abnormal condition prevents operation in normal mode. Each bypass circuit for the 60kW frame electronics module shall consist of a fully rated, continuous duty, naturally commutated static switch for high-speed transfers. The bypass shall feature the following transfer and operational characteristics.

1. Transfers to bypass (for stand alone, and parallel capacity systems) shall be automatically initiated for the following conditions:
   a) Output overload period expired.
   b) Critical bus voltage out of limits.
   c) Internal over temperature period expired.
   d) Total battery discharge.
   e) UPS failure.
2. Parallel Redundant UPS systems shall transfer to bypass on conditions (a), (b), and (d) above. Conditions (c) and (e) will result in the affected UPS isolating itself from the parallel bus, allowing the remaining UPS(s) to support the critical load.
3. Uninterrupted automatic re-transfer shall take place whenever the inverter(s) is capable of assuming the critical load.
4. Uninterrupted automatic re-transfers shall be inhibited for the following conditions:
   a) When transfer to bypass is activated manually or remotely.
   b) In the event of multiple transfers/re-transfer operations the control circuitry shall limit “cycling” to three (3) operations in any ten-minute period. The third transfer shall lock the critical load on the bypass source, for 60 minutes.
   c) UPS failure.
5. Uninterrupted manual transfers shall be initiated from the control panel. Uninterrupted manual transfers to bypass and from bypass shall be possible with the inverter logic. During manual transfers to bypass mode, the inverter must verify proper bypass operations before transferring the critical load to the bypass.
6. All transfers to static bypass shall be inhibited for the following conditions:
   a) Bypass voltage out of limits (+15%, to -15% of nominal 208V.
   b) Bypass frequency out of limits (+/- 4 Hz, adjustable, factory set)
   c) Bypass out of synchronization
   d) Bypass phase rotation / installation error
7. Static transfer time: No break, complete in less than 4ms.
8. The bypass shall be manually energized using the control panel or remotely through a building alarm input.

C. Monitoring and control components: The following components shall provide monitoring and control capability:

1. Control panel: color LCD, touch screen sensitive, with LED status indicators.
2. Alarm and metering display.
3. Building alarm monitoring.
4. Communication ports: RS-232 and USB.

D. Battery management system: The UPS shall contain an internal battery management system which has the following features when used with lead acid batteries:

1. The battery management system shall provide battery time remaining while operating in normal mode and battery mode. Upon commissioning, battery runtime information shall be available.
2. The battery management system shall automatically test the battery system to ensure that the battery is capable of providing greater that 80% of its rated capacity. Testing the batteries shall not jeopardize the operation of the critical load. Upon detection of the battery string(s) not capable of providing 80%, the UPS system will alarm that the battery needs attention/replacement. The battery test shall be able to detect the following:
   a) Open battery string
   b) Shorted battery string (current limit)
   c) Battery capacity (runtime) less than 80% of “new” battery capacity

E. Wiring Terminals: The 60kW frame UPS module shall contain through-hole busbar landings (adequately sized to accommodate 75-degree C wiring)., for securing user wiring, using compression lugs, to the following locations:

1. Rectifier/charger input connections 3-wire plus ground
2. Bypass input connections, (for dual source configurations): 4-wire plus ground.
3. DC connections for battery cabinets (positive and negative plus ground).
4. AC output connections 3-wire or 4-wire plus ground.

2.03 UPS MODULE OPTIONS AND ACCESSORIES

The UPS system shall include the following options and accessories:

A. Integrated Maintenance Bypass Accessory Cabinets: Integrated Line-Up and Matching cabinets shall be provided that include(s):

1. All hardware and interconnecting cables for connection to UPS module.
2. SIAC-B Maintenance Bypass Sidecar: Three circuit-breaker interlocked manual maintenance bypass switching in a matching sidecar configuration for 60kW to isolate the UPS module from commercial AC input and critical load. The bypass may be mounted on either side of the UPS module and will be sized based on the UPS static switch rating. The 3-Circuit Breaker maintenance bypass cabinet shall provide complete isolation of the UPS for servicing. Switch shall be make-before-break, kirk-key interlocked between UPS and bypass to prohibit improper operation. For all designs, the MBP breaker includes auxiliary contacts for monitoring. The BIB breaker also shall include auxiliary contacts and a 48VDC shunt trip for backfeed protection.

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B. System shall include a: Network Adapter and UPS Power Monitoring Software, one (1) PX Gateway WEBCARD adapter shall provide a communications interface between the UPS module and the following network management systems.

1. SNMP v.1, v.3
2. Modbus TCP
3. BACnet/WS or /IP
4. IPv6

This capability shall allow the unit to be monitored remotely over an Ethernet network using a standard web browser.

C. UPS Power Monitoring Software: This system shall continuously monitor critical power elements associated with the UPS, using the communications port on each module and a customer furnished PC. The system shall automatically alarm if any problems arise and notify local or remote personnel of the alarm condition via email, page, or text message.

D. System shall include one (1) Relay Monitoring Card: Serial dry contact card providing 5 isolated dry output contacts, 1 isolated input. The relays are programmable.

E. Matching External Battery Cabinet System: The battery cabinet shall feature 12V valve regulated, high-rate discharge, lead-acid batteries which provide energy to the support the critical load during a momentary loss of input power to the rectifier. The batteries shall be UL flame retardant listed in accordance with UL 94V2 requirements. The Matching External battery cabinet shall have the following features:

1. The Line-UPS and Matching External Battery Cabinet System Shall provide a minimum of **20 minutes runtime with a full 40kW system load** at 25°C (77°F).
2. The Matching External battery cabinet shall be the same depth and height as the UPS module and shall be 16.7” wide.
3. The battery cabinet shall feature an enclosure matching the appearance of the UPS module and shall feature casters for easy installation. The battery cabinet shall require front access only for installation, service and maintenance.
4. Power wiring internal to the matching battery cabinet shall be factory provided. The battery cabinet shall feature 10 battery trays holding four (4) 12V batteries per tray which can be individually disconnected from the battery cabinet power wiring with quick disconnect devices. Each battery tray shall be firmly secured to the battery cabinet frame with fasteners. Each battery tray shall be removable from the front of the battery cabinet.
5. Up to total (4) line-and-match battery cabinets may be connected to a single UPS electronics module.
6. The matching external battery cabinet shall include an internal DC rated shunt trip circuit breaker. The circuit breaker within the battery cabinet shall only provide protection to the battery string(s) within that battery cabinet. For battery configurations involving multiple battery cabinets, the batteries in one battery cabinet may be isolated from the DC link via its circuit breaker without disconnecting other battery cabinets from the DC link and the UPS module.
7. The circuit breaker in the battery cabinet shall feature an A/B auxiliary switch. The UPS module shall be capable of monitoring and alarming an open battery cabinet circuit breaker condition.
8. The circuit breaker in the battery cabinet shall feature a 48VDC shunt trip device. The shunt trip shall operate to trip the battery breaker(s) for an emergency power off command or battery disable command.

9. Power and Control wiring between the matching battery cabinet and the UPS electronics module shall be factory provided. Remote battery cabinet installation is available, with all power and control cabling provided by the installer.

10. The batteries shall be configured with a ¼" spade type connector for attaching sense leads to each jar to facilitate the future addition of a battery monitoring system and to allow ease of testing batteries.

11. Expected battery life: for VRLA batteries, 200 complete full load discharge cycles when operated and maintained within specifications.

    a) Each cabinet will contain a circuit breaker that can be opened automatically by the BMS if conditions require.

2.05 UNINTERRUPTIBLE POWER SUPPLY RATINGS AND OPERATING CHARACTERISTICS*

A. UPS Continuous Ratings. The UPS system shall be rated 40kW N+1 in a 60kW frame so that in the event one (1) of the three (3) 20kW power module fails with up to 40kW UPS system load, the UPS will continue to protect the load of up to 40kW on inverter power:

UPS Rating	60kW Frame	
	Capacity	N+1
40kW		X

Units may be upgraded to their maximum UPS frame rating when sufficient UPMs are installed and appropriate firmware settings are implemented.

The UPS power rating shall be 40kVA N+1 at 1.0 (unity) power factor = 40kW with the UPS ability to support load with 0.8 leading to 0.8 lagging power factor without de-rating.

B. Acceptable UPS input source:

1. UPS shall support 4-wire grounded Wye sources. A neutral conductor from the source is required to be terminated on the neutral bus in the UPS and is then passed through to the load.

    a) Single source, single feed: three-phase, 4-wire grounded neutral wye

C. Rectifier/charger input:

1. Nominal Input is 208Y/120Vac three-phase, four-wire plus ground, 60Hz.

2. Operating input voltage range: +15%, -15% for 208V of average nominal input voltage without battery discharge. The UPS shall "power share" with the battery to -30% of nominal voltage, at full rated load.

3. Operating input frequency range shall be 40 to 72Hz.

4. Active Input Power factor 0.99 lagging at rated load.

5. Normal input current limit: The UPS shall have the following programmable input current limit settings while operating in normal mode:

6. Rectifier/charger input current limit shall be adjustable from 100 to 115% of UPS kW rating.

7. On generator input current limit: The UPS shall have the following programmable input current limit settings while operating in normal mode on generator:

8. Rectifier/charger input current limit shall be adjustable from 100% to 115% of UPS full load kW rating.

9. Battery recharge input current limit shall be adjustable from 0 to 7A per 20kW UPM module. This limit may be less, depending on size of input service and UPS input current limit setting

10. Input current total harmonic distortion (THD) shall be less than 3.5% at nominal line voltage and 5% nominal source impedance without need of a harmonic filter.

11. Power walk-in: Ramp-up to full utility load adjustable from 14 amps per second to 0.7 amp per second, per each UPM in the system.

D. Bypass input:

1. Synchronizing bypass voltage range shall be +15, -15% of average nominal (208V) input voltage.

2. Synchronizing bypass frequency range is +/- 0.5 Hz to +/-4 Hz, user adjustable, and is centered on the nominal frequency. Default setting is +/- 4 Hz.

3. Slew rate: 0.5 Hz per second, maximum.

4. Bypass and rectifier inputs can be supplied from out of phase sources if required.

5. Input surge withstand capability: The UPS shall be in compliance with IEEE 587 (ANSI C62.41), category A & B (6kV).

E. Rectifier/charger output:

1. Nominal DC voltage shall be 480 VDC (open circuit battery voltage).

2. Capacity: The rectifier/charger shall support a fully loaded inverter and recharge the VRLA battery to 90% of its full capacity within 10 times the discharge when input current limit is set at maximum.

3. Low line operation: The rectifier/charger shall be capable of sharing the DC load with the battery when the input voltage falls below the specified operation input voltage range, the “on battery” indicator shall annunciate operation in this mode.

4. DC sensing: DC voltage sensing methods shall be incorporated for providing battery over-voltage protection.

5. Battery charger characteristics: The UPS battery charging system shall have the following characteristics:

a) The charger shall be capable of being configured for several charge modes including:

(1) A charging mode that increases battery life by allowing the battery to rest periodically, reducing positive plate corrosion

(2) A charging mode floating the battery at a set level, which can be adjusted via firmware.

b) UPS module will automatically adjust battery shutdown based upon loading and battery capacity.

(1) The UPS module shall automatically adjust the final discharge voltage between 1.67 and 1.75 Volts per cell based on the existing load and the rate and length of discharge.

(2) The minimum operational voltage is 1.67 V per cell (adjustable upward) = 400.8VDC for the entire 12V battery string.

F. UPS output in normal mode

1. Nominal output voltage 208Y/120V, 3-phase, 4-wire plus ground at the UPS output terminals.
2. Steady-state voltage regulation (in inverter) shall be within +/- <1% average from nominal output voltage.
3. Transient voltage response shall be per EN62040-3, Class 1, VFI-SS-111.
4. Transient voltage recovery shall be compliant to EN62040-3, Class 1, VFI-SS-111.
5. Linear load harmonic distortion capability: Output voltage THD of less than 1.6% for 100% linear load.
6. Non-linear load harmonic distortion capability: Output voltage THD of less than 2% for 100% non-linear load when tested using the non-linear load described in IEC 62040-3.
7. Line synchronization range shall be +/- 4Hz, adjustable to+/-0.5 Hz.
8. Frequency regulation shall be +/- 0.1Hz free running.
9. Frequency slew rate shall be 0.5 Hz/second maximum.
10. Phase angle control:
    a) Balanced linear load shall be <1 degree from nominal 120 degrees
11. Phase voltage control:
    a) Balanced linear loads shall be +/- 1% from average phase voltage
    b) Unbalanced linear loads shall be less than <2% from average phase voltage for 100% load unbalanced
12. Overload current capability (with nominal line and fully charged battery, non-paralleled systems):
    a) Double Conversion mode: The unit shall maintain voltage regulation for 102% to <110% of resistive/inductive load for 10 minutes, 111% to <125% for 60 seconds, and 126% to 150% for 10 seconds, >151% for 300ms.
    b) Stored energy mode (typically on battery): The unit shall maintain voltage regulation for 102% to <110% of resistive/inductive load for 10 minutes, 111% to <125% for 60 seconds, and >126% for 300ms.
    c) Energy Saver System operation: Continuous = 110%. Transient = 1000% peak current for 10ms.
    d) On bypass (single UPS systems): Continuous = 125%. Transient = 1000% peak current for 10ms.
13. Fault clearing current capability: See section 12 above.
14. Static transfer time, inverter to bypass: No break, completed in less than 4ms.
15. Static transfer time, Energy Saver to inverter: No break, completed in less than 4ms maximum, typically <2ms.
16. Common mode noise attenuation:
    a) -65dB up to 20kHz, -40db up to 100kHz

17. EMI Suppression: The UPS shall meet FCC rules and regulation 47, part 15, for Class A devices, and IEC62040-2 C2 and C3.

18. Electrostatic discharge (ESD): The UPS shall meet IEC61000-4-2 level 3; 4kV contact/8kV air discharge.

19. Efficiency: The UPS incorporate a 3-level power converter design for highest possible efficiency. Full load efficiency for non-derated hardware shall be 95%, 50% load efficiency shall be 95%, and the UPS shall achieve >94.0% efficiency at 25% load.

G. UPS Output with Required Energy Saver System:

1. The Included Energy Saver System acts to optimize the internal components of the UPS power train to maximize system efficiency when the bypass source is within the following (adjustable) limits: Voltage: +/-10%, and Frequency: +/-3Hz.

2. Nominal output voltage 208Y/120V, 3-phase, 4-wire plus ground at UPS output terminals. Steady-state voltage regulation shall be within +/- 10% from nominal output voltage.

3. Line synchronization range shall be +/- 4 Hz, adjustable.

4. Frequency regulation shall be +/-4 Hz when bypass source is within the limits in (1) above, and +/- 0.1Hz free running,

5. Overload current capability (with bypass source within the limits of (1) above) Continuous: 110%, Transient: 1000% for 10msec.

6. Static transfer time: No break, typically completed in less than 2ms, including detection time.

7. Acoustical noise: Noise generated by the UPS under normal operation shall not exceed 65dbA at one meter from any operator surface, measured at 25 degrees C (77 degrees F) and full load.

8. EMI Suppression: The UPS shall meet FCC rules and regulation 47, part 15, for Class A devices, and IEC62040-2 C2 and C3.

9. Electrostatic discharge (ESD): The UPS shall meet IEC61000-4-2 level 3; 4kV contact/8kV air discharge.

10. Efficiency: The UPS efficiency in Energy Saver Model shall be 99%, over the range of 25% to 100% load.

*Unless otherwise specified, performance data in Sec 2.05 above is measured under conditions of 100% resistive load for fully rated UPS sizes, 25 degrees C ambient temperature, nominal rectifier and bypass input voltages, and battery system floating.

2.06 MECHANICAL DESIGN

A. Enclosures: The UPS shall be housed in free-standing double front enclosures (safety shields behind doors) equipped with casters and leveling feet. The enclosures shall be designed for computer room applications. Front doors shall have keyed locks to help prevent unauthorized entry.

B. Modular construction: The UPS shall be comprised of Universal Power Modules (UPMs), each UPM rated for 20kW, and each UPS includes the rectifier, inverter, and battery converter power and control circuitry. These UPMs shall be draw-out assemblies that can be quickly exchanged or replaced by authorized service personnel, with proper personal protective equipment; [PPE], without transferring the UPS output load to bypass.

C. Ventilation: The UPS and shall be designed for forced-air cooling. Air inlets shall be on the front of the unit. Air outlet configuration for the UPS, and its accessory cabinet(s) shall be user selectable at time of order to exhaust warm air at the top of the cabinet (row or wall installations), or exhaust at the rear of the cabinet for “hot aisle” configurations. Eighteen inches of clearance over the UPS outlets shall be required for proper air circulation (top exhaust) or working space (rear exhaust). An air filter shall be mounted in the front door of the UPS module.

D. No rear or side clearance or access shall be required for the system. The back and side enclosure covers shall be capable of being located directly adjacent to a wall. Systems that require any side or rear access are not acceptable.

E. Cable entry: Standard cable entry for the 60kW frame UPS cabinet shall be through the enclosure bottom. Top cable entry shall be facilitated by a sidecar which can be mounted on either side of the UPS.

F. Front access: All serviceable subassemblies shall be modular and capable of being replaced from the front of the UPS (all front access only is required). Systems requiring side or rear access are not acceptable.

G. Service area requirements: The system shall require no more than thirty-six (36) inches of front service access room and shall not require any side or rear access for service or installation.

2.07 CONTROLS AND INDICATORS

A. Microprocessor controlled circuitry: The UPS controls shall have the following design and operating characteristics:

1. Fully automatic operation of the UPS shall be provided through the use of microprocessor controlled Digital Signal Processing. Start-up and transfers shall be automatic functions and will not require operator intervention.

B. Digital Front Panel Display: The UPS control panel shall be a 7” touch sensitive, backlit LCD front panel display that includes LED indicators for basic UPS status. Large, luminous, color-coded LED pillars (vertical bars) shall show the UPS status (green, amber, red), and be visible up to 30m from the UPS. The LCD shall display:

1. UPS status (home screen): the LCD screen shall have a color-coded border (header) that turns red on alarm, and shows basic UPS status in the header of the display, visible at all times. The header shall alternately show UPS status output voltage and battery time remaining and be visible constantly in all display screens. The home screen shall show load level, average efficiency, and power consumption in kWh. The home screen shall show a system mimic diagram with a color-highlighted power path, operating mode, and active events.

2. Controls tab: Shall provide touch sensitive button controls, with a confirm prompt, for turning the UPS on and off, transfer to/from bypass, and enabling or disabling the battery charger, initiating a battery test, and enabling or disabling Energy Saver System (ESS).

3. Metering tab: The metering screen shall show voltages currents, temperatures, kW, kVA, and power factor (as applicable) for the UPS input, output, bypass source, and battery. Color coded (green, amber, red) bar graph indicators will accompany power and temperature measurements

4. Logs tab: alarm/event queue, active alarms and alarm history, events, status changes and commands, all timed to the 1/1000th second for tracking and analysis.

5. Statistics tab: Numerically and graphically displays the estimated savings afforded by ESS operation over time.

6. Settings tab: shall provide button access to user adjustable settings such as, but not limited to: date/time, building alarm designations, communications parameter setup, UPS name, user passwords, and display language.

C. Control Panel Lamp Indicators: The UPS control panel shall provide the following monitoring functions with indicator (icon) LED's:

1. NORMAL: This green LED shall indicate that the commercial AC utility or generator source is supplying power to the rectifier and the inverter is supporting the critical load.

2. BYPASS: This amber LED shall indicate that the UPS has transferred the load to the bypass circuit.

3. BATTERY: This amber LED shall indicate that the commercial AC utility or generator source has failed, and the battery is supplying power to the inverter, which is supporting the load.

4. ALARM: This red LED and the accompanying audible alarm horn, shall indicate that the UPS detects an alarm condition, outlined in detail in the Logs tab from the home screen and in the operator's manual.

D. Interface panel: The UPS shall be equipped with an interface panel, located behind a protective cover, which provides the following signals and communication features in a Class 2 environment:

1. Alarm contact: A dry contact for annunciating a summary alarm shall be provided for customer use. This contact shall be Form "C" capable of supplying both N/O and N/C contacts. Contact ratings shall be 5A max at a voltage not to exceed 28VDC or 277VAC.

2. RS232 (EIA / TIA-232) and USB communications interfaces: Circuitry shall be provided for one "host", and one "device" USB connector, and one RS232 (EIA / TIA-232) communication port for connection to automated service department diagnostic tools. This port may be used with simple ("dumb") terminals to gain remote access to all unit operation information.

3. Building alarms: Five inputs shall be provided for monitoring the status of external dry contacts. Building alarms shall be set up through the UPS configuration mode function on the UPS front panel display or via the RS232 (EIA / TIA-232) port.

4. External REPO contacts: Shall be provided to connect an external remote emergency power off switch to shut down the UPS and de-energize the critical load. Normally open or normally closed contacts shall be acceptable.

5. Battery control contacts: Contacts shall be provided to connect the battery shunt trip and auxiliary contact signals from a battery breaker or battery disconnect switch.

6. External bypass indicator connection: A connection point shall be provided to acknowledge that an external maintenance bypass has been closed around the UPS, placing the critical load on utility power.

7. SELV 24V: This provides stable power for communication between the UPS and optional accessories.

2.08 COMMUNICATIONS

A. Communications Bay: The UPS shall be equipped with field configurable communications bays that will accommodate four (4) plug-in communication devices

B. Remote Monitoring:

1. Optional WEB/SNMP communication capabilities will be available for all systems.

2. The UPS shall be able to be monitored remotely via communications devices. The UPS manufacturer shall provide include a communications WEBCARD that is capable of communicating via various industry standard protocols such as RS232, SNMP, BACnet and ModBus. Monitoring of UPS status may also be performed through isolated dry contact Form C relays.

The UPS communication capability must be able to integrate into any industry standard Building Management System (BMS) and/or Network Management System (NMS). The UPS must also be able to be monitored via any standard Internet browser.

All optional hardware interfaces shall be “Hot-swappable” (UPS maintains power to critical applications while changing interfaces).

C. Shutdown:

1. There shall be a mechanism that provides graceful, orderly, unattended, sequential shutdown of one or multiple computers powered by one UPS. This shutdown shall be performed via in-network or out-of-network means. The order of shutdown shall be user-defined, allowing the maximization of runtime on battery for more critical systems.

2. The UPS shall also be capable of interfacing with an operating system’s built-in shutdown routine. This shall be done through a cable connection to the communication interface card.

D. Notification:

1. There shall be a mechanism to send alerts to key personnel via email or SNMP traps. An alarm notification may also be sent by a network message.

2.08 UPS MODULE PROTECTION

A. Rectifier/Charger and Bypass protection shall be provided through individual fusing of each phase.

B. Bypass backfeed protection shall be included with sidecar and wall mount maintenance bypass options. The UPS shall provide backfeed detection. If no maintenance bypass is used, backfeed protection shall be provided via a shunt trip (48VDC) signal available to an external bypass input breaker

C. Battery protection shall be provided by thermal-magnetic molded-case circuit breakers in each battery cabinet (if standard battery pack is provided) or external protective device for an external battery.

D. Electronic current limiting circuitry and fuses in the Inverter circuit shall provide output protection.

E. To comply with agency safety requirements, the UPS module shall not rely upon any disconnect devices outside of the UPS module to isolate the battery cabinet from the UPS module.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

3.02 COMMISSIONING

A. Factory 7x24 start-up shall be included. Factory (not 3rd party) start-up service shall be included and shall include one visit to perform all procedures and tests specified within UPS Installation and Operation manual. Third party service is not acceptable. The UPS manufacturer shall also offer the following optional services:

1. Pre-energize visit to inspect installation and provide guidance to installers as required.
2. Post-start-up visit for alarm notification configuration, operator training, generator testing, etc.

B. The following procedures and tests shall be performed by the UPS Manufacturer Factory Employed Field Service Personnel during the UPS system startup:

1. Visual Inspection:
   a) Visually inspect all equipment for signs of damage or foreign materials.
   b) Observe the type of ventilation, the cleanliness of the room, the use of proper signs, and any other safety related factors.
2. Mechanical Inspection:
   a) Check all the power connections for tightness.
   b) Check all the control wiring terminations and plugs for tightness or proper seating.
3. Electrical Pre-check:
   a) Check the DC bus for a possible short circuit.
   b) Check input and Bypass power for proper voltages and phase rotation.
   c) Check all lamp test functions.
4. Initial UPS Startup:
   a) Verify that all the alarms are in a "go" condition.
   b) Energize the UPS module and verify the proper DC, walkup, and AC phase on.
   c) Check the DC link holding voltage, AC output voltages, and output waveforms.
   d) Check the final DC link voltage and Inverter AC output. Adjust if required.
   e) Check for the proper synchronization.
   f) Check for the voltage difference between the Inverter output and the Bypass source.
   g) Optional on site full-load, step-load, and battery discharge tests using supplier furnished load bank, shall also be offered.

5. Operational Training: Before leaving the site, the UPS manufacturer factory (nott third party) field service engineer shall familiarize responsible personnel with the operation of the UPS. The UPS equipment shall be available for demonstration of the modes of operation.

3.03 WARRANTY

All components of the UPS system shall be covered by a factory (not 3rd party) five-year parts and labor system warranty (excludes batteries).

A five-year parts & labor factory (not 3rd party) warranty shall include replacement coverage for the UPS parts for a period of 66 months from shipment or 60 months from factory start-up date, whichever occurs sooner. Factory (not 3rd party) site labor and travel coverage shall be for five (5) years after factory system startup. Guaranteed Factory Emergency Service Site Response shall not exceed 8-hours, 7x24x365, including all weekends and holidays.

Five (5) year total factory (not 3rd party) service protection coverage shall include 7x24x365 on-site repair/replacement labor for UPS parts and labor and 3-years parts & labor for the batteries; 7x24x365 technical support coverage; and 7x24x365 Predict Pulse predictive analytics and remote monitoring service (with monthly reports for UPS and battery performance). Connectivity kit for Predict Pulse is provided upon customer signup. The UPS manufacturer shall include:

- One (1) 5x8 Electronics PM visit in each: year-2, year-3, year-4 and year-5 (four total PM visits for the electronics module for the first 5 years after factory system startup date)
- Two (2) 7x24 Batteries PM visits in year-2, year-3, year-4 and year-5 (8 total battery PM visits for the first 5 years after factory system startup date)
- All PM visits shall be performed by UPS manufacturer employed field service technicians
- Third party service is not acceptable. All PM service and all in-warranty service coverage for UPS electronics 5-year parts & labor warranty term and batteries 3-year parts & labor warranty term must be provided by the UPS manufacturer factory employed technicians.

UPS Manufacturer to include site start-up, consisting of one (1) 7x24 start-up of the UPS system. Startup includes user training, site audit, installation and commissioning of the monitoring service, and validation of the factory 5-year total parts & labor system warranty term to be performed at the start-up. Factory battery system warranty shall be for 3-years parts & labor from startup date. Third-party warranties, third-party system coverage and third-party PM service is not acceptable.

END OF SECTION

Eaton 93PM-40kW N+1 Redundant 208Y/120V Input-Output UPS system for 18 S. River St Aurora

93PM System Specifications

System Voltage:	208Y/120V 3ph-4w + Ground	UPS Frame Capacity:	60kW
Quantity of 20kW Power Modules:	3	UPS kW Rating:	40kW N+1 Redundant
Internal Redundant Configuration:	Yes	Internal Battery Configuration:	No Internal Batteries
Input Feed:	Single Feed	ESS Included:	No
Communication:	Industrial Gateway Card, Industrial Relay Card, and EMP	Accessories:	None
Side Car:	3-Circuit Breaker Sidecar MBS	Side Car Breaker Rating:	Standard, MBS & BIB Montiored
Exhaust Configuration:	Top Air Air Exhaust	Internal Estimated Runtime:	No Internal Batteries
UPS Dimensions (H" x W" x D"):	74 x 34.5 x 42	UPS Weight (lbs):	708

Total UPS System Dimensions

Combined Three (3) Matching Cabinets Total System Dimensions: **74"H x 51.2"W x 42"D; 2,867 lbs**.

93PM Matching Battery Cabinet

Battery Cabinet:	IBC-SW		
DC Voltage:	480V DC nominal	Battery Cabinet Weight (lbs):	2159
Battery Cabinet Width (in):	16.7	74" H x 42" D	
kW for Runtime Calculation:	40	Estimated Full Load Runtime (minutes) at 77 degrees F:	20
# of Cabinets/Strings:	1/1	Battery Manufacturer:	Eaton
Battery Installation:	Line Up and Matching	OSHPD Rated:	No

UPS Accessories

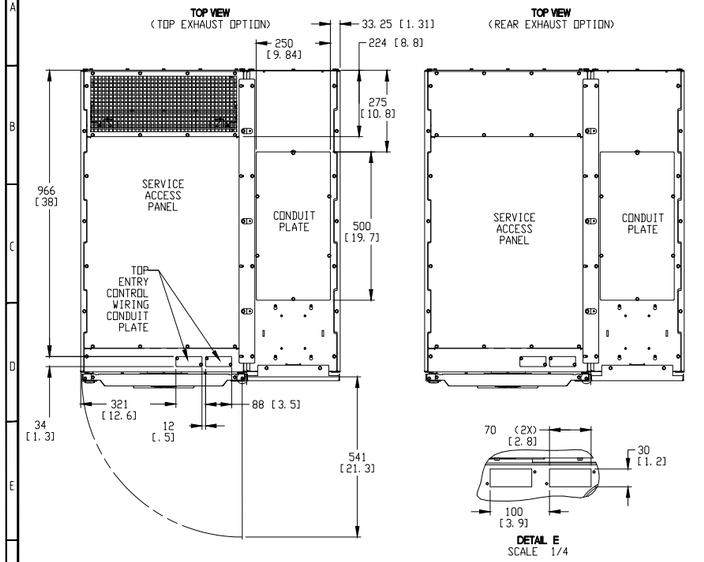
Raised Floor Floor Stands:	None	Chimney:	None

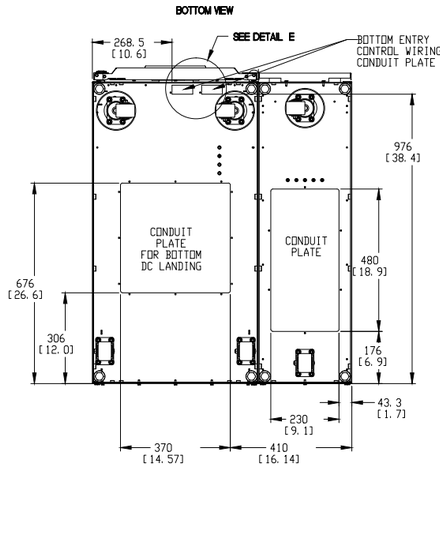
PREPARED BY: Chris Goebel	DATE: 2/6/2025	**Eaton**			
APPROVED BY	DATE	JOB NAME: Waubonsee College 18 S. River Street Aurora IL			
		DESIGNATION: 93PM-40kW N+1 Redundant 208Y/120V UPS System			
VERSION: 10.0.0.1		TYPE: 93PM-40kW N+1 Redundant 60kW frame		DRAWING TYPE: Customer Appr.	
NEG-ALT Number: P6950127X5K1-0000	REVISION: 0	DWG SIZE: A	G.O.	ITEM	SHEET: 1 of 2

1 2

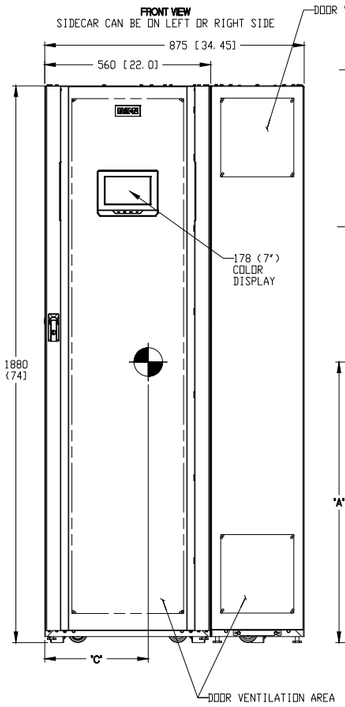
Structure	1	2								
Ship-Inches Ship-MM										
Width-Inches Width-MM	16.70 424	34.50 876								
Depth-Inches Depth-MM	42.00 1066	42.00 1066								
Height-Inches Height-MM	74.00 1879	74.00 1879								
Weight-Lbs Weight-Kg	2159.00 979.14	708.00 321.09								

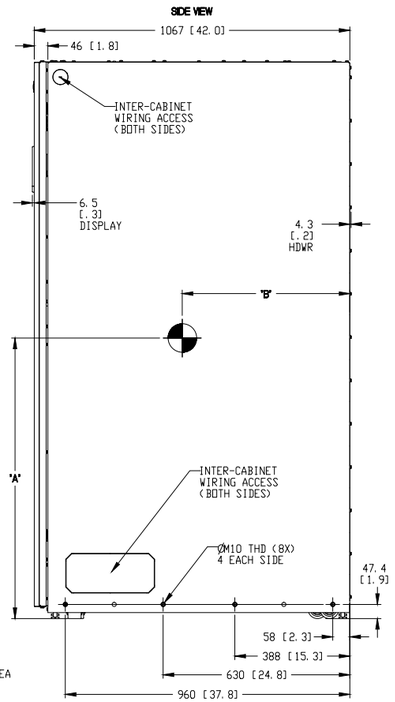
PREPARED BY: Chris Goebel	DATE: 2/6/2025	**Eaton**			
APPROVED BY	DATE	JOB NAME: Waubonsee College 18 S. River Street Aurora IL			
		DESIGNATION: 93PM-40kW N+1 Redundant 208Y/120V UPS System			
	VERSION: 10.0.0.1	TYPE: 93PM-40kW N+1 Redundant 60kW frame		DRAWING TYPE: Customer Appr.	
NEG-ALT Number: P6950127X5K1-0000	REVISION: 0	DWG SIZE: A	G.O.	ITEM	SHEET: 2 of 2

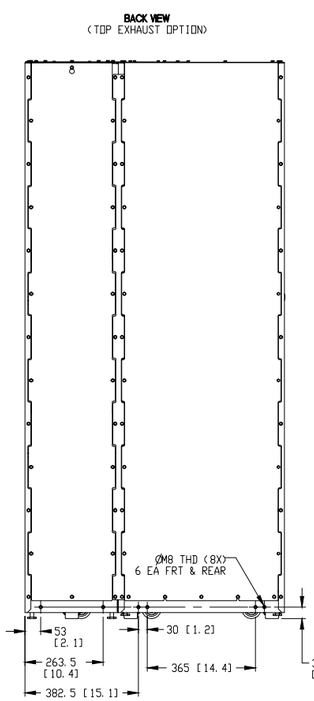


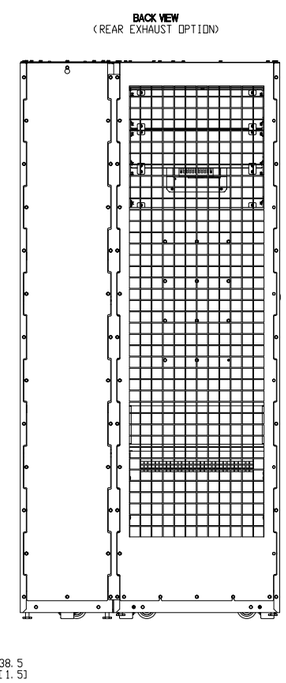


CUSTOMER RECOMMENDED WIRING AT 60kW					
WIRES	**ACCEPTED WIRE RANGE**	**TORQUE RATING N•M [LB.IN]**		**RECOMMENDED MINIMUM WIRE SIZE FOR 75 DEG C COPPER STRANDED WIRE (WIRE SIZES ARE FOR 60KW)**	**MAXIMUM CABINET WIRING ACCOMMODATIONS**
RECTIFIER INPUT PHASE WIRES (DUAL FEED ONLY)	(1) 2/0 - 500MCM OR (2) 2/0 - 250MCM	31 [275]		(1) 350MCM /PHASE	(1) 350MCM /PHASE
BYPASS PHASE WIRES	N/A LONG BARREL 2-HOLE 1.75" SPACING COMPRESSION LUGS (CUSTOMER SUPPLIED) REF INSTALLATION & OPERATION MANUAL	35 [310]		(1) 500MCM /PHASE	(1) 500MCM /PHASE
BYPASS NEUTRAL WIRES				(2) 300MCM	(2) 300MCM
OUTPUT PHASE WIRES				(1) 350MCM /PHASE	(1) 350MCM /PHASE
OUTPUT NEUTRAL WIRES				(2) 300MCM	(2) 300MCM
DC INPUT FROM BATTERY				BATTERY CABINET DEPENDENT	(4) 500MCM /POLE
GROUND WIRES: INPUT, BYPASS, OUTPUT AND DC	14 AWG-1/0	8 AWG	4.5 [40]	INPUT/OUTPUT: 2 AWG BYPASS: 1/0 AWG DC: BATTERY CABINET DEPENDENT	(18) 1/0 AWG COMPRESSION LUGS PLUS (2) CABINET TO CABINET GROUND STUDS
		4 AWG-6 AWG	5.1 [45]		
		3 AWG-1/0	5.6 [50]		
CONTROL WIRE (DETAIL C)	12-22 AWG	0.56-0.79 [5-7]			
CONTROL WIRE (DETAIL B, D)	14-30 AWG	0.22-0.25 [2]			









NOTES:
1. THE SYSTEM MUST BE INSTALLED ON A LEVEL FLOOR SURFACE SUITABLE FOR COMPUTER OR ELECTRONIC EQUIPMENT.
2. CONTROL WIRE ENTRY THROUGH REMOVABLE CONTROL LANDING PLATE.
3. THE SYSTEM MUST BE INSTALLED IN A TEMPERATURE AND HUMIDITY CONTROLLED INDOOR AREA FREE OF CONDUCTIVE CONTAMINANTS.
4. AMBIENT TEMPERATURE RANGE 5-40degC [41-104degF] AT AN ELEVATION UP TO 1500M WITHOUT DERATING. STORAGE TEMPERATURE -25 to +55degC. RELATIVE HUMIDITY (OPERATING AND STORAGE) 5% TO 95% MAX NON CONDENSING.
5. UPS CABINET MINIMUM CLEARANCES:
   FRONT OF THE CABINET: 914mm[36.0"].
   FROM TOP OF THE CABINET: 457mm[18.0"].
   FROM BACK OF THE CABINET WITH REAR EXHAUST: 254mm[10.0"]
6. MINIMUM REQUIRED AIR FLOW FOR CABINET AT FULL LOAD IS 625 CFM.
7. THE UPS CABINET CAN BE INSTALLED IN LINE-UP-AND-MATCH OR STANDALONE CONFIGURATIONS.
8. ALL WIRING IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.
9. WEIGHT OF THE CABINET DOES NOT INCLUDE CUSTOMER WIRING.
10. AC INPUT TO UPS RECTIFIER: 3 PHASES, NEUTRAL, GROUND, WYE.
    AC OUTPUT TO LOAD: 3 PHASES, NEUTRAL, GROUND.
    AC INPUT TO UPS BYPASS: 3 PHASES, NEUTRAL, GROUND, WYE.
    DC INPUT TO UPS(EXTERNAL BATTERY ONLY): POSITIVE, NEGATIVE, GROUND.
11. SPECIFICATIONS ARE SUBJECT TO CHANGE.

METRIC — THIRD ANGLE PROJECTION — EATON CORPORATION

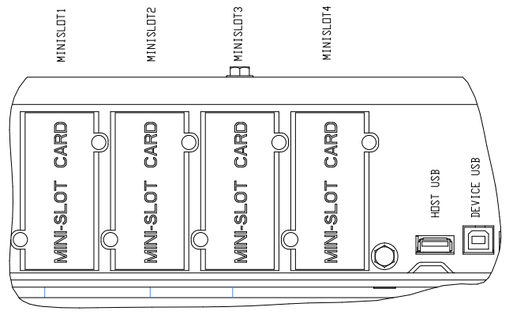
DIMENSIONS ARE IN MILLIMETERS AFTER ROUNDING. DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.

DESCRIPTION: SITE PLAN, 93PM-L 60KW UPS W/BYP SC

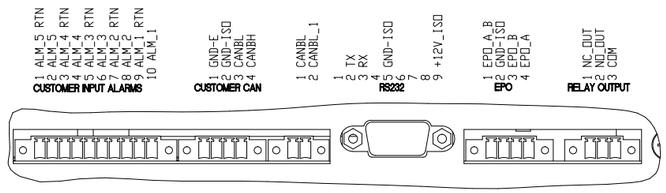
DRAWN:	B. AUSTIN	8/17/2017	ECO: ECO-128184	NAME:	REVISION: 03
MODIFIED:	WALLACE_T	27SEP2017			SIZE: A1
CHECKED:			DOCUMENT TYPE:	P-110000556	SCALE: 1/8
SAFETY:			PRO-E DRAWING		STATE: Release
APPROVED:					SHEET: 1 OF 3

GO/NEG-Alt-Date:	P6950127X5K1-0000-1/27/2025	**Job Name:**	Waubonsee College 93PM 40kW N+1
Item Number:	**Catalog Number:** 9GC308A009H20R1	**Designation:**	

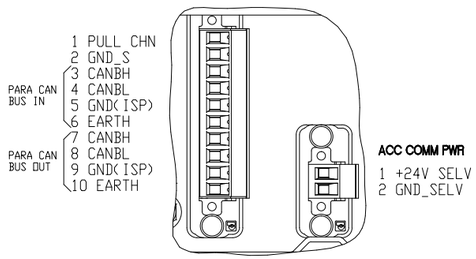
CUSTOMER CONTROL WIRE CONNECTIONS



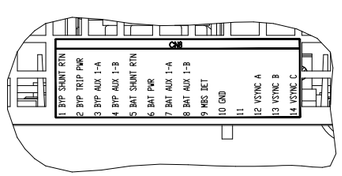
DETAIL A



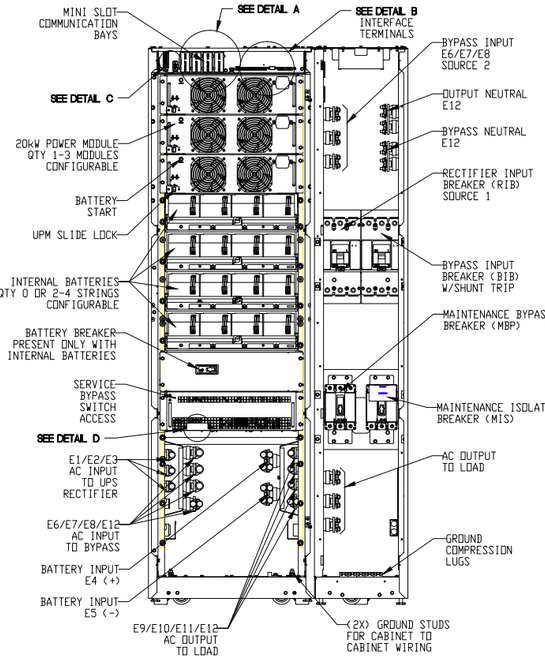
DETAIL B

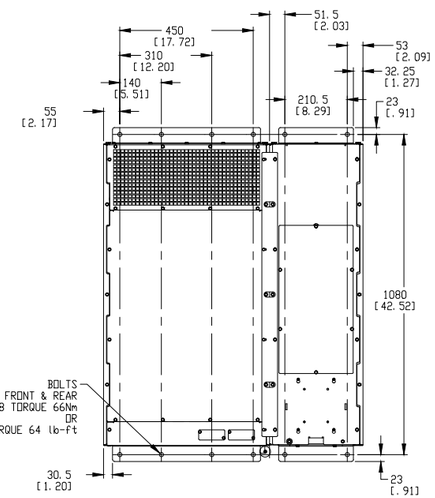


DETAIL C



DETAIL D
BOTTOM OF STATIC SWITCH MODULE





FLOOR MOUNTING DIMENSIONS
DIMENSIONS MIRRORED FOR SIDECAR OPPOSITE SIDE
ACCESSORY: P-103000765 FLOOR MOUNTING KIT
P-103002953 FLOOR MOUNTING KIT

PRODUCT SPECIFICATIONS									
UPS RATING		AC INPUT/ BYPASS CURRENT	AC OUTPUT CURRENT	NEUTRAL CURRENT	AC INPUT/ BYPASS CURRENT	AC OUTPUT CURRENT	NEUTRAL CURRENT	MAX HEAT DISSIPATION AT 100% LOAD	DC INPUT CURRENT 2V/CELL
		208VAC			220VAC			208/220VAC	480VDC STRING
KVA	KW	AMP	AMP	AMP	AMP	AMP	AMP	KW [BTU/HR]	AMP
10	10	36	28	48	34	26	45	0.90 [3063]	23
15	15	53	42	72	50	39	68	1.35 [4594]	34
20	20	71	56	96	67	52	91	1.80 [6125]	45
25	25	89	69	120	84	66	114	2.24 [7656]	56
30	30	107	83	144	101	79	136	2.69 [9188]	68
35	35	124	97	168	118	92	159	3.14 [10719]	79
40	40	142	111	192	134	105	182	3.59 [12250]	90
45	45	160	125	216	151	118	205	4.04 [13781]	102
50	50	178	139	240	168	131	227	4.49 [15313]	113
55	55	195	153	264	185	144	250	4.94 [16844]	124
60	60	213	167	288	202	157	273	5.39 [18375]	136

BREAKER AND FUSE INFORMATION - 93PM-L UPS			
BREAKER / FUSE APPLICATION	MANUFACTURER	PART NUMBER	QUANTITY / LOCATION
RECTIFIER INPUT FUSE	BUSSMAN	100LET	3 PER POWER MODULE (UPM)
INVERTER OUTPUT FUSE	BUSSMAN	100LET	3 PER POWER MODULE (UPM)
DC FUSE	BUSSMAN	100FE	3 PER POWER MODULE (UPM)
BYPASS FUSE	BUSSMAN	170M4412	3 PER UPS
BATTERY BREAKER (CB2)	EATON	HFDDC3175LA03S21	

BREAKER AND FUSE INFORMATION - BYPASS SIDECAR		
BREAKER / FUSE APPLICATION	MANUFACTURER	PART NUMBER
MAINTENANCE BYPASS BREAKER (MBP)	EATON	FD3225L
MAINTENANCE ISOLATION BREAKER (MIS)	EATON	FD3225L
BYPASS INPUT BREAKER (BIB)	EATON	KD3300WA06
RECTIFIER INPUT BREAKER (RIB)	EATON	KD3300WA06

UPS W/SIAC-B SIDECAR	PACKAGED ENVELOPE DIMENSIONS MM [IN]		
	WIDTH	DEPTH	HEIGHT
	1365 [53.74]	1229 [48.39]	1975 [77.75]

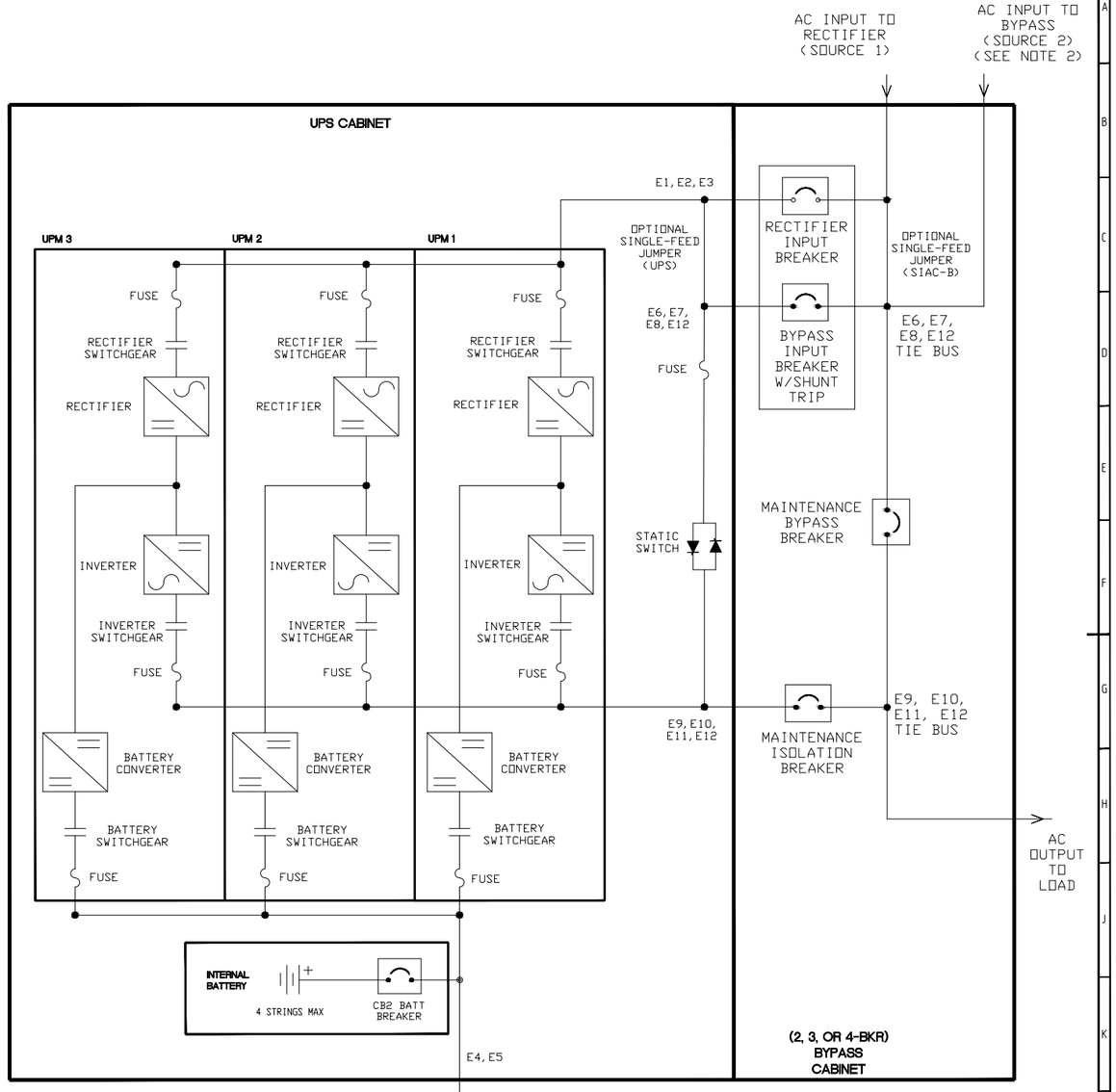
METRIC — EATON CORPORATION

DESCRIPTION: SITE PLAN, 93PM-L 60KW UPS W/BYP SC

DRAWN: B. AUSTIN	8/17/2017	ECO: ECO-128184	NAME:	REVISION: 03	SIZE: A1
VERIFIED: WALLACE J	27SEP2017				SCALE:
CHECKED:		DOCUMENT TYPE:	P-110000556	STATE: Release	1/8
SAFETY:		PRO-E DRAWING			SHEET:
APPROVED:					2 OF 3

GO/NEG-Alt-Date:	P6950127X5K1-0000-1/27/2025	**Job Name:**	Waubonsee College 93PM 40kW N+1
Item Number:	**Catalog Number:** 9GC308A009H20R1	**Designation:**	

	WEIGHT AND CENTER OF GRAVITY	DIMENSIONS MM [IN] A	B	C	WEIGHT KG [LBS]
UPS W/ LEFT SIDECAR (2 BKR)	60kW FRAME - 1 UPM INSTALLED, 0 BATT STRING	940 [37]	563 [22.2]	438 [17.2]	405 [892]
	60kW FRAME - 1 UPM INSTALLED, 2 BATT STRING	959 [37.8]	561 [22.1]	494 [19.4]	630 [1387]
	60kW FRAME - 1 UPM INSTALLED, 3 BATT STRING	986 [38.8]	559 [22]	507 [20]	719 [1582]
	60kW FRAME - 1 UPM INSTALLED, 4 BATT STRING	1023 [40.3]	557 [21.9]	516 [20.3]	808 [1777]
	60kW FRAME - 2 UPM INSTALLED, 0 BATT STRING	986 [38.8]	564 [22.2]	450 [17.7]	437 [961]
	60kW FRAME - 2 UPM INSTALLED (1+1), 2 BATT STRING	988 [38.9]	562 [22.1]	499 [19.6]	662 [1456]
	60kW FRAME - 2 UPM INSTALLED, 3 BATT STRING	1011 [39.8]	559 [22]	510 [20.1]	750 [1651]
	60kW FRAME - 2 UPM INSTALLED, 4 BATT STRING	1043 [41.1]	558 [22]	519 [20.4]	839 [1846]
	60kW FRAME - 3 UPM INSTALLED, 0 BATT STRING	1035 [40.7]	564 [22.2]	459 [18.1]	468 [1030]
	60kW FRAME - 3 UPM INSTALLED (2+1), 3 BATT STRING	1039 [40.9]	560 [22]	514 [20.2]	782 [1720]
	60kW FRAME - 3 UPM INSTALLED, 4 BATT STRING	1068 [42]	558 [22]	522 [20.6]	870 [1915]
UPS W/ RIGHT SIDECAR (2 BKR)	60kW FRAME - 1 UPM INSTALLED, 0 BATT STRING	940 [37]	563 [22.2]	437 [17.2]	405 [892]
	60kW FRAME - 1 UPM INSTALLED, 2 BATT STRING	959 [37.8]	561 [22.1]	381 [15]	630 [1387]
	60kW FRAME - 1 UPM INSTALLED, 3 BATT STRING	986 [38.8]	559 [22]	368 [14.5]	719 [1582]
	60kW FRAME - 1 UPM INSTALLED, 4 BATT STRING	1023 [40.3]	557 [21.9]	359 [14.1]	808 [1777]
	60kW FRAME - 2 UPM INSTALLED, 0 BATT STRING	986 [38.8]	564 [22.2]	425 [16.7]	437 [961]
	60kW FRAME - 2 UPM INSTALLED (1+1), 2 BATT STRING	988 [38.9]	562 [22.1]	376 [14.8]	662 [1456]
	60kW FRAME - 2 UPM INSTALLED, 3 BATT STRING	1011 [39.8]	559 [22]	365 [14.4]	750 [1651]
	60kW FRAME - 2 UPM INSTALLED, 4 BATT STRING	1043 [41.1]	558 [22]	356 [14]	839 [1846]
	60kW FRAME - 3 UPM INSTALLED, 0 BATT STRING	1035 [40.7]	564 [22.2]	416 [16.4]	468 [1030]
	60kW FRAME - 3 UPM INSTALLED (2+1), 3 BATT STRING	1039 [40.9]	560 [22]	361 [14.2]	782 [1720]
	60kW FRAME - 3 UPM INSTALLED, 4 BATT STRING	1068 [42]	558 [22]	353 [13.9]	870 [1915]
UPS W/ LEFT SIDECAR (3 BKR)	60kW FRAME - 1 UPM INSTALLED, 0 BATT STRING	943 [37.1]	558 [22]	424 [16.7]	425 [934]
	60kW FRAME - 1 UPM INSTALLED, 2 BATT STRING	960 [37.8]	558 [22]	483 [19]	650 [1429]
	60kW FRAME - 1 UPM INSTALLED, 3 BATT STRING	987 [38.9]	556 [21.9]	496 [19.5]	738 [1624]
	60kW FRAME - 1 UPM INSTALLED, 4 BATT STRING	1022 [40.2]	555 [21.9]	507 [20]	827 [1819]
	60kW FRAME - 2 UPM INSTALLED, 0 BATT STRING	987 [38.9]	559 [22]	435 [17.1]	456 [1003]
	60kW FRAME - 2 UPM INSTALLED (1+1), 2 BATT STRING	989 [38.9]	559 [22]	488 [19.2]	681 [1498]
	60kW FRAME - 2 UPM INSTALLED, 3 BATT STRING	1011 [39.8]	557 [21.9]	500 [19.7]	770 [1693]
	60kW FRAME - 2 UPM INSTALLED, 4 BATT STRING	1043 [41.1]	555 [21.9]	510 [20.1]	858 [1888]
	60kW FRAME - 3 UPM INSTALLED, 0 BATT STRING	1034 [40.7]	560 [22]	446 [17.6]	487 [1072]
	60kW FRAME - 3 UPM INSTALLED (2+1), 3 BATT STRING	1039 [40.9]	558 [22]	504 [19.8]	801 [1762]
	60kW FRAME - 3 UPM INSTALLED, 4 BATT STRING	1066 [42]	556 [21.9]	513 [20.2]	890 [1957]
UPS W/ RIGHT SIDECAR (3 BKR)	60kW FRAME - 1 UPM INSTALLED, 0 BATT STRING	943 [37.1]	558 [22]	451 [17.8]	425 [934]
	60kW FRAME - 1 UPM INSTALLED, 2 BATT STRING	960 [37.8]	558 [22]	392 [15.4]	650 [1429]
	60kW FRAME - 1 UPM INSTALLED, 3 BATT STRING	987 [38.9]	556 [21.9]	379 [14.9]	738 [1624]
	60kW FRAME - 1 UPM INSTALLED, 4 BATT STRING	1022 [40.2]	555 [21.9]	368 [14.5]	827 [1819]
	60kW FRAME - 2 UPM INSTALLED, 0 BATT STRING	987 [38.9]	559 [22]	440 [17.3]	456 [1003]
	60kW FRAME - 2 UPM INSTALLED (1+1), 2 BATT STRING	989 [38.9]	559 [22]	387 [15.2]	681 [1498]
	60kW FRAME - 2 UPM INSTALLED, 3 BATT STRING	1011 [39.8]	557 [21.9]	375 [14.8]	770 [1693]
	60kW FRAME - 2 UPM INSTALLED, 4 BATT STRING	1043 [41.1]	555 [21.9]	365 [14.4]	858 [1888]
	60kW FRAME - 3 UPM INSTALLED, 0 BATT STRING	1034 [40.7]	560 [22]	429 [16.9]	487 [1072]
	60kW FRAME - 3 UPM INSTALLED (2+1), 3 BATT STRING	1039 [40.9]	558 [22]	371 [14.6]	801 [1762]
	60kW FRAME - 3 UPM INSTALLED, 4 BATT STRING	1066 [42]	556 [21.9]	362 [14.3]	890 [1957]
UPS W/ LEFT SIDECAR (4 BKR)	60kW FRAME - 1 UPM INSTALLED, 0 BATT STRING	944 [37.2]	550 [21.7]	414 [16.3]	440 [969]
	60kW FRAME - 1 UPM INSTALLED, 2 BATT STRING	960 [37.8]	553 [21.8]	475 [18.7]	665 [1464]
	60kW FRAME - 1 UPM INSTALLED, 3 BATT STRING	987 [38.9]	551 [21.7]	489 [19.3]	754 [1659]
	60kW FRAME - 1 UPM INSTALLED, 4 BATT STRING	1021 [40.2]	550 [21.7]	500 [19.7]	843 [1854]
	60kW FRAME - 2 UPM INSTALLED, 0 BATT STRING	987 [38.9]	551 [21.7]	426 [16.8]	472 [1038]
	60kW FRAME - 2 UPM INSTALLED (1+1), 2 BATT STRING	988 [38.9]	554 [21.8]	480 [18.9]	697 [1533]
	60kW FRAME - 2 UPM INSTALLED, 3 BATT STRING	1010 [39.8]	552 [21.7]	493 [19.4]	785 [1728]
	60kW FRAME - 2 UPM INSTALLED, 4 BATT STRING	1041 [41]	551 [21.7]	504 [19.8]	874 [1923]
	60kW FRAME - 3 UPM INSTALLED, 0 BATT STRING	1032 [40.6]	553 [21.8]	436 [17.2]	503 [1107]
	60kW FRAME - 3 UPM INSTALLED (2+1), 3 BATT STRING	1037 [40.8]	553 [21.8]	497 [19.6]	817 [1797]
	60kW FRAME - 3 UPM INSTALLED, 4 BATT STRING	1065 [41.9]	552 [21.7]	507 [20]	905 [1992]
UPS W/ RIGHT SIDECAR (4 BKR)	60kW FRAME - 1 UPM INSTALLED, 0 BATT STRING	944 [37.2]	550 [21.7]	464 [18.3]	440 [969]
	60kW FRAME - 1 UPM INSTALLED, 2 BATT STRING	960 [37.8]	553 [21.8]	402 [15.8]	665 [1464]
	60kW FRAME - 1 UPM INSTALLED, 3 BATT STRING	987 [38.9]	551 [21.7]	388 [15.3]	754 [1659]
	60kW FRAME - 1 UPM INSTALLED, 4 BATT STRING	1021 [40.2]	550 [21.7]	376 [14.8]	843 [1854]
	60kW FRAME - 2 UPM INSTALLED, 0 BATT STRING	987 [38.9]	551 [21.7]	452 [17.8]	472 [1038]
	60kW FRAME - 2 UPM INSTALLED (1+1), 2 BATT STRING	988 [38.9]	554 [21.8]	396 [15.6]	697 [1533]
	60kW FRAME - 2 UPM INSTALLED, 3 BATT STRING	1010 [39.8]	552 [21.7]	383 [15.1]	785 [1728]
	60kW FRAME - 2 UPM INSTALLED, 4 BATT STRING	1041 [41]	551 [21.7]	373 [14.7]	874 [1923]
	60kW FRAME - 3 UPM INSTALLED, 0 BATT STRING	1032 [40.6]	553 [21.8]	441 [17.4]	503 [1107]
	60kW FRAME - 3 UPM INSTALLED (2+1), 3 BATT STRING	1037 [40.8]	553 [21.8]	379 [14.9]	817 [1797]
	60kW FRAME - 3 UPM INSTALLED, 4 BATT STRING	1065 [41.9]	552 [21.7]	370 [14.6]	905 [1992]



NOTES:
1. AC INPUT TO RECTIFIER IS NOT USED IN SINGLE FEED CONFIGURATION.
2. DASHED LINES INSIDE OF UPS BOX INDICATE OPTIONAL UPM'S OR INTERNAL BATTERIES. CONFIGURABLE FROM 1-3 UPMS.
3. DASHED LINES INSIDE OF SIAC-B BOX INDICATE OPTIONAL COMPONENTS OR BYPASS JUMPER.
4. DASHED LINES OUTSIDE OF UPS OR SIAC-B BOX INDICATE OPTIONAL EQUIPMENT CABINETS.
5. BACKFEED PROTECTION IS NOT PROVIDED AS A PART OF UPS. CUSTOMER SUPPLIED BYPASS INPUT BREAKER WITH 48-60VDC SHUNT TRIP IS REQUIRED IF BYPASS SIDE CAR DOES NOT INCLUDE BIB BREAKER.
6. THE SINGLE-FEED JUMPER (UPS) IS FACTORY INSTALLED WHEN THE UPS IS ORDERED WITH A 2 OR 3 BREAKER SIDE CAR. THE SINGLE FEED JUMPER (SIAC-B) IS INSTALLED WHEN THE UPS IS ORDERED WITH A 4 BREAKER SIDE CAR.

METRIC — EATON CORPORATION

DESCRIPTION: SITE PLAN, 93PM-L 60KW UPS W/BYP SC

DRAWN/TD: B. AUSTIN	8/17/2017	ECO: ECO-139184	NAME:	REVISION: 03 / SIZE: A1
MODIFIED: WALLACE_T	27SEP2017			SCALE: 1/8
CHECKED:		DOCUMENT TYPE: PRO-E DRAWING	P-110000556	STATE: Release / SHEET: 1 OF 3
SMITH:				
APPROVED:				

GO/NEG-Alt-Date:	P6950127X5K1-0000-1/27/2025	Job Name:	Waubonsee College 93PM 40kW N+1
Item Number:	Catalog Number: 9GC308A009H20R1	Designation:	

Eaton Ancillary Device Parts and Labor Coverage
Scope of Work
Attachment R-10

If Customer has purchased Corrective Maintenance Coverage for the UPS "Power Module" and ancillary devices are directly connected to the covered equipment, parts and labor coverage may extend to the ancillary device based on the device type. "Directly connected" is defined as electronically controlled or interfaced to a Power Module. Ancillary devices may be eligible for optionally purchased parts and labor coverage.

Regardless of ancillary device parts and labor coverage, preventive maintenance of these ancillary devices is limited to inspection and testing via an optionally purchased UPS Power Module (or other device) preventive maintenance scope of work. There shall be no separate field activity report beyond the relevant comments from the UPS preventive maintenance report (FAR).

Covered ancillary device types (if connected to covered equipment, these devices assume parts and labor coverage of covered equipment):

- SBM (System Bypass Module), which includes UL 1778 "Uninterruptible Power Systems" version – Ancillary coverage includes static switch but only if parts and labor coverage is purchased on all associated UPS modules
- SSBM (Switchboard System Bypass Module), which includes UL 891 "Switchboards" version or UL1558 "Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear" version – Ancillary coverage includes static switch but only if parts and labor coverage is purchased on all associated UPS modules
- MBP – Maintenance Bypass Panel
- IAC – Integrated Accessories Cabinet
- Remote monitor panel
- Hot Tie
- Parallel cabinet
- Battery cabinet and battery breakers (excludes battery jars, cells or battery parts)

Covered components within covered ancillary devices shall include the electronic control portion designed and built by Eaton (Powerware series) for metering, monitoring, and controls for transferring of loads. Items covered include logic boards, power supplies, relays, and control circuitry, SSBM displays, Hot-Tie Display and programmable logic controllers (PLC).

Excluded components within covered ancillary devices shall be: circuit breakers, power quality metering, transient voltage surge suppressors (TVSS), metering and switches, non-UPS operation related control circuitry, non-UPS operation related programmable logic controllers (PLC).

Excluded ancillary device types (parts and labor coverage may be optionally purchased):

- Batteries (EBM, EBC)
- Battery Monitoring Systems
- IDC – Integrated Distribution Cabinet
- Switchgear (coverage not available for purchase)
- Standalone STS – Static Transfer Switch device (e.g., Cyberex Switch)
- PDU – Power Distribution Unit

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- PDR – Power Distribution Rack
- RPP – Remote power Panel
- EMS-UGK
- Battery Disconnect Circuit Breaker
- Flywheel
- ATS/MTS – Automatic or Manual Transfer Switch
- TVSS – Transient Voltage Surge Suppressor
- PFC – Power Factor Correction
- ePDU
- Racks and cabinets
- Software (e.g., Foreseer)

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EATON CORPORATION
UPS SERVICES – TERMS AND CONDITIONS (T-0)

TERMS AND CONDITIONS: These terms and conditions, the quotation and Scope(s) of Work (the "Agreement"), are the final expression of the contract for the sale of UPS services by Eaton Corporation ("Contractor"), and supersede all prior terms, quotations, statements(s) of work, purchase orders, correspondence or communications whether written or oral between Eaton Corporation and the customer. ANY ADDITIONAL OR DIFFERENT TERMS PROPOSED BY CUSTOMER (THE "CUSTOMER"), ARE REJECTED UNLESS EXPRESSLY AGREED TO IN WRITING BY CONTRACTOR.

1. DEFINITIONS: The terms listed below shall have the following meanings:
"Battery" is the electric storage portion of a UPS.
"Covered Equipment" is the equipment as listed on the quote.
"CPM" is the Contracted Period of Maintenance or Hours of Service.
"Drop Ship Items" are capacitors, fans, equipment upgrades (modifications), batteries, battery monitoring systems, battery containment, battery materials, racks and cabinets.
"Emergency Service" is all services provided on an as needed basis that is not scheduled in advance.
"PCS" is Pre-Contract Survey inspection.
"Power Module" is the electronic portion of a UPS or other power quality device.
"Scope of Work" is the services, procedures, methods, exclusions and coverage as purchased by the Customer
"Service" is the installation, maintenance (including Preventive Maintenance as defined in Scope of Work Attachment R-2), repair, inspection, adjustment, and remote monitoring services (including the PredictPulse Service as defined in Scope of Work, Attachment R-32, R-36 or R-37) performed on the Covered Equipment by Contractor or otherwise provided by Contractor in connection with the Covered Equipment.
"UPS" is an Uninterruptible Power Supply which is comprised of the Power Module and Batteries.

2. ELIGIBILITY: All Covered Equipment that has a lapse in Service or warranty coverage greater than ninety (90) days is subject to a PCS prior to eligibility for Service under this Agreement. Customer will be charged at Contractor's current Time and Material Service Rate Schedule (Exhibit 1-PCS and Attachment X-1). A list of the equipment requiring a PCS will be incorporated into this Agreement.

3. HOURS OF SERVICE: Contractor will provide scheduled and emergency services portal-to-portal 8:00AM to 5:00 PM Monday-Friday ("5X8 Service") excluding all observed holidays. The Customer may purchase extended hours of scheduled and Emergency Service coverage ("7x24 Service") including Emergency Service being provided on public holidays (5 U.S.C. 6103). Scheduled services are not available on observed holidays.

4. ON-SITE RESPONSE TIME: Upon Service request the Contractor will arrive at the location of the Covered Equipment the next business day. If purchased by Customer and the Covered Equipment is located within one hundred (100) miles of a Contractor service location, Contractor will arrive at location of Covered Equipment within eight (8), four (4) or two (2) CPM hours. Response time does not include battery replacement service.

5. LABOR AND MATERIAL RATES: Customer shall be billed at Contractor's current Time and Material Rate Schedule (Attachment X-1) for Service purchased outside the Scope(s) of Work. This excludes any flat-rate quoted by Contractor representative.

6. ENGINEERING CHANGES: All engineering changes deemed necessary by Contractor will be installed during scheduled Service visits during the CPM. Any engineering changes deemed optional by Contractor will be offered to Customer on an as-available, per charge basis.

7. CUSTOMER'S RESPONSIBILITY:
A. Communication and Scheduling - Customer shall contact Contractor's Customer Reliability Center (1-800-843-9433) to schedule all Service and other requests. Preventive Maintenance or Services is deemed fulfilled if (i) the Customer fails to schedule or (ii) does not permit Service to be completed within ninety (90) days of the scheduled service date.

B. Movement - If Covered Equipment is moved to another location within the United States, Service coverage will continue at Contractors option if: (i) Customer notifies Contractor in writing at least thirty (30) days in advance of power-down of Covered Equipment and, (ii) Contractor supervises the power-down, disconnection, rigging, packing, movement, unpacking, reinstallation and re-start of the Covered Equipment and Customer will be charged at current Time and Material Service Rate Schedule.

C. Escort - During the provision of Service, Customer will have a representative present at Service site at no cost to the Contractor.

D. Access - Customer shall grant unobstructed access to the Covered Equipment to be serviced, as well as adequate working space in the immediate vicinity as may be required for the Contractor to perform Services. Prior to a site visit, the Customer and

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Contractor must agree on site access requirement costs. These costs will be invoiced by the Contractor following completion of Services.

8. TERM AND TERMINATION: The initial term of this Agreement shall be the service period defined on the applicable quote. Following the expiration of the initial term, this Agreement shall automatically renew for successive twelve (12) month periods. Contractor will provide notice of updated pricing prior to the expiration of the initial term or any subsequent renewal term. Customer or Contractor may terminate this Agreement at any time upon thirty (30) days written notice to the other, subject to Section 16.

9. BATTERIES AND DROP SHIP ITEMS: Prices stated in a quote do not include installation, freight, and handling charges unless these items are listed and priced in the quote. Prices stated in a quote are F.O.B. factory (unless otherwise stated) and title and risk of loss to each article sold by Contractor to Customer shall pass to Customer upon delivery at the F.O.B. point.

Shipment estimates are after receipt of Customer's purchase order. If approval of drawings are required, then shipment estimates are after receipt of written approval. If the Customer cannot accept delivery of batteries, Customer will arrange for storage. Contractor is not be liable or responsible for any damages or loss for delay or default in delivery due to force majeure. Customer may not cancel its purchase order because of such delays.

Customer may cancel its purchase order with prior written notice to Contractor subject to cancellation charges for capacitors, fans, equipment upgrades (modifications), batteries and Drop Ship Items as follows: (i) between 0-30 days prior to shipment, 100% of the total invoice, and (ii) greater than 30 days prior to shipment, 50% of the total invoice. Changes made to an order may be subject to increase or decrease in purchase order amount, change order charges, and changes in schedule date. Customer is responsible for return freight charges related to cancellation.

10. END OF SERVICE LIFE ("EOSL"): Contractor may designate a Power Module as "End of Service Life" which means limited parts are available and Service will be provided on a best efforts basis. This designation will be indicated on the quote for Service renewal and will serve as Contractor's notice of limited service support and its recommendation to replace or decommission the Power Module. If Contractor cannot perform or complete a covered repair, Contractor may terminate coverage subject to Section 8. Customer may request a pro-rated refund for the terminated portion of this Agreement, subject to Section 16.

11. INSURANCE: During the term of this Agreement, Contractor, at its own cost and expense, shall maintain in full force and effect the following insurance with sound and reputable insurers: (i) worker's compensation insurance in accordance with the statutory requirements of the state where the Service is to be performed; (ii) automobile liability insurance on all motor vehicles licensed for highway use, both owned and non-owned; and (iii) commercial general liability insurance for bodily injury and property damage.

12. WARRANTY: Contractor shall perform all Service in a professional and workmanlike manner. Contractor warrants repairing or replacing defective parts or materials and correcting defective workmanship reported to Contractor and/or diagnosed by Contractor's personnel during the term of this Agreement. Contractor warrants its corrective maintenance per the scope of work and replacement parts to be free from defects in material and workmanship for the term of this Agreement or for a period of ninety (90) days from the completion date of the repair or replacement of parts or materials, whichever is longer. In the event the parts or materials fail to meet published specifications due to a defect in parts or materials or workmanship covered by this Warranty, Contractor, at its discretion, will repair or replace the warranted parts or materials at no cost to Customer. This Warranty shall not apply to any Power Module and/or Battery that has been: (i) subject to damage caused by accident, fire, flood, lightning, vandalism, acts of God, Customer's neglect, misuse, misapplication, incorrect connection or external damage; (ii) subject to repair or alteration by Customer (or a third party) not authorized by Contractor in writing; or (iii) moved without thirty (30) days' notice to Contractor. Contractor reserves the right to supervise the move. THIS WARRANTY IS EXCLUSIVE EXCEPT FOR WARRANTY OF TITLE. CONTRACTOR DISCLAIMS ALL OTHER WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. CORRECTION OF NON-CONFORMITIES IN THE MANNER AND FOR THE PERIOD OF TIME PROVIDED ABOVE SHALL CONSTITUTE CONTRACTOR'S SOLE LIABILITY AND CUSTOMER'S EXCLUSIVE REMEDY FOR FAILURE OF CONTRACTOR TO MEET ITS WARRANTY OBLIGATIONS, WHETHER CLAIMS OF CUSTOMER ARE BASED IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE. Parts or materials supplied, but not manufactured by Contractor, are warranted solely by the manufacturer. Contractor's obligation under this Warranty is conditioned upon receipt of all payments due from Customer.

13. ASSIGNMENT: Neither party shall assign this Agreement or any of its rights and interests without the prior written consent of the other party. Upon written notice to the other party, either party may assign this Agreement or any of its rights and interests to: (i) any parent, subsidiary, affiliated or successor corporation; or the purchaser of any of these entities; (ii) any corporation to which the party has sold all or substantially all of its assets (including the purchaser of any of the party's subsidiaries); or (iii) any corporation or legal entity with which the party may merge or consolidate.

14. INDEMNITY: Contractor shall defend, indemnify and hold harmless Customer, its officers, employees and agents (Indemnified Parties), from and against any and all claims, causes of action or suits brought against the Indemnified Parties to the extent they result directly from (1) bodily injury to or death of any person or damage to or destruction of any property caused by the negligent acts or willful misconduct of Contractor, its agents or employees, and (2) any violation of federal or state law,

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regulation, order, rule or of any other governmental authority having jurisdiction by Contractor, its employees or agents, while Contractor is performing work on site. The Indemnified Party shall cooperate in a reasonable manner to provide information and access to personnel related to the defense of any indemnified claim.

15. LIABILITY: The remedies of the Customer set forth in this Agreement are exclusive and are its sole remedies for any failure of Contractor to comply with its obligations hereunder. IN NO EVENT SHALL CONTRACTOR OR CUSTOMER, OR THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES OR AGENTS BE LIABLE TO THE OTHER FOR ANY AND ALL CLAIMS ARISING OUT OF (A) DAMAGE TO PROPERTY OR EQUIPMENT, OTHER THAN DIRECT DAMAGES TO EQUIPMENT SOLD OR SERVICED HEREUNDER, OR (B) ANY INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, SUCH AS, BUT NOT LIMITED TO, DELAY DAMAGES, LOST PROFITS OR REVENUE, LOSS OF DATA, LOSS OF USE OR LOST OPPORTUNITY THAT RESULT FROM OR IN CONNECTION WITH ANY CLAIM(S) OR CAUSE(S) OF ACTION, WHETHER BROUGHT IN CONTRACT OR IN TORT, EVEN IF CONTRACTOR OR CUSTOMER KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. WITH THE EXCEPTION OF THIRD PARTY CLAIMS FOR BODILY INJURY, PROPERTY DAMAGE DEATH, GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, THE TOTAL CUMULATIVE LIABILITY OF CONTRACTOR ARISING FROM OR RELATED TO THIS AGREEMENT WHETHER THE CLAIMS ARE BASED IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR OTHERWISE, SHALL NOT EXCEED THE PRICE OF THE PRODUCT OR SERVICES ON WHICH SUCH LIABILITY IS BASED.

16. PAYMENT: All payments are due net thirty (30) days in full from the date of invoice, unless otherwise mutually agreed upon in writing. Customer shall be invoiced for, and shall pay for, all Service not expressly provided for by the terms, such as site calls involving no-fault found inspections where no corrective maintenance was required. Contractor reserves the right to refuse to provide any further Service until all due payments have been received. In the event of an early termination: i) Customer is liable for any Service performed prior to the effective date of termination; and (ii) Contractor, at its discretion, will provide a credit against any advance payments received as follows: a) for fixed-rate Agreements, a pro-rated amount based on the terminated portion of the fixed-price fee due Contractor; or b) for any new work outside of the Services provided in this Agreement, an amount based on the difference between the amount paid by Customer prior to the effective date of early termination and the actual cost of Service completed (including emergency repair calls) by Contractor prior to the effective date of early termination, or c) for pre-paid multi-year contracts if Customer terminates the Agreement partway through the Agreement term, Customer will be entitled to a refund of the unused portion of the contract MINUS the applied discount for the pre-payment.

17. TAX: Contractor's price is exclusive of any applicable tax. All orders will be subject to applicable sales tax unless a current tax exemption certificate is on file with Contractor covering the state where Covered Equipment under this Agreement is located.

18. PARTS: Unless otherwise agreed to by the parties in writing, all parts removed for replacement shall be Contractor's property. Parts used from Customer-owned spare parts kit shall be replaced by Contractor at no cost. Replacement parts shall be new or of the same quality as new.

19. FORCE MAJEURE: Seller shall not be liable for failure to perform or delay in performance due to fire, flood, strike or other labor difficulty, act of God, act of any governmental authority or of the Buyer, riot, embargo, fuel or energy shortage, car shortage, wrecks or delays in transportation, or due to any other cause beyond Seller's reasonable control. In the event of delay in performance due to any such cause, the date of delivery or time for completion will be extended by a period of time reasonably necessary to overcome the effect of such delay.

20. CHOICE OF LAW: This Agreement shall be construed in accordance with and governed by the laws of the State of Ohio, or in the jurisdiction where the Service has been performed.

21. MODIFICATION OR WAIVER: The terms and conditions of this Agreement cannot be modified or waived except by a writing signed by the parties and waiver by Contractor or Customer of any provision in any one instance shall not constitute a waiver as to any other instance. If a provision of this Agreement is invalidated for any reason, this Agreement remains binding except for such invalid provision.

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Eaton
8609 Six Forks Road
Raleigh, NC 27615 USA
www.eaton.com

January 27, 2025

Tariff Announcement – Eaton Critical Power Solutions Division

Dear Valued Customer,

Eaton Critical Power Solutions Division (CPS) is actively developing strategies to mitigate any potential tariff impacts that may arise with our new administration and will continue to provide updates as more information becomes available. Our diverse supplier base and extensive manufacturing footprint will be fully leveraged to support our partners and customers, however if we are unable to fully offset any additional tariff costs through other measures, there may be a need to revisit our pricing assumptions.

Please review Selling Policy 25000 with CPDI Addendum for the rest of the terms that govern our quotes and orders.

We appreciate your business and continued interest in Eaton's products & services. If you have questions concerning the tariff announcement, please contact your local salesperson.

Sincerely,
Eaton Critical Power Solutions Division
Pricing and Product Management Teams

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Critical Power and Digital Infrastructure Division
Addendum To
Domestic U.S.A. General Terms and Conditions of Sale for
Distribution and Control Products and Services

This Addendum ("Addendum") amends the Terms and Conditions of Sale set forth in Eaton's Selling Policy 25-000 and is incorporated by reference into and is a part of the Terms and Conditions of Sale. In the event there is any conflict or inconsistency between this Addendum and the Terms and Conditions of Sale set forth in Eaton's Selling Policy 25-000, this Addendum shall govern and control.

This Addendum applies to Eaton's Critical Power and Digital Infrastructure Division (CPDI) product offerings.

This addendum does not apply to Uninterruptible Power Supply preventative maintenance services, refer to Eaton's UPS Services Terms and Conditions (T-0).

Witness Tests/Customer Inspection. Standard factory tests may be witnessed by the Buyer at Seller's factory for an additional charge per Product type. Buyer may final-inspect Products at the Seller's factory for an additional charge per Product type. Pricing will be provided at the time of quotation.

Warranty for Products. Unless provided separately to Buyer, Seller warrants that the Products manufactured by it will conform to Seller's applicable specifications and be free from failure due to defects in workmanship and material for one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.

In the event any Product fails to comply with the foregoing warranty Seller will, at its option, either (a) repair or replace the defective Product, or defective part or component thereof, F.O.B. Seller's facility freight prepaid, or (b) credit Buyer for the purchase price of the Product. All warranty claims shall be made in writing.

Seller requires all non-conforming Products be returned at Seller's expense for evaluation unless specifically stated otherwise in writing by Seller. This warranty does not cover failure or damage due to storage, installation, operation, or maintenance not in conformance with Seller's recommendations, including as set forth in these Terms and Conditions of Sale, and industry standard practice or due to accident, misuse, abuse, or negligence. This warranty does not cover breach of data or system security, including that of information technology infrastructure, computers, software, hardware, databases, electronic systems (including database management systems), and networks. This warranty does not cover reimbursement for labor, gaining access, removal, installation, temporary power, or any other expenses, which may be incurred in connection with repair or replacement. This warranty does not apply to equipment not manufactured by Seller. Seller limits itself to extending the same warranty it receives from the third-party supplier, to the extent such third party permits assignment of its warranty.

Limitation on Warranties for Products. THE FOREGOING WARRANTIES ARE EXCLUSIVE EXCEPT FORWARRANTY OF TITLE. SELLER DISCLAIMS ALL OTHER WARRANTIES INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. CORRECTION OF NON-CONFORMITIES IN THE MANNER AND FOR THE PERIOD OF TIME PROVIDED ABOVE SHALL CONSTITUTE SELLER'S SOLE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR FAILURE OF SELLER TO MEET ITS WARRANTY OBLIGATIONS, WHETHER CLAIMS OF THE BUYER ARE BASED IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR OTHERWISE.

Eaton Corporation.
8609 Six Forks Road, Raleigh, NC 27615, USA
Eaton.com

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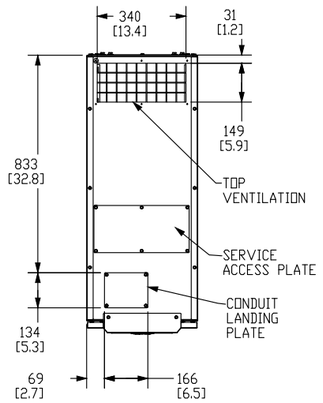
TOP VIEW
TOP EXHAUST CONFIGURATION

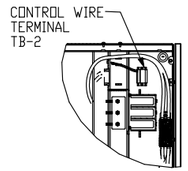


WEIGHT AND CENTER OF GRAVITY (INSTALLED)					
BATTERY CABINET MODEL	DC VOLTAGE OUTPUT (NOMINAL)	A	B	C	WEIGHT kg [lbs]
IBC-SW	432	833 [32.8]	527 [20.7]	213 [8.4]	907.9 [2001]
IBC-SW	480	872 [34.3]	507 [20]	213 [8.4]	979.5 [2159]
IBC-SW (W/O BAT)	432	899 [35.4]	542 [21.3]	214 [8.4]	274.3 [605]
IBC-SW (W/O BAT)	480	902 [35.5]	541 [21.3]	214 [8.4]	275.5 [607]

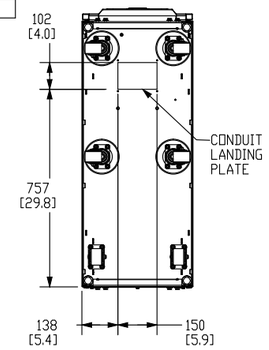
PACKAGED WEIGHT: ADD 27.2 kg [60 lbs] FOR PACKAGING MATERIALS

NOTES
1. THE SYSTEM MUST BE INSTALLED ON A LEVEL FLOOR SURFACE SUITABLE FOR COMPUTER OR ELECTRONIC EQUIPMENT.
2. THE SYSTEM MUST BE INSTALLED IN A TEMPERATURE AND HUMIDITY CONTROLLED INDOOR AREA FREE OF CONDUCTIVE CONTAMINANTS.
3. AMBIENT TEMPERATURE RANGE 5-40degC [41-104degF]: RECOMMENDED OPERATING RANGE: 20-25degC [68-77degF]: RELATIVE HUMIDITY: 5%-95% NON-CONDENSING.
4. WEIGHT: SEE TABLE, SOME OPTIONS WILL WEIGH LESS. WEIGHTS DO NOT INCLUDE CUSTOMER WIRING.
5. MINIMUM 914mm [36"] FRONT ACCESS NEEDED FOR SERVICING.
6. VENTILATION IS BY MEANS OF NATURAL CONVECTION AND CAN BE CONFIGURED FOR TOP OR REAR. MINIMUM 203mm [8"] CLEARANCE IN REAR IS NEEDED FOR REAR VENTILATION, OR MINIMUM OF 203mm [8"] CLEARANCE ON TOP IS NEEDED FOR TOP VENTILATION.
7. THE UPS BATTERY CABINET CAN BE INSTALLED IN LINE-UP-AND-MATCH OR STANDALONE CONFIGURATIONS.
8. BOTTOM OR TOP CABLE ENTRY THROUGH REMOVABLE CONDUIT LANDING PLATE.
9. ALL WIRING IS TO BE IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.
10. POWER HOOKUP TO UPS: POSITIVE, NEGATIVE, GROUND. FOR LINE-UP-AND-MATCH USE FACTORY SUPPLIED POWER WIRE FOR POSITIVE AND NEGATIVE. REMOTE INSTALLATION OF MORE THAN 2 CABINETS WILL REQUIRE CUSTOMER SUPPLIED DC TIE BREAKER.
11. CABINET SHOWN CONTAINS A SINGLE STRING OF 36 BATTERIES (432V) OR 40 BATTERIES (480V).
12. SPECIFICATIONS ARE SUBJECT TO CHANGE.
13. ALL DIMENSIONS ARE IN MILLIMETERS [INCHES].

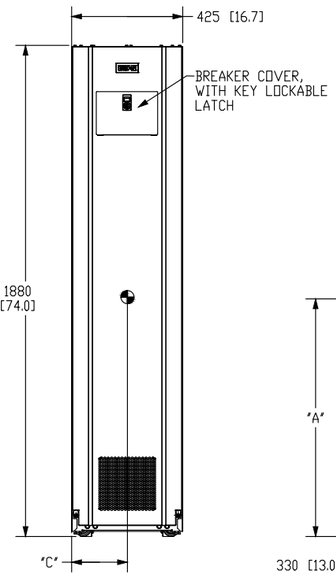
SECTION A-A



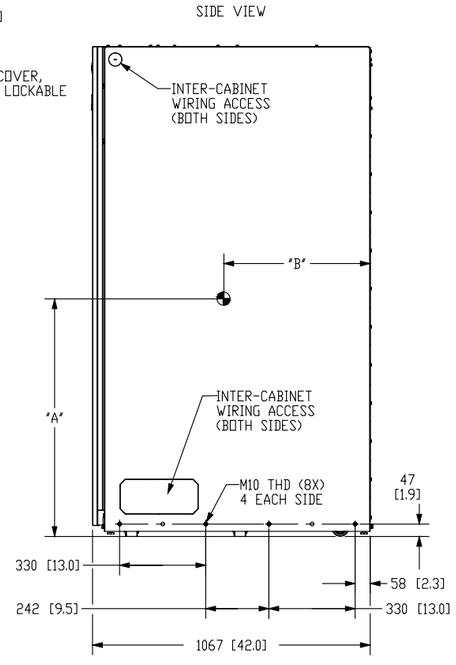
BOTTOM VIEW



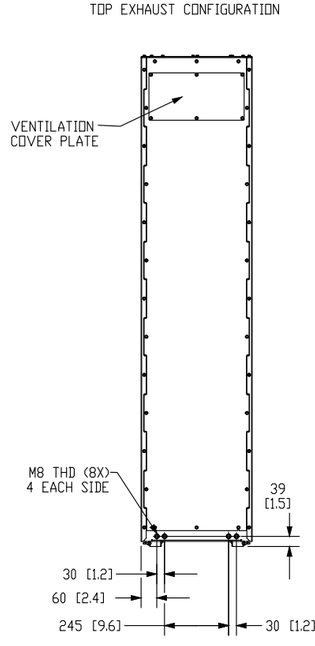
FRONT VIEW



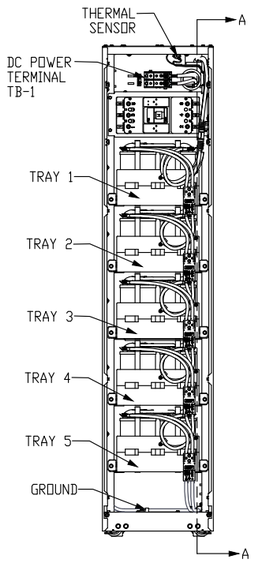
SIDE VIEW



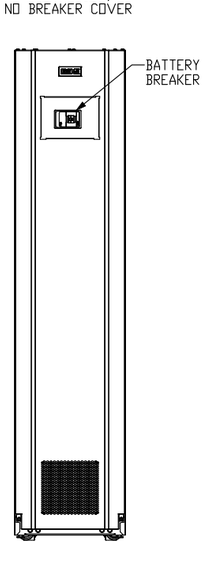
REAR VIEW
TOP EXHAUST CONFIGURATION



FRONT VIEW,
NO DEADFRONT

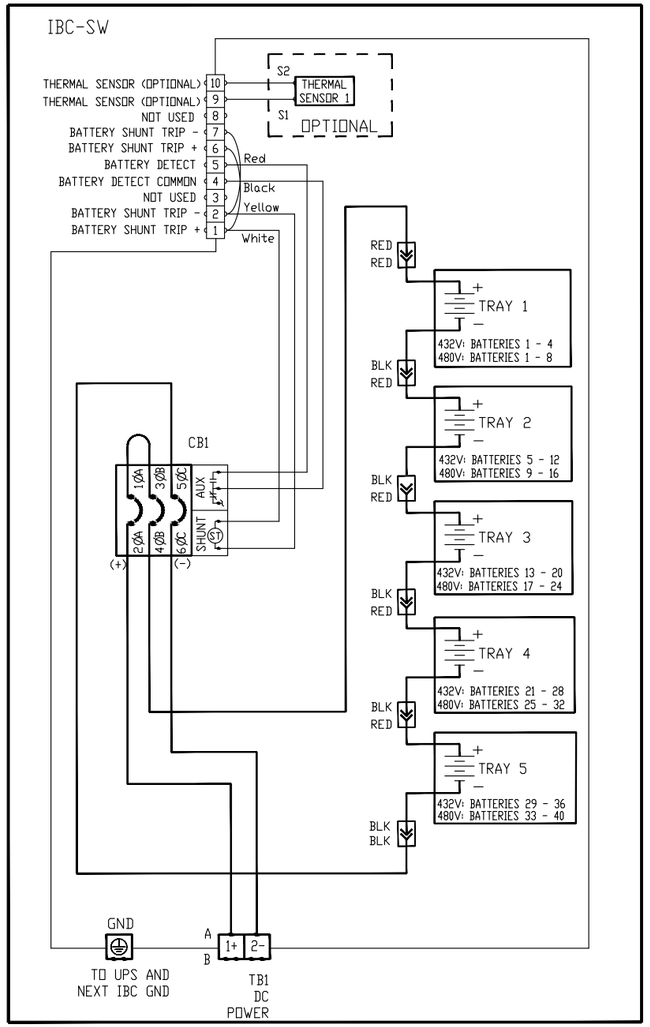


FRONT VIEW,
NO BREAKER COVER



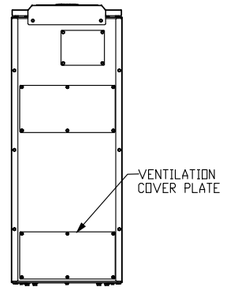
METRIC (THIRD ANGLE PROJECTION)	EATON CORPORATION		
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING. DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.			
DESCRIPTION: 93PM-IBC-SW SITE PLAN			
ORIGINATED: A. PAWAR	03-APR-17	ECO: ECO-137772	NAME: P-110000518
MODIFIED: V. MULE	06-APR-2018		
CHECKED:		DOCUMENT TYPE: PRO-E DRAWING	
SAFETY:			
APPROVED:			
REVISION: 03			
STATE: RELEASE			
SIZE: A2			
SCALE: 2:25			
SHEET: 1 OF 2			

GO/NEG-Alt-Date: P6950127X5K1-0000-1/27/2025		Job Name: Waubonsee College 93PM 40kW N+1	
Item Number:	Catalog Number: 9GC308A009H20R1	Designation:	

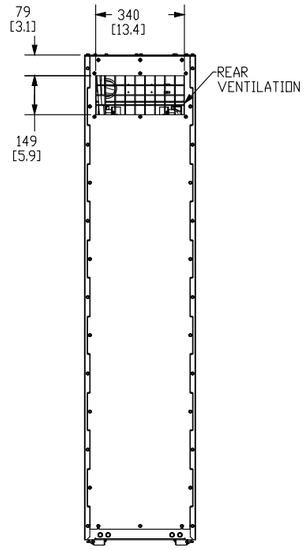


NOTES FOR OPTIONAL THERMAL SENSOR
1. FOR SINGLE BATTERY CABINET - TB2-9 & TB2-10 ARE CONNECTED TO BUILDING ALARM.
2. FOR MULTIPLE BATTERY CABINET - BATTERY CABINET CONNECTED IN SERIES, DAISYCHAIN CONFIGURATION IS USED.

TOP VIEW
REAR EXHAUST CONFIGURATION



REAR VIEW
REAR EXHAUST CONFIGURATION



PRODUCT SPECIFICATIONS		
BATTERY CABINET MODEL	DC VOLTAGE OUTPUT (NOMINAL)	BATTERY NAMEPLATE CURRENT
IBC-SW	432	165A
IBC-SW	480	158A

CUSTOMER SUPPLIED WIRING, IBC-SW TO 93PM SERIES UPS			
	ACCEPTED WIRE RANGE	TORQUE RATING Nm [LB-IN]	RECOMMENDED MINIMUM WIRE SIZE FOR 75 deg C COPPER STRANDED WIRE
BATTERY WIRES	6 AWG - 250 MCM	31 [275]	2/0 (2X PER POLE)
GROUND WIRES	14 AWG - 1/0	5.1 [45]	4 AWG
CONTROL WIRES	12-24 AWG	0.7 [6]	18 AWG

CONTROL WIRING	
TB2-1	TO UPS SHUNT +
TB2-2	TO UPS SHUNT -
TB2-4	TO UPS BATT DETECT
TB2-5	TO NEXT IBC-S TB2-4*
TB2-6	TO NEXT IBC-S TB2-1
TB2-7	TO NEXT IBC-S TB2-2
* IN FINAL IBC-S, TB2-5 RETURNS BACK TO UPS BATT DETECT COMMON	

93PM, IBC-SW	PACKAGED ENVELOPE DIMENSIONS MM [IN]		
	WIDTH	DEPTH	HEIGHT
	889 [35.00]	1229 [48.39]	1975 [77.76]

BREAKER AND FUSE INFORMATION - IBC-SW		
BREAKER/FUSE APPLICATION	MANUFACTURER	PART NUMBER
BATTERY BREAKER (CB1)	CUTLER HAMMER	HKDDC3250WA05S51

METRIC — THIRD ANGLE PROJECTION — EATON CORPORATION

DIMENSIONS ARE IN MILLIMETERS AFTER PLATING. DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.

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GO/NEG-Alt-Date: P6950127X5K1-0000-1/27/2025		Job Name:	Waubonsee College 93PM 40kW N+1
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