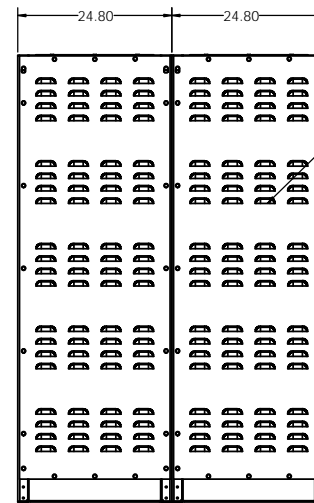


FRONT VIEW



REAR VIEW

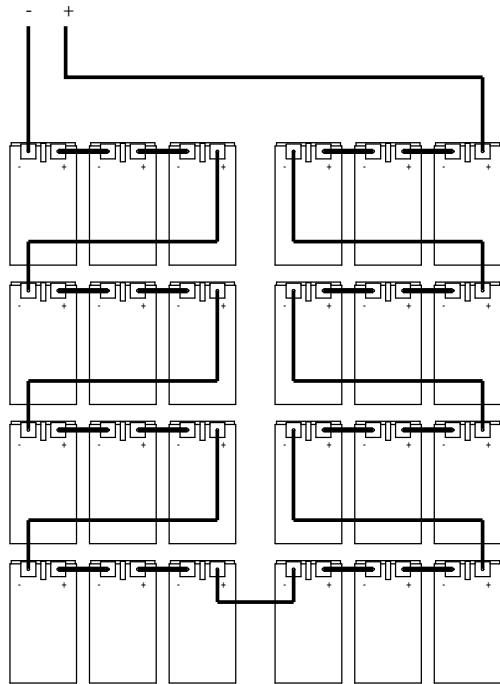
**RACK NOTES:**

1. EMPTY RACK WEIGHT: 640 LBS TOTAL WEIGHT (2 RACKS) ONE 384V STRING.
2. FULLY WELDED FRAME - MANUFACTURED FROM HEAVY GAUGE STEEL.
3. ALL BATTERY TERMINALS HAVE POLYCARBONATE COVERS.
4. OPTIONAL WALL MOUNTED BREAKER ENCLOSURES ARE AVAILABLE.
5. POWDER COATED WITH A CORROSION RESISTANT, EPOXY HYBRID POWDER USING A FIVE STAGE EMERSION PRETREATMENT PROCESS.
6. BATTERIES CAN BE ACCESSED FROM FRONT, REAR, AND BOTH SIDES.
7. CUSTOM DESIGNED PALLETS FOR SHIPPING ANYWHERE, LOCALLY AND GLOBALLY (UPON REQUEST).
8. BATTERY RACK CAN BE MOVED WITH A NORMAL PALLET JACK FROM FRONT AND REAR.
9. STANDARD AND CUSTOM SPILL CONTAINMENT OPTIONS ARE AVAILABLE.

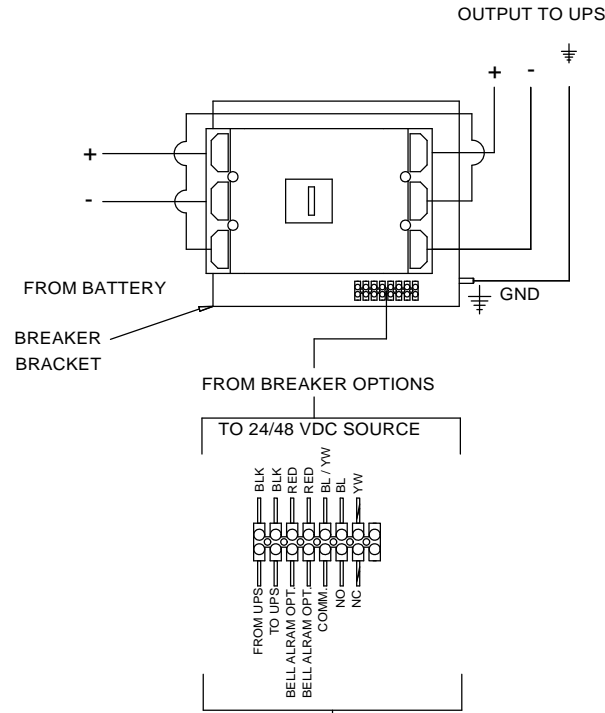
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| TITLE: BATTERY RACK, 16V FT, 384V                       |      |   |      |  |     |
| PROJECTION:   | NAME | DATE  | SIZE | DWG. NO.   | REV |
| DRAWN BY: RNA   |      | 3-6-13  | D    | EFR4A-SPEC   | B   |
| SCALE: 1:16   |      |   |      | SHEET 1 OF 3   |     |

TO BREAKER OR FUSE PANEL

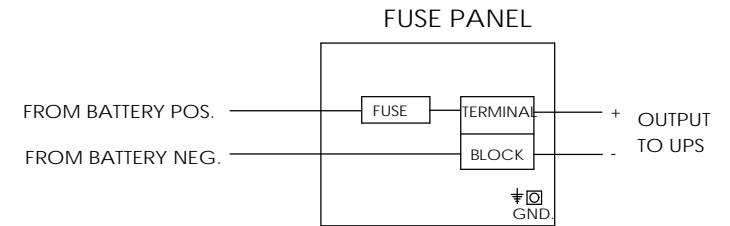


## BREAKER DETAIL



TO UPS  
AUXILIARY CONTACTS LISTED APPLICABLE WHEN BREAKER IS IN THE CLOSED (ON) POSITION

## FUSE OPTION



| BATTERY CONFIGURATION TABLE |                      |   |
|-----------------------------|----------------------|---|
|                             | BATTERY MANUFACTURER | MAXIMUM NUMBER OF BATTERIES PER CABINET |
|                             | ENERSYS              |   |
| BATTERY MODEL NUMBER        | 16HX800F-FR          | 24                                      |
|                             | 16HX925F-FR          |   |

### ELECTRICAL NOTES:

1. ALL CABLES ARE UL LISTED.
2. ALL BREAKERS ARE UL RECOGNIZED.
3. ALL FUSES ARE UL RECOGNIZED, TYPE A50P, A70P OR EQUIVALENT. ALWAYS REPLACE WITH SAME TYPE OR ITS EQUIVALENT.
4. TERMINAL BLOCKS ARE UL RECOGNIZED, 600V RATED.
5. RACKS ARE SHIPPED WITH THE BREAKER IN THE TRIPPED POSITION.
6. RACK GROUND CONNECTION IS A 5/16-18 THREADED STUD.
7. CABLES BETWEEN BATTERY RACK TO UNINTERRUPTIBLE POWER SUPPLY ARE OPTIONAL.

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| TITLE: BATTERY RACK, 16V FT, 384V                       |               |   |         |  |        |
| PROJECTION:   | DRAWN BY: RNA | DATE: 3-6-13                                    | SIZE: D | DWG. NO.: EFR4A-SPEC   | REV: B |
| SCALE: 1:16   |               |   |         | SHEET 2 OF 3   |        |

| ESS FRONT TERMINAL RACK SYSTEM MATRIX   |                         |                 |                         |                    |                      |                  |                                |                     |             |                |                                     |
|---|-------------------------|-----------------|-------------------------|--------------------|----------------------|------------------|--------------------------------|---------------------|-------------|----------------|-------------------------------------|
| ESS EFR4A RACK SYSTEM PART NUMBERS  |                         |                 |                         |                    |                      |                  |                                |                     |             |                |                                     |
| E F R 4 A A P 24 HX925 B 04 A   |                         |                 |                         |                    |                      |                  |                                |                     |             |                |                                     |
| DIGIT 1   | DIGIT 2                 | DIGIT 3         | DIGIT 4                 | DIGIT 5            | DIGIT 6              | DIGIT 7          | DIGIT 8-9                      | DIGIT 10-14         | DIGIT 15    | DIGIT 16-17    | DIGIT 18                            |
| CABINET MODEL   |                         |                 |                         |                    |                      |                  |                                |                     |             |                |                                     |
| TYPE OF BATTERY   | TYPE OF CABINET OR RACK | NUMBER OF TIERS | BATTERY TYPE            | COLOR              | HEIGHT (INCHES)      | BATTERY QUANTITY | BATTERY MODEL PER MANUFACTURER | BREAKER OR FUSE     | AMPS        | BREAKER OPTION |                                     |
| E = ESS STANDARD  | F = FRONT TERMINAL      | R = RACK        | 4 = 4 TIER OF BATTERIES | A = 16V FT 928/800 | **A = BLACK          | C = 80.0         | 24                             | ENERSYS             | B = BREAKER | 01 = 1000 AMPS | A = 24 VDC SHUNT TRIP, AUX CONTACT  |
| C = CENTER TAP CABLING  |                         |                 |                         |                    | B = BEIGE            | D = 79.0         | 18                             | HX925 - 16HX925F-FR |             | 02 = 800 AMPS  | B = 48 VDC SHUNT TRIP, AUX CONTACT  |
| S = SPLIT BUS CABLING   |                         |                 |                         |                    | C = LIEBERT GRAY     | E = 78.7         |                                | HX800 - 16HX800F-FR |             | 03 = 700 AMPS  | C = 24 VDC UVR, AUX CONTACT         |
|   |                         |                 |                         |                    | D = MITSUBISHI BEIGE | F = 78.4         |                                |                     |             | 04 = 600 AMPS  | D = 48 VDC UVR, AUX CONTACT         |
|   |                         |                 |                         |                    | E = MGE WHITE        | G = 78.00        |                                |                     |             | 05 = 500 AMPS  | E = 120 VDC SHUNT TRIP, AUX CONTACT |
|   |                         |                 |                         |                    | F = TOSHIBA BLACK    | H = 77.3         |                                |                     |             | 06 = 450 AMPS  | F = 240 VDC SHUNT TRIP, AUX CONTACT |
|   |                         |                 |                         |                    | G = GE WHITE         | J = 76.8         |                                |                     |             | 07 = 400 AMPS  | G = 120 VDC UVR, AUX CONTACT        |
|   |                         |                 |                         |                    | H = LIEBERT BLACK    | K = 75.3         |                                |                     |             | 08 = 350 AMPS  | H = 240 VDC UVR, AUX CONTACT        |
|   |                         |                 |                         |                    | I = EATON BLACK      | L = 75.0         |                                |                     |             | 09 = 300 AMPS  | J = 24VDC UVR W/BELL ALARM          |
|   |                         |                 |                         |                    | J = LIGHT GRAY       | M = 74.8         |                                |                     |             | 10 = 250 AMPS  | K = BELL ALARM                      |
|   |                         |                 |                         |                    |                      | N = 73.5         |                                |                     |             | 11 = 225 AMPS  |                                     |
|   |                         |                 |                         |                    |                      | **P = 72.0       |                                |                     |             | 12 = 200 AMPS  |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 13 = 175 AMPS  |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 14 = 150 AMPS  |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 15 = 125 AMPS  |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 16 = 100 AMPS  |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 17 = 75 AMPS   |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 18 = 50 AMPS   |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 19 = 40 AMPS   |                                     |
|   |                         |                 |                         |                    |                      |                  |                                |                     |             | 20 = 30 AMPS   |                                     |
| <p>▶ **REPRESENTS STANDARD COLOR FOR ALL ESS RACKS (DIGIT 6)</p> <p>▶▶ **REPRESENTS ESS STANDARD HEIGHT OF TOP TERMINAL BATTERY RACKS (DIGIT 7)</p> |                         |                 |                         |                    |                      |                  |                                |                     |             |                |                                     |

**PART NUMBER GUIDE:**

- REFERENCE THE BATTERY PART NUMBER GUIDE TABLE WHEN ORDERING A RACK.
  - WHEN PLACING ORDER, INDICATE THE QTY OF RACKS. NO DASHES ARE TO BE INCLUDED IN PART NUMBER. OVERALL PART NUMBER OF SYTEM IS ALWAYS 18 DIGITS LONG.
  - THE BASE NUMBER (DIGITS 1-5) WILL ALWAYS BE THE SAME.
  - DIGITS 6-7 WILL FOLLOW THE BASE NUMBER INDICATING THE COLOR AND HEIGHT OF THE RACKS.
  - DIGITS 8-18 MAKE UP THE REST OF THE SYSTEM PART NUMBER WHICH INCLUDE OPTIONS FOR BATTERY QUANTITIES, BATTERY MODEL, AND BREAKER OPTIONS.
  - EXAMPLE: **EFR4AAP** - THIS REPRESENTS A STANDARD **EFR4A** RACK, WITH A POWDER COAT FINISH OF STANDARD BLACK AND 72.00" HEIGHT.
- ▶ PLEASE NOTE, ONLY STANDARD RACKS (COLOR AND HEIGHT) ARE IN STOCK. MINIMUM ORDERS OF 20 OR MORE RACKS ARE REQUIRED FOR NON STANDARD RACKS UNLESS IT IS THROUGH OEM CONTRACTS.

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| TITLE: BATTERY RACK, 16V FT, 384V   |           |   |         |  |       |
| PROJECTION:  | NAME: RNA | DATE: 3-6-13  | SIZE: D | DWG. NO. EFR4A-SPEC  | REV B |
| SCALE: 1:12   |           |   |         | SHEET 3 OF 3   |       |