

Accessories
Electrical Distribution System



The BHS Electrical Distribution System (EDS) provides flexible power distribution to all 480 V / 3 ph components in an Operator Aboard Battery Extractor System including the Battery Extractor, chargers, and Battery Wash Equipment. The EDS is a stand mounted, high-density system that is customized using track busway that can be tapped at any location with a simple turn-n-lock connection.

Accessories

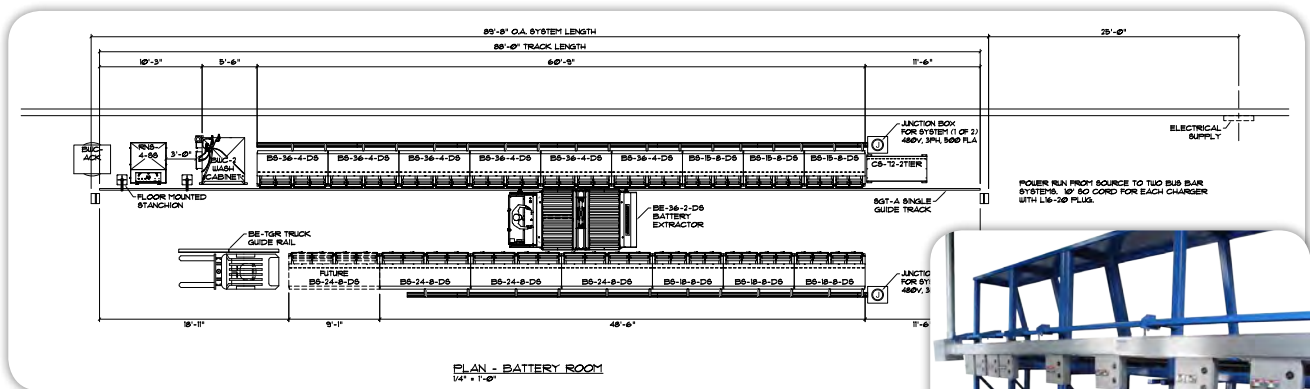
Electrical Distribution System

The BHS Electrical Distribution System (EDS) provides a favorable option for powering an Operator Aboard Battery Extractor System, in place of traditional alternatives that utilize a disarray of cables. The streamlined design of the EDS allows for easy modification or expansion to the system due to the innovative connection of the components.

Equipment Comparison

The EDS runs the length of the battery system stands and easily accommodates growth. The maintenance-free design saves space, and the unique connection method eliminates interruptions in power, providing reliable power distribution. Whether connecting sections of track busway or connecting modular units into the track busway, a turn-n-lock "compression-fit" connection is used to lock everything in place.

Operator Aboard Battery Extractor System with EDS:

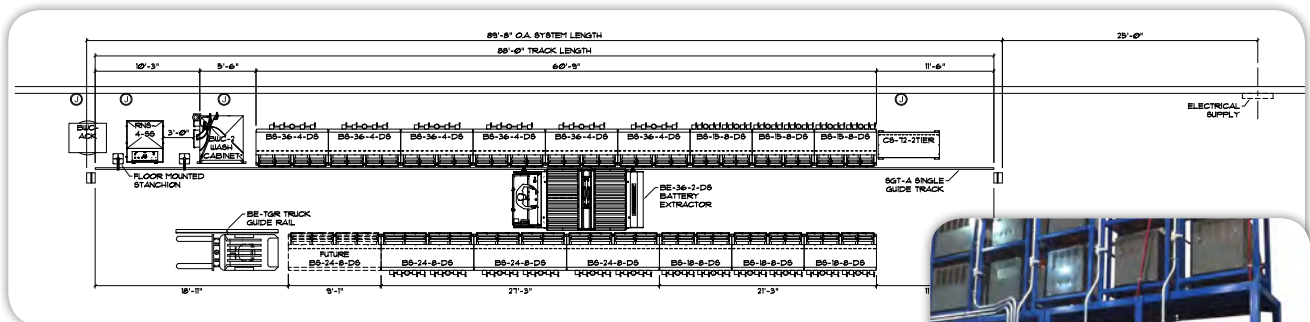


- 2 Junction Boxes
- Modifiable and expandable
- Install costs approximately a third of traditional systems, and cost savings increase as the EDS system grows



EDS, Sixteen outlets pictured

Operator Aboard Battery Extractor System with Traditional Wiring:



- 100 fused blade disconnects
- 100 runs of conduit (1 to each charger)
- Multiple runs of wire way
- Costly and difficult to modify



Traditional Wiring

EDS Equipment Components

Track Busway

Track busway consists of four conductors allowing for a maximum capacity of 800 A. Each composite copper-aluminum conductor is housed in a continuous insulator, and the extruded aluminum case can be used as a 100% ground path. The continuous plug-in design allows for twist in plug-in units to be installed anywhere along the length of the track busway.

- Available in 5' and 10' (1.5 m and 3 m) length sections
- Accommodates up to 800 A / 600 V ac or dc
- Aluminum housing
- Composite copper-aluminum conductors
- Short circuit capacity of 50 kA
- 60 Hz/50 Hz frequency rating

Circuit Breaker Units

- Used to tap off power from the busway
- Plug head is reversible to face in opposite position
- Locked into position with a single bolt on mounting tab

Available Units:

1. Dual outlet units with 20 A breakers (Nema L16-20)
2. Dual outlet units with 30 A breakers (Nema L16-30)
3. Hardwired breaker
 - Accommodates 480 V / 3 ph power supply
 - Ideal for use with an Operator Aboard Battery Extractor or Wash Equipment

Joint Kit & Installation Tool

A joint kit is required at each joint when connecting adjacent sections of track busway. A joint kit includes a housing coupler pair (two 12-screw couplers) and bus connector set (silver-plated copper blades secured to insulating mounting plate).

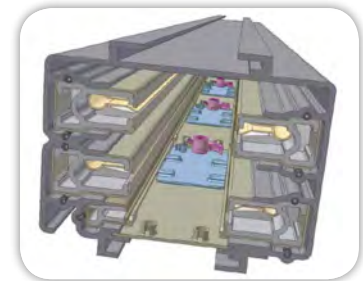
An installation tool is used for installation of the 'bus connector' electrical joint between two adjacent sections of track busway. The installation tool is used in conjunction with the joint kit to create a secure electrical connection.

End Power Feed Unit

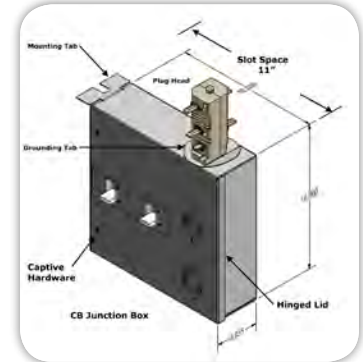
- The end power feed unit connects to the end of any busway section and supplies power
- 24" x 20" x 20" (610 mm x 508 mm x 508 mm) steel junction box, with removable sides, connected to a 1' (305 mm) section of busway

Available Units:

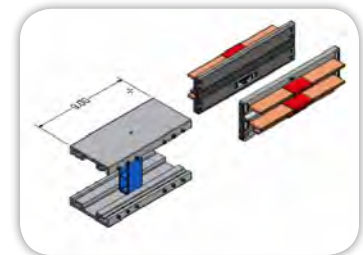
1. 800 A Capacity – 24" x 20" x 20" (610 mm x 508 mm x 508 mm) steel junction box with lug connections for parallel runs of MCM 600 Cu wire, and is sized to allow for (2) 4" (102 mm) conduits to be installed to the box
2. 400 A Capacity – 16" x 12" x 10" (406 mm x 305 mm x 254 mm) steel junction box with lug connections for MCM 500, and is sized to allow for a 4" (102 mm) conduit to be installed to the box



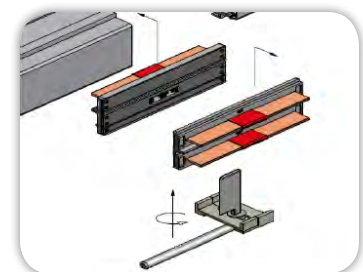
Track Busway



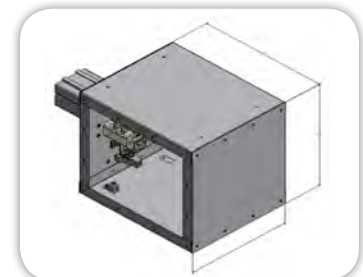
Dual Outlet Units with
20 A (or 30 A) Breakers



Joint Kit



Installation Tool



End Power Feed Unit

Charger Shutdown

The optional charger shutdown connects to the BHS Battery Room Ventilation System (BRVS) or to a Hydrogen Gas Detector (HGD) in order to disable the chargers. If an excessive amount of hydrogen (more than 2%) is detected in the area, the power supply to the chargers through the EDS will automatically be interrupted. By disabling the chargers, the production of hydrogen gas is stopped. Reference literature *GPL-3900 Battery Room Ventilation System* for more information on the BRVS and HGD.



Product Specifications

| | |
|-------------------------------------|--|
| Maximum Voltage | 600 V |
| Ampacity | 800 A |
| Frequency | 50 or 60 Hz |
| Conductors | Qty 4 (Phases A, B, C and Neutral) |
| Rated Short Circuit Capacity | 50 kA |
| Ambient Operating Temp | 40°C / 104°F 60°C / 140°F-0.8 Amp Rating Multiplier |
| Grounding | Aluminum Casing, 100% Grounding Path |
| Voltage Drop | (1) volt per 50 ft (15 m) |
| Housing Material | Extruded Aluminum |
| Conductor | Nickel plated Aluminum and Copper |
| Housing Exterior Dimensions | 5' or 10' (L) x 6.4" (W) x 5.05" (H) 1.5 m or 3 m (L) x 162.6 mm (W) x 128.3 mm (H) |



Standards & Certifications

The busway is designed and manufactured to the following standards:

1. Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC)
2. Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested Assembly and Partially Type Tested Assemblies, IEC 60439-1:1999
3. Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (busways), IEC 60439-2:2000
4. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standards C22.2 No. 27, the twelfth edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.
5. ETL Classified to (US / Canada) UL 857
6. National Electric Code (NEC) – Article 368 - Busways
7. NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
8. NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600 VAC)
9. NFPA 70 – National Fire Protection Agency

