

13/15 Battery Handling Equipment

Electrical Distribution System

The BHS Electrical Distribution System (EDS) provides flexible power distribution to all 480 V / 3 ph components in an Operator Aboard system that is customized using track busway that can be tapped at any location with a simple turn-n-lock connection.



BHS provides custom battery handling equipment to meet any challenge.

Contact BHS at bhs@bhs1.com to learn more about fully customized solutions for the battery room and beyond.



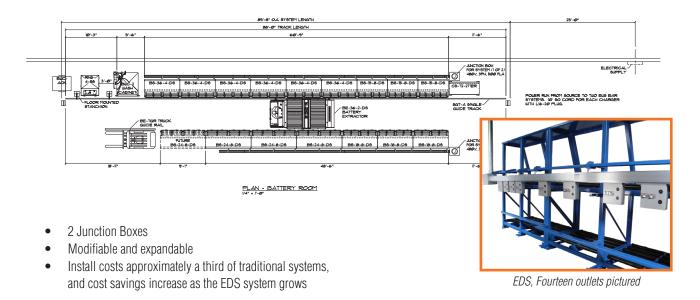


Equipment Comparison

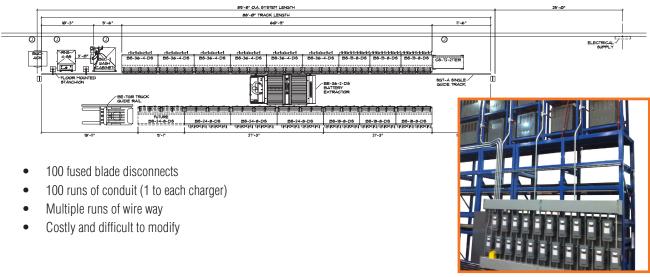
The BHS Electrical Distribution System (EDS) provides a favorable option for powering an Operator Aboard Battery Extractor System, in place of traditional alternatives that utilize a disarray of cables. The streamlined design of the EDS allows for easy modification or expansion to the system due to the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

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:



OPERATOR ABOARD BATTERY EXTRACTOR SYSTEM WITH TRADITIONAL WIRING:



Equipment Components

TRACK BUSWAY

Track busway consists of four conductors, and available in systems with 250, 400, 600, 800 amps. 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 2'-20' (0.6m-6m) length sections with up to 600 amp systems & 2'-10' (0.6m-3m) length sections with 800 amp systems.
- 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
- Locks easily and quickly into position using a "no tooling" latching mechanism on both Circuit Breaker Units & Plug-In Units. (see image on following page)

PLUG-IN UNITS:

- 1. Dual outlet units with 20 A / 30 A breakers (Nema L16-20/30)
- 2. Triple outlet units with 30 A breakers (Nema L16-20/30)
- 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
- Steel junction box, with removable sides, connected to a section of busway

Available Units:

- 800 A Capacity 24" x 12" x 18.5" (610 mm x 305 mm x 470 mm) connected to a 14" section of busway with connection lugs that can handle up to (2) 600MCM wires (CU). Junction box is sized such that one or two 4 inch conduits can be installed in the end of the box
- 2. $600 \text{ A Capacity} 20" \times 10.6" \times 20"$ (508 mm x 270 mm x 508 mm) connected to a 12" section of busway with connection lugs that can handle up 600MCM wires (CU).
- 3. 400 A Capacity 18" x 10.6" x 12" (457 mm x 270 mm x 305 mm) connected to a 12" section of busway with connection lugs that can handle up 600MCM wires (CU).
- 4. 250 A Capacity 18" x 10.6" x 12" (457 mm x 270 mm x 305 mm) connected to a 12" section of busway with connection lugs that can handle up 600MCM wires (CU).



Track Busway



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



Joint Kit



Installation Tool



End Power Feed Unit



Product Specifications

MAXIMUM VOLTAGE	600 V
AMPACITY	800 Max Amp Capacity
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 48 ft (14.6 m) for 250 A & 400 A Systems (1) volt per 65 ft (19.8 m) for 600 A Systems (1) volt per 25 ft (7.6 m) for 800 A Systems
HOUSING MATERIAL	Extruded Aluminum
HOUSING DIMENSIONS	250T5 2-20' L x 4.36" W x 5.05" H 400T5 & 600T5 2-20' L x 5.8" W x 5.05" H 800T5 2-10' L x 6.4" W x 5.05" H
CONDUCTOR	Nickel plated Aluminum and Copper



The busway is designed and manufactured to the following standards:

- Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC)
- Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested Assembly and Partially Type Tested Assemblies, IEC 60439-1:1999
- Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (busways), IEC 60439-2:2000 3.
- 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.
- ETL Classified to (US / Canada) UL 857
- National Electric Code (NEC) Article 368 Busways
- NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
- NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600 VAC)
- NFPA 70 National Fire Protection Agency





