



**ISOLATING STEERING DIODE ASSEMBLY FOR REDUNDANT DC POWER SYSTEMS**

## ***Looking for ‘True System Redundancy’?***

***Using a steering diode assembly (Best Battery Selector) is an effective and low cost method of providing true battery system protection and redundancy. The Best Battery Selector works automatically with no mechanical switching and requires no operator intervention.***



## What is the “Best Battery Selector”?

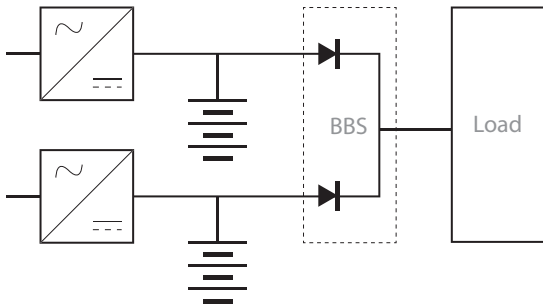
The Best Battery Selector (also referred to as “steering diodes” or “auctioneering diodes”) is a dc power diode assembly that interconnects separate battery circuits, ensuring that the dc bus does not rely on any single battery. The Best Battery Selector is a passive device which requires no user intervention or mechanical operation.

## How does it solve my system’s lack of ‘true redundancy’?

The North American Electric Reliability Corporation (NERC) – Draft 840, Protection System Reliability, October 2004 discusses the use of redundancy as a method to ensure system reliability. When two or more batteries are paralleled, electrical isolation is required so that system redundancy is not compromised.

An isolation method that uses a mechanical switch device for complete isolation means either the automatic switch or the operator must decide which battery to use and transfer the switch accordingly. In both cases a decision must be made by either a person or a device to determine which battery circuit is viable. In contrast, the Best Battery Selector does not require the operator or switch to determine the viability of a battery; therefore neither device nor human error will be detrimental to proper operation.

## How does the “Best Battery Selector” function?



This schematic illustrates how the Best Battery Selector operates. Listed below are the applications where the Best Battery Selector is best suited for:

- Utility Switchgear
- Engine Starting
- Communications
- Lube Oil Pumps
- Turbine Controls

### STANDARD FEATURES:

- Solid state design using diodes mounted on aluminum heat sinks for heat dissipation.
- Complete diode assembly housed in rugged a NEMA Type-1 carbon steel enclosure with an ANSI 61 gray epoxy powder-coat finish
- Convection cooled
- Automatic operation with no maintenance required.
- 5-Year Warranty

### OPTIONAL FEATURES:

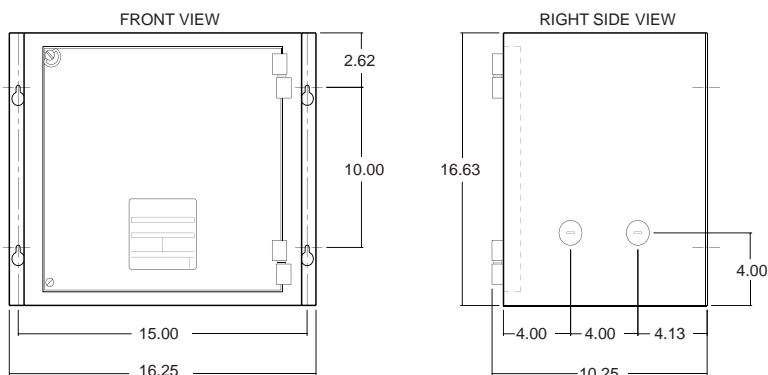
- DC Load Voltmeter
- DC Load Ammeter
- High/ Low DC Voltage Alarm with Indicator
- End of Discharge Alarm with Indicator
- End of Discharge Alarm with Indicator & Disconnect
- DC Load Disconnect Circuit Breaker

## SPECIFICATION CHART

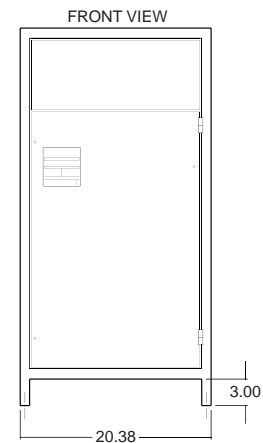
### Standard Best Battery Selector Models

HindlePower P/N	Voltage (max)	Current (continuous @50°C)	Current (1 sec)	Current (30 sec 50°C)	Battery/ Charger Quantity	Cabinet Style	I/O Connector
EJ5144-20	300	50	1000	450	2	586	1/4" ZPS stud
EJ5144-01	300	100	1000	450	2	1B	1/4" ZPS stud
EJ5144-02	300	200	1000	450	2	1B	3/8" ZPS stud
EJ5144-03	300	500	3500	2000	2	1B	lug #2-600MCM
EJ5144-24	600	50	1000	450	2	586	1/4" ZPS stud
EJ5144-05	600	100	1000	450	2	1B	1/4" ZPS stud
EJ5144-06	600	200	1000	450	2	1B	3/8" ZPS stud
EJ5144-07	600	500	3500	2000	2	1B	lug #2-600MCM
EJ5144-12	600	750	8700	6800	2	2	lug 300-800MCM
EJ5144-09	300	100	1000	450	3	1B	1/4" ZPS stud
EJ5144-10	300	200	1000	450	3	1B	3/8" ZPS stud
EJ5144-11	300	500	3500	2000	3	2	lug #2-600MCM

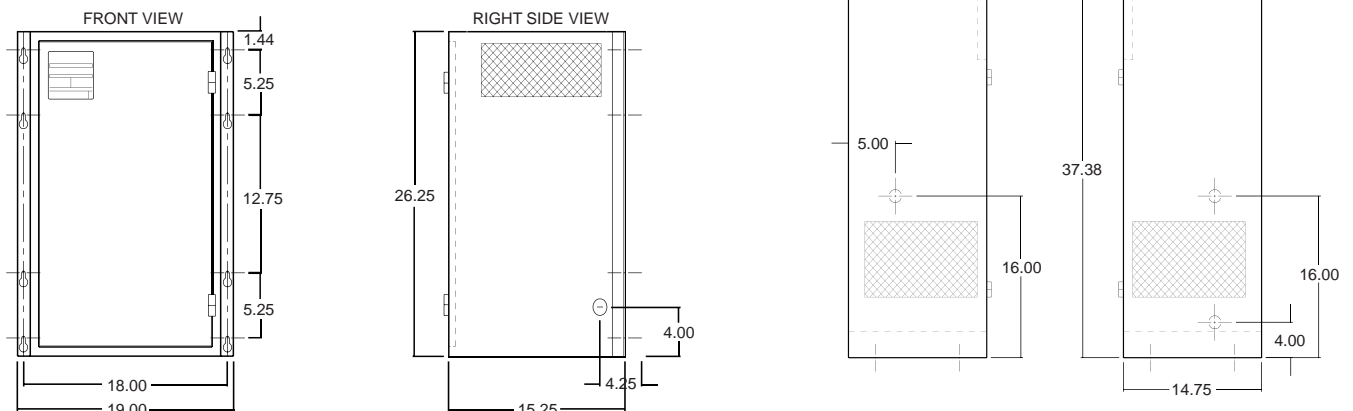
**NEMA-1 STYLE-586**



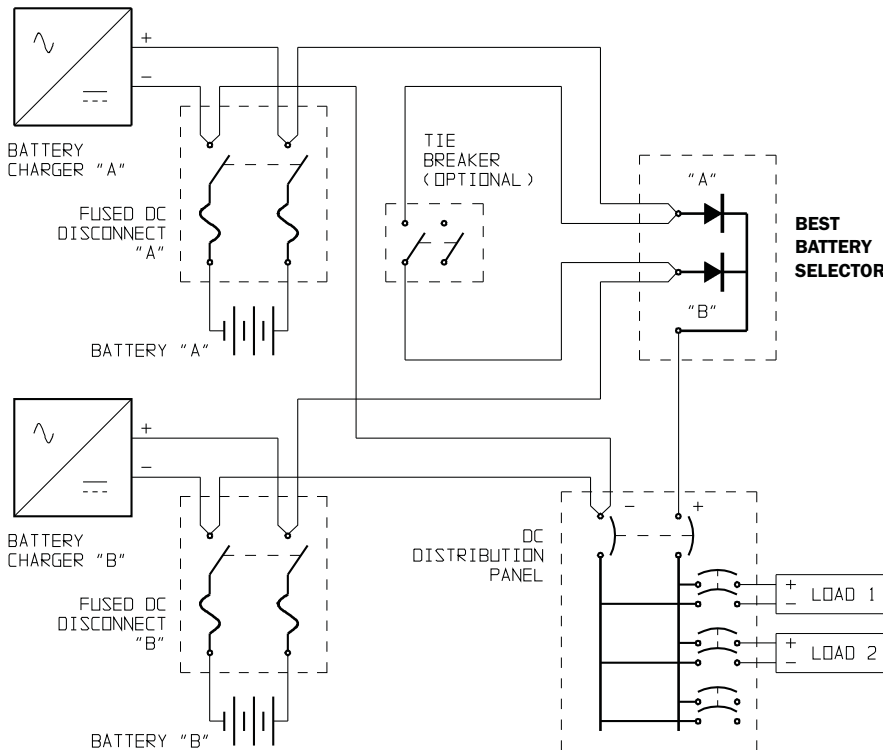
**NEMA-1 STYLE-2**



**NEMA-1 STYLE-1B**



## TYPICAL SCHEMATIC FOR 130Vdc REDUNDANT SYSTEM



### Best Battery Selector

- Isolation ensures system integrity in the event of failure on either bus
- Uniform shared discharge of both battery banks
- Seamless transfer of supply from either bus

### Fused DC Disconnect

- Allows battery to be removed from system for easy maintenance

### Tie Breaker

- Allows Battery Charger "A" to service Battery "B", or vice versa