

ZVD80

Zero Voltage Discharge Module

- Total battery discharge (to 0 V) prior recycling
- Operates in a system with BLU / BLU-C unit
- Constant current discharge – up to 60 A
- Efficient battery discharge on low voltages
- Voltage range: 0,0 - 800 V DC
- Universal – applicable to discharge any type of batteries



Description

Zero Voltage Discharge Module ZVD80 is specially designed external module enabling full battery discharge (down to 0 V). It is designed to operate in a system with BLU (or BLU-C) providing total discharge of batteries with voltage up to 800 V DC.

The total battery discharge is very important in the battery recycling process. It is important to discharge a battery completely before entering the recycling process, because the battery can contain some remanent energy. That remanent energy can be dangerous and create problems during the disassembling of a battery or even during its transportation. In order to prevent that, we created the ZVD80 module enabling a full battery discharge.

A single discharge down to 0 V will not extract all the energy from the battery. Once the discharge is finished, battery voltage will rise to some non-zero value, confirming there is still energy in the battery. The phenomenon is called the battery voltage rebound.

BLU & ZVD80 system improves the discharge process by discharging the battery in 2 steps:

Step 1: Efficient (up to 60 A) and controlled (current is constant until 0 V is reached) discharge until battery voltage drops to 0 V.

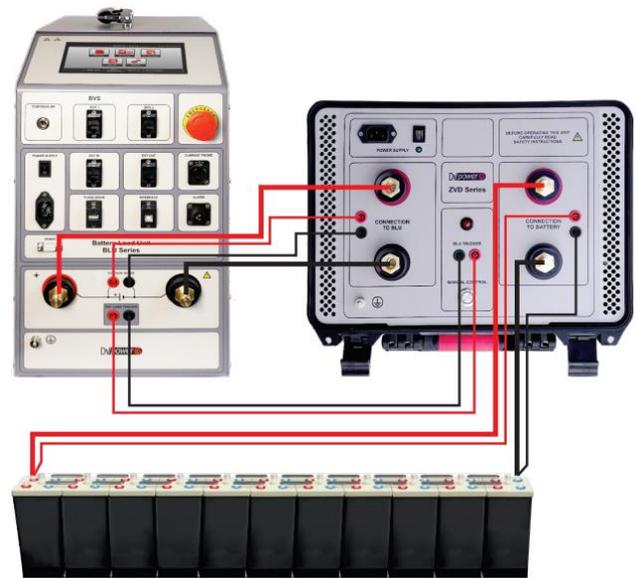
Step 2: ZVD80 short-circuits the battery to remove the remaining energy.

BLU & ZVD80 system discharge the battery at constant current (the current value is user-selectable prior the test). Maximum discharge current is 60 A. The current remains constant throughout the discharge test (even at voltages ≈ 0 V) which makes the process highly efficient and time-saving. For example, shorting the battery with a resistor is less and less efficient as the voltage decreases.

After ZVD80 is activated (battery is short-circuited), remaining energy is not being discharged on BLU internal structure. Therefore, BLU can be removed and used to discharge another battery string. Before removing BLU, it is necessary to press *Manual Control* button on ZVD80.

Connecting BLU & ZVD80 to Battery

To connect BLU and ZVD80 to a battery string, two sets of current and sense cable sets are required, as well as one set of trigger cable to initiate ZVD80 operation (short-circuiting the battery). One set of current & sense cables is used to connect BLU and ZVD80, while the other cable set is connected between ZVD80 and the battery. The BLU displays an appropriate message if cables are not properly connected prior the test. Connecting voltage sense cables to ZVD80 and to a battery is necessary for proper operation of the system (enabling accurate battery voltage measurement).



Benefits and Features

- Efficient total battery discharge down to 0 V required before recycling
- Applicable to any battery type: Lead-acid, Ni-Cd, Li-based etc.
- Efficient constant current discharge (up to 60 A) down to 0 V
- Universal models applicable to up to 800 V DC
- Discharge current can be modified during the discharge
- Test result will be saved in the BLU internal memory and can be downloaded to a USB and transferred to a PC for analysis and report generation

Technical Data

Mains Power Supply

- Connection according to IEC/EN60320-1; C320
- Voltage:
90 V – 264 V AC, 50 / 60 Hz, single-phase

Dimensions and Weights

Model	Dimensions	Weight
ZVD80 (without acc.)	405 x 170 x 335 mm 15.9 x 6.7.0 x 13.1 in	6,0 kg 13.2 lbs

Operating voltage measurement

Model	Range
ZVD80	0 – 800 V DC

Current range

Model	Range
ZVD80	0 – 60 A*

* Available on the entire operating voltage range

Environment conditions

- Operating temperature:
-20 °C to +55 °C / -4 °F to +131 °F
- Storage & Transportation temperature:
-40 °C to +70 °C / -40 °F to +158 °F
- Relative humidity: up to 95%, non-condensing
- Pollution degree: 2

Warranty

- 3 years + additional 1 (one) year upon registration on DV Power official website (www.dv-power.com).

Applicable Standards

- Electromagnetic Compatibility:
 - Directive 2014/30/EU (CE conform)
Applicable standard: EN 61326-1
- CAN/CSA-C22.2 No. 61010-1
- Safety
 - Low Voltage Directive:
Directive 2014/35/EU (CE conform)
Applicable standards, for a class I instrument, pollution degree 2, Installation category II: IEC EN 61010-1

All specifications herein are valid at ambient temperature of + 25 °C /+ 77°F and standard accessories. Specifications are subject to change without notice.

Order Info

Instrument	Article No
Zero Voltage Discharge Module ZVD80	BLU-ZVD80M80-0

Included Accessories	Article No
Mains Power cable	MPCxxA-xx-00
Ground (PE) cable	CABLE-GND-00

Standard Accessories	Article No
Current cables 2 x 3 m* 25 mm ² (4 AWG) and sense cables 2 x 3 m with alligator clamps (A4) isolated	CS-03-25VA4I
BLU-ZVD current connection cable set 2 x 1 m*, 25 mm ² (4 AWG) and sense cables 2 x 1 m with banana plugs	ES-01-25VAM8
Cable set 2 x 1 m* 1 mm ² (17 AWG) for ZVD triggering	PO-01-01BPBP
Cable bag	CABLE-BAG-00

Optional Accessories	Article No
Current cables 2 x 3 m* 35 mm ² (2 AWG) and sense cables 2 x 3 m with alligator clamps (A4) isolated	CS-03-35VA4I
Current cables 2 x 3 m* 50 mm ² (1 AWG) and sense cables 2 x 3 m with alligator clamps (A4) isolated	CS-03-50VA4I
Current cables 2 x 3 m* 70 mm ² (2/0 AWG) and sense cables 2 x 3 m with alligator clamps (A4) isolated	CS-03-70VA4I

* Longer cables can be provided on request.

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