

ZVC Battery Charger System Designed To Order, Metal Enclosed, Arc-proof, Air-insulated, Modular, Battery Charger System

- ✓ DC Power Module for Self Power Switchgear. Direct connection to UniGear switchboard.
- ✓ Space savings opportunity with effective footprint utilisation.
- ✓ Eliminate requirement of external power cabling and separate DC distribution board.

With ease of operation, increased reliability and compact footprint, ZVC will provide your Power Process System installations with significantly lower Total Cost of Ownership.

Design Features

Charger is phase or thyristor controlled, micro-processor based industrial grade battery charger with the following features:

- Constant voltage, constant current and constant power charging facilities.
- Multi Parameter digital display.
- Adjustable precise temperature compensation.
- Battery Amperehour capacity measurement.
- Full alarm specification to AS2293 or IEC60598.
- Remote alarm and communications card. This enables the DC system to be fully monitored and controlled remotely. The charger can then send back all operational parameters, perform self-diagnosis and battery capacity measurement and report on any failures.
- Facilities for connection of a standby charger (plug and socket connection)

Alarms

Trigger levels are adjustable:

- Battery Fail
- DC Low
- DC High
- Over volt Charger disconnect
- Under volts load disconnect
- Earth Fault

Protection

Equipped with the following protective devices:

- AC Input Circuit Breaker
- Charger Current Limit
- Battery Current Limit



- Battery Circuit Breaker
- Load Circuit Breakers for individual feeder
- Load Over Voltage Charger Inhibit

Metering

Liquid Crystal Display:

- Charger voltage
- Charger current
- Battery voltage
- Battery charge / Discharge current
- Load voltage
- Load current
- Battery temperature
- Battery Amperehour capacity meter


Hydrogen Gas

Hydrogen gas is colourless, odourless and lighter than air. Lead acid in power batteries emits hydrogen gas. Hydrogen in air mixture of 4% or greater substantially increases the risk of an explosion.

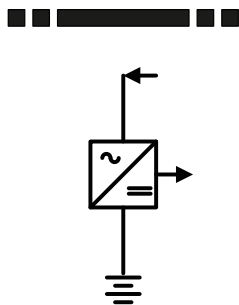
Concentration of hydrogen emitted in small decentralised battery systems is almost negligible, but for safety reasons it should be vented off. The standard practice is to use ventilation system in habitable switchroom, i.e. air intake and exhaust fan or air-conditioning. Optionally, hydrogen gas emitted can be channelled via switchboard arc duct to outside of switchroom, through a small perforated exhaust. Also for some battery types optional Gas Collection System is available

Where above measures are not practical, hydrogen gas concentration detectors should be installed in switchgear panel for local and remote alarming.

Technical data

Battery Charger		ZVC-DCP
Interface with switchgear platforms		UniGear, OE-ZVC, BC, Compact
Type of construction		Metal enclosed, modular extendible
Internal arc classification		AFL (or AFLR with arc gas duct)
Insulation level	kV	7.2/20/60 12/28/75
Rated main busbar current (40°C)	A	≤ 4000
Rated short time current	kA	≤ 50
Arc fault withstand current	kA	≤ 50
Overall dimensions each module	 H [mm]	1800/2200/2400/2595
	W [mm]	550/650/800/1000
	D [mm]	1340/1645/1800
DC Power System		
Autonomy time	hrs	2/4/8/12/18/24 ¹
Load regulation (static)		± 1% for 1 to 100% load
DC loads		
Continuous	W	Sized for loads offered
Intermittent	W	Sized for loads offered
Charger		
Configuration		Single/Dual redundant
Supply Voltage	Vac	110/120/230/240/415/440
Frequency	Hz	50/60
Output Voltage	Vdc	24/30/32/48/60/110/125/220/250
Output Current	A	Sized for loads offered or additional external capacity
Output Ripple without battery connected		< 1%
Continuous Power		To support load and recharge battery
Recharge time		Flat to 80% in 8hs, 100% in 12 hrs ²
Communication card		Modbus / Profibus / ProfiNet / DeviceNet / IEC61850 IEC870-5-103 / DNP3 / CAN
Battery		
Type		Sealed lead acid/Nickel cadmium
Connection of battery banks		Single (100%) / Parallel strings (2x50%) ³
Battery bank capacity	Ah	Sized for loads offered. Maximum ≤ 2000Ah
Configuration		Single (100%) / Dual redundant (2x100%)
Peak load		Switch tripping at the end of discharge period and design-life
Design life	yrs	≥ 10
Design temperature	degC	20 ⁴
Cell sizing calculation		IEE485 standard

Single Line Diagram for typical unit



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The data and illustrations are not binding. We reserve the right to make changes in the course of technical development of the product.
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¹ Other ratings on request

² Other ratings on request

³ Other connections on request

⁴ Service life expectancy reduces with higher temperature