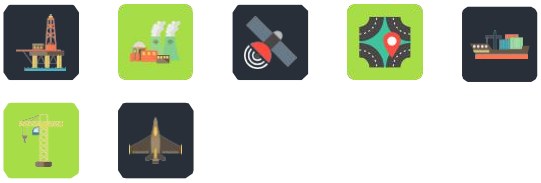
ZHDCS/T SERIES THYRISTOR RECTIFIER – BATTERY CHARGERS

ZHDCS/T thyristor rectifier is specially designed for harsh industrial application environment with high performance application requirements. It provides high reliability, high performance and high quality DC power.

ZHDCS/T thyristor rectifier is designed on thyristor technology, the rectifier can charge nickel cadmium battery and lead-acid battery and supply DC load at the same time. It can also be used as independent DC power supply without battery.

Applications

ZHDCS/T thyristor rectifier can be widely used in petroleum, petrochemical, power plant, natural gas, electric power, marine, heavy industry, mining, transportation and other industries.



Features and benefits

- SCR rectifier with DSP control technology, overvoltage, undervoltage protection for reliable operation in all mains conditions
- Input isolation transformer, isolated DC output
- High operating safety and reliability, even under difficult circumstances over long periods of time
- Adjustable manual and automatic charging mode for maximum flexibility on operation
- Monitoring of all parameters via the front panel display ,digital control panel and touch screen for meters, alarms, and history events for maximum flexibility on monitoring
- Built-in intelligent battery management
- Existing pre-defined configurations to permit reduced lead times
- Field proven high reliability with microprocessor-controlled thyristor technology
- Parallel operation for redundancy requirements
- Support all charging mode for vented/sealed lead acid batteries and Ni-Cd batteries
- More than 12,000 history records to position issues quickly and accurately
- Front accessibility for easy maintenance Battery
- Charging temperature compensation
- International service support

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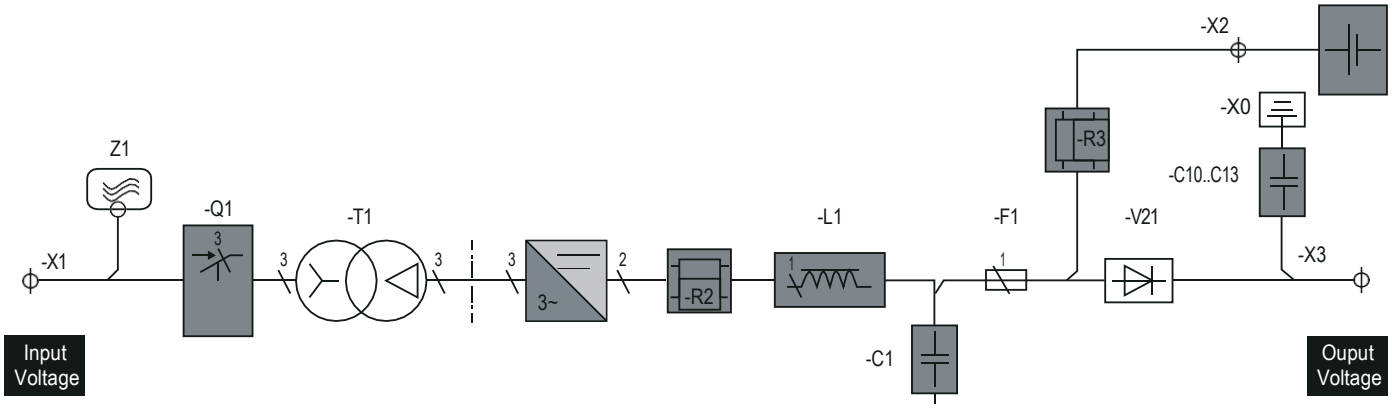
STANDARD SYSTEM

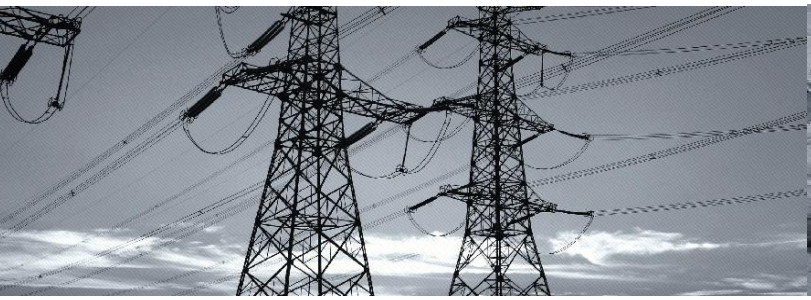
ZHDCS/T thyristor rectifier range of systems has been preconfigured with a number of the most commonly requested features built-in as standard. These systems are available“off-the -shelf” with standard drawings and standard user documentation.

Standard configuration

- Single system with building block modular design
- Internal rectifier input switch Q1
- 6-pulse rectifier bridge with input isolation transformer
- Output filter L1-C1 ripple voltage <5 % RMS without battery
- Rectifier F1 fuse and rectifier shunt R2
- Blocking diode V21
- Multi-functional LCD
- Common fault remote alarm
- Floor mounted cabinet with external IP3X protection
- Cabinet color RAL 7035
- Power and control cable marking
- Bottom cable entry
- Input/battery/output terminals X1, X2 and X3
- Standard labeling/nameplate

System Principle Reference





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Non-standard customization

The standard system can be enhanced with many additional options. After the configuration is determined, we will send thefinal CAD drawing to the customer to reflect the actual situation of he configuration.

In order to provide an accurate solution for each application, we have listed some common non-standard options, Meet customer customization needs.

System

- Parallel redundant configuration with load sharing, With automatic load balancing function
- Special mains input voltages(110– 690 V) and frequency 60 Hz
- Rectifier input MCB or fuse
- Battery MCB, fuse or switch in rectifier
- Battery MCB or fuse box
- Load MCB, fuse or switch
- DC distribution
- Monitor can control MCCB automatic switching
- Battery installed inside the rectifier cabinet, running together
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- Interior cabinet light,AC single phase socket & cabinet heater
- Special color
- Vermin proof protection plates
- Special markings
- Top cable entry
- Air filters at air inlet
- Ventilation 100 % redundant

Alarms/Signaling/Measurement

- LED alarm indicators in front panel
- Dry contact board
- Audible alarm
- Temperature charging compensation sensors & cables
- Temperature alarm
- Battery circuit failure alarm
- Ground fault alarm

Control options

- Remote rectifier shutdown command
- Remote forced floating charge command
- Other control features available depending upon customer requirements

Communication

- RS232/RS485 Port
- RS232/RS485 Port realizes Modbus protocol
- TCP/IP Port Ethernet
- TCP/IP Port Ethernet realizes Modbus protocol
- Protocol converters(Profibus DP, J-bus DNP3, IEC 61850)
- Monitoring and management software

Remark:

Ethernet port for maintenance, local and remote supervision by Modbus through TCP/IP.

It includes complete integration to the background monitoring system.

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Technical data

Rated Voltage and Current	
48Vdc/125Vdc/220Vdc	
25A~1000A	
Environmental	
Operating temperature range	0-55℃
Relative humidity range	≤95
Altitude	≤3000 When above 3000m, refer to standards for derating
Storage temperature range	－25～70℃
Noise	≤55dB
General characteristics	
Height	2260
Width	800
Depth	600/800/1000
MTBF	>= 250000
Efficient	92%fully loaded
Transformer	Double winding isolate transformer
AC input	
Rated Input voltage	220 :3-phase
Input voltage range	220:scope:-15%～ + 15%
Rated frequency	60Hz;
Input frequency range	allowed change scope: ±5%
Input power factor	fully loaded 0.8
Charger output	
Charging voltage scope	198Vdc～286Vdc/99Vdc～190Vdc/40Vdc～58Vdc
Floating charge voltage	2.25
Equalize charge voltage	2.35
Charge current limit	(10%～110%)×rated value
Battery temperature compensation	Configurable (default value-3mV/℃ Single) / Configure the battery temperature sensor
Voltage adjustable range	-20%～+20%
Output current specification	25A~1000A
Output current limit	(10%～110%) × rated value
Voltage regulation accuracy	≤±1%
Current regulation accuracy	≤±1%
Output Voltage Ripple	≤±1%
Charging characteristic	Constant current/constant voltage (I/U as per IEC 478 1) during float charge
Standards	
Safety	IEC 60146
EMC	IEC/EN 61000
Performance	IEC/EN 60146

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