

ENERGY STATION - DC CHARGER

EPM-S SWITCHING STATION SINGLE BRANCH

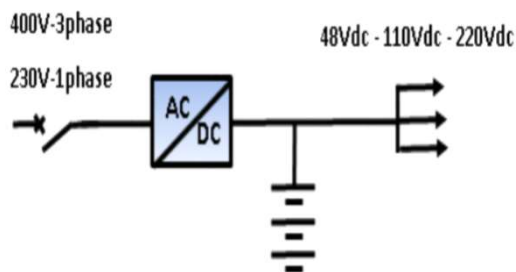


APPLICATION

- Telecom & Mobile.
- Oil&Gas.
- Power Station & Substations.
- Railways.
- Aiport and Shipping.
- Water & water treatment.
- Chemicals, Mining, Steel, Paper.

MAIN FEATURES

- Switching rectifiers.
- Power factor > 0,95
- Low harmonic emissions.
- Voltage input $\pm 20\%$.
- Voltage output 110Vdc/220Vdc
- Output voltage variation $\pm 1\%$
- Redundancy & modular solution.
- Power up to 120kW



SINGLE BRANCHES BATTERY CHARGER

EPM is an Energy Station with single branche rectifier. The rectifier is composed on one or more switching AC/DC rectifier modules in parallel. Parallel rectifiers in N-1 solution in order to improve availability of the power supply. No input transformer that means high efficiency and switching controller can increase the power factor up to 1.

BATTERY CONTROLLER MODULE MANAGER

Battery controller module manager to provide V-I output according with figure vendor data: NiCd, Lead Gel type as well.

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General data		Output data	
Efficiency	78%÷87%	Voltage Output	110Vdc 220Vdc
Output terminal	isolated & GND floted	Output stability	<0,5%
Working temperature	-20°÷70°	Noise	50mVpp w/n 50MHz
Insulation IN/OUT	1,5kV-50Hzx1'	Harmonics	<0,15%Vout
Insulation IN/GND	1,5kV-50Hzx1'	Overvoltage protection	1,20xVout
Insulation OUT/GND	0,5kV-50Hzx1'	Current limitation	1,2xIrated
		Input data	
Compatibility EMI	EN50081-1	Voltage Input	400V
Compatibility EMC	EN50082-1	Number phases	3
Safety requirement	EN60950	Frequency	47Hz÷400Hz
Cooling	Fan each single module	Voltage variation	±20%
		PFC regulation	Optional

Mechanical Frame

Metal sheet cabinet, free standing
 Frame thickness 2,5mm
 Doors 2,0 mm
 Protection degree IP21
 Portection degree open door IP20
 Cable entry bottom side

Electromechanical equipment

Circuit breaker moulded or automatic
 Overvoltage protection (optional)
 Input insulation transformer (optional)
 Display for measurements and diagnostics.
 L-C filters (optional)
 Terminal blocks – power and signals

Supervision

Controle module of the battery charger provides voltage and current to battery in order to fullfil the V-I characteristic of the battery manufacturer. Controller always keeps the battery in safe condition during duty cycle charge and discharge to get longer battery lifetime.

Controller module is equipped with ethernet port TCP/IP modbus protocol to exchange data with remote controller.

The controller leaves available the status and alarms of the Energy Station on the display and it works out the file logs with time stamps.

Some status and alarms are also available by free voltage contacts on the terminal blocks.

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Voltage Input	Voltage output	Load current	Power
[V]	[V]	[A]	[kW]
400V-3ph	110Vdc	36	4
		72	8
		108	12
		216	24
		500	55
		1100	120
400V-3ph	220Vdc	36	8
		72	16
		108	24
		216	48
		500	110
		1000	220
400V-3ph	48Vdc	60	3
		124	6
		220	10
		320	15
		500	24
		1000	48

Customization available

- Different layout and Single Line Diagram.
- Increase of insulation voltage level.
- Combination with PV cells charger.
- Cabinet dimension.
- Protection degree.
- Measurements and controls.

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