INDUSTRIAL PRODUCT CATALOG

ELTEK VALERE
always on

INDEX

WELCOME TO ELTEK VALERE INDUSTRIAL

Dear valued customer,

The Eltek Valere slogan "always on" reflects our company in many ways. From our employees being "always on" to that extra mile for our customers, to our products. This catalogue gives you an overview of our power modules and systems that can ensure that your mission critical applications are "always on".

Since 1991 we have developed and delivered leading technologies in the fields of modular power supply. With joining the ELTEK Energy Group our position has been fortified and is being strengthened. In 2007 the integration process of Convertronic into the group was entirely completed: We are now Eltek Valere Industrial GmbH, the industrial powerhouse of Eltek Valere.

Power conversion is our profession. Based on the Switch-Mode Technology we provide products for every field of power generation and transmission, oil and gas extraction, maritime, railway and other industrial applications. The main target is the complete integration of all devices in a complex and uniform communication platform for remote monitoring. Besides our own products our skilled and highly motivated R&D team continuously develops OEM products for various customers.

Besides our headquarters in Kirchlengern/Germany we have two modern production facilities in Drebach/Germany and Ruda Slaska/Poland. Together with our international trade and service partners and the Eltek Valere Sales team we are an important global supplier for innovative products.

We hope that you will find products to match your requirement in this catalogue. We are only a phone-call or e-mail away and we are all more than happy to respond to any enquiry you may have.

Steffen Lötzsch

Morten Schøyen

Yours sincerely
For Eltek Valere Industrial

Steffen Lötzsch
CEO
Eltek Valere Industrial GmbH

Morten Schøyen
Vice President Industrial Power
Eltek Valere AS

OUR MODULAR POWER SOLUTION REPRESENT

- ›› NEWEST TECHNOLOGY
- ›› REDUNDANCY
- ›› SCALABILITY
- ›› FLEXIBILITY
- ›› LOW COST OF OWNERSHIP
- ›› EASY SERVICE AND MAINTENANCE

MODULAR POWER SUPPLY SYSTEMS

The advantages of modular power supply systems compared to monoblock applications are clear. In order to meet the high safety demands in view of availability and minimized mean time between repair (MTBR), most users will turn into this technology on the long views.

OUR MODULAR POWER SOLUTION REPRESENT

REDUNDANCY

Modular power supply systems are built in parallel redundant structure in order to match power requirements and level of redundancy. By adding one (N+1) or more (N+X) redundant modules the load is secured power in case of module failures. If a module fails alarms will be generated and operators can react and re-establish redundancy in due course.

In non-modular (mono-block) systems the redundancy can only be achieved by 2 complete systems, each capable of handling the complete load. With a modern modular system the same level of redundancy can be achieved by adding one single module. This of course dramatically reduces the initial investment and still offers more flexibility.

SCALABILITY

When dimensioning a power system it is always a challenge to find the exact power consumption of all connected loads. In addition one also has to look into the future to allow for possible additional loads.

Monoblock systems can only be purchased with a given maximum rating. For future expansion beyond this, the options are either a completely new larger system or a new complete system connected in parallel. Neither are financially or practically attractive options.
For modular systems on the other hand, one can easily prepare for future expansion by including pre-wired empty slots for additional modules. Typically this will already be included or can be achieved at a very little additional cost.

Being faced with an increasing demand for more power during the operation or with the necessity to connect additional consumers to the system, the customer only needs to purchase the required modules and integrate them into the existing system. So, the performance of the system grows in line with the needs and requirements of the user. System, output power and, consequently, the investments are "scalable".

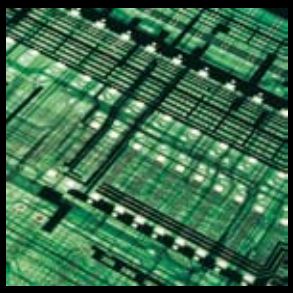
OUR MODULAR POWER SOLUTION REPRESENT

MODULARITY

Monoblock systems are available completely mounted in a system cabinet. This may be a logistics' challenge especially in case of installation in cramped locations with difficult accessibility.
Modular power systems, however, are supplied and commissioned with a pre-wired cabinet with very low weight. The power supply modules are implemented into the provided sub racks after the system being completely mounted. Thus, the delivery, moving the cabinets into the site building and the installation become as easy as child's play. Especially in order to increase the availability or the power output performance, additional modules can be equipped without special expertise later on.

REVOLUTIONARY CAN BUS CONCEPT

The system-wide CAN Bus communication concept is the main feature of our system's philosophy. All device types as rectifiers, DC/DC converters, inverters and static bypass switches as well as frequency converters are linked to the fail-safe communication bus. The bus system carries out controlling tasks, transfers measuring results and it signalizes failures.
Based on this general concept, the continuous monitoring of all individual components down to reading of serial numbers and firmware versions is possible. A single controller can manage a system consisting of rectifiers, DC/DC converters and inverters. The safety of our system has the highest priority. All power supply modules can operate also without CAN bus communication as a stand-alone unit. Therefore a continuous system operation is guaranteed also in case of disturbed CAN bus line. In battery systems, for example, the batteries are continuously being charged by the rectifier modules in case of CAN-Bus failures.



OUR MODULAR POWER SOLUTION REPRESENT

BATTERY MANAGEMENT

The design of our DC controllers combines our long-time expertise in battery charging methods, battery testing procedures and failure detecting methods. Our DC controllers ensure a comprehensive battery management. Battery availability can be verified through battery discharge tests manually or automatically at preset intervals. Each test will be recorded, stored and made available either through the display or graphically on a PC. The most important battery parameters can be set in the DC controller. All the most important monitoring thresholds such as battery over- and under-voltage, battery charging current load limitation, temperature coefficient and the temperature window limit for charging voltage compensation, operating temperature range, etc. are free settable. Pre-warnings and system alarms can be issued via front-LED, relay or SNMP-traps (using optional SNMP-interface). Additionally, our DC controllers are designed to control LVD- and PLD-contactors with separate thresholds. So, the battery backup time is expandable according to the system's priorities and the LVD protects the battery from deep discharging. For battery types needing a customized boost-recharging we have available an automatic boost charging option with programmable start up parameters and charging voltage curves.

SIGNALLING CONCEPT

All important data and measuring values are collected and recorded in the DC controller. According to free programmable criteria, status and failure events are signalized. The signalling can be carried out via:

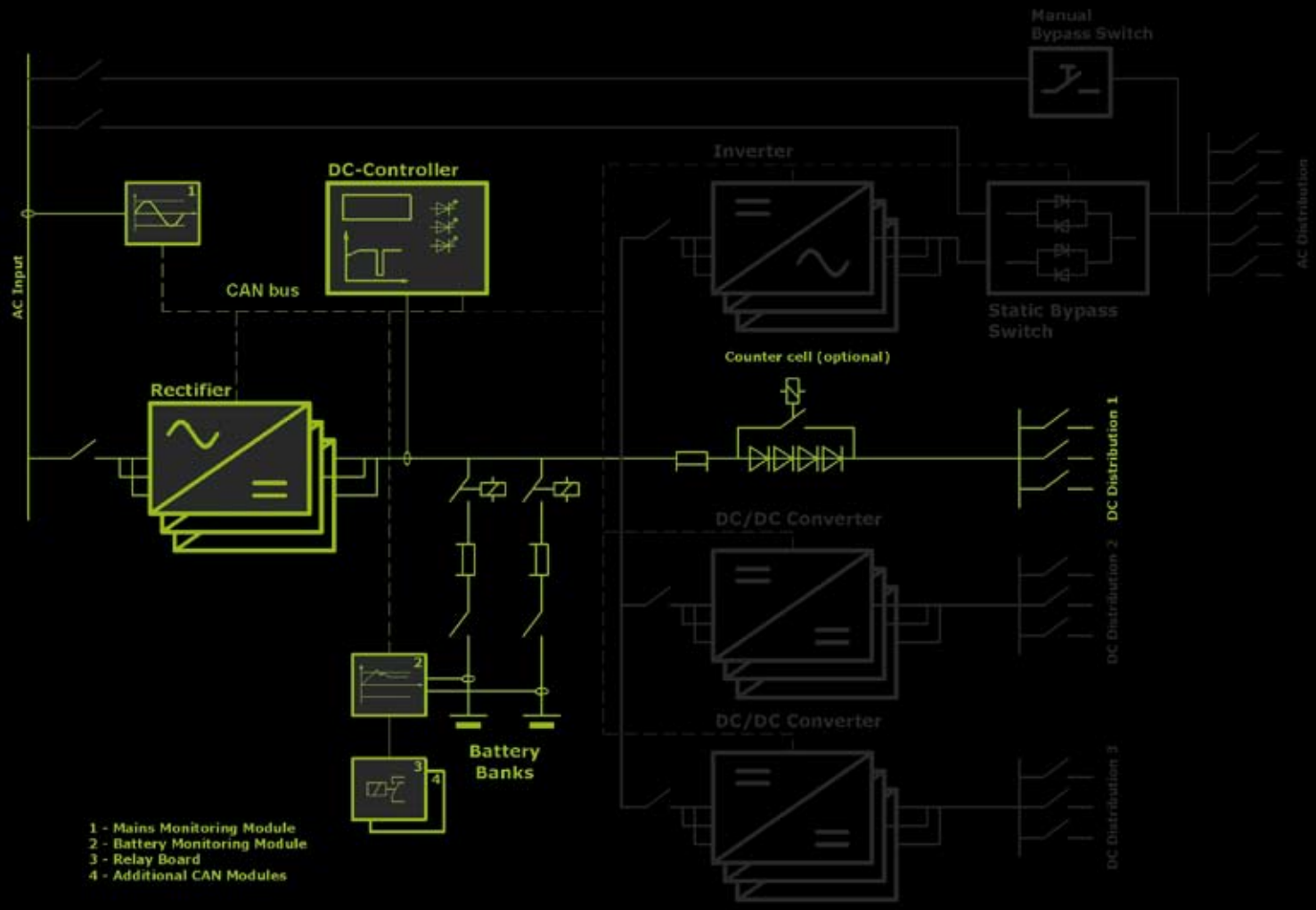
>> Alphanumeric LC-Display
>> LED-Signals
>> Isolated relay outputs
>> Analog modem (optional)
>> SNMP-Interface (optional)

All signals and alarms can be grouped and routed to different events or outputs. Therefore, the signal structures are completely adaptable to each individual customer's philosophy.
Configuration is conveniently done with a local computer via USB-interface in the frontplate of the DC controller.

TYPES OF MODULAR POWER SYSTEMS

TYP A: SERIES DCPS

›› 24, 48, 60, 110, 220V_{DC} up to 60KW



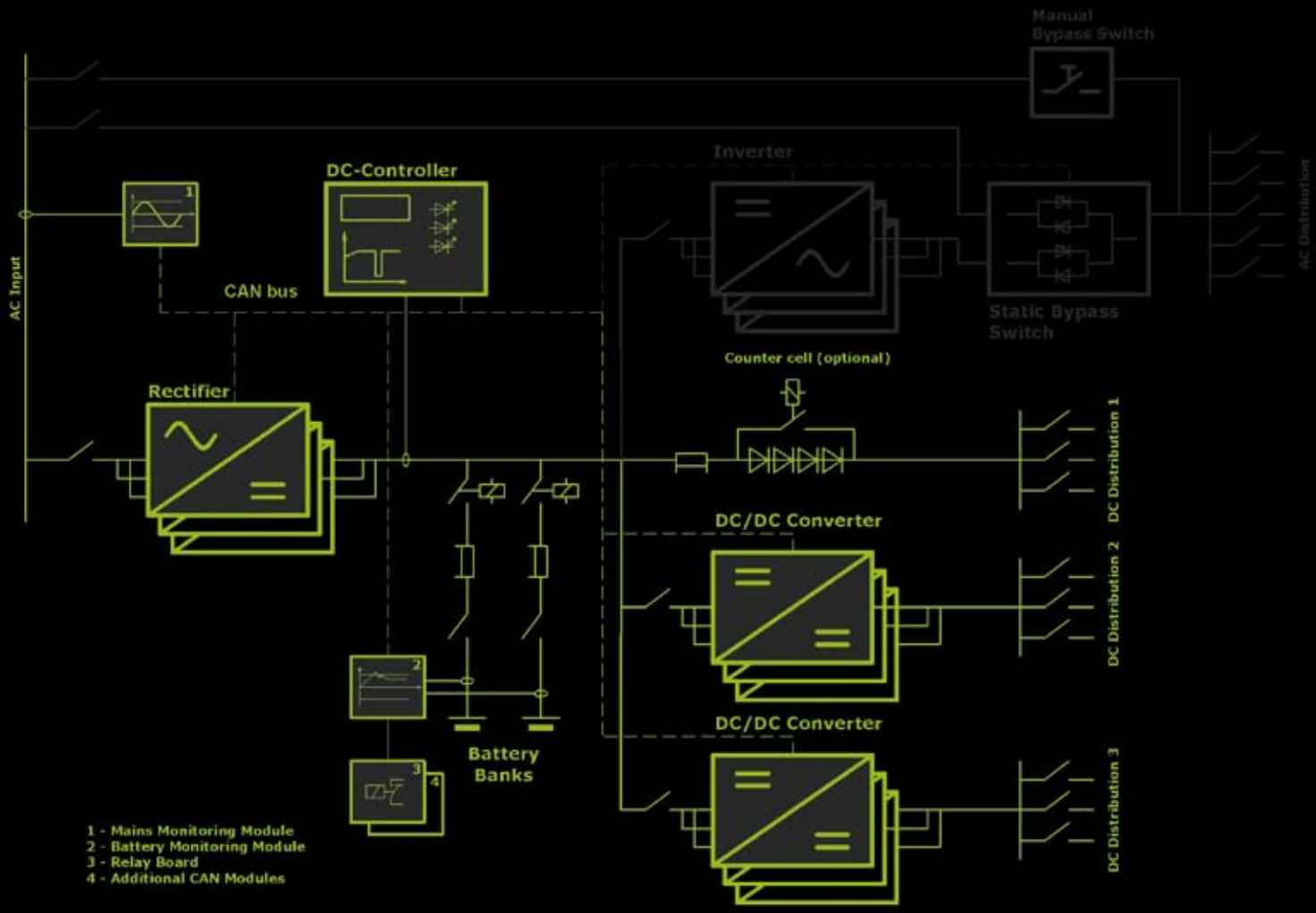
DC-POWER SYSTEM WITH BATTERY BACKUP

The system consists of an AC input distribution including OVP- and mains monitoring board (optional), rectifier rack, DC controller, battery strings (internal or external on a rack), LVD and outgoing DC distribution. Depending on the load voltage limitation a single- or two level counter cell can be implemented, too. To protect the batteries from deep discharging and to ensure a specified output voltage range an LVD-connector is recommended.

TYPES OF MODULAR POWER SYSTEMS

TYP B: SERIES DDPS

›› 24, 48, 60, 110, 220V_{DC} up to 60KW



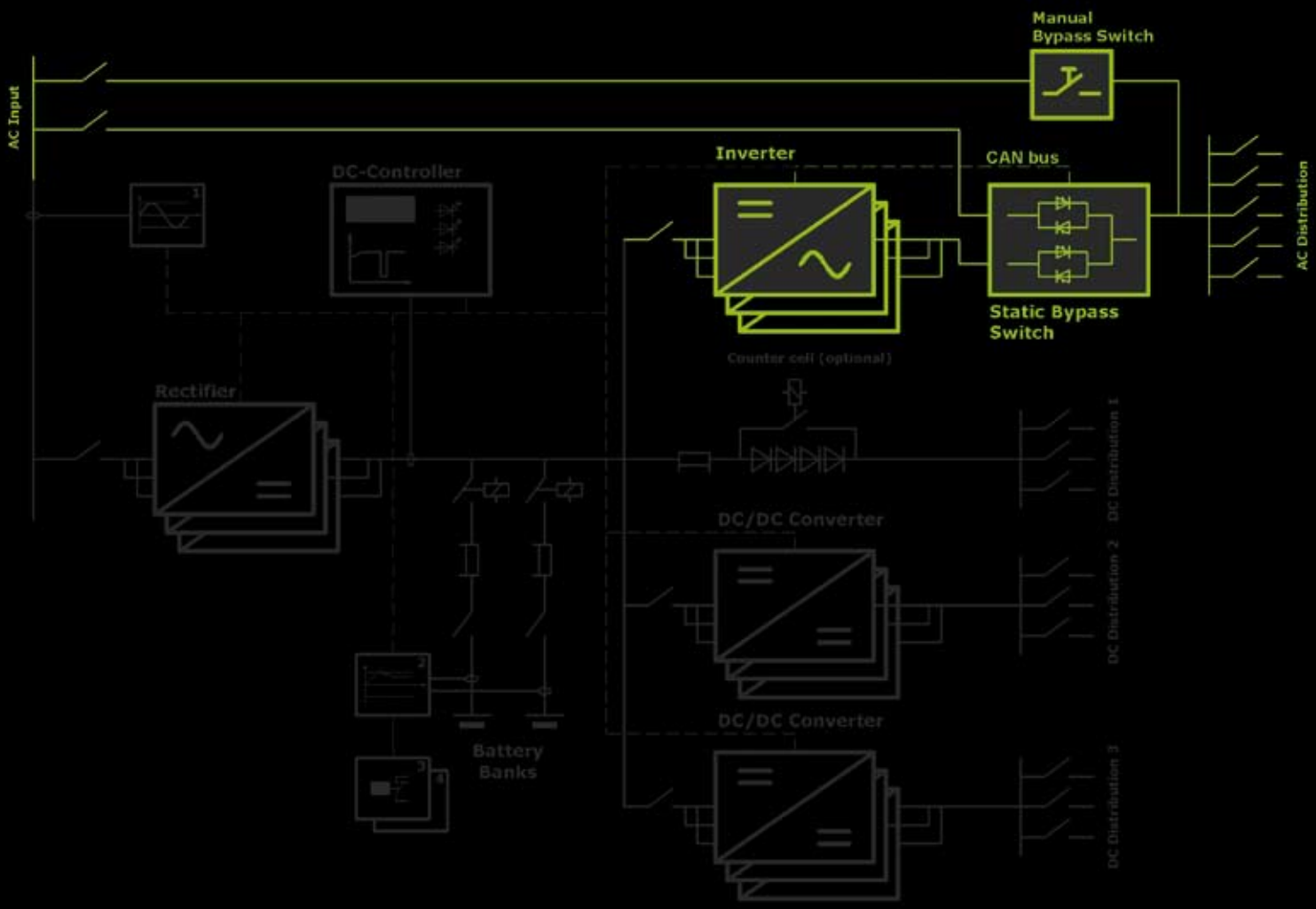
DC-POWER SYSTEM WITH BATTERY BACKUP AND MULTI-OUTPUT

This system is designed like version A. Additionally, several DC outputs with different voltages are available. DC/DC converters are used for the conversion of battery voltage into different isolated voltage levels. For tripping the fuses in a subsequent DC distribution in case of short-circuit, an optional capacitor bank can be installed at the DC/DC converter output.

TYPES OF MODULAR POWER SYSTEMS

TYP C: SERIES ACPS

›› 230 V_{AC}, 3x 230/3x 400V_{AC} up to 50KVA



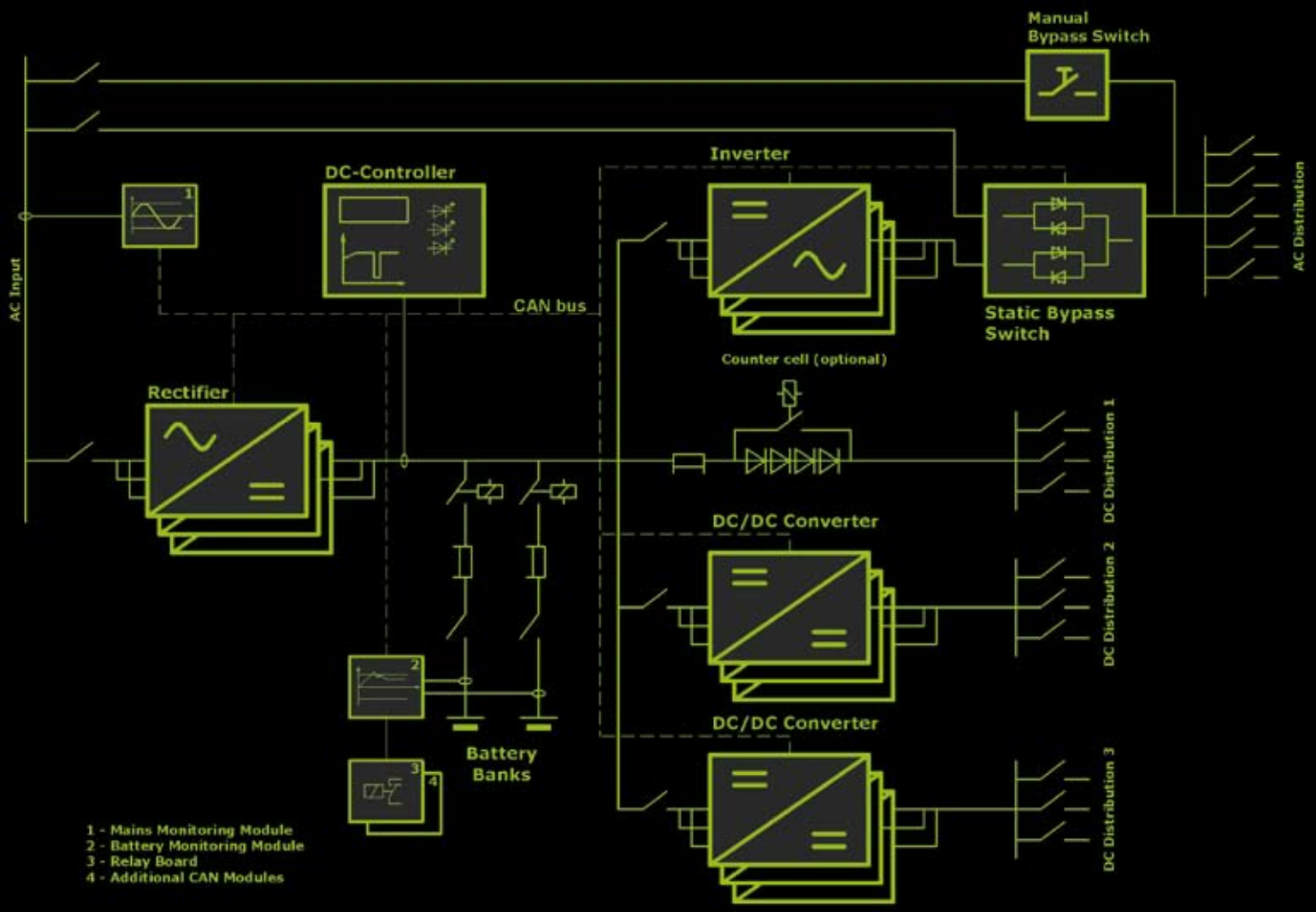
AC POWER SYSTEMS

AC power systems consist of several parallel operating (or parallel-redundant operating) inverters, fed from a battery or from rectifiers. For increasing the availability a static bypass switch is needed to supply the load from redundant source in case of a short circuit or inverter overload. For service and maintenance an additional manual bypass switch is available. This switch connects the load directly to a redundant AC source while service and maintenance measures can be carried out.

TYPES OF MODULAR POWER SYSTEMS

TYP D: SERIES DAPS

›› 230 V_{AC}, 3x 230/3x 400V_{AC} up to 50KVA



MODULAR INDUSTRIAL UPS

The modular industrial UPS consists of controlled redundant rectifier/ charger, DC controller, inverter, static transfer switch, several DC/DC converters (optional). Our Sales and R&D-Engineers are prepared to assist you at any time to configure the best possible modular power source for your application. We have a long-time expertise in modular power supply systems – participate!

INDUSTRIAL UPS FOR HIGH POWER APPLICATION

›› from 30kVA up to 100kVA

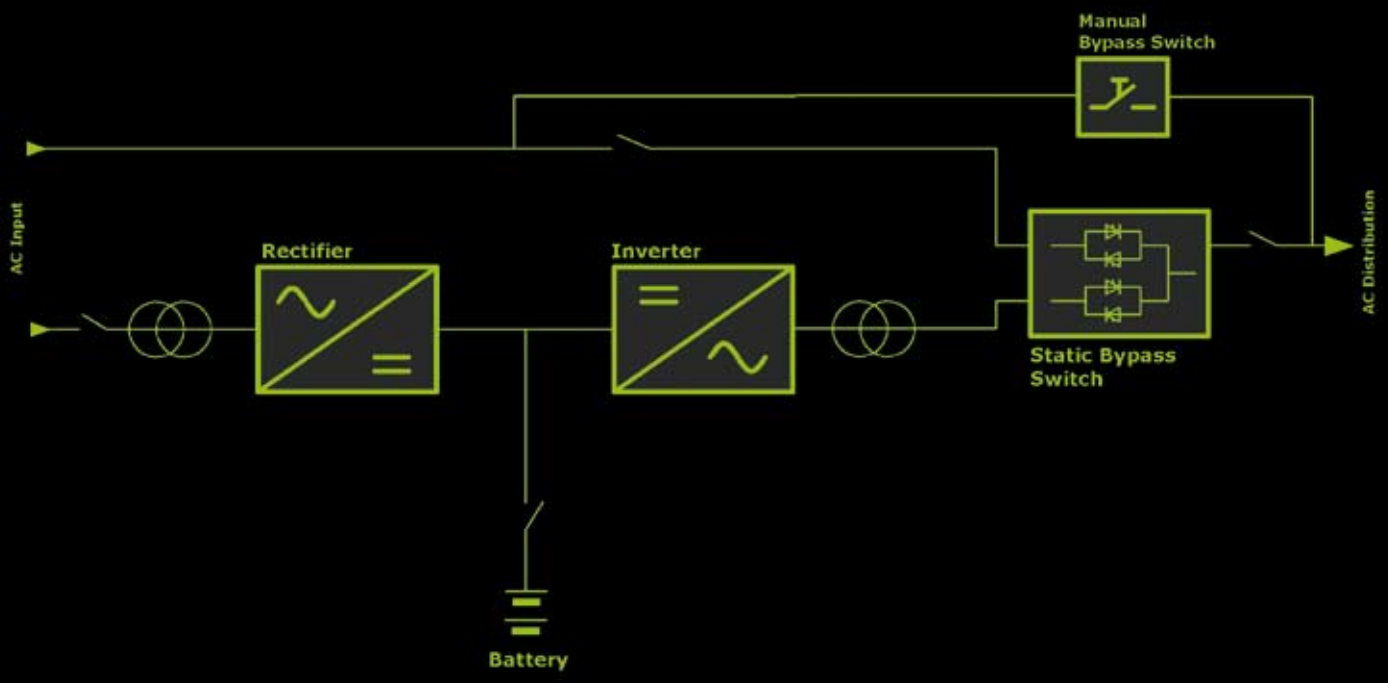
Our MPS2001 & MPS2003-UPS are designed to provide under harsh industrial conditions a cost effective power source for all AC-loads. The highly reliable SCR rectifier is fully compatible with all types of batteries (vented or sealed, lead-acid or Ni-Cd). Battery voltage, typical 110 - 125 - 220V_{DC} for industrial applications and battery current are adjustable, depending on battery size.

Double-conversion (VFI-SS-111 according IEC62040-3) guarantees high performance in terms of efficiency, harmonic distortions and voltage regulation.

Powered from a 3phase input (208 – 400 – 480V) UPS generates a single-phase (115 – 120 – 230V) or optional a 3phase output (200 – 208 – 400V), with input isolating transformer, microprocessor controlled and monitored via RS232/RS485-interface, with optional remote panel.

IGBT (PWM) inverter enables a high performance in power quality and parallel operating reliability. The SCR-equipped static switch is a steady and reliable component for redundant operation.
Separated relay interface cards for rectifier, inverter and static switch are available as well as MODBUS and SNMP-protocol.
UPS can operate stand alone or parallel hot-standby or parallel redundant (n+1).

INDUSTRIAL UPS FOR HIGH POWER APPLICATION



CUSTOMIZED UPS SOLUTIONS

RECTIFIER (...220V/1000A), singlephase inverters (...119V_{AC}/50kVA/230V_{AC}/100kVA) and static bypass switches (singlephase and threephase, up to 800A) from our UPS-family are available as separated devices for construction of industrial power stations as well.

››POWER RACKS

Building your own modular power system by using our standard power racks on a plug and play basis!

DC Power Racks
DCR PSR308-XX

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

Our DC power racks DCR PSR308-4.0 and PSR308-4.8 are "ready to connect" units for integration into system cabinets with 19"-frame. After connecting AC-input, battery and load-distribution the unit is ready for operation.
The DC controller UPC3 (only in DCR PSR308-4.0) is easy to configure by software and adapts the system to the customer's application and battery parameters.

DCR PSR308-4.0	Up to 5 rectifiers for PSR308-family can be integrated into one rack. Slot six is used for DC controller UPC3.
DCR PSR308-4.8	Up to 6 rectifiers for PSR308-family can be integrated into one rack.

Both racks are equipped with a fan-rack (1U) in the bottom to ventilate the rectifier above. The fans are speed controlled and monitored.

Both racks are available in several DC voltage levels:

Low Voltage (LV):	24, 48, 60V$_{DC}$
High Voltage (HV):	110, 220V$_{DC}$

DCR PSR308-4.0

DCR PSR308-4.8

Type designation	DCR308-4.0LV	DCR308-4.0HV	DCR308-4.8LV	DCR308-4.8HV
Article code	102-308-517.LV02	102-308-517.HV02	102-308-607.LV02	102-308-607.HV02

Key Features

>> High reliability

>> Simple installation and operation

>> Forced fan cooling (speed-controlled, monitored)

>> USB interface for PC connection

>> Alarm contacts for multiple signalling configurations

>> Intelligent battery management

>> CAN-Bus interface

>> Hot pluggable controller

>> Optional Ethernet (SNMP compatible) interface module

>> LVD and PLD control functionality

Main Data

Input Voltage 230V$_{AC}$/120V$_{AC}$
Output Voltage 24/48/60/110/220V$_{DC}$
Output Power 4000/4800W

Rear Side:
Mains: 3 phases, N, PE
DC Output: 1 x battery
Analog Inputs: 3 x shunt (60mV); 2 x temp. sensor; 1 x battery tapping point; Sensor lead for output voltage (only LV)

Digital Inputs: 8 potentional-free, common ground

Outputs: 6 isolated relays

Temperature range:
Operation: -20°C up to +55°C,
Storage: -40°C up to +85°C,
Transport: -40°C up to +85°C

Dimensions (W/H/D):
483/178/318 mm (19" sub rack,4U)
Weight: approx. 18.9kg (without rectifier)

Possible Configurations

DCR PSR308-4.0 LV
>> 1 x UPC3S-24V / -48V / -60V
>> 1-5 x PSR308-24V / -48V / -60V
>> 1 x Fan rack PSR308LV (included)

DCR PSR308-4.8 LV
>> 1 – 6x PSR308-24V / -48V / -60V
>> 1 x Fan rack PSR308LV (included)

DCR PSR308-4.0 HV
>> 1 x UPC3S-110V / -220V
>> 1-5 x PSR308-110V / -220V
>> 1 x Fan rack PSR308HV (included)

DCR PSR308-4.8 HV
>> 1 – 6x PSR308-110V / -220V
>> 1 x Fan rack PSR308HV (included)

Delivery without rectifier and controller unit!

DC Power Racks
DCR PSR327-XX

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

Our DC power racks DCR PSR327-8.1 and PSR327-10.8 are connection units ready for integration in system cabinets with 19"-frame. After connecting AC input, battery and DC distribution the unit is ready for operation.
The DC controller UPC3 (only in DCR PSR327-8.1) is easy to configure by software and adapts the system to the customer's application and battery parameters.

DCR PSR327-8.1	Up to 3 rectifiers of PSR327-series can be integrated into one rack. Slot four is used for UPC3.
DCR PSR327-10.8	Up to 4 rectifiers of PSR327-series can be integrated into one rack.

Both racks are self-ventilated by integrated fans within the rectifier unit. The airflow direction is from the front to the rear side.

Both racks are available for several DC-voltages:

Low Voltage (LV):	24, 48, 60V$_{DC}$
High Voltage (HV):	110, 220V$_{DC}$

DCR PSR327-8.1

DCR PSR327-10.8

Type designation	DCR327-8.1LV	DCR327-8.1HV	DCR327-10.8LV	DCR327-10.8HV
Article code	102-327-318-LV01	102-327-318-HV01	102-327-408-LV01	102-327-408-HV01

Key Features

>> High reliability

>> Simple installation and operation

>> Forced fan cooling (temperature-controlled, monitored)

>> Internal decoupling from DC-bus

>> Hot pluggable DC controller

>> USB interface for PC connection

>> Alarm contacts for multiple signalling configurations

>> Intelligent battery management

>> CAN-Bus interface

>> Optional Ethernet (SNMP compatible) interface module

>> LVD and PLD functionality

Main Data

Input Voltage 230V$_{AC}$
Output Voltage 24, 48, 60, 110, 220V$_{DC}$
Output Power 8100W / 10800W

Rear Connectors:
Mains: 3 phases, N, PE
DC output: Screw connection M10
Analog Inputs: 3 x shunt (60mV); 2 x temp. sensor, Analog Inputs on ext. connector board
1 x battery tapping point,
sensor lead for output voltage

Signalling Input: 8 potentional-free, common ground

Signaling Output: 6 isolated relay contacts

Temperature Range:
Operation: -20°C up to +55°C,
Storage: -40°C up to +85°C,
Transport: -40°C up to +85°C

Dimensions (W/H/D): 483/311/355mm (19" sub rack, 3U)
Weight: approx. 6.1kg (without rectifier)

Possible Configurations

DCR PSR327-4.8
>> 4 x PSR312-24V

DCR PSR327-3.6
>> 1 x UPC3-24V
>> 3 x PSR312-24V

DCR PSR327-8.1 LV
>> 1 x UPC3-48V / -60V
>> 3 x PSR327-48V / -60V

DCR PSR327-10.8 LV
>> 4x PSR327-24V / -48/ -60V

DCR PSR327-8.1 HV
>> 1 x UPC3-110V / -220V
>> 3 x PSR327-110V / -220V

DCR PSR327-10.8 HV
>> 4x PSR327-110V / -220V

Delivery without rectifier and controller unit!

DC Power Racks
DCR PSS18-XX

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$, 110V$_{DC}$, 220V$_{DC}$

Description

Our DC power racks DCR PSS18-2.9-24 and DCR PSS18-4.3-LV/HV are connection units ready for integration in system cabinets with 19"-frame. After connecting the AC-input and DC-output-bar the unit is ready for operation. For use in battery-applications with battery management an external DC controller (UPC3, MU1000) is necessary.
The unit is designed for connecting up to 3 rectifiers of PSS18-family. These rectifiers are front-connected and have fan-less convection cooling. A minimum space of 3U down and above is necessary to guarantee enough airflow for natural cooling.

DCR PSS18-2.9-24	Up to 3 rectifiers of PSS18-24V can be integrated into one rack.
DCR PSS18-4.3-LV	Up to 3 rectifiers of PSS18-48V or 60V can be integrated into one rack.
DCR-PSS18-4.3-HV	Up to 3 rectifiers of PSS18-110V, 125V, 220V can be integrated into one rack.

Key Features

>> Front connectors

>> Natural cooling

>> CAN-Bus interface

>> Compatible to DC controllers UPC3, MU1000C

>> Quick and easy installation

>> Stand-alone operation without controller possible

Main Data

Input Voltage: 230V$_{AC}$
Output Voltage: 24, 48, 60, 110, 120, 220V$_{DC}$
Output power (max.) 2900W (24V), 4300W

Connection Terminals:
AC input, L1-L3, N, PE
DC output (single outputs)
CAN bus, Alarm relay outputs, temperature sensor link

Temperature Range:
Operation: -20°C up to +45°C,
Storage: -40°C up to +85°C,
Transport: -40°C up to +85°C

Dimensions (W/H/D):
483/215/311 mm (19" sub rack,7U)
Weight: approx. 2.7kg (without rectifier)

Possible Configurations

DCR PSS18-2.9/24
>> 1 – 3x PSS18/24V$_{DC}$

DCR PSS18-4.3 LV
>> 1 – 3x PSS18/48V$_{DC}$, PSS18/60V$_{DC}$, PSS18/110V$_{DC}$

DCR PSS18-4.3 HV
>> 1 – 3x PSS18/220V$_{DC}$

DCR PSS18-XX

Type designation	DCRPSS18-4.3-24	DCRPSS18-4.3-LV	DCPRPSS18-4.3-HV
Article code	880-MEC-BGT-7.A0B	880-MEC-BGT-7.A0B	880-MEC-BGT-7.A0B

Delivery without rectifier!

DC/DC Power Racks
DDR PSC305-XX

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

The DC/DC Power Racks of DDR PSC305-XX are compact 19" sub racks with pre-wired slots for DC/DC converter of PSC305 series. Several DC/DC converter units can be installed in the rack because all outputs are provided on the backplane separately.

The rack can be integrated into the system via CAN bus connection. The use of the optional fan rack (1U) is recommended, because in most applications there is not enough space for sufficient natural airflow inside the power supply cabinet.

DDR PSC305-LV	Up to 6 PSC305 LV with an output voltage of 24, 48, 60V$_{DC}$ can be integrated into one rack.
DDR PSC305HV	Up to 6 PSC305 HV with an output voltage of 110, 220 V$_{DC}$ can be integrated into one rack.

DDR PSC305-XX

DPR PSC305-XX

Type designation	DPR305-2.4LV	DPR305-2.4HV
Article code	202-305-607.00	202-305-607.00

Key Features

>> Compact design 19", 4U rack

>> High reliability

>> Several output voltages within one rack

>> Single output connections

>> CAN bus interface

>> Forced fan cooling option available

>> Quick and easy installation

>> Compatible with DC controller UPC3

Main Data

Input Voltage: 95 - 270V$_{DC}$ (HV-Version)
Input Voltage: 18 - 75V$_{DC}$ (LV-Version)
Output Voltages (multioutput) 24, 48, 60, 110, 220V$_{DC}$

Connection Terminals (rear side):
DC input: 6x
DC output: 6x LtiL-, isolated CAN bus, DC/DC converter fault, fan rack fault

Temperature range:
Operation: -20°C up to +55°C,
Storage: -40°C up to +85°C,
Transport: -40°C up to +85°C

Dimensions (W/H/D):
483/178/318 mm (19" sub rack,4U)
Weight: approx. 20.3kg (without rectifier)

Possible Configuration

DDR PSC305-LV
>> 1-6x PSC305LV-24
>> 1-6x PSC305LV-48
>> 1-6x PSC305LV-60
>> 1x fan rack (optional)

DDR PSC305-HV
>> 1-6x PSC305HV-24
>> 1-6x PSC305HV-48
>> 1-6x PSC305HV-60
>> 1-6x PSC305HV-110
>> 1-6x PSC305HV-220
>> 1x fan rack (optional)

Delivery without rectifier and controller unit!

AC Racks
ACR INV222-XX

Available Input Voltage Versions:
24V_{DC}, 48V_{DC}, 60V_{DC}, 110V_{DC}, 220V_{DC}

Description

Our rack combines pre-wired slots for 3 inverters of series INV222 and 1 static bypass switch STS207. The connection to the incoming and outgoing cables and between the modules are made on a backplane. The rack is compatible to the 19" standard and can be mounted with 4 front side screws in a 19" frame. Power modules are cooled with internal fans which are speed-controlled and monitored. The air flow direction is from the front to the rear side. A minimum space of 50mm between the air outlets of the modules and the rear panel of the cabinet have to be observed. Under these circumstances the installation within standard ETSI cabinets with a depth of 400mm is possible.

ACR INV222-6.75LV	Up to 3 INV222 with an input voltage of 24, 48, 60V_{DC} can be integrated into one rack. Slot four is used for STS207.
ACR INV222-9.0LV	Up to 4 INV222 with an input voltage of 24, 48, 60V_{DC} can be integrated into one rack.
ACR INV222-6.75HV	Up to 3 INV222 with an input voltage of 110, 220V_{DC} can be integrated into one rack. Slot four is used for STS207.
ACR INV222-9.0HV	Up to 4 INV222 with an input voltage of 110, 220V_{DC} can be integrated into one rack.

ACR INV222-XX

ACR INV222-XX

Type designation	ACRINV222-6.75LV	ACRINV222-9.0LV	ACRINV222-6.75HV	ACRINV222-9.0HV
Article code	502-222-315.LV	502-222-405.LV	502-222-315.HV	502-222-405.HV

Key Features

- >> Compact design 19", 2U rack
- >> Overload Protection
- >> Parallel operation of inverter modules
- >> Feeding source priority programmable (STS)
- >> Short circuit proof
- >> Digital PLL for optimized synchronization speed on the STS
- >> LCD display (STS)
- >> External manual bypass available
- >> On site scalability
- >> Easy module exchange
- >> CAN communication interface
- >> Reduced maintenance and service costs
- >> Data transmission via Ethernet, WEB and SNMP (included) (STS)

Main Data

Input
Nominal DC Input voltage 24, 48, 60, 110, 220 V_{DC}
Bypass AC inout: 230V_{AC}, 40/60Hz

Output
Nominal AC output voltage 230V_{AC}
Nominal AC output frequency 50/60Hz acc. to input frequency
Output power (max): 4500/6000VA (24V), 6750/9000VA

General data
Dimension 19" x 2U x 350mm WxHxD
483 x 88.5 x 350mm WxHxD

Temperature range:
Operation: -10 .. +55°C
Storage: -25°C .. +70°C

Fan cooling (speed controlled, monitored)
Switch Over Time <4ms
Max. installation altitude <=1500m

Signalling: isolated alarm relay, CAN-bus interface, Ethernet, (T-Base10) (STS)

Incoming and outgoing cables are connected directly (on the backplane)

››RECTIFIERS

Rectifiers
Matrix

Rectifier range

Rectifiers			DC output voltage						Page
			12	24	48	60	110	220	
Type designation Version	AC input	Output power W (max.)	DC output current (@ nom. voltage)						
PSR06-W Wall cabinet	1 x 230V$_{AC}$	600		20.0	10.0	8.2	4.5		22
PSR308 WIR 19" unit	90-270V$_{AC}$	800 600*		30.0 (25.0*)	16.7 (12.5*)	13.5 (10.0*)	7.5 (5.5*)	3.7 (2.7*)	23
V750C** 19" unit	90-264V$_{AC}$	840	60.0						24
PSR312 19" unit	1 x 230V$_{AC}$	1200		50.0					25
PSS18 19" unit	1 x 230V$_{AC}$	1800		40.0	30.0	25.0	13.3	6.7	26
Flatpack2 2000** 19" unit	85-290V$_{AC}$	2000		84.0					27
PSR327 19" unit	1 x 230V$_{AC}$	2700			56.0	45.0	25.0	12.5	28
PSR380 19" unit	3 x 400V$_{AC}$	8000					74.0	37.0	29

* @120V$_{AC}$

For applications in industrial and telecom power systems, Eltek Valere Industrial manufactures a wide range of modular rectifiers.
All units feature a 19"-compatible slide-in construction for full-width slots or sub rack assemblies. For backplane connection, modules with rear connectors are equipped with an integrated decoupling device and fuses for input and output. A CAN-Bus interface provides fast and secure communication with a central supervisory unit UPC3 or UPC3S (**Smartpack). In addition, the integrated charge-processor guarantees stand-alone operation for all popular battery types.

Rectifier | 600W
PSR06-W 230V$_{AC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$,
60V$_{DC}$, 110V$_{DC}$

Description

PSR06-W is a stand-alone rectifier unit for wall mounting. Output voltage and current are indicated on front side displays.

Due to a modern technology the devices have a wide input voltage range, high efficiency and a compact design. The input current is sinusoidal with power factor n1.

A constant voltage/constant current control circuit performs the correction of output voltage deviations caused by input voltage load transient deviations within less than 1.5 ms. This permits constant current operation down to continuous short circuit.

All necessary operating parameters and thresholds can be adjusted via front keys. An external temperature probe can be connected for temperature compensation of the charging voltages. The fault and status signalization is provided by front side LED's and an isolated relay output. The unit is natural cooled.

Key Features

>> Single-phase module with sinusoidal input current

>> Wall cabinet version with enhanced functionality

>> Outstanding dynamic performance and high overall efficiency

>> Continuous short circuit proof

>> Temperature compensation of the charging voltage

>> Digital display for output voltage, output current and adjustment values

Main Data

AC Input
Voltage: 100 - 230V$_{AC}$ (+15/-10%)
Current: 2.3A$_{AC}$
Power Factor: >0.95 at output power>25 % ;
>0.99 at output power>50 %

DC Output

Voltage (V$_{DC}$):	24	48	60	110
Current (A$_{DC}$):	20.0	10.0	8.2	4.5

Other specifications
Dimension (W/H/D): 285/280/95mm
Weight: approx. 5.3kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 part 410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011; EN55022 class "B",
EN61000- 4 part 2-5

PSR06-W

Type designation	PSR06/24-20W	PSR06/48-10W	PSR06/60-8.2W	PSR06/110-4.5W
Article code	100-006-142.00	100-006-152.00	100-006-162.00	100-006-172.00

Rectifier | 800W
PSR308 120/230V$_{AC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$, 110V$_{DC}$, 220V$_{DC}$

Description

Power supply modules of series PSR308 are compact battery charging rectifiers with an optimized switching principle and therefore with a high power density. The rectifier can be used in all DC applications with or without battery.

Due to the modular concept and a high scalability the user is able to equip the power supply with additional modules according to his actual power demand. The chargers are very user-friendly and can be swapped and upgraded during operation.

The devices get their operation parameters via the system wide CAN communication bus. After a successful login a central monitoring unit controls and monitors the devices. In case of CAN bus interruption the modules operate continuously with internal default values. Therefore, the supply of the connected loads and the charging of the batteries are guaranteed without any interception.
The nominal output power of the unit is 800W (600W at input voltage ≤173V$_{AC}$). Up to 6 modules can be integrated in a 19" sub rack with 4U (forced cooling mode with fan rack).

Key Features

>> 1/6x19", 3U

>> Single-phase module with sinusoidal input current (PFC)

>> Input overvoltage protection

>> Wide input voltage range

>> Wide output voltage range

>> Suitable for NiCd batteries

>> "Hot-Plug-In" design with backplane connection

>> High power density

>> CAN-Bus interface

>> Integrated decoupling from the DC bus

Main Data

AC Input
Input current voltage: 120/230V$_{AC}$ +/- 10%
Power factor: ≥0.99 v/Pnom ≥50%

DC Output

Voltage (V$_{DC}$):	24	48	60	110	220
Current (A$_{DC}$):	30.0	16.7	13.5	7.5	3.7

Efficiency: ≥90%

Derating at input voltage ≤ 173V$_{AC}$

Other specifications
Dimension (W/H/D): 71/128/280 mm
Weight: approx. 2.0kg

Compliances:
CE conformity: yes
Compliances to safety standards:
EN60950-1; VDE0100; VDE0110;
EN50178; EN60146
Compliances to EMC standards:
EN55022/24 class "B", ITE Devices;
EN61000-4 T2-5

Compatible 19" racks:
DCR PSR308-XX - Page 15

PSR308

Type designation	PSR308/24-33WIR	PSR308/48-16.7WIR	PSR308/60-13.5WIR	PSR308/110-7.5WIR	PSR308/220-3.7WIR
Article code	101-008-947	101-008-957.00	101-008-967.00	101-008-977.00	101-008-987.00

Rectifier | 840 W
V0750C

Available Output Voltage Version:
$12V_{DC}$

Description

V-Series rectifier modules provide unprecedented power density and power levels in a true plug and play format. The rectifier allows optimal system design and cost effective deployment from initial installation through future upgrades.

These rectifiers are designed to operate as an integral component in Eltek Valere's Compact, Integrated, Modular or Enterprise DC Power Systems. They are extremely flexible and can be operated either with a system controller or as a stand-alone module on industrial applications.

Key Features

>> $90V_{AC}$ to $264V_{AC}$ input

>> Power factor correction

>> Hot pluggable

>> Front panel LED indicators

>> I^2C Serial Communication Bus

>> AC/DC Fail Alarm

>> Over-temperature fail alarm

Main Data

AC input
Voltage: 90- $264V_{AC}$
Current: 7.9 ($120V_{AC}$) / 4.1 ($230V_{AC}$)
Power factor: 0,98 > 50% load

DC output
Voltage: $12V_{DC}$ (10.5 - $14V_{DC}$)
Current: max. $60A_{DC}$
Efficiency: 84%

Other specifications
Dimension (W/H/D): 87/88/282mm
Weight: 3.2kg

Temperature range:
Operation: -40 +75°C
Storage: -40 +85°C

Compliances:
EN55022 Level B & FCC Class B, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11

V0750C

Type designation	V0750C/12
Article code	101-EVRV0750C-VV

Rectifier | 1200W
PSR312 230V$_{AC}$

Available Output Voltage Version:
24V$_{DC}$

Description

Power supply modules of series PSR312 are compact battery charging rectifiers with an optimized switching principle and therefore with a high power density. The rectifier can be used in all DC applications with or without battery.

Due to the modular concept and a high scalability the user is able to equip the power supply with additional modules according to his actual power profile. The chargers are very user-friendly and can be swapped and upgraded during operation.

The devices get their operation parameters via the system wide CAN communication bus. After a successful login a central monitoring unit controls and monitors the devices. In case of CAN bus interruption the modules operate continuously with internal default values. Therefore, the supply of the connected loads and the charging of the batteries are guaranteed without any interception.

Up to 4 modules can be integrated in a 19" sub rack with 3U (24V/200A).

PSR312

Type designation	PSR312/24-50
Article code	101-012-148.00

Key Features

>> 1/4x19", 3U

>> Single-phase module with sinusoidal input current (PFC)

>> Input overvoltage protection

>> "Hot-Plug-In" design with backplane connection

>> High power density

>> CAN-Bus interface

>> Integrated decoupling from the DC bus

>> Front– to– back airflow with temperature-controlled fan cooling

Main Data

AC input
Voltage: 230V$_{AC}$ +/-20%
Current: 5.9A$_{AC}$
Power Factor: >0.99 at P-nominal >50%

DC output
Voltage: 24V$_{DC}$
Current: 50A$_{DC}$
Efficiency: ≥89%,

Other specifications
Dimension (W/H/D): 101/133/320mm
Weight: approx. 3.8kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 part 410; VDE0110; EN50178; 60146
Compliance to EMC standards:
EN55011; EN55022 class "A",
EN61000- 4 part 2-5

Compatible 19" racks:
DCR PSR312 - Page 16

Compatible DC controllers:
UPC3 - Page 39

Rectifier | 1800W
PSS18 230V$_{AC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$, 110V$_{DC}$, 220V$_{DC}$

Description

A combination of modern AC to DC switching power conversion technology and a flexible 19" compatible rack such as the PSS offers many advantages and is suitable for a wide range of applications.

A constant voltage and current control circuit performs the correction of output voltage deviations caused by transient deviations of the input voltage or load within less than 1.5ms. This permits constant current operation down to continuous short circuit.

A micro controller unit equipped with two control keys and digital displays at the front panel provides permanent monitoring of output voltage, output current and temperature. This feature offers easy adjustment and programming of output parameters and monitoring thresholds. To increase the output power of the supply system, it is possible to operate the PSS modules in parallel connection.

For the control of all parameters and measurement values it is advantageous to use the monitoring device UPC3 which communicates with the modules via CAN–bus interface.

Key Features

>> 1/3x19", 6U

>> Single-phase module with sinusoidal input current

>> Frontside connectors

>> "Hot-Plug-In" capability

>> Active current sharing (optionally)

>> CAN-Bus interface

>> Temperature compensation of the charging voltage

>> Digital display for output voltage, current and adjustment values

>> Convection Cooling

>> Ability for stand-alone operation

Main data

AC input
Voltage: 230V$_{AC}$ -20/+15%, 50Hz
Current: 5.2A$_{AC}$, 7.9A$_{AC}$
Power factor: > 0.99 at Pnom > 50%

DC output

Voltage (V$_{DC}$):	24	48	60	110	220
Current (A$_{DC}$):	40.0	30.0	25.0	13.3	6.7

Efficiency: ≥90% (24V), ≥91%

Other specifications
Dimension (W/H/D): 142/262/285mm
Weight: approx. 8.4kg

Compliances
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 part 410; VDE0110; EN50178; 60146
Compliance to EMC standards:
EN55011; EN55022 class "B", EN61000- 4 part 2-5

Compatible 19" racks:
DCR PSS18-XX - Page 17

Compatible DC controllers:
UPC3 - Page 39

PSS18

Type designation	PSS18/24-40-CAN	PSS18/48-30-CAN	PSS18/60-25-CAN	PSS18/110-13.3-CAN	PSS18/220-6.7-CAN
Article code	100-018-140.00	100-018-150.00	100-018-160.00	100-018-170.00	100-018-180.00

Rectifier | 1800W
Flatpack2 2000

Available Output Voltage Version:
24V$_{DC}$

Description

The Flatpack2 is a battery charger and rectifier for stand-alone use or for operation in parallel as part of a DC power system controlled and monitored by the Smartpack.

Flatpack2 is optimized for a wide range of system sizes. Digital communication over CAN bus with Smartpack simplifies system design and enhances flexibility. Realization of Flatpack2 systems is possible by fitting 4 rectifiers across a 19" rack.

Today's communications demand state of the art, cost efficient and compact DC power systems. Flatpack2 delivers the industry leading power density of 22W/in³ and superb reliability at lowest lifetime cost. Increasing network speed demands flexible and expandable DC power solutions. Flatpack2 is your key building block for future needs.

FLATPACK2-2000

Type designation	Flatpack2 24/2000
Article code	101-EVR241.115.200

Key Features

>> Highest efficiency in minimum space

>> Ultra compact design

>> Digital controllers

>> Heat management

>> Unique connection

>> Global approvals

Main Data

AC input
Voltage: 85-290V$_{AC}$ (176-275V$_{AC}$)
85-300V$_{AC}$ (185-275V$_{AC}$)
Current: 13.4A$_{AC}$ maximum at nominal input full load
12.5A$_{AC}$ maximum at nominal input full load

Power Factor: > 0.99 at >50%

DC output
Voltage: 24V$_{DC}$
(adj. range: 21.0-29.0V$_{DC}$)

Current: 84.0 A$_{DC}$ at 24V$_{DC}$ and nominal input
Efficiency: ≥ 91%

Other specifications
Dimension (W/H/D): 109/41.5/327mm
Weight: 1.9kg

Compliances
Electrical safety
IEC 60950-1
UL 60950-1
CSA 22.2

EMC
ETSI EN 300 386 V.1.3.2
(Telecommunication network)
EN 61000-6 part 1-4
Telcordia NEBS GR1089 CORE (pending)

Harmonics
EN 61000-3-2

Environment
ETSI EN 300 019-2
ETSI EN 300 132-2
Telcordia NEBS GR63 CORE Zone

Compatible 19" rack:
DCR FP2-24-8.0

Possible Configurations

4x Flatpack2 24/2000

3x Flatpack2 24/2000
1x Smartpack

Compatible DC controllers:
Smartpack - Page 44

Rectifier | 2700W
PSR327 230V$_{AC}$

Available Output Voltage Versions:
48V$_{DC}$, 60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

Power supply modules of series PSR327 are compact battery charging rectifiers with an optimized switching principle and therefore with a very high power density. The rectifier can be used in all DC applications with or without battery.

Due to the modular concept and a high scalability the user is able to equip the power supply with additional modules according to his actual power profile. The chargers are very user-friendly and can be swapped and upgraded during operation.

The devices get their operation parameters via the system wide CAN communication bus. After a successful login a central monitoring unit controls and monitors the devices. In case of CAN bus interruption the modules operate continuously with internal default values. Therefore, the supply of the connected loads and the charging of the batteries are guaranteed without any interception.

Up to 4 modules can be integrated in a 19" sub rack with 3U.

Key Features

>> 1/4x19", 3U

>> Single-phase module with sinusoidal input current (PFC)

>> Input overvoltage protection

>> "Hot-Plug-In" design with backplane connection

>> High power density

>> CAN-Bus interface

>> Integrated decoupling from the DC bus

>> Front– to– back airflow with temperature controlled fan cooling

Main Data

AC input
Voltage: 230V$_{AC}$ +/-20%
Current: 12.9A$_{AC}$
Power factor: >0.99 at P-nominal >50%

DC output

Voltage (V$_{DC}$):	48	60	110	220
Current (A$_{DC}$):	56.0	45.0	25.0	12.5

Efficiency: ≥91%,

Other specifications
Dimension (W/H/D): 101/133/320mm
Weight: approx. 3.8kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 part 410; VDE0110; EN50178; 60146
Compliance to EMC standards:
EN55011; EN55022 class "A",
EN61000- 4 part 2-5

Compatible 19" racks:
DCR PSR317-XX - Page 16

Compatible DC controllers:
UPC3 - Page 39

PSR327

Type designation	PSR327/48-56	PSR327/60-45	PSR327/110-25	PSR327/220-12.5
Article code	101-027-158.00	101-027-168.00	101-027-178.00	101-027-188.00

Rectifier | 8000W
PSR380 3x400V$_{AC}$

Available Output Voltage Versions:
110V$_{DC}$, 220V$_{DC}$

Description

Power supply modules of series PSR380 are compact battery charging rectifiers with rear side connectivity. The rectifier can be used in all DC applications with or without battery as a stand-alone unit or in a connection with a central DC controller unit.

Due to the modular concept and a high scalability the user is able to equip the power supply with additional modules according to his actual power profile. The chargers are very user-friendly and can be swapped and upgraded during operation.

The devices get their operation parameters via the system wide CAN communication bus. After a successful login a central monitoring unit controls and monitors the devices. In case of CAN bus interruption the modules operate continuously with internal default values. Therefore, the supply of the connected loads and the charging of the batteries are guaranteed without any interception.

The rectifier needs a 3-wire mains connection without neutral.

Key Features

>> 19", 3U

>> Three-phase input without neutral

>> Input overvoltage protection

>> "Hot-Plug-In" design with rearside connection

>> High power density

>> CAN-Bus interface

>> Digital display for output voltage, current and adjustment values

>> Front– to– back airflow with temperature controlled fan cooling

Main Data

AC input
Voltage: 3x400V$_{AC}$ +/-20%
Current: 13.1A$_{AC}$/phase

DC output

Voltage (V$_{DC}$):	110	220
Current (A$_{DC}$):	74.0	37.0
Efficiency	89	89

Other specifications
Dimension (W/H/D): 483/133/420mm
Weight: approx. 28kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110; EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B"; EN6100-4 T 2-5

Options:
Assembly set 19"sub rack 3U incl. backplane for 1 pc. rectifier
Article code: 102-380-101.00

PSR380

Type designation	PSR380/110-74	PSR380/220-37
Article code	101-080-271.00	101-080-281.00

››DC/DC CONVERTERS

DC/DC Converters
Matrix

DC/DC Converter range

DC/DC Converter			DC output voltage					Page
			24	48	60	110	220	
Type designation Version	DC input	Output power W (max.)	DC output current (@ nom. voltage)					
PSC305-LV 19" unit	18-75V_{DC}	480	20.0	10.0	8.0			33
PSC305-HV 19" unit	90-275V_{DC}	480	20.0	10.0	8.0	4.4	2.2	32
PSC312-HV 19" unit	100-250V_{DC}	1200	50.0					35
PSC18/110 19" unit	110V_{DC}	up to 1800	40.0	30.0	25.0	13.4	6.7	34
PSC18/220 19" unit	220V_{DC}	up to 1800	40.0	30.0	25.0	13.4	6.7	34
PSC320-HV 19" unit	100-250V_{DC}	2000		42.0	33.0	18.0	9.0	35

The DC/DC Converter series PSC is based on the platform of the corresponding PSS and PSR rectifier modules.
In general, nearly every industrial or telecom voltage level can be converted to another, maintaining high output voltage stability and galvanic isolation.

DC/DC Converter | 480W
PSC305 HV 90-275VDC

Available Output Voltage Versions:
24VDC,48VDC, 60VDC,
110VDC, 220VDC

Description

Power supply modules of series PSC 305HV are compact DC/DC converters with an optimized switching principle and therefore with a very high power density. The DC/DC converter is fully isolated between input and output.

Due to the modular concept and a high scalability the user is able to equip the power supply with additional modules according to his actual power profile. The units are very user-friendly and can be swapped and upgraded during operation.

The power rating of the unit is 480W . Up to 6 modules can be integrated in a 19" sub rack with 4U. In systems with high packing rate and limited vertical airflow we recommend to use a fanrack for cooling.

Key Features

>> 1/6x19", 3U

>> Wide input voltage range

>> Input overvoltage protection

>> "Hot-Plug-In" design with backplane connection

>> High power density

>> CAN-Bus interface

>> Integrated output decoupling from the DC bus

>> Wide range of available output voltage

Main Data

DC input
Voltage: 90 - 275VDC
Current: 4.9A@110VDC / 2.5A@220VDC

DC output

Voltage (VDC)	24	48	60	110	220
Current (ADC)	20	10	8	4.4	2.2

Efficiency: >=89%

Other specifications
Dimension (W/H/D): 71/133/280mm
Weight: approx. 2.0kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Compatible 19" racks:
DDR PSC305-HV - Page 18

PSC305-HV

Type designation	PSC305-HV/24-20	PSC305-HV/48-10	PSC305-HV/60-8	PSC305-HV/110-4.4	PSC305-HV/220-2.2
Article code	201-005-747.00	201-005.757.00	201.005-767.00	201-005-777.00	201-005-787.00

DC/DC Converter | 480W
PSC305 LV 18-75V$_{DC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

Power supply modules of series PSC 305LV are compact DC/DC converters with an optimized switching principle and therefore with a very high power density. The DC/DC converter is fully isolated between input and output.

Due to the modular concept and a high scalability the user is able to equip the power supply with additional modules according to his actual power profile. The units are very user-friendly and can be swapped and upgraded during operation.

The power rating of the unit is 480W . Up to 6 modules can be integrated in a 19" sub rack with 4U. In systems with high packing rate and limited vertical airflow we recommend to use a fanrack for cooling.

PSC305-LV

Key Features

>> 1/6x19", 3U

>> Wide input voltage range

>> Input overvoltage protection

>> "Hot-Plug-In" design with backplane connection

>> Active current sharing

>> High power density

>> CAN-Bus interface

>> Integrated output decoupling from the DC bus

>> Wide range of available output voltages

Main Data

DC input
Voltage: 18-75V$_{DC}$
Current: 22.5A@24V$_{DC}$, 11.3A@48V$_{DC}$, 9.0A@60V$_{DC}$

DC output

Voltage (V$_{DC}$)	24	48	60
Current (A$_{DC}$)	20	10	8

Efficiency: >=89%

Other specifications
Dimension (W/H/D): 71/133/280mm
Weight: approx. 2.0kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110; EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Compatible 19" racks:
DDR PSC305-LV - Page 18

Type designation	PSC305-LV/24-20	PSC305-LV/48-10	PSC305-LV/60-8
Article code	201-005-447.00	201-005-457.00	201-005-467.00

DC/DC Converter | 1400W
PSC18 HV 110-220V$_{DC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$, 60V$_{DC}$, 110V$_{DC}$, 220V$_{DC}$

Description

A combination of modern DC to DC switching power conversion technology and flexible 19" compatible mechanics such as the PSC offers many advantages and is suitable for a wide range of applications.

A constant voltage and current control circuit perform the correction of output voltage deviations caused by transient deviations of the input voltage or load within less than 1.5ms. This permits constant current operation down to continuous short circuit. A micro controller unit equipped with two control keys. Digital displays at the front panel provide permanent monitoring of output voltage, output current and temperature.

This feature offers easy adjustment and programming of output parameters and monitoring thresholds. To increase the power supply, it is possible to operate the PSC modules in parallel connection. For the control of all parameters and measurement values it is advantageous to use the monitoring device UPC3, which communicates with the modules via CAN-bus interface.

Key Features

>> 1/3x19", 6U

>> Frontside connectors

>> "Hot-plug-In" capability

>> Active current sharing (optionally)

>> High power density

>> CAN-Bus interface

>> Temperature compensation of the charge voltage

>> Digital display for output voltage, current and adjustment values

>> Convection cooling

Main Data

DC input
Voltage: 110V$_{DC}$ / 220V$_{DC}$
Current @110V$_{DC}$/220V$_{DC}$:
9.8/4.9A$_{DC}$ (24V); 15.2/7.6A$_{DC}$

DC output

Voltage (V$_{DC}$)	24	48	60	110	220
Current (A$_{DC}$)	40	30	25	13.3	6.7

Efficiency: ≥90%

Other specifications
Dimension (W/H/D): 142/262/285mm
Weight: app. 8.4kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

PSC318-HV

Type designation	PSC18/x/24-40-CAN	PSC18/x/48-30-CAN	PSC18/x/60-25-CAN	PSC18/x/110-13.4-CAN	PSC18/x/220-6.7-CAN
Article code x=110	200-018-740.00	200-018-750.00	200-018-760.00	200-018-770.00	200-018-780.00
Article code x=220	200-018-840.00	200-018-850.00	200-018-860.00	200-018-870.00	200-018-880.00

DC/DC Converter | 2000W
PSC320 HV 80-275VDC

Available Output Voltage Versions:
48VDC, 60VDC,
110VDC, 220VDC

Description

Power supply modules of series PSC 320 are fully isolated DC/DC converters with a resonant switching principle. The DC/DC converter can be used in all DC applications with or without battery.

Due to the modular concept and a high scalability the user is able to equip the power supply with additional modules according to his actual power profile. The units are very user-friendly and can be swapped and upgraded during operation.

The unit can work in stand-alone mode as well as in connection with a DC controller for remote monitoring. Up to 4 modules can be integrated in a 19" sub rack with 3U.

Key Features

>> 1/4x19", 3U

>> Wide input voltage range

>> Input overvoltage protection

>> "Hot-Plug-In" design with backplane connection

>> High power density

>> CAN-Bus interface

>> Temperature-controlled fan cooling

>> Wide range of available output voltages

>> Front- to- back airflow with monitored fan

Main Data

DC input
Voltage: 80 - 275VDC
Current: 20.7A@110VDC / 10.3A@220VDC

DC output
Voltage (VDC) 48 60 110 220
Current (ADC) 42 33 18 9
Efficiency: >=89%

Other specifications
Dimension (W/H/D): 101/133/320mm
Weight: approx. 2.8kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "A",
EN61000- 4 T2-5

Compatible 19" racks:
DDR PSC320-HV

Compatible DC controllers:
UPC3 - Page 39

PSC320-HV

Available on request

Type designation	PSC320-HV/48-42	PSC320-HV/60-33	PSC320-HV/110-18	PSC320-HV/220-9
Article code	201-020-758.00	201-020-768.00	201-020-778.00	201-020-788.00

››DC CONTROLLERS

DC Controllers
Matrix

System controller range

DC controller			
Type designation	Supply voltage range (V_{DC})	Designed for:	Page
UPC3-24	18 - 35	PSR312/PSR327 racks: DCR PSR327-XX	16
UPC3-48/60	35 - 75		
UPC3-110	80 - 135		
UPC3-220	185 - 275		
UPC3-24S	19.2 - 35	PSR308 racks: DCR PSR308-XX PSC305 racks: DDR PSC305-XX	15/18
UPC3-48/60S	35 - 75		
UPC3-110S	80 - 135		
UPC3-220S	185 - 275		
Smartpack Extended	24	Flatpack2- and Powerpack-based DC power solutions	45
Smartpack WEB/SNMP			

The control unit UPC3 serves for the general monitoring of current supply systems.

Extension Modules

Type	Connector	Mounting	DC Controller compability
DCC-RDD	CAN-Bus	Door	UPC3, UPC3S
DCC-RDP	CAN-Bus	Door	UPC3, UPC3S
DCC-RB6	CAN-Bus	DIN-rail	UPC3, UPC3S
DCC-DI8	CAN-Bus	DIN-rail	UPC3, UPC3S
DCC-CN1	CAN-Bus, Ribbon cable	DIN-rail	UPC3, UPC3S

DC Controller
UPC3S

Available Output Voltage Versions:
$24V_{DC}$, $48V_{DC}$/$60V_{DC}$,
$110V_{DC}$, $220V_{DC}$

Description

DC controllers of the new UPC3S series are integrated units for controlling, monitoring and signalling of battery buffered DC-power supply systems. The units are easy in use and they are programmable via the buttons at the front panel or via USB interface together with PC software. Due to a freely programmable signal matrix, the customer is able to specify which alarms have to be summarised to groups and which signalling outputs are used.

The unit is equipped with control outputs for LVD and PLD relays. The controlling of the rectifier modules is realized via a CAN communications bus. For remote monitoring the usage of a direct PC link, modem or SNMP is possible. A special software for remote monitoring and parameter adjustment is available. Due to the system-wide CAN communication concept each of the power supply modules like rectifiers, DC/DC converters, inverters and static bypass switches can be monitored and controlled with the UPC3S.

The functionality of the basic module can be extended with external CAN modules.

UPC3S

Key Features

>> 1/6x19", 3U

>> Extensive battery management

>> "Hot-Plug-In" design with backplane connection

>> Easy in use and programming

>> Freely programmable signalling concept

>> CAN-Bus interface

>> Integration of external alarm, structure possible

>> Remote control and monitoring via direct PC link, modem or SNMP

Main Data

Power Supply/Measuring Range
Supply voltage range (V_{DC}):

24V	48/60V	110V	220V
19.2 - 35	35 - 75	80 - 135	185 - 275

Voltage measuring range (V_{DC}):

24V	48/60V	110V	220V
0-100	0-100	0-300	0-300

Current measuring range:
0-60mV (shunt value programmable)

Measuring inputs
Voltage measuring inputs: 3

Current measuring inputs:
1x +/-60mV; 2x +60mV

Temperature measuring input:
2x (sensor KTY81-220)

Digital inputs: 8 (isolated)

Standard features
Relay outputs:
6 (isolated; max. 0.5A @ 30VDC; 0.5A @ $125V_{AC}$);
expandable with CAN node DCC-RB6
to max. 12 relays
Alarm log up to 250 events

Other specifications
Dimension (W/H/D): 71/133/320mm
Weight: approx. 1.8kg

Compliances
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Compatible 19" racks:
DDR PSR308-XX - Page 15
DDR PSC305-XX - Page 18

Type designation	UPC3-24S	UPC3-48/60S	UPC-110S	UPC3-220S
Article code	301-003-497.00	301-003-597.00	301-003-797.00	301-003-897.00

DC Controller
UPC3

Available Output Voltage Versions:
$24V_{DC}$, $48V_{DC}$/$60V_{DC}$,
$110V_{DC}$, $220V_{DC}$

Description

DC controllers of the new UPC3 series are integrated units for controlling, monitoring and signalling of battery buffered DC-power supply systems. The units are easy in use and they are programmable via the buttons at the front panel or via USB interface together with PC software. Due to a freely programmable signal matrix, the customer is able to specify which alarms have to be summarised to groups and which signalling outputs are used.

The unit is equipped with control outputs for LVD and PLD relays. The controlling of the rectifier modules is realized via a CAN communications bus. For remote monitoring the usage of a direct PC link, modem or SNMP is possible. A special software for remote monitoring and parameter adjustment is available. Due to the system-wide CAN communication concept each of the power supply modules like rectifiers, DC/DC converters, inverters and static bypass switches can be monitored and controlled with the UPC3.

The functionality of the basic module can be extended with external CAN modules.

Type designation	UPC3-24	UPC3-48/60	UPC-110	UPC3-220
Article code	301-003-498.00	301-003-598.00	301-003-798.00	301-003-898.00

Key Features

>> 1/4x19", 3U

>> Extensive battery management

>> "Hot-Plug-In" design with backplane connection

>> Easy in use and programming

>> Freely programmable signalling concept

>> CAN-Bus interface

>> Integration of external alarm, structure possible

>> Remote control and monitoring via direct PC link, modem or SNMP

Main Data

Power Supply/Measuring Range
Supply voltage range (V_{DC}):

24V	48/60V	110V	220V
19.2 - 35	35 - 75	80 - 135	185 - 275

Voltage measuring range (V_{DC}):

24V	48/60V	110V	220V
0-100	0-100	0-300	0-300

Current measuring range:
0-60mV (shunt value programmable)

Measuring Inputs
Voltage measuring inputs: 3

Current measuring inputs:
1x +/-60mV; 2x +60mV

Temperature measuring input:
2x (sensor KTY81-220)

Digital inputs: 8 (isolated)

Standard features
Relay outputs:
6 (isolated; max. 0.5A @ $30V_{DC}$; 0.5A @ $125V_{AC}$);
expandable with CAN node DCC-RB6
to max. 12 relays
Alarm log up to 250 events

Other specifications
Dimension (W/H/D): 101/133/320mm
Weight: approx. 1.8kg

Compliances
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Compatible 19" racks:
DDR PSR327-XX - Page 16

DC Controller
External Displays

Description

External display of the series UPC3-RDX are used to display all main system operating parameters directly in the front of the power supply system. The RD-displays are mounted in the door of the system.

Compared to the standard features of the UPC3 controller the RD-displays have the source operating buttons and an extensive and programmable LED section.

Each LED can be equipped with separate designation for the functionality. In addition, the RDP-display is equipped with a line diagram with signalization for the energy flow and the module status. The programming of this unit is made via PC-configuration software of the UPC3 controller.

Key Features

>> External display with CAN bus interface

>> Large LCD-Display

>> Programmable LED section

>> Operating buttons main section and parameter selection (RDP only)

>> Line diagram for status information (RDP only)

Main Data

Power supply: CAN bus (RD)
external (RDP)

LED's: 8, 6 programmable

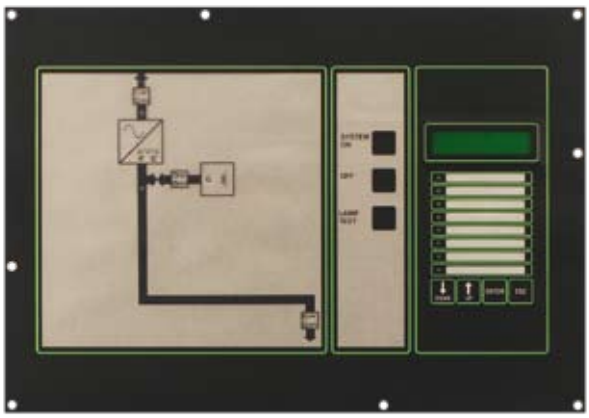
Buttons: 4 (Up, Down, Enter, Esc)
2 programmable (RDP only)

LCD: 2x 16 Characters

Dimensions (W/H):
RDD: 133 x 164mm
RDP: 353 x 248mm

UPC3-RDD

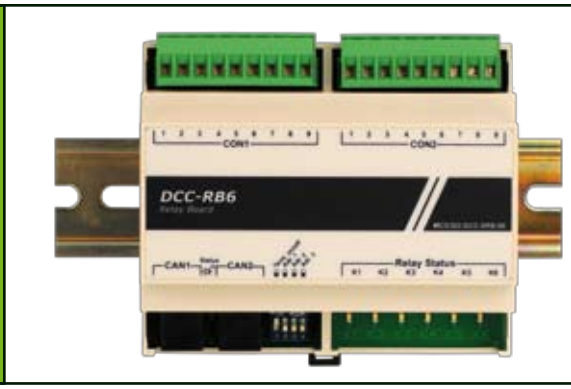
UPC3-RDP



Type designation	UPC3-RD	UPC3-RDP
Article code	302-003-RDD.A0B	On Request

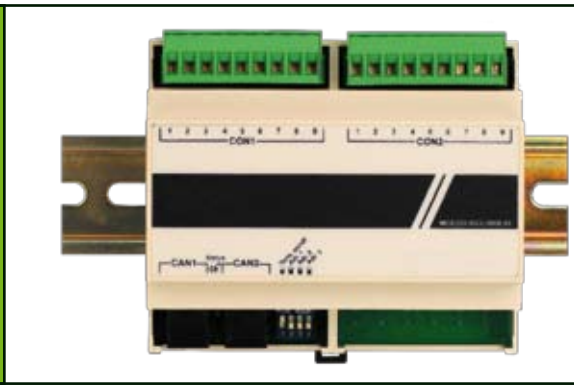
DC Controller
CAN-Modules

DCC-RB6

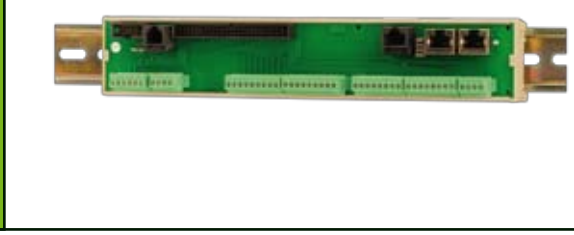


DCC-DI8

DCC-MM



DCC-CB1



Key Features:

Relay Board DCC RB6

>> 6 additional isolated relay outputs
>> Assignment of single faults to each relay on the DC controller
>> Signalling status programmable (fault = NC or NO)
>> 1 unit connectable to the DC controller
>> CAN module for DIN rail mounting
>> Relay switching status signalized by LED

Digital Input Board DCC-DI8

>> 8 additional isolated signalling inputs (optocoupler)
>> Assignment of input designation to each input on the DC Controller
>> Signalling status programmable (fault = NC or NO)
>> 1 unit connectable to the DC controller
>> CAN module for DIN rail mounting
>> Assignment of signalling status to different outputs (LED, text message, relay, SNMP)

Mains Monitoring Board DCC-MM

>> Monitoring of incoming mains supply V&F (current optionally)
>> Programmable monitoring thresholds on UPC3 controller
>> Single- and three-phase operation
>> CAN communication bus for data transmission
>> 1 unit connectable to DC controller
>> DIN rail mounting module
>> External connection of current sensors possible

Connection Board DCC-CB1

>> Interface board for rectifier power racks (PSR327)
>> All signalling connections of UPC3's backplane are wired via flat cable
>> DIN rail mounting module
>> Direct connection of all main signalling wires on the terminal block section

Type designation	DCC-RB6	DCC-DIG8	MM	DCC CB1
Article code	302-DCC-0RB.00	302-DCC-DI8.00	302-DCC-0MM.00	302.DCC-CB1.00

DC Controller
Configuration Software for UPC3

Description

The UPC configurator is a complex software tool to program and to adjust all necessary operating parameters of the power supply system. A freely programmable signalling matrix offers the possibility to adjust the outgoing signalling according the fault management philosophy of each user.
Several single faults can be assigned to groups and to different output channels (LED, battery test, event history, relay, Ethernet and SNMP).
The Windows ™ based tool can be installed on PCs with operating system "Windows 98 SE™ " or later.

Each configuration set can be stored in a specific file format to use the same configuration for other power supply systems too.

Key Features

>> Windows ™ based software

>> USB connection to UPC3

>> Password protection

>> Free programmable signalling matrix

>> Parameter file for each system

>> Multi-language

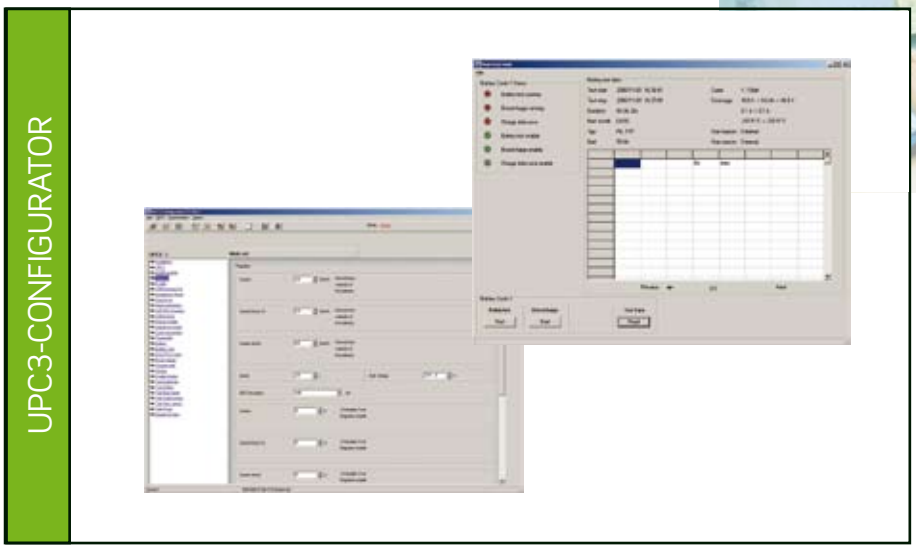
>> Adjustments for all system parameters and thresholds

>> Monitoring and displaying error state on structure maps

>> Incl. configuration battery test, measure values

>> Additional error notification per email

>> Complete illustration of diagrams incl. state (only for SPECTRUM-Software)



Type designation	UPC3 Configurator	SNMP Connect
Article code	302-UP3-CON.00	302-UP3-OSW.02

DC Controller
Remote Software for UPC3

Remote monitoring of a power supply system is more and more a major item regarding maintenance and safety. There are different solutions of monitoring software available.

The low cost solution delivers a status overview of the system via modem or TCP/IP. Also the event history can be read out and the system can be configured remotely.

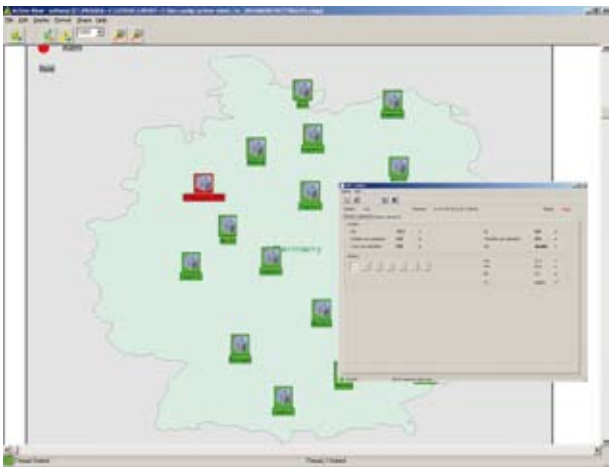
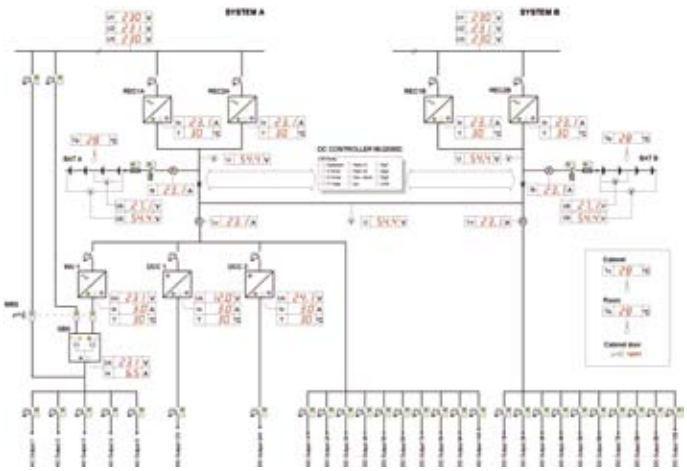


In addition there are two SNMP solutions available. A small solution for collection SNMP-traps and reading all main systems parameters.

A high end solution with digital maps, fault management integration and monitoring down to component level is available (SPECTRUM).

Both solutions are using different software packages. For high end solutions a complete server architecture is necessary. We will find a complete solution including installed soft- and hardware. Up to 2000 sites can be monitored with this solution. We also offer the possibility to connect our system to an existing remote management system via ModBus interface.

Please ask us for the right solution for your application.

DC Controller
Smartpack

Available Output Voltage Versions:
24V_{DC}, 48V_{DC}, 60V_{DC}

Description

Smartpack is the monitoring and control unit used in all Flatpack2 and Powerpack -based DC power solutions.

The unit allows both local and remote monitoring and control via three buttons, LCD-display, USB- or RS-232 interface, as well as via modem, Ethernet, web and SNMP.
The Smartpack is extremely flexible in its expandability. Additional units connected to the CAN bus can be added to provide extended functionality and an increased number of measuring points. Accordingly, system components can be set up and upgraded to meet the demand of any tailor-made power solution.

SMARTPACK

Type designation	Smartpack Extended	Smartpack WEB/ SNMP
Article code	300-EVC242.100.100	300-EVC.242.100.113

Key Features

>> Front panel LCD and buttons for on-site service without PC.
(Not on Basic Slave model)

>> USB- or RS-232 interface for PC connection locally or remote monitoring and control via modem, Ethernet, WEB or SNMP

>> 6 user programmable relay outputs for traditional remote monitoring

>> 6 user programmable inputs for monitoring of other equipment on site

>> Temperature compensated charging for increased battery lifetime

>> Battery lifetime indication

>> Alarm/event log with time an date

>> Window-based PC communication software

Main Data

DC input
Voltage: 24V_{DC}, 48V_{DC}, 60V_{DC}

Standard Features
System:
Output Voltage Measurement
Total Load Current Measurement
Load/Battery Disconnect
Alarm Level Settings (major/minor)
Alarm Log (up to 1000 events)
Real Time Clock with Battery Backup
Site Text/ID
Test of Relay Outputs
Voltage Level setup
Datalogging (up to 7000 datapoints)

Battery:
Battery Current Measurement
Battery Temperature Measurement (optional)
Battery Testing (acc. to discharge table or set time limit)
Battery Test Information (10 latest Tests)
Setup of Battery Data
Battery shunt setup
Battery quality indication
Battery Boost Charging
Battery Cable Voltage Drop Compensation
Temperature Compensated Charging
Protection against Temperature Probe Failure

Rectifier:
Available information of each rectifier, e.g. serial number, version, internal temperature
Individual Rectifier Current Measurement
Individual Rectifier Input Voltage
Efficiency Management

Other Specifications
Dimension (W/H/D): 109/44/140mm

DC Controller
Software for Smartpack

WEBPOWER

WebPower

The WebPower, Web and SNMP adapter is the perfect interface between the DC power system and your network.

WebPower includes the highly reliable SNMP Get, Set and Traps for alarm messages combined with easy access over HTML (using any Web-browser). Email functionality is also included making WebPower suitable for most Network Management Systems (NMS).

It can be utilized in remote or limited access telecommunications sites; locations requiring connectivity to centralized SNMP NMS and mission-critical power systems requiring real time data access from diverse locations.

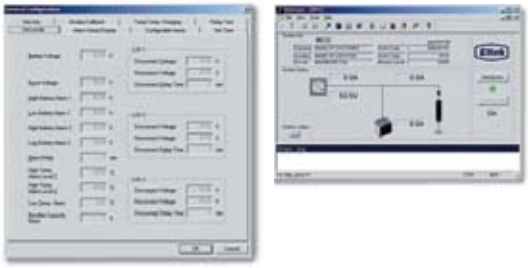
POWERSUITE

PowerSuite

Fully featured software program PowerSuite allows you to configure and monitor your Flatpack2 or Powerpack system. Once connected to Smartpack, this Window-based program is as easy to use as Window Explorer®.

Password protection prevents accidental changes whilst the multilayerd window allow you to navigate quickly and easily within the different areas of your system. With PowerSuite, you can even create your own specific Smartpack configuration files that can be downloaded or distributed to any Smartpack in your Network.

WINPOWER



WinPower

The Window-based program provides full access and control of any Flatpack 700, 1500, 1800 or 2500 system.

WinPower Silver connects your Flatpack MCU via the serial port and provides easy access to all information such as system voltage levels and battery monitoring.

Password protection prevents accidental changes and since version 5.0, you can create Flatpack MCU configuration file that can be transferred to other Flatpack MCU controllers.

›› SINE WAVE INVERTERS

Inverter range

DC/AC Inverters			DC input voltage					Page
Type designation Version	AC output	Output Power (kVA @ cos φ0,8)	24	48	60	110	220	
INV215 1/4 x 19" unit	1 x 230VAC	1.5	✓					48
INV222 1/4 x 19" unit	1 x 230VAC	2.2		✓	✓	✓	✓	49
UNV-3.3F 19" unit	1 x 230VAC	3.3		✓	✓	✓		50
UNV-5.0F 19" unit	1 x 230VAC	5.0		✓	✓	✓		51
PWS-1.0W Wall cabinet	1 x 230VAC	1.0	✓			✓	✓	53
PWS-2.5W Wall cabinet	1 x 230VAC	2.5	✓			✓	✓	55
PWS-5.0W Wall cabinet	1 x 230VAC	5.0				✓	✓	57
PWS-1.0F 19" unit	1 x 230VAC	1.0	✓			✓	✓	52
PWS-2.5F 19" unit	1 x 230VAC	2.5	✓			✓	✓	54
PWS-5.0F 19" unit	1 x 230VAC	5.0				✓	✓	56

For battery backed AC power supplies in modular, redundant configurations, Eltek Valere Industrial offers inverters in Switch-Mode technology with HF-transformers for significant reduction of size and weight (UNV/INV-series), and alternatively for application in special environment or with a high inrush current (motor drive loads) the 50Hz ferro transformer technology (PWS series).

DC/AC Inverter | 1.5kVA
INV215

Available Output Voltage Version:
24V$_{DC}$

Description

The INV 215 includes advanced switching technology with digital control. The utilization of this technology results in a very high power density and low weight.

With a state-of-the-art control solution it provides an excellent functionality and several protection features.

The inverter is able to run in parallel operation mode to increase the reliability of the AC system without any additional options. Additional modules can be integrated in pre-wired slots during normal system operation. For higher reliability the hard wired synchronization bus between paralleled inverters is working in a redundant mode.

Up to 4 inverters can be installed in a 19"-sub rack with only 2U. The module is prepared to operate with the new static switches of the STS series to increase the system availability furthermore.

Key Features

>> 1/4x19", 2U

>> Excellent overall efficiency and high regulation speed

>> "Hot-Plug-In" design with backplane connection

>> High power density

>> CAN-Bus interface

>> Ability for parallel operation

>> Temperature-controlled fan cooling (monitored)

>> Redundant synchronization bus

>> Excellent sinusoidal output

>> Input over/under voltage shutdown, overload and short circuit-proof

Main Data

DC input
Voltage (V$_{DC}$) 24
Current (A$_{DC}$) 51.5

AC output
Voltage: 230V$_{AC}$ (200-252V adjustable)
Current: 7.0 A$_{AC}$
Efficiency: >=88%

Other specifications
Dimension (W/H/D): 106.4/88.4/325mm
Weight: approx. 4.8kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Compatible 19" racks:
ACR INV222-6.75LV - Page 19

Compatible STS unit:
STS207LV - Page 60

INV215

Available in 2008

Type designation	INV215-24/230-50
Article code	501-015-415.00

DC/AC Inverter | 2.25kVA
INV222

Available Output Voltage Versions:
48V_{DC}, 60V_{DC},
110V_{DC}, 220V_{DC}

Description

The INV 222 includes advanced switching technology with digital control. The utilization of this technology results in a very high power density and low weight.

With a state-of-the-art control solution it provides an excellent functionality and several protection features.

The inverter is able to run in parallel operation mode to increase the reliability of the AC system without any additional options. Additional modules can be integrated in pre-wired slots during normal system operation. For higher reliability the hard wired synchronization bus between paralleled inverters is working in a redundant mode.

Up to 4 inverters can be installed in a 19"-sub rack with only 2U. The module is prepared to operate with the new static switches of the STS series to increase the system availability furthermore.

Key Features

>> 1/4x19", 2U

>> Excellent overall efficiency and high regulation speed

>> "Hot-Plug-In" design with backplane connection

>> High power density

>> CAN-Bus interface

>> Ability for parallel operation

>> Temperature-controlled fan cooling (monitored)

>> Redundant synchronization bus

>> Excellent sinusoidal output

>> Input over/under voltage shutdown, overload and short circuit- proof

Main Data

DC input

Voltage (V_{DC})	48	60	110	220
Current (A_{DC})	41.7	33.3	18.5	9.3

AC output
Voltage: 230V_{AC} (200-252V adjustable)
Current: 8.7 A_{AC}
Efficiency: >=90%

Other specifications
Dimension (W/H/D): 106.4/88.4/325mm
Weight: approx. 4.8kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Compatible 19" racks:
ACR INV222-6.75LV - Page 19
ACR INV222-9.0LV - Page 19
ACR INV222-6.75HV - Page 19
ACR INV222-9.0HV - Page 19

Compatible STS unit:
STS207LV - Page 60
STS207HV - Page 60

INV222

Type designation	INV222-48/230-50	INV222-110/230-50	INV222-220/230-50
Article code	501-022-515.00	501-022-715.00	501-022-815.00

DC/AC Inverter | 3.3kVA
UNV-3.3F

Available Output Voltage Versions:
48V_{DC}, 60V_{DC}, 110V_{DC}

Description

The UNV inverter family represents a high frequency DC to AC power conversion technology in 19" compatible racks. Suitable for any low to medium modular AC power system these inverters are ideal for applications in telecommunication, industry and railroad power supplies.

Combining high frequency conversion with galvanic isolation between input and output, UNV inverter is a flexible, efficient and reliable AC power source. The possibility of parallel connection offers highest flexibility for realizing systems with increased output power and/or (n+x)-redundancy.

The UNV series is designed to operate together with the UNB series static switch and supervisory module. Remote control and communication is performed via CAN interface. Alternatively the units can be operated in stand-alone mode.

Key Features

>> 19", 3U

>> Wide range DC input

>> "Hot-Plug-In" systems

>> High power density

>> CAN-Bus interface

>> Ability for parallel operation

>> Digital displays to notify all relevant parameters

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

Main Data

DC input

Voltage (V_{DC})	48	60	110
Current (A_{DC})	62.5	50.0	26.7

AC output
Voltage: 230V_{AC} ±0,5%, sinusoidal
Current: 14.35 A_{AC}
Efficiency: >=90%

Other specifications
Dimension (W/H/D): 483/133/360mm
Weight: approx. 27kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Options
19" mounting bracket with rear side connector
Article Code - 880-MEC-MKT.01

Compatible Static Switch :
UNB-Series - Page 62-65

UNV-3.3F

Type designation	UNV48-3.3F	UNV60-3.3F	UNV110-3.3F
Article code	500-033-511.00	500-033-611.00	500-033-711.00

DC/AC Inverter | 5.0kVA
UNV-5.0F

Available Output Voltage Versions:
48V_{DC}, 60V_{DC}, 110V_{DC}

Description

The UNV inverter family represents a high frequency DC to AC power conversion technology in 19" compatible racks. Suitable for any low to medium modular AC power system these inverters are ideal for applications in telecommunication, industry and railroad power supplies.

Combining high frequency conversion with galvanic isolation between input and output, UNV inverter is a flexible, efficient and reliable AC power source. The possibility of parallel connection offers highest flexibility for realizing systems with increased output power and/or (n+x)-redundancy.

The UNV series is designed to operate together with the UNB series static switch and supervisory module. Remote control and communication is performed via CAN interface. Alternatively the units can be operated in stand-alone mode.

Key Features

>> 19", 3U

>> Wide range DC input

>> "Hot-Plug-In" systems

>> High power density

>> CAN-Bus interface

>> Ability for parallel operation

>> Digital displays to notify all relevant parameters

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

Main Data

DC input

Voltage (V_{DC})	48	60	110
Current (A_{DC})	94.7	74.9	39.9

AC output
Voltage: 230V_{AC} ±0,5%, sinusoidal
Current: 21.7A_{AC}
Efficiency: >=90%

Other specifications
Dimension (W/H/D): 483/133/400mm
Weight: approx. 38kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Options
19" mounting bracket with rear side connector
Article Code - 880-MEC-MKT.01

Compatible Static Switch :
UNB-Series - Page 62-65

UNV-5.0F

Type designation	UNV48-5.0F	UNV60-5.0F	UNV110-5.0F
Article code	500-050-511.00	500-050-611.00	500-050-711.00

DC/AC Inverter | 1.0kVA
PWS-1.0F

Available Output Voltage Versions:
$24V_{DC}$, $110V_{DC}$, $220V_{DC}$

Description

The PWS inverter family is equipped with a 50Hz isolation transformer following a primary side pulse-width modulation stage and is available as 19"-compatible rack or wall cabinet.

These inverters are especially suited for AC power applications in power plants, industrial, railway and maritime environment. The combination of rugged mechanical construction, high overload ability and electrical isolation between input and output offers a very high flexibility in system configuration.

The inverters can be operated as single units or in parallel connection (optionally) to provide power increase or further improved reliability by (n+1)-redundancy. The unit is prepared to operate together with the static bypass switch (UNB).

Key Features

>> 19", 4U

>> Very high overload ability

>> Ability for parallel operation (optional)

>> Analogue measurement instruments (Vout, Iout)

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

Main Data

DC input

Voltage (V_{DC})	24	110	220
Current (A_{DC})	38.8	8.2	4.1

AC output
Voltage: $230V_{AC}$ ±0,5%, sinusoidal
Current: $4.35A_{AC}$

Efficiency	85%	90%	90%

Other specifications

Dimension (W/H/D): 483/177/460mm			
Weight approx. kg	20	19	19

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Options
19" mounting bracket with rear side connector
Article Code - 880-MEC-MKT.03

PWS-1.0F

Type designation	PWS24-1.0F	PWS110-1.0F	PWS220-1.0F
Article code	401-010-411.00	401-010-711.00	401-010-811.00

DC/AC Inverter | 1.0kVA
PWS-1.0W

Available Output Voltage Versions:
$24V_{DC}$, $110V_{DC}$, $220V_{DC}$

Description

The PWS inverter family is equipped with a 50Hz isolation transformer following a primary side pulse-width modulation stage and is available as 19"-compatible rack or wall cabinet.

These inverters are especially suited for AC power applications in power plants, industrial, railway and maritime environment. The combination of rugged mechanical construction, high overload ability and electrical isolation between input and output offers a very high flexibility in system configuration.

The wall cabinet version includes all necessary input and output fuses and can be mounted directly beside the load distribution. The unit is prepared to operate together with the static bypass switch (UNB).

Key Features

>> Wall cabinet

>> Very high overload ability

>> Analogue measurement instruments (Vout, Iout)

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

>> Internal static bypass switch (optionally)

Main Data

DC input

Voltage (V_{DC})	24	110	220
Current (A_{DC})	38.8	8.2	4.1

AC output
Voltage: 230V_{AC} ±0,5%, sinusoidal
Current: 4.35A_{AC}

Efficiency	85%	90%	90%

Other specifications
Dimension (W/H/D): 400/600/210 mm

Weight approx. kg	24	23	23

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Special outgoing AC distribution cabinet dimensions or colours on request!

PWS-1.0W

Type designation	PWS24-1.0W	PWS110-1.0W	PWS220-1.0W
Article code	401-010-412.00	401-010-712.00	401-010-812.00

DC/AC Inverter | 2.5kVA
PWS-2.5F

Available Output Voltage Versions:
24V_{DC}, 110V_{DC}, 220V_{DC}

Description

The PWS inverter family is equipped with a 50Hz isolation transformer following a primary side pulse-width modulation stage and is available as 19"-compatible rack or wall cabinet.

These inverters are especially suited for AC power applications in power plants, industrial, railway and maritime environment. The combination of rugged mechanical construction, high overload ability and electrical isolation between input and output offers a very high flexibility in system configuration.

The inverters can be operated as single units or in parallel connection (optionally) to provide power increase or further improved reliability by (n+1)-redundancy. The unit is prepared to operate together with the static bypass switch (UNB).

Key Features

>> 19", 4U

>> Very high overload ability

>> Ability for parallel operation (optional)

>> Analogue measurement instruments (Vout, Iout)

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

Main Data

DC input

Voltage (V_{DC})	24	110	220
Current (A_{DC})	96.9	20.4	10.2

AC output
Voltage: 230V_{AC} ±0,5%, sinusoidal
Current: 10,9A_{AC}

Efficiency	86%	91%	91%

Other specifications
Dimension (W/H/D): 483/221/460mm
Weight: approx. 34kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Options
19" mounting bracket with rear side connector
Article Code - 880-MEC-MKT.03

PWS-2.5F

Type designation	PWS24-2.5F	PWS110-2.5F	PWS220-2.5F
Article code	401-025-411.00	401-025-711.00	401-025.811.00

DC/AC Inverter | 2.5kVA
PWS-2.5W

Available Output Voltage Versions:
24V_{DC}, 110V_{DC}, 220V_{DC}

Description

The PWS inverter family is equipped with a 50Hz isolation transformer following a primary side pulse-width modulation stage and is available as 19"-compatible rack or wall cabinet.

These inverters are especially suited for AC power applications in power plants, industrial, railway and maritime environment. The combination of rugged mechanical construction, high overload ability and electrical isolation between input and output offers a very high flexibility in system configuration.

The wall cabinet version includes all necessary input and output fuses and can be mounted directly beside the load distribution. Optionally, versions with an included static bypass switch are available.

Key Features

>> Wall cabinet

>> Very high overload ability

>> Analogue measurement instruments (Vout, Iout)

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

>> Internal static bypass switch (optionally)

Main Data

DC input

Voltage (V_{DC})	24	110	220
Current (A_{DC})	96.9	20.4	10.2

AC output
Voltage: 230V_{AC} ±0,5%, sinusoidal
Current: 10,9A_{AC}

Efficiency	86%	91%	91%

Other specifications
Dimension (W/H/D): 600/800/300mm, 400/600/21 mm, 400/600/210mm
Weight: approx. 42kg

Compliances:
CE conformity: yes
Compliance to safety standards: EN60950-1; VDE0100 T410; VDE0110; EN50178; EN60146
Compliance to EMC standards: EN55011/22 class "B", EN61000- 4 T2-5

Special outgoing AC distribution cabinet dimensions or colours on request!

PWS-2.5W

Type designation	PWS24-2.5W	PWS110-2.5W	PWS220-2.5W
Article code	401-025-412.00	401-025-712.00	401-025-812.00

DC/AC Inverter | 5.0kVA
PWS-5.0F

Available Output Voltage Versions:
$110V_{DC}$, $220V_{DC}$

Description

The PWS inverter family is equipped with a 50Hz isolation transformer following a primary side pulse-width modulation stage and is available as 19"-compatible rack or wall cabinet.

These inverters are especially suited for AC power applications in power plants, industrial, railway and maritime environment. The combination of rugged mechanical construction, high overload ability and electrical isolation between input and output offers a very high flexibility in system configuration.

The inverters can be operated as single units or in parallel connection (optionally) to provide power increase or further improved reliability by (n+1)-redundancy. The unit is prepared to operate together with the static bypass switch (UNB).

Key Features

>> 19", 5U

>> Very high overload ability

>> Ability for parallel operation (optinal)

>> Analogue measurement instruments (Vout, Iout)

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

Main Data

DC input

Voltage (V_{DC})	110	220
Current (A_{DC})	39.9	20

AC output
Voltage: $230V_{AC}$ ±0,5%, sinusoidal
Current: $21.8A_{AC}$

Efficiency	91%	91%

Other specifications
Dimension (W/H/D): 483/221/460mm
Weight: approx. 52kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Options
19" mounting bracket with rear side connector
Article Code - 880-MEC-MKT.03

PWS-5.0F

Type designation	PWS110-5.0F	PWS220-5.0F
Article code	401-050-711.00	401-050-811.00

DC/AC Inverter | 2.5kVA
PWS-5.0W

Available Output Voltage Versions:
$110V_{DC}$, $220V_{DC}$

Description

The PWS inverter family is equipped with a 50Hz isolation transformer following a primary side pulse-width modulation stage and is available as 19"-compatible rack or wall cabinet.

These inverters are especially suited for AC power applications in power plants, industrial, railway and maritime environment. The combination of rugged mechanical construction, high overload ability and electrical isolation between input and output offers a very high flexibility in system configuration.

The wall cabinet version includes all necessary input and output fuses and can be mounted directly beside the load distribution. Optionally, versions with an included static bypass switch are available.

Key Features

>> Wall cabinet

>> Very high overload ability

>> Ability for parallel operation

>> Analogue measurement instruments (Vout, Iout)

>> Temperature-controlled fan cooling

>> Input over/under voltage shutdown, overload and short circuit-proof

Main Data

DC input

Voltage (V_{DC})	110	220
Current (A_{DC})	39.9	20

AC output
Voltage: $230V_{AC}$ ±0,5%, sinusoidal
Current: $21.8A_{AC}$

Efficiency	91%	91%

Other specifications
Dimension (W/H/D): 600/800/300mm
Weight: approx. 64kg

Compliances:

CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110; EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Special outgoing AC distribution cabinet dimensions or colours on request!

PWS-5.0W

Type designation	PWS110-5.0W	PWS220-5.0W
Article code	401-050-712.00	401-050-812.00

›› STATIC BYPASS SWITCHES

Static Bypass Switches
Matrix

Static bypass switch range

Static Switches			Redundant circuitry supply (Battery voltage, VDC)					Page
Type designation / Version	Input voltage source 1 and 2, output voltage	Nominal switching capacity (kVA)	24 (20.4-30 V_{DC})	LV (40.2-75 V_{DC})		HV (91.8-275 V_{DC})		
STS207 / 19" unit	230V_{AC}	7.0	✓	✓		✓		60
STS114 / 19" unit	230V_{AC}	14.0	✓	✓		✓		61
			24	48	60	110	220	
UNB5.0 / 19" unit	230V_{AC}	5.0	✓	✓	✓	✓	✓	62
UNB12.5 / 19" unit	230V_{AC}	12.5	✓	✓	✓	✓	✓	63
UNB23.0 / 19" unit	230V_{AC}	23.0	✓	✓	✓	✓	✓	64
UNB40.0 / 19" unit	230V_{AC}	40.0	✓	✓	✓	✓	✓	65

Our UNB and STS range of static bypass switches features the latest micro controller technology for monitoring, synchronization and load transfer. It consists of an anti parallel thyristor switch in the bypass and inverter output. The units are programmable for online and offline operation. In case of failure or overloading of the load feeder with the highest priority the unit switches over to second source without interruption (<4ms).

The optimized digital PLL guarantees very high synchronization speed between mains and inverter frequency and therefore also diesel gensets can be used as a second source.

Static Bypass Switch | 7kVA
STS207 LV 2x 230V$_{AC}$
STS207 HV 2x 230V$_{AC}$

Description

The new STS207 is a series of very compact Static bypass switches. Minimized synchronization time of inverter and mains frequency is guaranteed by digital PLL. The transfer time between both inputs is less than 4msec. Therefore the STS207 can be used with equipment very sensible to small dips in the AC supply. The STS monitors both incoming sources according to the voltage level, frequency and their synchronization. In combination with the inverter series INV215/INV222 the unit can operate in Offline or Online-mode. This function is programmable at site. All main functional parameters and measuring values are displayed on the front side LCD panel. For highest reliability the internal circuits are supplied in redundancy by the bypass mains as well as the battery circuit of the AC system.

For communication between STS and inverter a CAN bus communication is used. The unit is equipped with an ethernet interface for remote connection via SNMP-Protocol or WEB-Browser.

STS207-HV

Key Features

>> 1/4x19", 2U

>> "Hot-Plug-In" design with backplane connection

>> Optimized synchronization speed with digital PLL

>> CAN-Bus interface

>> Display for all main operating parameters settings and measuring values

>> Front- to- rear airflow with temperature-controlled fan cooling

>> SNMP interface and monitoring by WEB-Browser included

Main Data

AC input
Voltage - Source 1 + 2:
230V$_{AC}$ +/-20%

Redundant circuitry supply:
40.2 - 75V$_{DC}$ (LV-Version) (24V, 48V)
91.8 - 275V$_{DC}$ (HV-Version) (110V, 220V)
Frequency range: 50/60Hz

AC output
Voltage: 230V$_{AC}$; voltage range acc. to input values
Current: 30.4A$_{AC}$

Power: 7000VA

Overload capability: 1000% for 10ms (fuse tripping of 32A gL is guaranteed)

Monitoring functions:
Voltage/frequency of sources 1 and 2; synchronization mains—inverter; over temperature; CAN communication lost; synchronization bus interrupted

Other specifications
Dimension (W/H/D): 106.4/88.4/325mm
Weight: approx. 3.4kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110; EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Compatible 19" racks:
ACR INV222-6.75LV - Page 19
ACR INV222-9.0LV - Page 19
ACR INV222-6.75HV - Page 19
ACR INV222-9.0HV - Page 19

Type designation	STS207-230/230L-24V	STS207-230/230LV	STS207-230/230HV
Article code	601-070-415.00	601-070-515.00	601-070-715.00

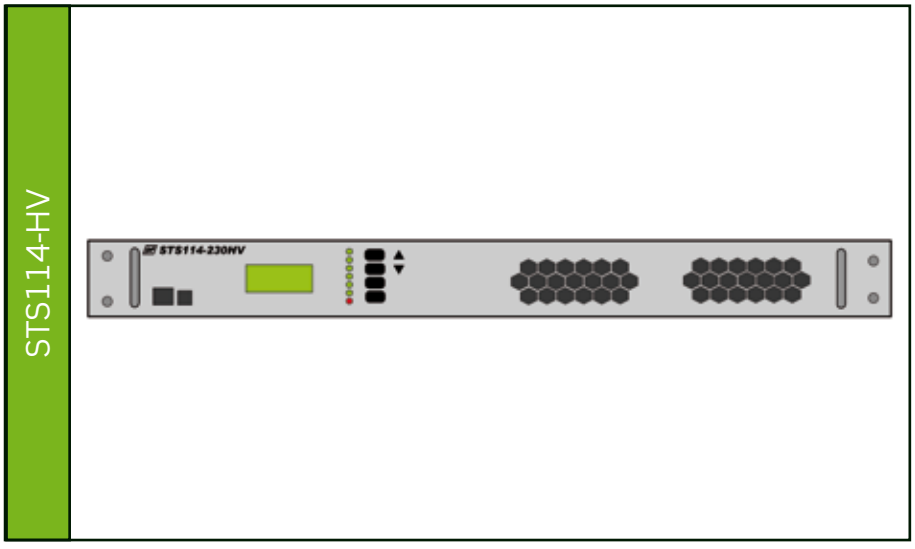
Static Bypass Switch | 14kVA
STS114 LV 2x 230V$_{AC}$
STS114 HV 2x 230V$_{AC}$

Description

The new STS114 is a series of very compact Static bypass switches. Minimized synchronization time of inverter and mains frequency is guaranteed by digital PLL. The transfer time between the both inputs is less than 4msec. Therefore the STS114 can be used with equipment very sensible to small dips in the AC supply.

The STS monitors both incoming sources according to the voltage level, frequency and their synchronization. In combination with the inverter series INV215/INV222 the unit can operate in Offline or Online-mode. This function is programmable at site. All main functional parameters and measuring values are displayed on the front side LCD panel. For highest reliability the internal circuits are supplied in redundancy by the bypass mains as well as the battery circuit of the AC system.

For communication between STS and inverter a CAN bus communication is used. The unit is equipped with an ethernet interface for remote connection via SNMP-Protocol or WEB-Browser.



Key Features

>> 19", 1U

>> "Hot-Plug-In" design with backplane connection

>> Optimized synchronization speed with digital PLL

>> CAN-Bus interface

>> Display for all main operating parameter, settings and measuring values

>> Temperature-controlled fan cooling

>> SNMP interface and monitoring by WEB-Browser included

Main Data

AC input
Voltage - Source 1 + 2:
230V$_{AC}$ +/-20%

Redundant circuitry supply:
40.2 - 75V$_{DC}$ (LV-Version) (24V, 48V)
91.8 - 275V$_{DC}$ (HV-Version) (110V, 220V)

Frequency range: 50/60Hz

AC output
Voltage: 230V$_{AC}$; voltage range acc. to input values
Current: 61A$_{AC}$

Power: 14kVA

Overload capability: 1000% for 10ms
(Fuse tripping of 63A gL is guaranteed)

Monitoring functions:
Voltage/frequency of sources 1 and 2; synchronization mains—inverter; over temperature; CAN communication lost; synchronization bus interrupted

Other specifications
Dimension (W/H/D): 483/44.4/325mm
Weight: approx. 4.4kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110; EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Mounting Kit:
19" Frame
Article code 602-114-011.00

Type designation	STS114-230/230-24 V	STS114-230/230LV	STS114-230/230HV
Article code	601-140-411.00	601-140-511.00	601-140-711.00

Static Bypass Switch | 5.0kVA
UNB5.0 2x 230V$_{AC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$/60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

The UNB range of static bypass switches features the modern micro controller technology for monitoring, synchronization and communication combined with a flexible 19"-compatible rack mounting.

These modular units are designed for systems consisting of inverters type UNV or PWS. Parallel connection up to 5.0kVA is possible to increase output power or system reliability by (n+1)-redundancy.

The micro processor-controlled synchronization unit guarantees mains synchronicity of single or paralleled inverters. The availability of all inverters in the system is continuously checked and monitored.

All monitoring functions and system parameters are indicated and adjusted comfortably by an alphanumeric display and control keys on the front panel. All system parameters can be read out together with the central monitoring unit UPC3 (optionally).

Key Features

>> 19", 3U

>> "Hot-Plug-In" design, rear side connection

>> Wide synchronization range

>> Optimized mains synchronization

>> Alphanumeric LCD display for measurement values and systems parameters

>> Complete system monitoring via CAN bus

>> Temperature-controlled fan cooling

Main Data

AC input
Voltage - Source 1 + 2:
220/230/240V$_{AC}$, programmable

Frequency range: 47-53 resp. 57-63Hz, programmable

DC input (redundant and supply)
Battery voltage: 24, 48/60, 110, 220V$_{DC}$ according to the type range

AC output
Voltage: 220/230/240V$_{AC}$, programmable

Output power: 5.0kVA

Switch transfer time: ≤ 4ms

Other specifications
Dimension (W/H/D): 483/133/360mm
Weight: approx. 12.6kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Mounting options;
19" mounting bracket
Article code 880-MEC-MKT.01

UNB5.0

Type designation	UNB5.0-24	UNB5.0-48	UNB5.0-60	UNB5.0-110	UNB5.0-220
Article code	600-050-411.00	600-050-511.00	600-050-611.00	600-050-711.00	600-050-811.00

Static Bypass Switch | 12.5kVA
UNB12.5 2x 230V$_{AC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$/60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

The UNB range of static bypass switches features the modern micro controller technology for monitoring, synchronization and communication combined with a flexible 19"-compatible rack mounting.

These modular units are designed for systems consisting of inverters type UNV or PWS. Parallel connection up to 12.5kVA is possible to increase output power or system reliability by (n+1)-redundancy.

The micro processor-controlled synchronization unit guarantees mains synchronicity of single or paralleled inverters. The availability of all inverters in the system is continuously checked and monitored.

All monitoring functions and system parameters are indicated and adjusted comfortably by an alphanumeric display and control keys on the front panel. All system parameters can be read out together with the central monitoring unit UPC3 (optionally).

Key Features

>> 19", 3U

>> "Hot-Plug-In" design, rear side connection
>> Wide synchronization range

>> Optimized mains synchronization

>> Alphanumeric LCD display for measurement values and systems parameters

>> Complete system monitoring via CAN bus

>> Temperature-controlled fan cooling

Main Data

AC input
Voltage - Source 1 + 2:
220/230/240V$_{AC}$, programmable

Frequency range: 47-53 resp. 57-63Hz, programmable

DC input (redundant and supply)
Battery voltage: 24, 48/60, 110, 220V$_{DC}$ according to the type range

AC output
Voltage: 220/230/240V$_{AC}$, programmable

Output power: 12.5kVA

Switch transfer time: ≤ 4ms

Other specifications
Dimension (W/H/D): 483/133/360mm
Weight: approx. 12.6kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Mounting options;
19" mounting bracket
Article code 880-MEC-MKT.01

UNB12.5

Type designation	UNB12.5-24	UNB12.5-48	UNB12.5-60	UNB12.5-110	UNB12.5-220
Article code	600-125-411.00	600-125-511.00	600-125-611.00	600-125-711.00	600-125-811.00

Static Bypass Switch | 23.0kVA
UNB23.0 2x 230V$_{AC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$/60V$_{DC}$, 110V$_{DC}$, 220V$_{DC}$

Description

The UNB range of static bypass switches features the modern micro controller technology for monitoring, synchronization and communication combined with a flexible 19"-compatible rack mounting.

These modular units are designed for systems consisting of inverters type UNV or PWS. Parallel connection up to 23.0kVA is possible to increase output power or system reliability by (n+1)-redundancy.

The micro processor-controlled synchronization unit guarantees mains synchronicity of single or paralleled inverters. The availability of all inverters in the system is continuously checked and monitored.

All monitoring functions and system parameters are indicated and adjusted comfortably by an alphanumeric display and control keys on the front panel. All system parameters can be read out together with the central monitoring unit UPC3 (optionally).

Key Features

>> 19", 4U

>> "Hot-Plug-In" design, rear side connection

>> Wide synchronization range

>> Optimized mains synchronization

>> Alphanumeric LCD display for measurement values and systems parameters

>> Complete system monitoring via CAN bus

>> Temperature-controlled fan cooling

Main Data

AC input
Voltage - Source 1 + 2:
220/230/240V$_{AC}$, programmable

Frequency range: 47-53 resp. 57-63Hz, programmable

DC input (redundant and supply)
Battery voltage: 24, 48/60, 110, 220V$_{DC}$ according to the type range

AC output
Voltage: 220/230/240V$_{AC}$, programmable

Output power: 23.0kVA

Switch transfer time: ≤ 4ms

Other specifications
Dimension (W/H/D): 483/177/460mm
Weight: approx. 13.2kg

Compliances:
CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110; EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Mounting options;
19" mounting bracket
Article code 880-MEC-MKT.03

UNB23.0

Type designation	UNB23.0-24	UNB23.0-48	UNB23.0-60	UNB23.0-110	UNB23.0-220
Article code	600-230-411.00	600-230-511.00	600-230-611.00	600-230-711.00	600-230-811.00

Static Bypass Switch | 40.0kVA
UNB40.0 2x 230V$_{AC}$

Available Output Voltage Versions:
24V$_{DC}$, 48V$_{DC}$/60V$_{DC}$,
110V$_{DC}$, 220V$_{DC}$

Description

The UNB range of static bypass switches features the modern micro controller technology for monitoring, synchronization and communication combined with a flexible 19"-compatible rack mounting.

These modular units are designed for systems consisting of inverters type UNV or PWS. Parallel connection up to 40.0kVA is possible to increase output power or system reliability by (n+1)-redundancy.

The micro processor-controlled synchronization unit guarantees mains synchronicity of single or paralleled inverters. The availability of all inverters in the system is continuously checked and monitored.

All monitoring functions and system parameters are indicated and adjusted comfortably by an alphanumeric display and control keys on the front panel. All system parameters can be read out together with the central monitoring unit UPC3 (optionally).

Key Features

>> 19", 4U

>> "Hot-Plug-In" design, rear side connection

>> Wide synchronization range

>> Optimized mains synchronization

>> Alphanumeric LCD display for measurement values and systems parameters

>> Complete system monitoring via CAN bus

>> Temperature-controlled fan cooling

Main Data

AC input
Voltage - Source 1 + 2:
220/230/240V$_{AC}$, programmable

Frequency range: 47-53 resp. 57-63Hz, programmable

DC input (redundant and supply)
Battery voltage: 24, 48/ 60, 110, 220V$_{DC}$ according to the type range

AC output
Voltage: 220/230/240V$_{AC}$, programmable

Output power: 40.0kVA

Switch transfer time: ≤ 4ms

Other specifications
Dimension (W/H/D): 483/177/460mm
Weight: approx. 16.9kg

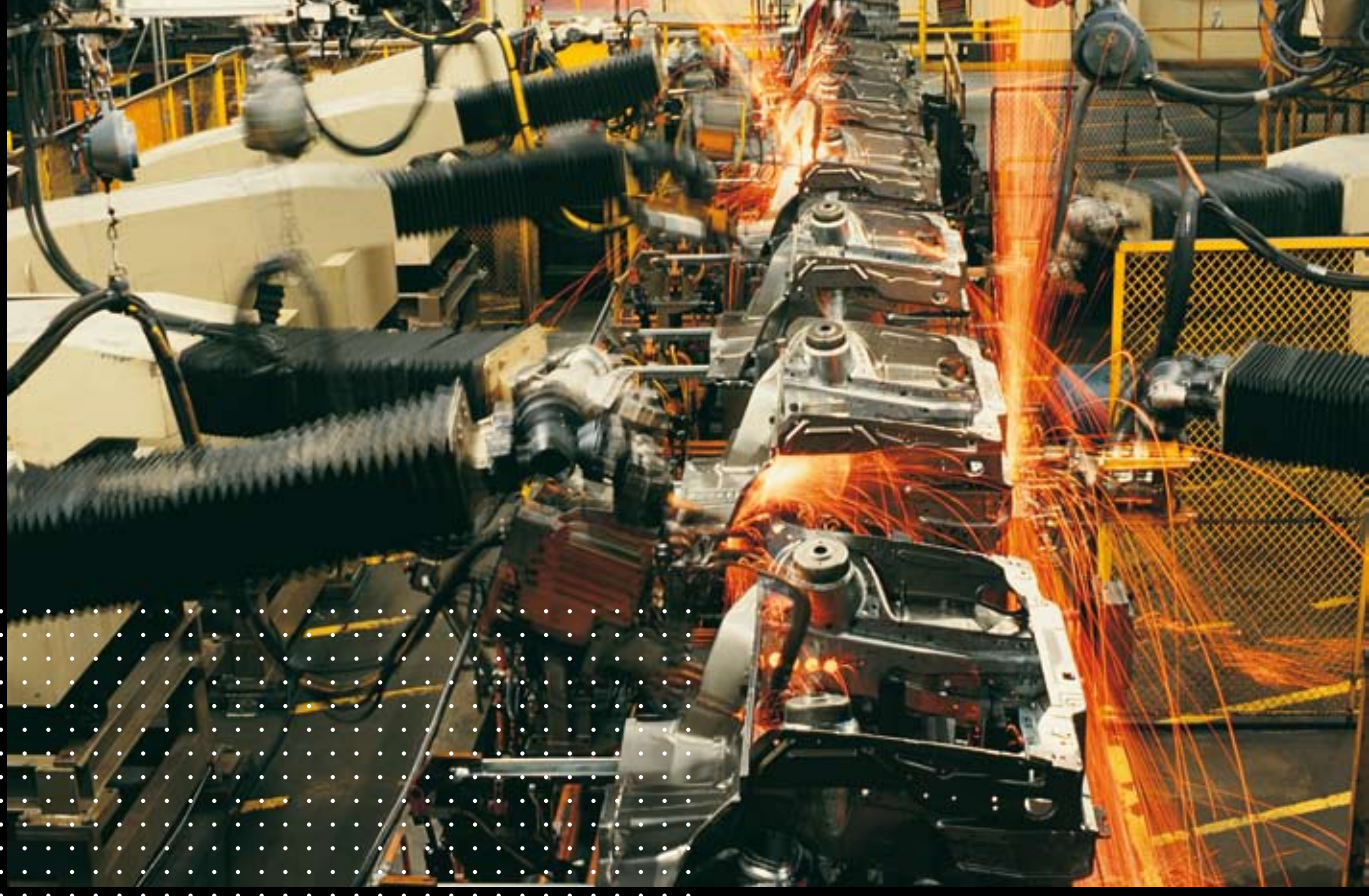
Compliances:

CE conformity: yes
Compliance to safety standards:
EN60950-1; VDE0100 T410; VDE0110;
EN50178; EN60146
Compliance to EMC standards:
EN55011/22 class "B",
EN61000- 4 T2-5

Mounting options;
19" mounting bracket
Article code 880-MEC-MKT.03

UNB40.0

Type designation	UNB40.0-24	UNB40.0-48	UNB40.0-60	UNB40.0-110	UNB40.0-220
Article code	600-400-411.00	600-400-511.00	600-400-611.00	600-400-711.00	600-400-811.00



›› MONOBLOCK SYSTEMS

Monoblock types
MBR - Industrial rectifier | 110/220V

50A to 1000A

Description

The MBR system is a heavy duty industrial rectifier battery charger, designed to supply critical DC loads and to recharge any type of battery (NiCd, P6-acid, sealed P6).

The MBR system is based on a 6-pulse or 12-pulse thyristor bridge controlled by microprocessor.

The system is provided with an operating panel including line diagram with synchronization.

Various options are available on request. Please contact us for an optimized offer matching your specification requirements.

Available output current (size):					
150A	200A	300A	500A	750A	1000A

MBR - INDUSTRIAL RECTIFIER

Key Features

>> Industrial layout

>> Easy maintenance/front access

>> Input isolation transformer protected by MCCB

>> Full set of battery charging methods available

>> Microprocessor control

Main Data

Input Voltage: 3Ph. 400 +/-15% V_{AC}
(Other versions as option) 50 - 60Hz +/-5Hz

Input THD: 27% 6P, 12% 12P, 6% THD Filter + 12P

Output voltage: 110V_{DC} / 220V_{DC}
(Other versions options)

Ripple: +/-2%Vn (RMS)

Static stability: +/-1%Vn

Overload: 120% for 20min

Ventilation: natural

Efficiency: >93%

Noise 1m (dBA): < 60 - 62

Degree of protection: IP20
(Other versions as option)

Colour: RAL 7035 (other version as option)

Operation temperature: -10 to 40°C

Standards
Low voltage assemblies: IEC EN 60439-1-3
Semiconductor convertors: IEC EN 60145-1-3
Power transformers: IEC EN 6067
Degree of protection: IEC EN 60529
Safety (CE marking): IEC EN 50178
Electromagnetic compability (CE marking): IEC EN 61000-6-1, IEC EN 61000-6-2, IEC EN 61000-6-4

Ordering Information

MTB	0100.	110.	S
model	size	VDC	config.

(S= Single Unit, P= Parallel (block diode), D= Double Branch)

Monoblock types
MBI - Industrial inverter | 110/220V Single- & Three-phase

30kVA to 100kVA

Description

The MBI system is a single phase industrial inverter with an IGBT power conversion bridge. A thyristor static switch is included to allow automatic conversion to the second source. A manual bypass switch is also available for maintenance operation.

For monitoring purposes, a full set of signals and measurements are available both locally (lambs & meters) and remotely (SPDT contacts).
The system is provided with a digital control panel, displaying the operational status of the equipment (signals, alarms, meters, history events). Serial interfaces are available for remote control of the system. Upon request supervision application software is available for monitoring via PC.

Various options are available on request. Please contact us for an optimized offer matching your specification requirements.

Available output power @ 110VDC(size):		
30kVA	40kVA	50kVA

Available output power @ 220VDC(size):					
30kVA	40kVA	50kVA	60kVA	80kVA	100kVA

MBI - INDUSTRIAL INVERTER

Key Features

>> Industrial layout

>> Easy maintenance/front access

>> Remote monitoring via SPDT contacts

>> IGBT Technology (PWM)

>> Large size (up to 100kVA) in reduced space

>> High efficiency

>> Reduced output THD with not linear load

>> Microprocessor control

Main Data

Input Voltage: 110VDC (Range 95 - 165 VDC), 220VDC (Range 176 - 325 VDC)

Bypass line input voltage: 1Ph. 230VAC or 220-230 VAC (other versions as options)

Output voltage: 115 (110 - 120)VAC or 220 - 230VAC (other versions as options)

Harmonic distortion: <1.5% with linear load
<5% with non linear load CF3:1

Frequency: 50 - 60Hz (selectable) with variation range +/- 2Hz

Overload: 110% Pn for 2h - 125% Pn for 10min - 150% In for 10sec. (load on inverter)
150% Pn continuous (load on by pass line)

Static stability: +/- 5% with recovery to 2% in 40ms

Efficiency: 88 - 93%

Noise level 1m (dBA) < 65

Protection degree: IP20 (other versions as option)

Colour: RAL 7035 (other versions as option)

Operation temperature: -10 to 40°C

Standards
Low voltage assemblies: IEC EN 60439-1-3
Semiconductor convertors: IEC EN 60145-1-3
Power transformers: IEC EN 6067
Degree of protection: IEC EN 60529
Safety (CE marking): IEC EN 50178
Electromagnetic compability (CE marking): IEC EN 61000-6-1, IEC EN 61000-6-2, IEC EN 61000-6-4

Ordering Information

MBI	050.	110.	V2.	S
model	size	VDC	Vout	config.

(V1=110, V2=230, S=Single, H=Parallel Hot stand BY R= Parallel redundant)

Monoblock types
MPS2001 - Industrial UPS | Single phase

30kVA to 100kVA

Description

The MPS2001 series is designed to offer a cost effective product with the most advanced technology in industrial power supply applications. The MPS2001 system is an online double conversion UPS, designed to protect AC loads from any disturbances from AC mains power supply.

The system provided with digital control panel, displaying the operational status of the equipment (signals, alarms, meters, history events). Serial interfaces are available for remote control of the UPS. Upon request supervision application software is available for monitoring via PC:

Various options are available on request. Please contact us for an optimized offer matching your specification requirements.

Available output power (size):					
30kVA	40kVA	50kVA	60kVA	80kVA	100kVA

MPS2001 - INDUSTRIAL UPS

Key Features

>> LCD multifunctional control panel

>> IGBT Technology (PWM)

>> Microprocessor control & supervision

>> Large size (up to 100kVA) in reduced space

>> Input galvanic isolation

>> Reduced output THD with not linear load

>> Remote monitoring via SPDT contacts

>> EPO (Emergency Power Off)

Main Data

Input Voltage V_{AC}: 3Ph. 400 +/- 15%
(other versions as options) 50 - 60Hz +/- 5%

Bypass line input voltage: 1Ph. 230V_{AC} or 115V_{AC}
+/- 10 % (according to inverter output voltage)

Battery voltage: 110 V_{DC} (Range 95 - 165 V_{DC})
220V_{DC} (Range 176 - 325 V_{DC})

Output voltage: 1Ph. 230V_{AC} or 115V_{AC}
(Other versions as options)

Harmonic distortion: <1.5% with linear load
<5 with none linear load as per standard

Crest factor: 3:1 without derating

Frequency: 50 - 60Hz (selectable) with variation range +/- 2Hz

Overload: 125% for 10min - 150% for 1min Pn
(Load on inverter) 150% Pn continuous
(Load on bypass line)

Static stability: +/- 1% (load on inverter)

Dynamic stability: +/- 5% with recovery to 2% in 40ms

Efficiency: 86 - 88%

Protection degree: IP20 (other versions as option)

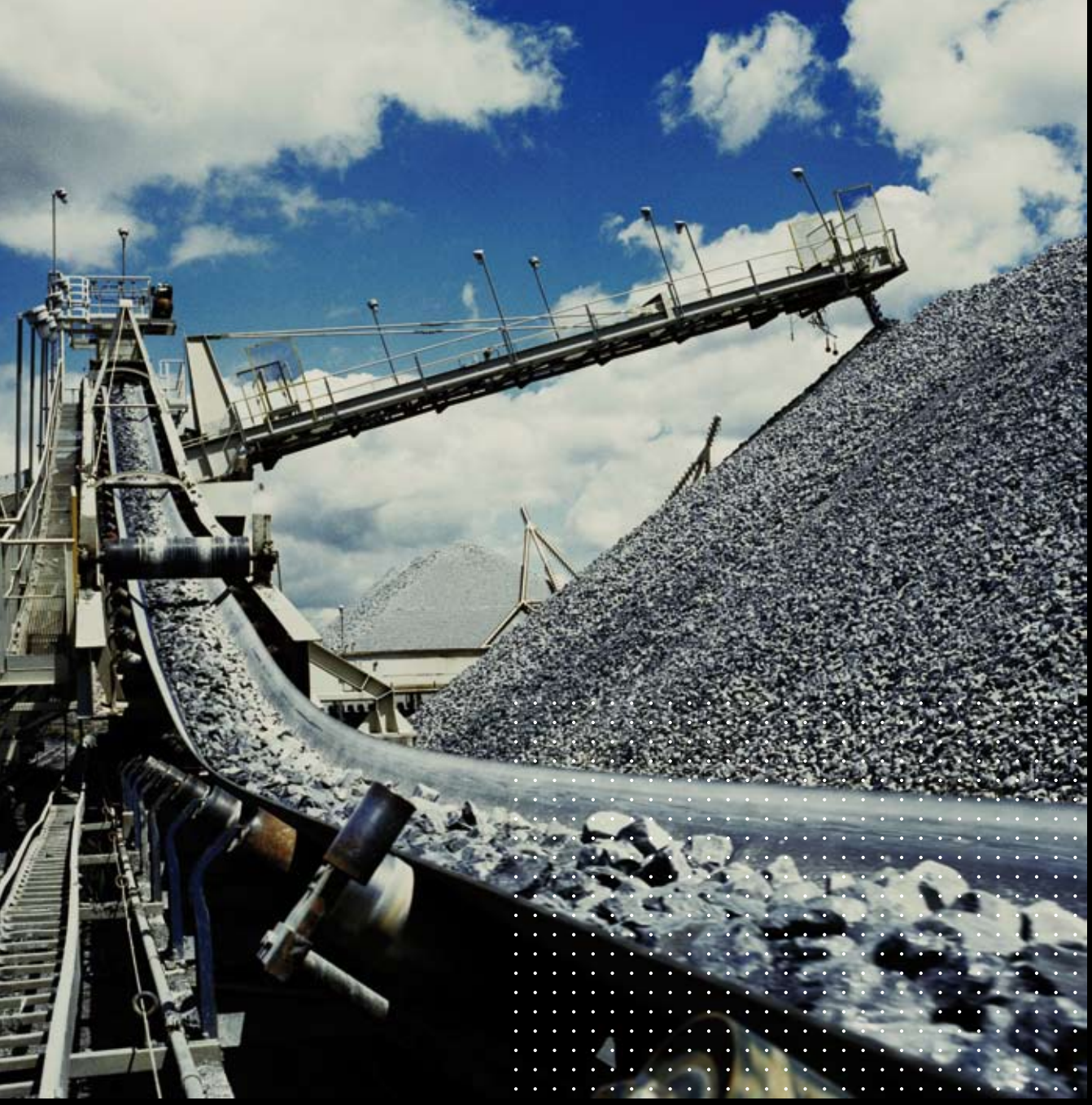
Operation temperature: 0 - 40 °C

Standards
Low voltage assemblies: IEC EN 60439-1-3
Semiconductor convertors: IEC EN 60145-1-3
Power transformers: IEC EN 6067
Degree of protection: IEC EN 60529
Safety (CE marking): IEC EN 50178
Electromagnetic compability (CE marking):
IEC EN 61000-6-1, IEC EN 61000-6-2, IEC EN 61000-6-4

Ordering Information

MPS2001	050.	110.	V2.	S
model	size	VDC	Vout	config.

(V1=110, V2=230, S=Single, H=Parallel Hot stand BY R= Parallel redundant)



››OTHER PRODUCTS

BATTERIES

Most of our DC Power Supply Systems are equipped with batteries for energy storage. The battery operates parallel redundant to the rectifier units and feeds the load during mains failures or in case of defective rectifier modules. Hence, loads can continuously be supplied independent from mains disturbances and failures. Therefore the uninterruptible operation of the system is guaranteed.

There is a large variety of battery types available for different application. Our sales and engineering team will determine the best suited battery for your special type of application under consideration of all technical criteria, the lifetime and the best price/performance ratio.

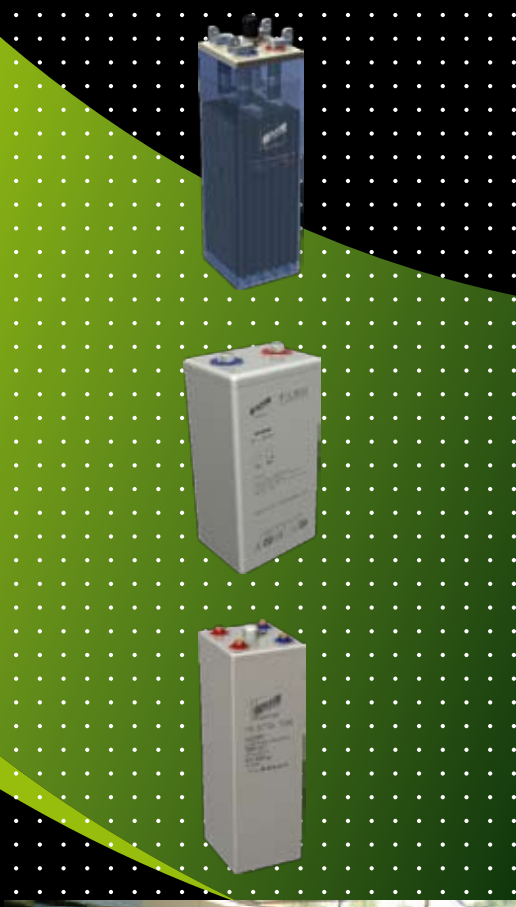
Many manufacturers have specialized on certain types of batteries. Eltek Valere Industrial, however, cooperates with several different suppliers in order to always offer the best possible technical solution. The most important criteria for the determination of the most suitable battery are for example: maximum battery capacity, ambient temperature and local requirements at the installation site, maintenance intervals, cycle stability, safety restrictions, installation weight and short circuit characteristics.

After determination of a suitable type of battery the engineering of the battery cabinet or rack will be carried out according to the local conditions. For this, we focus on a positioning with easy access for service and maintenance, on the adherence to exhaust directives as well as on the maximum allowable floor load. With the support of computer-controlled calculation tools, the correct battery capacities are determined even under consideration of discharge scenarios with different discharge currents.

Our portfolio includes all batteries like: Lead-acid in different technologies (VRLA, OPzV, OPzS) as well as vented NiCd-batteries.

Our systems are equipped with DC controllers which ensure the best possible charging of the battery installed and therefore long lifetime by choosing adequate charging characteristics. Besides, the controller is independently able to carry out and to log battery availability tests and battery discharge tests within a programmable interval. In case of failures an alarm can be sent.

Our specialists are prepared to recommend you the right type of battery for your specific application.



CUSTOMIZING

Our company's success is grounded on a long tradition in the development and manufacture of high frequency switch-mode power supply modules and digitally-controlled power supplies.
At an early stage we already found solutions combining a compact design with a high power density which cannot be achieved with linear-controlled devices.

Our committed R&D team consists of hardware and software designers as well as mechanical constructors and designers. Handling the development and design process completely in-house guarantees short development times and a close integration and interaction between every single area of R&D activities as well as minimum friction losses within the development process. Highly sophisticated design tools in the field of PCB layout, electrical and thermal simulations as well as 3D CAD design and construction also guarantee best development results.

For the optimization during the development process as well as for the documentation of its results we have substantial measuring and testing equipment at our disposal.

Based on the existing technologies, Eltek Valere Industrial is capable to adapt power supply modules comprehensively and fast to the needs and wishes of our OEM-partners.
Please, take advantage of our abilities and let us design a product which perfectly matches your individual application!

GLOBAL PLAYERS TRUST IN US

Power conversion is our profession. Based on the Switch-Mode Technology we provide products for every field of power generation and transmission, oil and gas extraction, maritime, railway and other industrial applications.

Besides our headquarters in Kirchlengern/Germany we have two modern production facilities in Drebach/Germany and Ruda Slaska/Poland. Together with our international trade and service partners we are an important global supplier for innovative products.

Think global – act local!

NEW TECHNOLOGIES FOR NEW MARKETS

For more than 15 years we have developed and manufactured in series high frequency switch-mode power supplies based on target-oriented research and development.

With state-of-the-art switching topologies and electronic components as well as the newest test equipment and software tools our engineers continuously increase the state of development. Besides the functionality of design we focus on an economic manufacturing process. Hardware, processor firmware and application software for various remote monitoring solutions are in-house developments. The main target is the complete integration of all devices in a complex and uniform communication platform for remote monitoring. Besides our standard products our experienced and highly motivated R&D team continuously develops OEM products for various customers.

New power supplies for renewable energy solutions and charging technologies for innovative energy storage are also subject to our research activities.

JUST-IN-TIME: WE ACCEPT THE LOGISTICS CHALLANGE

Reliable service and in-time delivery are parts of a good product. We take advantage of modern logistics concepts in order to achieve short term deliveries at optimized expenses. In addition, the reliability and deliveries on schedule of our freight forwarders are frequently monitored. We are the one decisive step ahead!

We have the solution for any type of special packaging for worldwide transportation by air, sea, rail or road.

OUR GLOBAL SERVICE OFFER

SITE SURVEY, PLANNING AND PROJECT MANAGEMENT
Eltek Valere Industrial provides turn-key services starting from site survey and planning. Our team evaluates the technical characteristics, overall dimensions and the requirements applicable to the power plants for the integration of power supply equipment. Our project coordinators provide project management services that include procurement, material tracking, budget analysis, scheduling and project management.

INSTALLATION AND COMMISSIONING
The installation and full test of the equipment on site after delivery is vital to assure future trouble-free operation. Eltek Valere Industrial engineers and our special partners are the most qualified people to perform these types of services.

PREVENTIVE MAINTENANCE
A regular check on your equipment often prevents expensive repairs by identifying any fault or weakness as early as possible. A full report follows each visit. This gives you an update on the condition of your equipment and helps you plan upgrading, expansion or renewal. Our standard preventive maintenance service includes full test, visual check, real and simulated alarm checks, alarm history check and a full report with recommendations.

BATTERY MAINTENANCE
In addition to system maintenance, we are able to perform battery maintenance. This includes supplying all of the measuring tools and load equipment necessary to operate a controlled discharge of the battery bank and test each individual cell. All measurements are recorded and listed in a report presented at the end of the operation.

24 HOURS EMERGENCY SERVICE
For total peace of mind, our 24 hour emergency service provides you with the assistance of an experienced engineer at all times by the phone and on-site visits within predefined times according to location. It is also possible, depending on system configuration, to establish a modem or Ethernet connection between the power systems on site and the customer's engineering centre, ensuring direct access to control the system from a remote location.

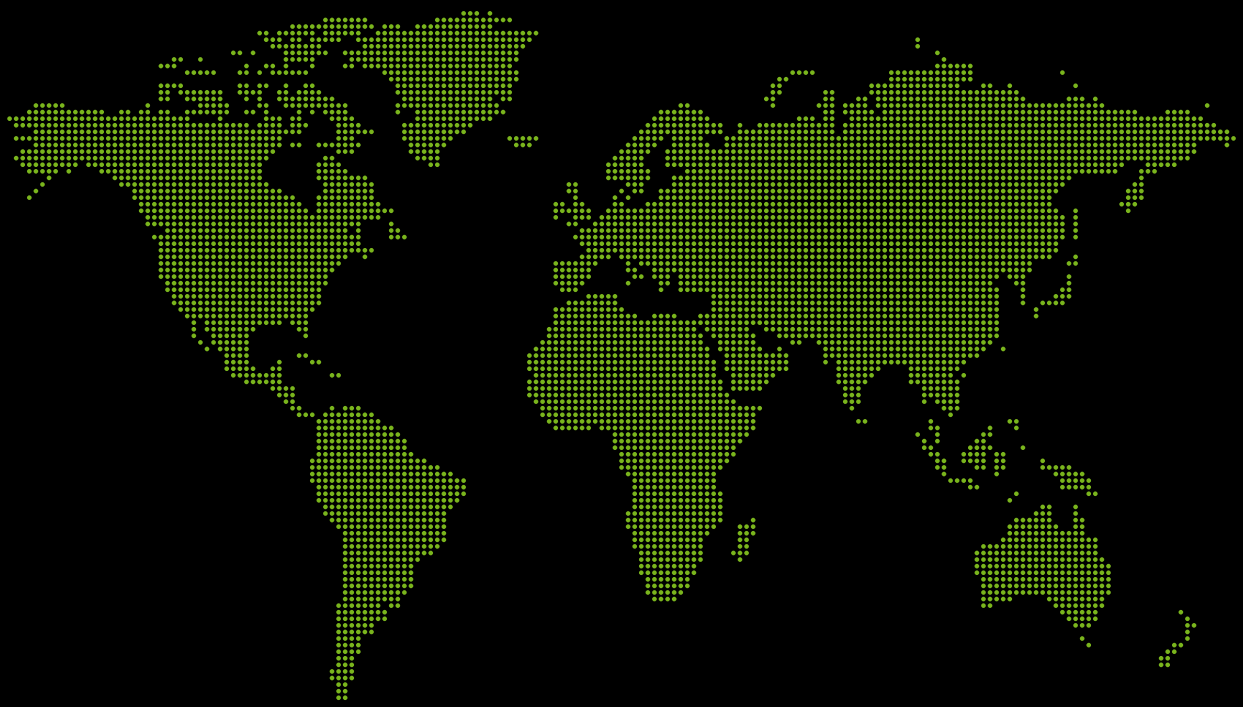
ON SITE SERVICE
On site service is available both as part of a service contract and on an "ad hoc" basis.

PRODUCT REPAIRS
Our centralized service centre guarantees short repair times.

TRAINING
A comprehensive range of training courses is available and can be customized to meet specific customer needs.

WE ARE CLOSE TO YOU

Our own worldwide service network guarantees our customer support on site. On request we will deliver Eltek Valere Industrial systems as an All-Inclusive-Package - comprising installation, commissioning and maintenance by our service technicians. Decentralized spare part warehouses and skilled personnel ensure short response and repair times.



technical changes and deviations, as well as mistakes and misprint reserve

EUROPE

Finland
Tel: +35 820 779 88 20

France
Tel: +33 562 340 930

Norway
Tel: +47 32 20 32 00

Poland
Tel: +48 914 852 440

Russia
Tel: +78 123 321 117

Slovakia
Tel: +42 144 520 1607

Spain
Tel: +34 914 920 660

Sweden
Tel: +46 54 68 81 50

United Kingdom
Tel: +44 144 22 193 55

MIDDLE EAST / ASIA / PACIFIC

Australia
Tel: +61 294 794 200

Bangladesh
Tel: +88 017 2097 097

India
Tel: +91 124 221 00 18

Malaysia
Tel: +60 179 815 866/74 552

Pakistan
Tel: +92 512 853 149

Philippines
Tel: +63 291 063 55

Singapore
Tel: +65 773 23 26

Thailand
Tel: +66 294 369 05

UAE
Tel: +97 148 871 176

CHINA

China
Tel: +86 769 226 511 08

Hong Kong
Tel: +85 228 982 689

AMERICAS

Brazil
Tel: +55 116 487 56 56

Colombia
Tel: +57 162 216 91

Mexico
Tel: +52 55 53 74 1842

Peru
Tel: +51 142 192 71

USA
Tel: +18 154 599 100

ELTEK VALERE
always on

Eltek Valere Industrial GmbH
Im Obrock 33
D-32278 Kirchlengern
Phone +49 522 3 7641-200
Fax +49 522 3 7641-222
info.industrial@eltekvalere.com
www.eltekvalere.de

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