



EPS - Datasheet

Series EPS/ELR 10000 4U

EPS's programmable electronic high performance loads »EPS/ELR 10000 4U« series are especially suitable for test systems and industrial controls due to their compact construction of a 19" enclosure (4U). The DC input range features new voltages up to 2000V, currents up to 1000A at power ratings with 30kW (derating 18kW/208VAC). Apart from basic functions of electronic loads, set point curves can be produced in the integrated function generator (sine, rectangular, triangular). Arbitrary generator curves (99 points) can be saved to and loaded from an USB stick. For industrial component testing, it furthermore offers a battery test and an MPP tracking function for solar modules.

The energy recovery function converts the supplied DC energy into a synchronous sine current and feeds it back into the 208V/380V/400V/480V mains. Here an efficiency of up to 96,5% will be reached. In common system, the energy from burn-in tests and battery capacity tests is radiated into the environment. This energy can be recovered with this unit. In the battery test mode, even a battery can be discharged with a constant current, - power or - resistance until the battery voltage reaches an adjustable final discharge voltage. If this threshold is exceeded, the load input is automatically switched off (deep discharge protection). The discharge time and consumed charge (Ah) are measured and displayed on a 5" TFT or alternatively recorded on a USB stick.

For remote control using a PC or PLC the devices are provided as standard with a Ethernet, USB-B slot on the rear side as well as a galvanically isolated analog interface. Via optional plug-in interface modules, other digital interfaces such as RS232, Profibus, ProfiNet, ModBus TCP, CAN, CANopen or EtherCAT can be added. These enable the devices to be connected to standard industrial buses simply by changing or adding a small module. The configuration, if necessary at all, is simple.

In addition, the devices offer as standard the possibility for parallel connection in so-called Shared Bus operation for constant current sharing plus a true master-slave connection with totaling of all the actual values is also provided as standard. Using this operating mode, up to 64 devices can be connected to form a system that offers an increased total output of up to 1920 kW. A series operation is also possible with a potential shift (depending on the model) against PE on any DC plus or minus pole.

Optionally there are also a water-cooled version available which are usually configured and offered in cabinet systems with a complete water-cooling distribution inside. For DIY water-cooled systems, single units can also be obtained upon request.

Further options are a grid and system protection, extended warranty, calibration with protocol as well as 19" racks.

The devices are CE, UL as well as CSA certified.

Energy Efficiency: Energy recovery, high efficiency, temperature regulated fans, Water cooling system

Scope of delivery:

EI. Load Recovery

Test report

AC connector plug (clamp type)

2x Plug for Remote Sense

Set DC terminal cover

Terminal cover sense

Cable tie for strain relief

USB cable 1,8m

USB-Stick with documentation and Software

EPS/ELR 10200-420 4U Electronic Load with mains backfeed



EPS/ELR 10000 4U

General data

Behavior	Unidirectional
Technology	Switching
Operation modes	CC.CV.CP.CR
Mains	342-528 V AC, 3ph, 208V +-10% derat.18kW
Input frequency	45-66Hz
Input Current Limitation	Standard
Power feed back	Standard
Display	TFT Touch Panel 5"
Voltage resolution	0,1 V
Voltage accuracy	<0,05%
Voltage Stability Load	<=0,02% fs
Voltage Stability Mains	<0,01% fs
Response time Voltage	<0,05% fs (0-100%)
Current Resolution	0,1 A
Current Accuracy	<=0,2% nom
Current Stability Load	<=0,2% fs
Current Stability Mains	<0,01% fs
Rise time Current	<=10ms (10-90%)
Response time Current	<=0,1% fs (0-100%)
Power Accuracy	<1,0% Pnom
Internal Resistance Regulation	Standard
Overheat protection	Standard
Isolation In-/Output	3750 Vrms
Isolation Output/Enclosure	neg.+1000VDC, Pos.+1000VDC max.
Parallel operation	Standard

Current sharing	Standard (M/S)
Cooling	Fan, Option WC-Cu
Operation temperature	0-50°C
Storage temperature	-20...70°C
Humidity	<80% n.c
Attitude	2000m /NN
Design	19 inch
Standards	EN/UL/CSA-C22.2 61010-1,EN55011 cl.B,EN61326-1
Power fail	Standard
Alarmmanagement	Standard
Function generator	+arbitrary
Memory	5 Profile
Capacity	1800µF

Interfaces

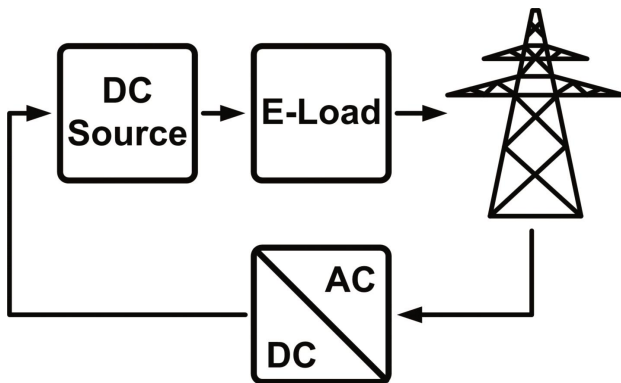
Analog Isolation	Standard (intern)
Accuracy Interface	0-10V <= 0.1%; 0-5V <=0.2%
Remote Control	U / I / P
Input Signal	Intern/extern,Input on/off,R mode
USB Interface	Standard
RS232 Interface	Option EPS/IF-AB R
CAN Interface	Opt.EPS/IF-AB-Co/CAN
Profibus	Option EPS/IF-AB-PB
Ethernet Interface	Standard, Opt.IF-ETH1P/2P
Ethercat Interface	Option EPS/IF-AB-ECT
Software	Standard EPS/PC, Option EPS/MC

Technical data

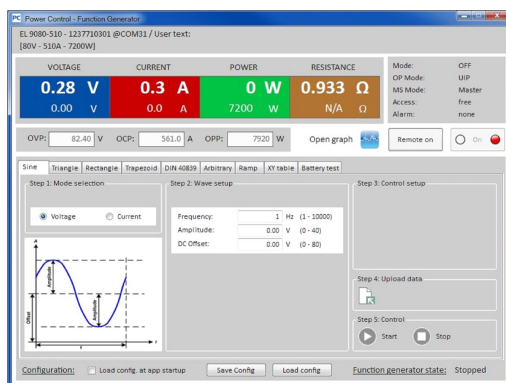
Input Power	0-30000W
Input Voltage	0-360 VDC
Input Current	0-240 A
Efficiency	<=95,8%
Ripple U	320 mVpp(20Mhz)/55 mVrms(300k)
Resistance Adjustment Range 1	0,05-90 Ohm
Remote Sensing	Standard
Dimensions in mm (WxHxD)	483 x 177 x 668
Weight	50 kg
Order code	300313

Options

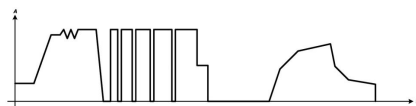
Option 1	E115035 Grid and System protection
Option 2	Extended Warranty 2 / 3 / 5 years EPS/G2/3/5
Option 3	Watercooling EPS/WC-Cu 30 kW
Option 4	Calibration with protocoll EPS/ELR CAL
Option 5	EPS/BNC Cable Share-Bus connection cable
Option 6	EPS/SL 4x 2x AWG Master-Slave patch cable



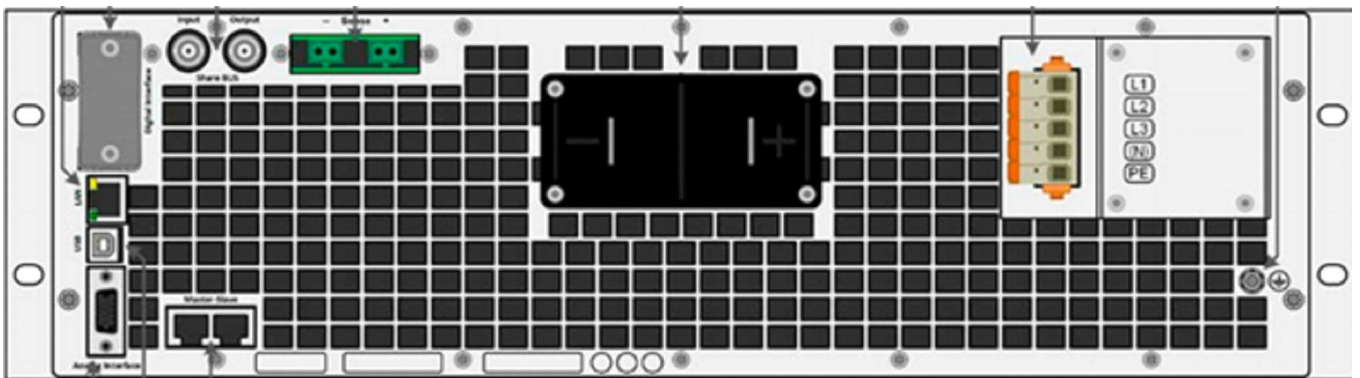
EPS/ELR graphics_backfeed



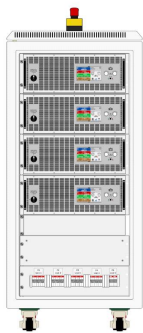
EPS/PC Software_en



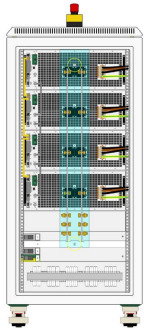
FG Beispiel-Example XY Generator



EPS/ELR 10000_4U_rear



EPS/ELR 1200_Cabinet front 120kW



EPS/ELR 1200_Cabinet rear 120kW

Subject to modification without notice, errors and omissions exepted

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